

BERHAMPUR MUNICIPAL CORPORATION

Berhampur-760002, Ganjam, Phone # 0680 225 0290

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Web: www.berhampur.gov.in

INVITATIONS FOR BIDS NATIONAL COMPETITIVE BIDDING

Ref No:16794

Date 02/12/2016

The Municipal Commissioner, Berhampur Municipal Commissioner, Berhampur invites sealed bids from eligible bidders for the work detailed in table below.

Name of the Work	Design-Build- Operate & Transfer Municipal Solid Waste Management Project for the City of Berhampur Municipal Corporation
Scope of Work	Details available in " Bid Document-
Bid Security	INR 35,00,000/-
Cost of Bidding Document	Rs.10,500/- including VAT(Non refundable)
Period of sale of Bidding document	Dt.02.12.2016 to Dt. 16.01.2017
Last date of receipt	Dt.16.01.2017(Upto 12:00Hrs)
Opening of Bids	Dt.16.01.2017(16:00Hrs)

A complete Set of Bid Document is available on the website <http://www.ouidf.in>, <http://www.berhampur.gov.in>, <http://www.urbanodisha.gov.in> w.e.f. 02.12.2016 to 16.12.2017 up to 12:00 Hrs. The Bidders who are interested to participate in the bidding process can download the bid documents from the website for use.

Sd/-01/12/2016

Municipal Commissioner
Berhampur Municipal Corporation

BERHAMPUR MUNICIPAL CORPORATION

INVITATION FOR BIDS(IFB) NATIONAL COMPETITIVE BIDDING Bid Id. No. BMC (BAM)128/2016-17

IFB No:- 16796

Date: 01/12/2016

1. The Government of Odisha has received a credit from the KfW, Germany and Government of Odisha intends to apply a part of the funds to cover eligible payments under the contracts for construction of works as detailed below through its beneficiary Berhampur Municipal Corporation. Bidders from India should , however be registered with the Government of Odisha/Other State Government/Government of India or State/Central Government Undertaking.

2. The Municipal Commissioner, Berhampur Municipal Corporation, Berhampur, Odisha, on behalf of Berhampur Municipal Corporation , Berhampur, Odisha. Project Executive Agency, invites Operator for Design, Build , Operate and transfer Municipal Solid Waste Management for Berhampur Municipal Corporation on DBOT basis in double cover system to be received by Speed post/Regd Post only from Nationally Reputed Bidder having experience in the field of Solid Waste Management for Design , Build & operation as detailed in the table below.

Name of the Work	Cost of Each Bidding Documents including 5% VAT In Rs.	Earnest Money Deposit in Rs.	Period of Completion	Date & Time of availability of Bid Document in the Portal	Last date/ Time for receipt of Bid by Regd Post/ Speed Post
Design-Build- Operate & Transfer Municipal Solid Waste Management Project for the City of Berhampur Municipal Corporation	10,500 (Rupees Ten Thousand Five Hundred only)	35,00,000 /- (Rupees Thirty Five Lakhs only)	18 Months Design Build and 20 Years O&M Operation and then Transfer to BeMC	15: 00Hrs 2 nd December 2016	16th January 2017

3. Bidding documents can be seen with option to download from the website <http://www.ouidf.in>, <http://www.berhampur.gov.in>, <http://www.urbanodisha.gov.in> w.e.f. .02/12/2016 The downloaded bid document can be submitted along with non-refundable fee mentioned in the table towards the cost of the Bid document. The Municipal Commissioner, Berhampur Municipal Corporation ,Berhampur, Odisha will not accept the same if any portion of the downloaded document differs from the approved bid documents available in the abovementioned website. In such case the bidder would be responsible for ensuring that any addenda available in website is also downloaded & incorporated. The download facility will be available from between 2nd December 2016 to 16th January 2017 upto 12: 00 Hrs.

4. Bids must also be accompanied by Bid Security of the amount specified for the work in the column of the table above, drawn in favour of “ The Municipal Commissioner, Berhampur Municipal Corporation ,Berhampur Odisha.” Bid Security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of bid.

5. Bids must be delivered to the Office of The Municipal Commissioner ,Berhampur Municipal Corporation, Berhampur, on or before 16th January 2017 on 12 Hrs. and will be opened on 16th January 2017 at 16.00 Hrs. , in the presence of the bidders or their authorized representatives, who wish to attend. If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.

6. A pre-bid meeting will be held on 14th December 2016 at 11:00 A.M in the Office of the Odisha Urban Infrastructure Development Fund,4th Floor, Zone-A/2, Fortune Towers Chandrasekharpur,Bhubaneswar-23,Odisha to clarify the issues and to answer questions on any matter that may be raised at that stage.

7. Other details can be seen in the bidding documents

Sd/-01/12/2016
Municipal Commissioner
Berhampur Municipal
Corporation

CRITICAL/ IMPORTANT INFORMATION, EVENT DATES AND TIME:

The eligible and intending bidders desirous to participate in the bidding process should strictly follow the Stipulated Time Schedule furnished below.

SL No	Particulars of the Information & Event	Important/ Critical Information, Date & Time
1	Officer Inviting the Tender	Municipal Commissioner, Berhampur Municipal Corporation
2	Bid Identification No	BMC(BAM)128/2016-17
3	Name of the Work	Design-Build- Operate & Transfer Municipal Solid Waste Management Project for the City of Berhampur Municipal Corporation
4	Period of Availability of the Bid Documents	From 15: 00Hrs of Dt.02/12/2016 to 12:00Hrs of Dt.16 – 01-2017
5	Date of Pre-Bid Conference	14/12/2016 at 11: 00 A.M
6	Venue of Pre-Bid Conference	The Odisha Urban Infrastructure Development Fund,4th Floor, Zone-A/2, Fortune Towers, Chandrasekharpur, Bhubaneswar-23, Odisha
7	Last date & Time for submission of the Sealed Envelopes containing the EMD, Cost of the Bid Documents, Documents as asked for to fulfill the Eligibility Criteria of the Bidders through Speed Post or Regd Post only	12:00 Hrs of Dt.16.01.2017
8	Date & Time of opening of the Technical Bids	16:00 Hrs of Dt.16.01.2017
9	Date & Time of opening the Financial Bids	Shall be intimated to the responsive Bidders after evaluation of Technical Bids.

Memo No. 16796

Dt.02/12/2016

Copy submitted to the Commissioner-Cum-Secretary , H&UD Deptt/Special Secretary to Govt, H&UD Dept, Govt of Odisha for favour of kind information.

Sd/-01/12/2016

Municipal Commissioner
Berhampur Municipal Corporation

Memo No. 16797

Dt. 01/12/2016

Copy submitted to the Collector, Ganjam, Chatrapur/Member Secretary, OWSSB, Satyanagar,Bhubaneswar-751007/S.E., P.H. Circle, Berhampur/S.E, Southern(R&B) Circle , Berhampur for favour of kind information with a request to please display a copy of this Notice with Annexure in his Office Notice Board for wide circulation and information of all concerned..

Sd/-01/12/2016

Municipal Commissioner
Berhampur Municipal Corporation

Memo No.16798

Dt. 01/12/2016

Copy forwarded to the Senior Project Manager ,OUIDF, 4th Floor, Fortune Towers, Bhubaneswar,email:- ouidf.hudd@gmail.com, for favour of kind information.

Sd/-01/12/2016

Municipal Commissioner
Berhampur Municipal Corporation

Memo No.16799

Dt. 01/12/2016

Copy forwarded to all A.Es/ J.E.s/HMO(G)/All Dealing Assistantss, PWD Section/ Deposit clerk/Accountant/ Cashier/Dak Receipt Clerk, Berhampur Municipal Corporation for information.

Sd/-01/12/2016
Municipal Commissioner
Berhampur Municipal Corporation

Memo No. 16800 Dt. 01/12/2016
Copy forwarded to the Steno to Mayor, Berhampur Municipal Corporation/ P.A to the Municipal Commissioner/ Steno to Exe.Engineer,Berhampur Municipal Corporation for for information and necessary action.

Sd/-01/12/2016
Municipal Commissioner
Berhampur Municipal Corporation

Memo No.16801 Dt. 01/12/2016
Copy to Office Notice Board/Spare Copies to the Concerned Files for reference and record and information of all concerned.

Sd/-01/12/2016
Municipal Commissioner
Berhampur Municipal Corporation

BID DOCUMENT



National Competitive Bidding
Design-Build- Operate & Transfer Municipal Solid
Waste Management Project for the City of
Berhampur Municipal Corporation in the State of
Odisha, India

December 2016

by

Berhampur Municipal Corporation, Berhampur, Ganjam
Odisha

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Berhampur Municipal Corporation

SOLID WASTE MANAGEMENT PROJECT

**BIDDING DOCUMENTS
FOR A CONTRACT
TO DESIGN, BUILD, OPERATE AND TRANSFER
MUNICIPAL SOLID WASTEMANAGEMENT FACILITY AT BERHAMPUR MUNICIPAL CORPORATION**

December 2016

Invitation for Bids

CONTRACT TO DESIGN, BUILD, OPERATE & TRANSFER

MUNICIPAL SOLID WASTE MANAGEMENT FACILITY AT BERHAMPUR MUNICIPAL CORPORATION

INVITATION FOR BID (NCB)

1. The Commissioner Berhampur Municipal Corporation invites sealed bids from eligible bidders for the works detailed in the table below. The bidders may submit bids for the following work as per Instructions to Bidders and the Appendix thereto.

Name of the Work	Implementation of Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) basis covering Secondary Transportation, Treatment and Scientific Disposal of Municipal Solid Waste in Service Area of Berhampur Municipal Corporation.
Scope of Work	<ol style="list-style-type: none"> 1. Design, Build Static Compactors (2 compactors per location) at 5 Location along with Hook Loaders for Secondary Transportation and O&M of the same for 20 years. 2. Design, Build, Testing, Commissioning of 200 TPD capacity MSW Processing Plant (Compost Plant) together with pre-sorting facility and O&M for 20 years. 3. Design, Build, Testing, Commissioning, of Municipal Solid Waste Landfill Facility (MSWLF) within 18 months followed by O&M for 20 years and subsequent transfer to Owner. 4. Post closure care of Landfill for a period of 15 years.
Bid Security	INR 35,00,000
Cost of Bidding Document	Rs.10,000+ 5% VAT (non-refundable=) Rs.10,500.00

2. Qualification requirements as listed briefly below are required to be fulfilled by the bidder. *[Bidders are advised to refer to the Bidding documents for complete details.]*

A. Technical

The Bidder shall provide evidence that during 5 years preceding the bid submission:

(a) Bidder or its nominated Sub-Contractor has satisfactorily completed construction and 2 years of operation of at least one **municipal solid waste treatment facility** (Windrow Compost plant) of 140 TPD capacity; **and**

(b) Bidder or its nominated Sub-Contractor has satisfactorily completed construction and 2 years of operation of at least one **solid waste disposal facility (Scientific Landfill)**

B. Financial:

Bidder shall have an average annual turnover of at least Rs. 40 Cr. during the last three financial years.

It shall submit along with the bid a Statutory Auditor's Certificate certifying positive net worth of the company for the purpose of this bid.

3. Interested eligible bidders may obtain further information from The Commissioner, Berhampur Municipal Corporation, Berhampur, Ganjam-760002, Ph-0680220290, Email. mcbemc08@gmail.com, Odisha and inspect the Bidding Documents, during office hours i.e. 11.00 to 17.00 hours.
4. A pre-bid meeting will be held on 14th December 2016. at 11A.M. at the office of The Odisha Urban Infrastructure Development Fund, 4th Floor, Zone-A/2, Fortune Towers, Chandrasekharpur, Bhubaneswar-23, Odisha to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 2.5 of 'Instructions to Bidders' of the bidding document.
5. A complete set of bidding documents will be available on the websites [<http://www.ouidf.in>], <http://www.berhampur.gov.in>, <http://www.urbanodisha.gov.in> w.e.f. 02/12/2016. The bidders who are interested to participate in the bidding process shall download the bid documents from the website. The download facility will be available from Dt. 02/12/2016 to 16th January 2017 up to 12.00 Hours.
6. The tentative timelines are given below.
 - (a) Price of bidding document : Rs.10,000 + 5% =10500 VAT(Non-refundable)
 - (b) Date of commencement of sale of bidding document : 02/12/2016
 - (c) Date of Pre Bid Meeting : 14/12/2016
 - (d) Last date for sale of bidding document : 16/01/2017
 - (e) Last date and time for receipt of bids : 16/01/2017 upto 12.00 Hrs
 - (f) Time and date of opening of bids : 16/01/2017 up to 16: 00 Hrs
 - (g) Place of opening of bids : The Commissioner, Berhampur Municipal Corporation, Ganjam, Odisha
 - (h) Address for Communication : The Commissioner, Berhampur Municipal Corporation
Berhampur-760002, Ganjam Phone # 0680 225 0290 ,
Email: mcbemc08@gmail.com

The bidders may also note that the pre-bid proceedings and corrigendum to bidding documents if any will also be uploaded on the website <http://www.ouidf.in>, <http://www.berhampur.gov.in>, <http://www.urbanodisha.gov.in>

7. All bids must be accompanied by Bid Security of the amount specified in the table above, drawn in favour of The Commissioner, Berhampur Municipal Corporation, Odisha
8. Bids must be delivered to the address below on or before the schedule mentioned above. Electronic bidding will not be permitted. Late bids will be rejected. Bids will be opened in the

presence of the bidders' representatives who choose to attend in person at the address given below at schedule of opening mentioned above. All bids must be accompanied by a Bid Security as mentioned in the table in Para 1 above.

9. The address (es) referred to above is:

The Commissioner, Berhampur Municipal Corporation

Berhampur-760002, Ganjam

Phone # 0680 225 0290

Email: mcbemc08@gmail.com,

Web: www.berhampur.gov.in

BERHAMPUR SOLID WASTE MANAGEMENT PROJECT

INSTRUCTION TO BIDDERS FOR A CONTRACT TO DESIGN, BUILD, OPERATE AND TRANSFER MUNICIPAL SOLID WASTEMANAGEMENT FACILITY AT BERHAMPUR MUNICIPAL CORPORATION

INSTRUCTIONS TO BIDDERS

SECTION – 1: INTRODUCTION

1.1 Scope of work

- (1) **Scope of work:** The scope of work is implementation of Municipal Solid Waste Management Project (MSWMP) at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) basis with provision of Secondary Transportation, Treatment and Disposal of Municipal Solid Waste in Municipal Area of Berhampur Municipal Corporation and such other adjoining area as may be incorporated within the municipal limit of Berhampur Municipal Corporation during the Operations & Maintenance (O & M) period of 20 years. Environmental Clearance and Consent to establish has been obtained for the Project. The selected bidder shall be responsible for obtaining Consent to Operate from Odisha State Pollution Control Board. All other relevant Statutory Clearances from the concerned Authorities shall be obtained by selected Bidder only.

The various components of proposed project are based on the assessment of the existing deficiencies and mandatory requirement as specified in the MSW Rules 2016.

A. Secondary Transportation, Treatment and Disposal of MSW: It shall include

Static Portable Compactor facility:

Design, build, erect, commission, testing, operation, maintenance, of a waste compaction station of 5 Nos Stations, each consisting of 2 compactors and shall be in accordance to the building bye laws of ULB and rules & regulations of OSPCB/CPCB and also conforming to the SWM rules 2016.

Compacting and transporting compressed/compacted waste to the processing and disposal site/facility for O&M period of 20 years.

Compost Plant and Landfill Facility:

Design, build, testing, commissioning, operation, maintenance, of a MSW Processing facility (Composting Plant) of minimum 200 MT per day expandable by increasing the working hours or scalable to accommodate peak season throughput of MSW throughout the Contract Duration. Appropriate Pre-sorting facility shall be provided as an integral part of the Composting Plant. Bidders would implement the windrows composting technology in compliance with SWM Rules, 2016 and CPHEEO 2016 MSWM Manual and O&M for period of 20 years.

Bidder would dispose waste/rejects at Municipal Solid Waste Landfill Facility (MSWLF) as measured during a quarter being limited to a maximum of 25% of the total MSW collected during the quarter; design, build, testing, commissioning, operation, maintenance, closure and post closure of Landfill facility in accordance with the SWM Rules, 2016 and CPHEEO 2016 MWM Manual and O&M for periods of 20 years.

Environmental monitoring of the Treatment and Disposal site during the Contract Duration and thereafter for 15 years after the closure of the landfill as per the specification of the MSW Rules, 2016 Post-closure care will include, among others, "maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run off from eroding or otherwise damaging the final cover";

All the facilities developed and O&M shall be in compliance with the conditions stipulated in the Environmental Clearance issued by SEIAA.

The selected bidder is responsible for the obtaining Consent to Operate and authorisation under solid waste management rules for processing/ recycling /treatment and disposal of solid waste and all other relevant statutory clearances from the concerned authorities. Environmental Clearance and Consent to Establish have been obtained for the project.

B. Equipment procurement: It shall include:

- (i) Procure all necessary project assets including equipment, vehicles, machineries and others required for the successful execution of the secondary transportation, treatment & disposal of MSW Project as approved by the Independent Engineer; and ensure their timely maintenance, replacement and fleet augmentation as the case may be during the entire duration of the Contract Duration;
 - (ii) The Operator shall ensure that the operations as defined in this document are provided on all 365 days of a year, starting on or after the Completion of the Facility, over the O & M Period.
 - (iii) The operations of the Project shall be managed in accordance with the stipulations of the Odisha Municipal Act, Solid Waste Management Rules, 2016 and any amendments thereto in future as well as in line with the guidelines of the Manual on MSW Management by the Central Public Health and Environmental Engineering Organization (CPHEEO) – Ministry of Urban Development (MOUD).
- (2) Berhampur Municipal Corporation has identified 33.62 acre land at Mohuda for disposal of MSW which will be made available to the Successful Bidder for establishment of Processing Facility, MSW Landfill Facility (MSWLF), common facilities and any allied works. The selected bidder shall adopt Windrow Composting Technology and shall design treatment plant ensuring maximum inert refuse is not more than 25%. The MSW treatment/processing plant and MSWLF shall be designed as per CPHEEO manual and applicable laws.
- (3) MSW collected from the Service Area shall be exclusive property of Operator. The part of Operations Service cost would be recovered from sale of recyclables and by-products generated while and after treatment /processing of municipal waste, advertisement rights, etc. and the Operator shall be entitled for Contract Price in accordance with the Draft Contract to ensure overall project sustainability. The Contract Price shall be paid to the Operator as per the terms and conditions specified in the Contract.

Note: The Scope of Work shall be read in conjunction with the General Conditions Appendix 3A, 3B & 3C.

1.2 Eligible Bidders

1.2.1 A bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 1.2.5 — or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the **BDS**, there is no limit on the number of members in a JV.

1.2.2 Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Owner regarding this bidding process; or
- (e) Participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
- (g) any of its affiliates has been hired (or is proposed to be hired) by the Owner or Borrower as Engineer for the Contract implementation; or
- (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the **BDS** ITB 1.1 (1) that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.

- 1.2.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 1.2.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 1.2.4 A Bidder that has been debarred by the Owner in accordance with the ITB 6.8, including in accordance with the Guidelines on Preventing and Combating Corruption (“Anti-Corruption Guidelines”), shall be ineligible to be prequalified for, bid for, or be awarded a contract or benefit from a contract, during such period of time as the Owner shall have determined.
- 1.2.5 Bidders that are Government-owned enterprises or institutions in the Owner’s Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Owner.
- 1.2.6 A Bidder shall not be under suspension from bidding by the Owner as the result of the operation of a Bid–Securing Declaration.
- 1.2.7 A Bidder shall provide such evidence of eligibility satisfactory to the Owner, as the Owner shall reasonably request.

1.3 Eligible Materials, Equipment, and Services

Deleted

1.4 Inspection and Audit

The Owner requires compliance with the policy in regard to corrupt and fraudulent practices as set forth in Section 6.8. In further pursuance of this policy, Bidders shall permit and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Owner to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the owner.

1.5 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Owner will in no case be responsible for these costs, regardless of the conduct or outcome of the bidding process.

SECTION – 2: THE BIDDING DOCUMENTS

2.1. Content of Bidding Documents

The nature of the services, the site and the plant that are to be designed, built, operated and maintained by the bidder, the procedures that are to be followed during the bidding process and the contract terms and technical requirements are prescribed in the Bidding Documents. The Bidding Documents consist of:

- (a) The Instructions to Bidders (ITB) and Appendix to ITB;
- (b) the Bid Data Sheet;
- (c) Annex A to the Bidding Documents – Forms
 - (i) Bidder’s Bid Form;
 - (ii) Form of Bid Security;
 - (iii) Form for Clarification Questions;
 - (iv) Format of Curriculum Vitae for Proposed Key Staff;
 - (v) Form for Evidence of Positive Net Worth
 - (vi) Information Forms;
 - (vii) Form of Letter of Intent by JV Partners;
 - (viii) Form of Power of Attorney for Joint Venture;
 - (ix) Form of undertaking by JV Partners;
 - (x) Declaration of Undertaking
 - (xi) Bidder’s Price Schedules
- (d) Annex B to the Bidding Documents – the contract (the “Draft Contract”) consisting of:
 - (i) Form of Contract;
 - (ii) General Conditions of the Contract; and
 - (iii) Appendices to the Contract
- (e) Addenda to the documents listed in ITB Section 2.1(a) to (d), if any are issued by the Owner.

The Invitation for Bids issued by the Owner is not part of the Bidding Documents.

2.1.1 The documents listed in ITB Section 2.1(a), (b), (c), (d), and (e) are collectively the “Bidding Documents”.

2.1.2 Each Bidder shall examine all instructions, terms and conditions, forms, specifications and other information contained in the Bidding Documents. If the Bidder,

- (i) fails to provide all documentation and information required by the Bidding Documents;
or
- (ii) submits a Bid which is not substantially responsive to the terms and conditions of the Bidding Documents, such action is at the Bidder’s risk and the Owner may determine that the Bid is non-responsive to the Bidding Documents and may reject it.

2.2 Clarification of Bidding Documents

- (1) A prospective Bidder requiring any clarification of the Bidding Documents may notify the Bid Inviting Authority in writing by mail, courier, fax or hand delivery at the address indicated in the Bid Data Sheet. Similarly, if a Bidder feels that any important provision in the Bidding Documents, such as those listed in ITB Section 3.3, will be unacceptable, such an issue must be raised during the clarification stage.
- (2) All such queries and requests for clarification shall be submitted using the Form for Clarification Questions contained in **Annex A** to the Bidding Documents.
- (3) The Owner will respond in writing to any request for clarification or modification of the Bidding Documents that it receives on the Form for Clarification Questions no later than the date set out in the timetable in the Bid Data Sheet. Written copies of the Owner's response, including an explanation of the query but not identification of its source, (the "Response to Questions Document") will be sent to all prospective Bidders that have received the Bidding Documents. If similar or repeated queries are made by Bidders, the Owner may list those queries as one query & respond to such query only once.

2.3 Site Visit

- (1) Each Bidder is advised to visit and inspect the Site and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into the Contract. The Commissioner, Berhampur Municipal Corporation Odisha will schedule a time on or after the date set out in the timetable specified in the Bid Data Sheet and develop a procedure for Bidders to conduct a Site Visit. The costs of visiting the site shall be at the Bidder's own expense.
- (2) Each Bidder and any of its personnel or agents will be granted permission by the Owner to enter upon its premises and lands for the purpose of such a Site Visit, but only upon the express condition that the Bidder, its personnel and agents will release and indemnify the Owner, the Borrower and their personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of the Site Visit.

2.4 Background Information

The Commissioner, Berhampur Municipal Corporation may provide prospective Bidders with a separate background information document (the "**Background Information Document**") if indicated in the Bid Data Sheet. The Background Information Document is not a Bidding Document.

2.5 Pre-Bid Meeting

Each prospective Bidder is invited to attend a Pre-Bid Meeting, which will take place at the venue and time stipulated in the Bid Data Sheet. While attendance at the pre-bid meeting is not mandatory, Bidders are strongly encouraged to attend. The purpose of the pre-bid meeting is to provide a technical presentation and to clarify issues and answer questions on any matter that

may be raised at the meeting. Each prospective Bidder is requested, as far as possible, to submit any question in writing to reach the Commissioner, Berhampur Municipal Corporation, Odisha not later than one week before the pre-bid meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted as indicated hereafter. Minutes of the pre-bid meeting including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting will be transmitted without delay to all prospective Bidders that have been issued Bidding Documents. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Owner exclusively through the issue of an addendum pursuant to ITB 2.6 and not through the minutes of the pre-bid meeting. The proceedings of the pre-bid meeting, reply to the queries and corrigendum/addendum, if any, will also be uploaded on the website <http://www.berhampur.gov.in>, <http://www.oidf.in>, <http://www.urbanodisha.gov.in>

2.6 Amendment of Bidding Documents

- (1) At any time prior to the Submission Deadline, the Owner may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Bidder, amend the Bidding Documents by addendum. No other communications of any kind whatsoever, including, without limitation, the minutes of the pre-bid meeting or the Response to Questions Document, shall modify the Bidding Documents.
- (2) Addenda, if any, will be sent in writing by air mail, courier or facsimile to all prospective Bidders and will be binding on them. Bidders shall immediately acknowledge receipt to the Owner of any such amendment, and it will be assumed that the information contained therein has been taken into account by the Bidder in its Bid. Such Addenda will also be uploaded on the website <http://www.berhampur.gov.in>, <http://www.oidf.in>, <http://www.urbanodisha.gov.in>
- (3) In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, the Owner may, at its discretion, extend the Submission Deadline, in which case, the Owner will notify all prospective Bidders in writing of the extended deadline.

2.7 Contact with the Owner For the Purpose of Clarification

The prospective Bidders shall contact only the persons named at the addresses in the Bid Data Sheet for the purpose of requesting information and clarification or for any other purpose relating to the bidding process. The prospective Bidders shall not contact any other person at the Owner during the bidding process. From the time of Bid opening to the time of Contract award, if any Bidder wishes to contact the Owner on any matter related to the bidding process, it may do so in writing.

2.8 Information Provided by the Owner/Bidders Due Diligence

1. Each Bidder is solely responsible for conducting its own independent research, due diligence, and any other work or investigations and for seeking any other independent advice necessary for the preparation of Bids, negotiation of agreements, and the

subsequent delivery of all services to be provided by the Bidder that has been successful in the bidding process (the “Successful Bidder”).

2. No representation or warranty, express or implied, is made and no responsibility of any kind is accepted by the Owner or its advisors, employees, consultants or agents, for the completeness or accuracy of any information contained in the Bidding Documents or the Response to Questions Document, or provided during the bidding process or during the term of the Contract. The Owner and its advisors, employees, consultants and agents shall not be liable to any person or entity as a result of the use of any information contained in the Bidding Documents or the Response to Questions Document, or provided during the bidding process or during the term of the Contract.
3. Bidders shall not rely on any oral statements made by the Owner or its advisors, employees, consultants or agents.
4. All Bidders shall, prior to submitting their Bid, review all requirements with respect to corporate registration and all other requirements that apply to companies that wish to conduct business in the Owner’s country. The Bidders are solely responsible for all matters relating to their legal capacity to operate in the jurisdiction to which this bidding process applies.

2.9 Timetable

1. The estimated timetable, from the issuance of the Bidding Documents to the identification by the Owner of the Successful Bidder and the execution of the Contract, is set out in the Bid Data Sheet.
2. The Owner may, in its sole discretion and without prior notice to the Bidders, amend the estimated timetable specified in the Bid Data Sheet. Bidders shall not rely in any way whatsoever on the estimated timetable specified in the Bid Data Sheet and the Owner shall not incur any liability whatsoever arising out of amendments to the estimated timetable. The Owner shall give notice of timetable changes, if any, by addenda.

SECTION – 3 : PREPARATION OF BIDS

3.1 Language of Bid

The Bid prepared by the Bidder, all correspondence and documents related to the Bid exchanged by the Bidder and the Owner and the bidding process shall be written in the language specified in the Bid Data Sheet, provided that any printed literature furnished by the Bidder may be written in another language, as long as such literature is accompanied by a translation of its pertinent passages in the language specified in the Bid Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.

3.2 Documents Comprising the Bid

- (1) Each Bidder shall submit only one Bid which shall consist of,
 - (a) One Technical Section which contains the following parts in the following order:
 - (i) Part I – the information required by ITB Section 3.3;
 - (ii) Part II – the Bid Security required by ITB Section 3.4;
 - (iii) Part III – the Bid Form required by ITB Section 3.5(1), and the information required by ITB Section 3.5(2);
 - (iv) Part IV – where applicable, the joint venture documents required by ITB Section 3.6;
 - (v) Part V – the power of attorney required by ITB Section 3.7;
 - (vi) Part VI – the declaration of commissions and gratuities required by ITB Section 3.8;
 - (vii) Part VII – Optional, separately bound pre-printed literature as per ITB Section 3.9; and
 - (b) One Financial Section which shall consist of the Price Schedules completed in accordance with ITB Section 3.10.
- (2) Each Bidder shall also submit an initialled Draft Contract, in accordance with ITB Section 3.15 (2), in the same envelope as its Technical Section.

3.3 Technical Section – Part I – Technical and Staffing Information

The bidder, while making his technical proposal shall consider the following aspects.

- The owner shall make available land area for setting up the project facilities for treatment and disposal of the MSW to a maximum of 33.62 Acres. The bidders shall adopt composting technology for treatment of the bio-degradable waste and indicate in their bid the actual land requirement (within the ceiling of 33.62 acres) for setting up treatment facility and MSWLF as offered by them. The proposed technology should meet the requirement of CPHEEO manual and other applicable laws. The status of availability and ownership of the land is specified in the **Bid Data Sheet**.
- The Owner shall make available land, up to the limit considered reasonable, in Berhampur Municipal Corporation for parking and workshop (“Parking Site”) for vehicles used for treatment and disposal of MSW.

- The bidder shall guarantee that the Reject Matter at the MSW landfill as measured during a quarter does not exceed 25% of the total Municipal Solid Waste collected during the quarter all throughout the contract period. The MSW Management Project shall have to be designed and constructed with a capacity to treat minimum 200 TPD municipal solid waste. The processing technology shall be composting and pre-sorting facility shall be provided as an integral part of the composting plant. The capacity of the project should be able to take 100% throughput of MSW collected from the Service Area throughout the O&M period.

Part-I of the Technical Section of the Bid shall consist of the following sub-parts in the following order:

- (a) An Executive Summary of the Technical Section;
- (b) A detailed design-build work plan including a **detailed program timetable** (the “Design-Build Work plan”) setting out the manner in which the Bidder proposes to carry out the design-build services as defined in the Draft Contract (the “Design-Build Services”) and meet the design-build technical standards in accordance with the Technical Standards Appendix to the General Conditions. The Design-Build Work plan shall be divided into the following sections:
 - (i) Bidder should use composting treatment technology and mechanism of disposal of Refuse Matter proposed by the bidder aimed at optimizing the land requirement.
 - (ii) A section entitled “Drawings” which consists of conceptual drawings that are sufficiently detailed to communicate the Bidder’s design intent for all components of the proposed project and allied services. An indicative layout of the project facility is enclosed as part of this document for the information of the bidders. The conceptual drawings to be submitted by the bidder shall include the following:
 1. Plan of the static compactor station with details of equipment at the Static Compactor Station
 2. A site plan showing all proposed works listed in the Bid Data Sheet including location of the weigh bridge, MSW Segregation cum Treatment Plant, MSWLF, and ancillary works and limits to the bidders construction activities; along with the land required for the total planned area
 3. The bidder’s proposed approach and methodology on the disposal of the treated leachate as per guidelines specified by CPHEEO/CPCB.
 4. A detailed program and schedule setting out the proposed sequence of works to be undertaken, including estimated start date, major milestones, time allocations for individual units of the works, finish date including the submission of Design-Build Documents, construction stages and the commissioning of project facilities; and
 - (iii) a section entitled “Plant and Equipment and Operator’s Equipment” which consists of broad specification, make and quantities of major Plant and

Equipment and Operator's Equipment (Design-Build) and Operator's Equipment (Operations), including:

1. Plant and equipment, including computerized weighbridge, segregation and treatment plant, washing system, landfill gas collection and venting, and leachate extraction;
2. Equipment and vehicles for secondary transportation, transfer and movement of waste at treatment cum landfill site; and
3. materials, including geo-synthetic components, pipework and principal construction materials.

For all items listed in ITB Section 3.3(b)(iii), the Bidders shall provide either catalogues or detailed information with respect to manufacturer and primary specifications. The detailed specification shall be approved by the Owner at the time of procurement.

- (c) A detailed work plan (the "Operations Work plan") setting out the manner in which the Bidder proposes to carry out the operation of the Solid Waste Management facility as set out in the Draft Contract (the "Operations Services") and meet the operating technical standards in accordance with the Technical Standards Appendix to the General Conditions.
- (d) A section describing the Bidder's plans and methodologies to ensure that the requirements of the applicable Environmental Management Plan for the proposed Plant and allied services at Site will be implemented and monitored;
- (e) A detailed staffing plan (the "Staffing Plan") setting out the Bidder's proposed Key Staff for the carrying out of the Design-Build and Operations Services along with their position and qualification as specified in this document. The "Key Staff" means those individuals that will fill the positions listed in attachment 1 of Appendix 10 of the Contract. The Bidder shall submit under a section entitled, "**Curriculum Vitae**" which contains the signed curriculum vitae for each of the Key Staff proposed for Design Build Services, in the format set out in Annex A to the Bidding Documents. However, the curriculum vitae for staff proposed for Operations Services is not required at this stage. The Operator shall at the time of commencement of Operations, submit a detailed "Staffing Plan" including the curriculum vitae of personnel proposed for Operation Services for the approval of Owner.

3.4 Technical Section – Part II – Bid Security

- (1) In Part II of the Technical Section of its Bid, the Bidder shall furnish, as part of its Bid, a Bid security in the amount and currency stipulated in the Bid Data Sheet. The bid security of a Joint Venture must define as "bidder" all Joint Venture Partners and list them in the following manner:

"a Joint Venture consisting of '.....', '.....' and '.....'.

- (2) The Bid Security shall, at the Bidder's option, be in the form of a certified cheque, but only if the certified cheque shows a validity date, letter of credit or a bank guarantee from a reputable Nationalised bank selected by the Bidder and located in India. The format of any

bank guarantee provided by a Bidder shall be in accordance with the form of Bid Security contained in Annex A to the Bidding Documents. The Bidder shall ensure that the Bid Security remains valid for a period of **45 days** after the end of the original Bid Validity Period, as defined in ITB Section 3.14(1), and **45 days** after any extension subsequently requested by the Owner in accordance with ITB Section 3.14(2).

- (3) Any Bid not accompanied by an acceptable Bid Security shall be rejected by the Commissioner, Berhampur Municipal Corporation, Odisha as being non-responsive.
- (4) The Commissioner, Berhampur Municipal Corporation, Odisha will return the Bid Securities of the unsuccessful Bidders as promptly as possible, but not later than **45 days** after the expiration of the Bid Validity Period.
- (5) The Bid Security of the Successful Bidder will be returned when the Bidder has signed the Form of Contract pursuant to ITB Section 6.4 and has provided the required performance security as set out in the Contract and ITB Section 6.5.
- (6) The Bid Security may, in the discretion of the Commissioner, Berhampur Municipal Corporation, Odisha, be forfeited,
 - (a) if the Bidder withdraws its Bid during the Bid Validity Period; or
 - (b) in the case of the Successful Bidder, if the Successful Bidder fails within the specified time limit,
 - (i) to execute the Form of Contract in accordance with ITB Section 6.4; or
 - (ii) to furnish the performance security to the Owner in accordance with ITB Section 6.5.

3.5 Technical Section – Part III – Bid Form and Qualification Information

- (1) In Part III of the Technical Section of its Bid, each Bidder shall provide a completed Bid Form in the same form and substance as the Bid Form contained in **Annex A** to the Bidding Documents.
- (2) In Part III of the Technical Section of its Bid, Bidders shall submit Information Forms duly completed to evidence compliance with the Qualification Criteria provided in the Appendix to ITB. The Information Forms are provided in the Annex A to the Bidding Documents.
- (3) Bidder shall submit the technical details of the proposed facility as per the prescribed format at Form (vi) – Information Form (7) in the Annex A to the Bidding Document.

3.6 Technical Section – Part IV - Joint Venture Documents and Requirements

- (1) Each Joint Venture Bidder shall submit, as Part IV of the Technical Section of its Bid, a written commitment, in the form of a letter duly executed by an authorized officer of each joint venture participant, which,
 - a) confirms each joint venture participant’s commitment to the joint venture and acceptance of the joint venture arrangements described in the Bid in accordance with ITB Section 3.6(2);
 - b) confirms each joint venture participant’s willingness to provide a joint and several guarantee to the Owner to underwrite the performance of the joint venture in respect of the Contract; and
 - c) identifies which joint venture participant,
 - (i) will assume the leading role on behalf of the other joint venture participants; and
 - (ii) will have the authority to commit all joint venture participants.

- (2) A copy of the Joint Venture Agreement entered into by the Partners (JV Participants) shall be submitted with the bid; or a Letter of Intent as per format provided under Annex A – Part ix to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid together with a copy of the proposed Agreement, clearly indicating the objectives of the joint venture, the proposed management structure, the contribution of each participant to the joint venture operations, the commitment of the participants to joint and several liability for performance of the contract, recourse or sanctions within the joint venture in the event of default or withdrawal of any participant, and arrangements for providing the required indemnities.
- (3) If the Successful Bidder is a Joint Venture to whom the contract is awarded, each partner of the joint venture shall sign and execute the contract with the owner and shall be jointly and severally responsible to owner for the performance of the contract.

3.7 Technical Section – Part V – Power of Attorney

Each Bidder shall provide, as Part V of the Technical Section of its Bid, a written power of attorney in accordance with ITB Section 3.15(3).

3.8 Technical Section – Part VI – Commissions and Gratuities

In Part VI of the Technical Section of its Bid, each Bidder shall provide detailed information listing all commissions and gratuities, if any, paid or to be paid by the Bidder to agents relating to this Bid or the Contract if the Bidder is awarded the Contract. The Bidder shall list the name and address of any agents, the amount and currency paid or to be paid to the agents and the purpose of the commission or gratuity. If no such commissions and gratuities have been paid, the Bidder shall provide this information in Part VI of the Technical Section of its Bid.

3.9 Technical Section – Part VII – Pre-Printed Literature

If the Bidder wishes to provide pre-printed literature about the Bidder or the joint venture participants, that pre-printed literature shall be contained in Part VII of the Technical Section of the Bid only and shall be separately bound.

3.10 Financial Section – Price Schedules

Bidder shall submit completed and properly executed Price Schedules in the forms contained in Annex A to the Bidding Documents. Bidders shall complete the Price Schedules in full and shall not amend or change the form in any way. The Financial Section of Bidder's Bid shall consist of only completed and properly executed Price Schedules.

3.11 Financial Section – Bid Prices

- (1) Bidders shall quote their Bid Price for the entire facility and all of the services on a "single responsibility" basis such that the total Bid Price covers all of the Operator's obligations mentioned in or to be reasonably inferred from the Bidding Documents in respect of the design, manufacture, including procurement and subcontracting, if any, delivery,

construction, installation and completion of the facility and the performance of the Services as set out in the Draft Contract. This includes all requirements under the Operator's responsibilities for testing, pre-commissioning and commissioning of the site and facility, the acquisition of all permits, approvals and licences, the design, building, operation, maintenance and training services, and such other items and services as may be specified in the Bidding Documents, all in accordance with the requirements of the General Conditions of the Contract.

- (2) The Operator shall be allowed to generate revenue through sale of recyclable waste and by-products of treatment plant or use the same for commercial purposes, as provided in Article 7.2 (3) of Appendix 3B of Contract. Bidders shall take this into account while quoting the Bid Price. However, if the Operator fails to generate revenue as aforesaid or use the recyclable waste or by-products of treatment plant for envisaged commercial purpose(s), the Owner shall not be responsible in any manner and shall not compensate the Operator in any manner whatsoever.
- (3) For the purpose of submitting Bids, Bidders should note that the Bid Price shall include all kinds of taxes, duties, levies or charges of the Owner's country in accordance with the Contract, except that the Service Tax shall not be included in the bid price and the same will be paid separately by the Employer if applicable against proof of applicability and payment. However, the bidder may take into consideration any tax / duty exemptions, reductions or privileges that may be available to him in the Owner's country. The owner, at the request, of the Operator shall provide the required certification to avail such benefits. However, if the Operator fails to get the benefit of exemption, the owner shall not be responsible in any manner and shall not make any extra payment to the Operator.
- (4) In the Price Schedules, Bidders shall give the required details and a breakdown of their prices as follows:

(i) Price for Design-Build Services shall be quoted as follows:

- (a) cost of all equipment and vehicles for movement & transfer of waste at the designated processing and disposal site and sites for Secondary Transfer Stations (5 no.)
- (b) Cost of setting up Secondary Transfer Station (5 no.), processing and disposal facility including site development cost, civil cost, plant & machinery, materials etc. for the proper execution of the Design-Build Services in accordance with the Contract.

Design-Build Price shall remain firm and fixed and will not be subject to price adjustment unless specified otherwise in the **Bid Data Sheet**.

(ii) Price for Operations and Maintenance Services shall be quoted as under:

- (a) **Tipping Fee Rate (TFR):** Tipping fee rate per MT basis for Operations Services ("**Tipping Fee Rate-Treatment & Disposal**" or "**TFR**") for all labour, related Operator's Equipment (Operations), consumables and all matters and things of whatever nature, including the preparation and implementation of plans, programs and reports, and carrying out operations and maintenance services,, training, customer service, as necessary for the proper execution of related Operations Services in accordance with the Contract. The Tipping Fee Rate shall

cover all periodic capital expenses on Facility resulting from need based augmentation or replacement of assets. The periodic capital expenses shall also cover the capping and new landfill cell creation for implementation of the landfill in a phased manner as per MSW Rules 2016.

The bidder's attention is drawn to SCC Para 19 in reference to GCC 5.1.2 (b) which specifies the minimum amount payable to the Operator on account of Tipping Fee based on the minimum assured quantity of daily waste available for transportation to the facility and subsequent processing even if the actual quantity of waste available is less than the minimum assured quantity.

(iii) Prices quoted by the Bidder against TFR shall be the base price which will be subject to adjustment during the O&M period in accordance with the methodology specified in Appendix 6 to GCC. These base prices shall take into account the WPI and CPI as prevailing during the month in which the deadline for bid submission falls. Except for discounts provided as modifications to the Bid in accordance with ITB Section 4.4, discounts will not be considered.

(5) Bidders are strongly encouraged to review GC Section 5.6, Terms and Procedures of Payment Appendix and Contract Price Adjustment Appendix prior to completing their Price Schedules and submitting their Bid Prices.

3.12 Financial Section – Bid Currencies

Bidders shall quote their prices in Indian Rupees.

3.13 Bidding of Alternatives not to be considered

- (1) The Bidders shall base their Bids on the terms and conditions of the Bidding Documents and, without limiting the generality of the foregoing, shall,
 - (a) Submit their prices based on the terms and conditions in the Bidding Documents;
 - (b) Submit their Bids based on the assumption that the final Contract will be the same as the Draft Contract and shall not base their Bids on the premise that they may be able to change the Draft Contract; and
 - (c) Include in their Bids a Form of Contract and Draft Contract initialled on each page in accordance with ITB Section 3.15(2)(c).
- (2) No Bidder shall submit a Bid that contains statements that are inconsistent with the Bidding Documents.
- (3) A Bidder shall not submit a Bid that proposes an arrangement between the Owner and the Bidder which, in the discretion of the Owner, is different than the arrangement set out in the Bidding Documents (an "Alternative Bid"). The Owner intends to enter into a contract to design, build and operate project facility based on the terms and conditions of the Bidding Documents. If a Bidder submits an Alternative Bid it will be returned to the Bidder and will not be considered, in any way, by the Owner.

3.14 Period of Validity of Bid

- (1) Bids shall remain valid for the period named in the Bid Data Sheet after the Submission Deadline or any extension thereof prescribed by the Owner for the receipt of Bids, pursuant to ITB Section 3.14(2) (the "Bid Validity Period"). A Bid valid for a shorter period shall be rejected by the Owner as being non-responsive.
- (2) In exceptional circumstances, the Owner may solicit the Bidders' consent to an extension of the Bid Validity Period. The request and responses thereto shall be made in writing and sent by air mail, courier or fax. If a Bidder accepts to prolong the Bid Validity Period, the Bid Security shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will not be required nor permitted to modify its Bid, except as provided in ITB Section 4.4.

3.15 Format and Signing of Bid

- (1) Each Bidder shall prepare and submit one signed and initialed original of its Bid and the number of copies of the Bid as set out in the Bid Data Sheet, clearly marking one each as "Original Bid", "Copy No. 1", or "Copy No. 2", etc. as appropriate. In the event of any discrepancy between the copies and the original, the original shall govern.
- (2) The original and all copies of the Bid, each consisting of the documents listed in ITB Section 3.2, shall be typed or written in indelible ink. The person or persons duly authorized to bind the Bidder to the Bid and Contract shall sign the Bid by,
 - (a) signing the original of the Bid Form;
 - (b) initialling all of the pages of the original of the Bid, except for un-amended printed literature; and
 - (c) initialling the Form of Contract and initialling all pages of the Draft Contract.
- (3) The authority of the person or persons signing the Bid to bind the Bidder shall be demonstrated by a written and duly notarized power of attorney included in the Bid and submitted as Part V of the Technical Section of the Bid and which shall bind the Bidder for the full length of the Bid Validity Period.
- (4) The Bid shall contain no alterations, omissions or additions, unless such corrections are initialled by the person or persons signing the Bid.

SECTION 4: SUBMISSION OF BIDS

4.1 Sealing and Marking of Bids

- (1) The Bidder shall submit the proposal in bound form with all pages numbered serially and by giving an index of submissions. The Proposal will be sealed in an outer envelope which bear the address of BeMC as specified in Bid Data Sheet, RFP Notice No. Name of assignment” RFP for Design-Build- Operate & Transfer Municipal Solid Waste Management Project for the City of Berhampur Municipal Corporation” and the name of contact no of the Bidder. The aforesaid outer envelope will contain two separate sealed envelopes; One clearly marked “ Technical Proposal “ and other clearly marked ”financial proposal”. The envelope marked “Technical Proposal “ shall contain the bid in prescribed format as per Annexure A Form I to X and supporting documents
- (2) The Envelope marked “Financial Proposal” shall contain the Bid Price Schedule in the prescribed format as per Annexure A Form XI with supporting documents
 - (a) Each Bidder shall seal the original and each copy of the Bid in separate envelopes, duly marking the envelopes as “Original Bid” and “Copy No. (Three Numbers)”. The envelopes shall then be sealed in an outer envelope. The inner and outer envelopes shall, bear the Contract name indicated in the Bid Data Sheet and the statement “DO NOT OPEN BEFORE 11th January 2016, 12.00Hrs, with the date and time specified in the Bid Data Sheet pursuant to ITB Section 5.1.
- (3) The inner envelopes shall indicate the name and address of the Bidder so that the Bid can be returned unopened in the event that it is declared “late”.
- (4) If the outer envelope or package is not sealed and marked as required by this ITB Section 4.1, the Owner will assume no responsibility for the Bid’s misplacement or premature opening. If any of the outer envelope or package discloses the Bidder’s identity, the Commissioner, Berhampur Municipal Corporation, Odisha will not guarantee the anonymity of the Bid but this disclosure shall not constitute grounds for Bid rejection.

4.2 Deadline for Submission of Bids

- (1) Bids must be received at the address specified in the Bid Data Sheet no later than the time and date stated in the Bid Data Sheet as the Submission Deadline.
- (2) The Commissioner, Berhampur Municipal Corporation, Odisha may, at its discretion, extend the Submission Deadline by amending the Bidding Documents in accordance with ITB Sections 2.6 and 2.9(2), in which case all rights and obligations of Owner and Bidders will thereafter be subject to the Submission Deadline as extended.
- (3) Each Bidder shall deliver its Bid by hand or by courier. A Bidder shall not submit a Bid by facsimile or electronic means. Each Bidder shall be responsible for the timely delivery of its Bid to the address set out in the Bid Data Sheet irrespective of any delivery or local difficulties.

4.3 Late Bids

Any Bid received by the Owner after the Submission Deadline prescribed by the Commissioner, Berhampur Municipal Corporation, Odisha, pursuant to ITB Section 4.2, will be rejected and returned unopened to the Bidder.

4.4 Modification and Withdrawal of Bids

- (1) The Bidder may modify or withdraw its Bid after submission, provided that written notice of the modification or withdrawal is received by the Commissioner, Berhampur Municipal Corporation, Odisha prior to the Submission Deadline.
- (2) The Bidder's modifications, if any, shall be prepared, sealed, marked and dispatched as follows:

The Bidder shall provide an original and the number of copies specified in the Bid Data Sheet of any modifications to its Bid, clearly identified as such, in two inner envelopes marked "Bid Modifications – Original" and "Bid Modifications – Copies" respectively. The inner envelopes shall be in an outer envelope, which shall be duly marked, "Bid Modifications"; and

Other provisions concerning the marking and dispatch of Bid modifications shall be in accordance with ITB Section 4.1(2), 4.1(3) and 4.1(4).

- (3) A Bidder wishing to withdraw its Bid shall notify the Commissioner, Berhampur Municipal Corporation, Odisha in writing prior to the Submission Deadline. The notice of withdrawal shall,
 - be delivered by hand or courier, subject to ITB Section 4.4(5);
 - be addressed to the Owner at the address named in the Bid Data Sheet; and
 - bear the contract name, as set out in the Bid Data Sheet, and the words "BID WITHDRAWAL NOTICE."
- (4) Bid withdrawal notices received by the Commissioner, Berhampur Municipal Corporation, Odisha after the Submission Deadline will be ignored, and the submitted Bid will be deemed to be a validly submitted Bid.
- (5) A Bidder may send a notice of withdrawal to the Commissioner, Berhampur Municipal Corporation, Odisha electronically or by facsimile but it must be followed by a signed confirmation copy postmarked no later than the Submission Deadline.
- (6) No Bid may be modified or withdrawn in the interval between the Bid Submission Deadline and the expiration of the Bid Validity Period. Withdrawal of a Bid during this interval may result in the Bidder's forfeiture of its Bid Security, pursuant to ITB Section 3.4(6).

SECTION – 5: BID OPENING AND EVALUATION

5.1 Opening of Bid by Owner

- (a) The Commissioner, Berhampur Municipal Corporation, Odisha shall conduct the bid opening in public at the address, date and time **specified in the BDS**.
- (b) BEMC shall adopt a two stage selection process in evaluating the Proposals. In the first stage a Technical Evaluation will be carried out as specified in Qualifying Criteria Clause no 1.1 to 1.8. This evaluation is “Pass/Fail” type and evaluation will be carried out on the basis of submitted documents in prescribed format as per Annexure A Form No I to X along with all supporting documents. Based on Technical Evaluation, Bidders will be selected for second stage if they qualified in first stage of Technical Evaluation. Those who will not qualify in first stage their Financial Proposal will be returned unopened. In the Second stage the Financial Proposal of qualified bidder will be opened
- (c) First, Technical Proposal envelope marked “Withdrawal” shall be opened and read out for responsive check and the envelope with the Price bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the “power of attorney” confirming the signature as a person duly authorized to sign on behalf of the Bidder, the price bid will be kept for unopened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, Technical envelopes marked “Substitution” shall be opened and read out for responsive check and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Technical Envelopes marked “Modification” shall be opened and read out for responsive check with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only Technical envelopes that are opened and read out at Bid opening shall be considered further. No Bid shall be rejected at Bid opening except for late bids, in accordance with ITB section 4.3
- (d) Only Technical envelopes shall be opened , read out: the name of the Bidder and whether there is a modification; the presence of a Bid Security or Bid-Securing Declaration, if required for responsive check; and any other details as the Commissioner, Berhampur Municipal Corporation, Odisha may consider appropriate. In the First stage evaluation is done as per Clause no .5.5 mentioned below.
- (e) In the Second stage of evaluation, Financial Proposal of Qualifying Bidders in first stage marked in sealed Envelope will be opened in presence of representative of Bidders and read out . Bid price schedule containing reservation , conditions will be out rightly rejected. Evaluation will be done as per clause no 5.6 and 5.7 below.
- (f) The Commissioner ,Berhampur Municipal Corporation, Odisha shall prepare a record of the Bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot if applicable, including any discounts, and alternative offers if they were permitted; and the presence or absence of a Bid Security. The Bidders’ representatives who are present shall be

requested to sign the attendance sheet. A copy of the record shall be distributed to all Bidders who submitted bids in time.

5.2 Clarification of Bids

During Bid evaluation, the Commissioner, Berhampur Municipal Corporation, Odisha may, at its discretion, ask the Bidder for a clarification of its Bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the Bid shall be sought, offered or permitted.

5.3 Preliminary Examination of Bids

- (1) The Commissioner, Berhampur Municipal Corporation, Odisha will examine each Bid to determine whether it is complete, whether any computational errors have been made, whether required securities have been furnished, whether the documents have been properly signed, and whether the Bid is generally in order.
- (2) The Commissioner, Berhampur Municipal Corporation, Odisha may waive any minor informality, nonconformity or irregularity in a Bid that does not constitute a material deviation, and that does not prejudice or affect the relative ranking of any Bidder as a result of the technical and price evaluation pursuant to ITB Sections 5.5 and 5.6.
- (3) Prior to the detailed evaluation, the Commissioner, Berhampur Municipal Corporation, Odisha will determine whether each Bid is of acceptable quality, is complete and is substantially responsive to the Bidding Documents. For purposes of this determination, a substantially responsive Bid is one that conforms to all the terms, conditions and specifications of the Bidding Documents without material deviations, objections, conditional ties or reservations. A material deviation, objection, conditionality or reservation is one,
 - (a) that affects in any substantial way the scope, quality or performance of the contract;
 - (b) that limits in any substantial way, inconsistent with the Bidding documents, the Owner's rights or the Successful Bidder's obligations under the contract; or
 - (c) whose rectification would unfairly affect the competitive position of other Bidders who are presenting substantially responsive Bids.
- (4) If a Bid is not substantially responsive, it will be rejected by the Commissioner, Berhampur Municipal Corporation, Odisha, and may not subsequently be made responsive by the Bidder by correction of the nonconformity. The Commissioner's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

5.4 Conversion to Single Currency

Not applicable. Bid currency is Indian Rupees only.

5.5 Technical Evaluation

- (1) The Commissioner, Berhampur Municipal Corporation, Odisha will carry out a detailed evaluation of the Technical Sections previously determined to be substantially responsive in order to determine on a pass/fail basis whether the technical aspects are in accordance with the requirements set forth in the Bidding Documents. Bidders acknowledge that, in order to reach such a determination, the Commissioner, Berhampur Municipal Corporation, Odisha will

examine and analyse the technical aspects of each Bid on the basis of the information supplied by Bidders, taking into account the completeness, consistency and level of detail of the following factors:

- (a) with respect to the Design-Build construction plan,
 - i) the Bidder's ability to demonstrate how it will meet the Owner's project objective and requirements, the technical standards and the Environmental Management Plan; and
 - ii) the soundness of the proposed methodology and approach, and the extent to which the Design-Build Work plan demonstrates an understanding of the local conditions and specific project requirements;
 - iii) the adequacy of the facility proposed by the Bidder in comparison with the Minimum Development Obligation stipulated in the contract (Appendix 3C to the Contract; Clause 2.4).

- (b) with respect to the Operation and maintenance Work plan,
 - i) the extent to which the Operations Work plan addresses all of the Operations Services that are to be provided in accordance with the Contract;
 - ii) the soundness of the proposed methodology and approach, and the extent to which the Operations Work plan demonstrates an understanding of the local conditions and specific project requirements; and
 - iii) the Bidder's ability to demonstrate how it will meet the technical standards.

- (c) with respect to the Staffing Plan,
 - i) the qualifications and competence of the Key Staff; and
 - ii) the overall quality of the Staffing Plan, including the depth and organisational strength demonstrated by the Plan and the extent to which it meets the expertise requirements set out in the Operator's Expertise Appendix of the Draft Contract.-

5.6 Price Evaluation and Comparison of Bids

- (1) The Commissioner, Berhampur Municipal Corporation, Odisha shall examine each qualified Bidder's Financial Section to determine whether such Financial Section is complete and substantially responsive to the Bidding Documents.
- (2) The Financial Sections, which are substantially responsive to the Bidding Documents, shall be evaluated to determine the lowest evaluated bid.
- (3) The Commissioner, Berhampur Municipal Corporation, Odisha shall evaluate the bid prices by determining and adding various components of cost and prices as under:
 - (i) Price adjustment for correction of arithmetic errors in accordance with Section 5.3(2); plus
 - (ii) Price for Design-Build Services payable by Owner in Price schedule - 1.
 - (iii) Net Present Value of the yearly tipping fee payments for the entire O & M period (assuming these payments are made at the close of the respective years) for the Operation and Maintenance Services for **treatment and disposal** of solid waste

as quoted in price schedule-2 without considering any price adjustment on account of the adjustment applicable in terms of Section 3.11 (4) (iii) . A discount rate of 10% per annum shall be assumed to calculate the NPV and the amounts would be discounted to the scheduled date of commencement of operation of the facility.

The yearly tipping fee charges for Treatment and disposal for each year of O&M Period shall be calculated as below:

$$YTF_n = Q_n \times 365 \times TFR$$

Where

- YTF_n is the yearly tipping fee charges for Treatment and disposal
- “Q_n” is the daily quantity of waste collected and transported to the processing site in nth year
- “TFR” is the Tipping Fee Rate – Treatment & Disposal fixed for the entire duration of Contract

For the purpose of evaluation of net present value, the value of daily quantity of waste (Q_n) shall be taken as 175 TPD for entire duration of O&M period of 20 years.

- (iv) Arithmetical errors in the Bids will be rectified on the following basis:
- a. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail.
 - b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - c. If there is a discrepancy between words and figures, the amount in words shall prevail,

Bidders shall be requested to accept correction of arithmetical errors. If a Bidder does not accept the correction in accordance with ITB 5.3, its Bid shall be rejected

The Commissioner, Berhampur Municipal Corporation, Odisha shall compare the evaluated prices of all substantially responsive bids to determine the lowest evaluated bid.

5.7 (deleted)

5.8 Contacting the Owner

- (i) From the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Owner or the Commissioner, Berhampur Municipal Corporation, Odisha, it must do so in writing.
- (ii) Any effort by a Bidder to influence the Owner or the Commissioner, Berhampur Municipal Corporation, Odisha, its advisors, employees, consultants or agents, in the Bid evaluation, Bid comparison, or Contract award decision may, in the discretion of the Owner/ Commissioner, Berhampur Municipal Corporation Odisha, result in rejection of the Bidder’s Bid.

SECTION– 6 : AWARD OF CONTRACT

6.1 Award Criteria

Subject to ITB Section 6.2, the Owner will award the Contract to the Bidder whose Bid has been determined, by the technical and price evaluation, to be substantially responsive, has received a “pass” in the technical evaluation, and has the lowest evaluated Bid Price, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

6.2 Owner’s Right to Accept or Reject and Waive Irregularities

- (1) The Owner/ Commissioner, Berhampur Municipal Corporation, Odisha reserves the right to,
- a. accept any Bid;
 - b. reject any Bid;
 - c. annul the bidding process and reject all Bids;
 - d. annul the bidding process and commence a new process; and
 - e. waive irregularities, minor informalities, or minor non-conformities which do not constitute material deviations in the submitted Bids from the Bidding Documents,

at any time prior to the award of the Contract without incurring any liability to the affected Bidder or Bidders and without any obligation to inform the affected Bidder or Bidders of the grounds for the Owner’s actions.

- (2) Nothing in ITB Section 6.2(1) is intended to permit the Owner to refuse to provide reasons for rejection to an unsuccessful Bidder.

6.3 Notification of Award

Prior to the expiration of the Bid Validity Period, the Commissioner, Berhampur Municipal Corporation, Odisha shall notify the Successful Bidder in writing by courier that its Bid has been accepted by the Owner (the “Notification of Award”). The effectiveness of the Contract shall be as of the date of the Owner’s signing of the Contract contingent on final approval by the Bank.

6.4 Signing the Form of Contract

- (1) the Owner/ Commissioner, Berhampur Municipal Corporation, Odisha along with the Notification of Award shall send the Successful Bidder;
- (a) Form of Contract; and
 - (b) the other Contract Documents.
- (2) Not later than 30 days after the Successful Bidder’s receipt of the Notification Award, the Form of Contract and the other Contract Documents pursuant to ITB Sections 6.3 and 6.4(1), the Successful Bidder shall sign and date the Form of Contract and initial each page of the Contract and return them to the Owner/ Commissioner, Berhampur Municipal Corporation, Odisha.

6.5 Performance Security

No later than 30 days after the Successful Bidder's receipt of the Notification of Award, the Successful Bidder shall provide the Owner with the performance security in the amount given in the Bid Data Sheet and in the substance and form set out in Annex A or in another form approved by the Owner. The Performance Security of a Joint Venture shall be in the name of Joint Venture.

In case if the owner finds from the break-up of costs contained in Price Schedule-1, that the prices indicated therein are unbalanced, the successful bidder shall have to provide additional performance guarantee as may be required by the owner for such unbalanced bid prices.

6.6 Failure to Sign the Form of Contract or Provide the Performance Security

If the Successful Bidder fails to comply with the provisions of ITB Sections 6.4(2) or 6.5, this failure shall constitute sufficient grounds for annulment of the award and forfeiture of the Bid Security, and in which event the Owner may make the award to the next lowest evaluated Bidder or call for new bids.

6.7 Adjudicator

The Owner proposes that the person named in the Bid Data Sheet be appointed as Adjudicator under the contract, at an hourly fee stated in the Bid Data Sheet. A résumé of the named person is attached to the Bid Data Sheet, as well as a description of the expenses that would be considered reimbursable. If a Bidder does not accept the Adjudicator proposed by the Owner, it should so state in its Bid Form and make a counterproposal of an Adjudicator and an hourly fee. If, on the day the Form of Contract is signed, the Owner and the Operator have not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed, at the request of either party, by the Appointing Authority specified in the Special Conditions of Contract.

6.8 Fraud and Corruption

It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹ In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;²

- (iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;³
- (iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁴
- (v) "obstructive practice" is
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures, including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁵ sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed.

APPENDIX TO ITB: QUALIFICATION CRITERIA

QUALIFICATION CRITERIA

1.1 General

- (1) Evaluation of the Bidders' qualifications will be based on compliance with all the following minimum pass-fail criteria listed in the following sections, considering relevant information as demonstrated by the Bidders' responses in the Information Forms that they submit as per the attached Bid Forms. Additional requirements for joint ventures are given in Section 2.
- (2) Bidders may submit the Bid either as,
 - (a) A stand-alone firm, company, legal entity formed as per the applicable law; or
 - (b) A joint venture,

provided that they meet the requirements of the Bidding Documents. For the purpose of assessing some qualification criteria, the qualifications and experience of subcontractors may be included and the specific provisions in this regard are set out in Section 1.5.

1.2 Subcontracting

- (1) Bidders will be evaluated based on the qualifications of,
 - (a) the Bidder; and
 - (b) nominated subcontractors and sub-consultants only with respect to the experience requirements if so specified in Section 1.5, and only if the subcontractors and sub-consultants are nominated for the purpose of this bid.

For the purposes of Section 1.7 of Qualification Criteria, Bidders may nominate personnel of subcontractors and sub-consultants to fill the key positions listed in the BDS - ITB 3.3.

- (2) The Bidder shall provide a detailed list of all nominated subcontractors and sub-consultants and a record of their experience and qualifications in the applicable Information Forms. The Operator under the Contract shall be prohibited from entering into a contract or contracts that will result in the Operator exceeding the maximum percentage of subcontracting and sub-consulting permitted by the Owner, as set out in the BDS - ITB 3.3(g).
- (3) Bidders will not be permitted to change the subcontractors and sub-consultants nominated in their Bid.

1.3 Operator's Responsibility

After award of the Contract, the subcontracting of any part of the work, except for those subcontractors and sub consultants nominated in the Bid, shall require the prior written consent of the Owner. Notwithstanding such consent, the Operator shall remain responsible for the acts, defaults, and neglects of all subcontractors and sub consultants during Contract implementation.

1.4 General Solid Waste Management Experience

The Bidder shall provide evidence (by providing the first Work Order it has ever received for municipal solid waste treatment facility or solid waste disposal facility) that it has been actively engaged for past 5 years in

- (i) design, build, operation and maintenance of municipal solid waste treatment facilities OR
- (ii) design, build, operation and maintenance of solid waste disposal facilities;

For the purpose of Bidding Documents,

- a) a “**solid waste processing/treatment facility**” means a facility designed, developed, constructed, and operated for treatment/processing of municipal solid waste for its safe disposal complying with applicable regulatory requirement.
- b) a “**Solid Waste Disposal facility**” means a Waste disposal facility site that is designed to receive hazardous or non-hazardous waste.

1.5 Specific experience in Municipal Solid Waste Management

The Bidder shall provide evidence (certified by the relevant and respective Employer/Owner) that during 5 years preceding the bid submission:

S. No.	Parameter
(a)	Bidder or its nominated sub-contractor has satisfactorily completed construction and 2 years of operation of at least one municipal solid waste treatment facility (Compost Plant) of minimum 140 TPD capacity or above;
(b)	Bidder or its nominated sub-contractor has satisfactorily completed construction and 2 years of operation of at least one solid waste disposal facility (Scientific Landfill) ;

1.6 Financial Capabilities

- (1) The bidder shall submit evidence of average annual turnover of minimum INR 40 Cr. during the last three financial years.
- (2) The Bidder shall submit a CA Certificate / Statutory Auditor certifying positive net worth of the company as on last date of submission of RFP.
- (3) The Bidder’s audited balance sheets or, if not required by the laws of the Bidder’s country, other financial statements acceptable to the Owner, for the last three years shall be submitted and must demonstrate the current soundness of the Bidder’s financial position and indicate its prospective long-term profitability. If deemed necessary by the Owner, the Owner shall have the authority to make inquiries with the Bidder’s bankers.

1.7 Personnel Capabilities

The Bidder shall supply general information on the management structure of the firm, and shall make provision for suitably qualified personnel to fill the key positions listed in the BDS – ITB 3.3(f), as required during Contract implementation. The Bidder shall supply information on a candidate for each key position, who shall meet the experience requirements specified. The

Bidder may nominate personnel of subcontractors and sub consultants to fill key positions listed in the BDS.

1.8 Litigation History and Legal Matters

The Bidder shall provide accurate information on the “Historical Contract Non-Performance Form” about contract non-performance and pending litigation with respect to contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Bidder or any Partner of a joint venture may result in rejection of the Bid.

1.9 Right to Waive

The Owner reserves the right to waive minor deviations in the qualification criteria if they do not materially affect the capability of a Bidder to perform the Contract.

2. JOINT VENTURES

2.1 Qualification Criteria

- (1) The lead partner shall satisfy the requirements specified either in section 1.5(a) or 1.5(b) and the same or any of the other partners shall meet the balance requirements specified in sections 1.5(a) and 1.5(b).
- (2) As for the experience in design, development, construction and commissioning of the Facility each of the joint venture partners shall meet the criteria specified in section 1.4 (i) or 1.4 (ii).
- (3) As regards to the Qualification criteria specified in Section 1.5, the JV partners combined shall meet the specified criteria. For this purpose, capacities of Solid Waste Treatment/Disposal Facilities completed by different JV partners shall not be aggregated to determine whether requirement of at least one facility of minimum capacity of 140 TPD has been met. For this purpose, capacities of Solid Waste Treatment Facilities completed by different JV partners shall not be aggregated to determine whether requirement of at least one facility of minimum capacity of 140 TPD has been met. However, the JV may include experience of the duly nominated subcontractors to meet the requirements specified in sections 1.5 (a) and 1.5 (b).
- (4) Joint Venture (all partners combined) must satisfy the following qualification criteria:
 - (a) Financial capabilities as stated in section 1.6;
 - (b) Personnel capabilities as stated in section 1.7;
 - (c) Legal disclosure as stated in section 1.8.
- (5) The Bidder shall include in its bid all information in respect of joint venture partners and nominated sub-contractor if any, to evidence compliance with qualification criteria in accordance with sections 2.1 (1), (2), (3) & (4).

2.2 (deleted)

2.3 Lead Partner

(a) One of the joint venture Partners who is responsible for performing a key function in contract management or in executing a major component of the proposed Contract shall be nominated as being in charge during the bidding process and, in the event of a successful bid, during Contract execution (the “Lead Partner”). The Lead Partner shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture. This authorization shall be evidenced by the submission of a power of attorney signed by legally authorized signatories of each of the joint venture Partners as per proforma enclosed in Annex A – Part x as part of the Bid.

(b) All Partners

All partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a copy of the undertaking as per format provided under Annex A - Part xi signed by the joint venture partners shall be submitted with the bid.

Bid Data Sheet

The following bid-specific data for the facility and services to be procured shall amend or supplement the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in the ITB.

SECTION REFERENCE	REQUIRED INFORMATION
ITB 1.1(1)	Name of the Owner: The Commissioner, Berhampur Municipal Corporation.
ITB 1.1(1)	Project Name: Odisha Urban Infrastructure Development Fund Project Name of Contract: Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) Basis
ITB 1.1(1)	Name of Owner: Commissioner, Berhampur Municipal Corporation, Odisha
ITB 1.2.1	The number of members of a JV bidder shall be limited to 3
ITB 1.4	Not Applicable
ITB 2.2(1)	Address for seeking Clarification: Berhampur Municipal Corporation Berhampur-760002,Ganjam Phone # 0680 225 0290 , email: mcbemc08@gmail.com
ITB 2.4 (1)	Data Room: Data Room is the office of the City Engineer, BEMC
ITB 2.4 (2)	The Background Information Document, containing information on the project and the Site, will be provided along with Bid Document and the same may be downloaded from the website of (www.berhmapur.gov.in , www.tenderorissa.gov.in , www.ouidf.in)
ITB 2.5	Venue, Time and Date of pre-bid meeting: A pre-bid meeting will be held on 14 th December 2016. at 11A.M. at the office of The Odisha Urban Infrastructure Development Fund,4 th Floor, Zone-A/2, Fortune Towers, Chandrasekharpur, Bhubaneswar-23, Odisha to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 2.5 of 'Instructions to Bidders' of the bidding document.

SECTION REFERENCE	REQUIRED INFORMATION	
ITB 2.9(1), 2.2(3), 2.3(1), 2.4(1), 2.9(2)	The tentative timeline	
	Issue of Bidding Documents:	[From 02.12.2016 to 16.01.2017
	Site Visits	To be indicated during Pre-Bid meeting
	Pre-Bid Meeting	14.12.2016
	Last Day for Bidders to Submit Questions on Bidding Documents	14.12.2016
	Last Day for Bidders to Submit Supplementary Questions (arising out of Site Visits only)	To be indicated during Pre-Bid Meeting
	Issue of Response to Questions Document	23.12.2016
	Deadline for Submission of Bids (Submission Deadline) 12:00:noon local	16.01.2017
	Opening of Bids	16.01.2017 at 16:00 Hours local time [Berhampur]
	Project preparation including submission and approval work plan , designing, and drawings; Mobilization of Operator's Personnel; and arrangement of financial resources	Within 90 days after signing of Contract
ITB 3.1	Language of Bid is English.	

SECTION REFERENCE	REQUIRED INFORMATION
ITB 3.3, 3.3(b)(ii)(B)	<p>Status of availability and ownership of Land</p> <p>A patch of 33.62 Acres of land at Mohuda have been allocated by Govt. of Odisha to Berhampur Municipal Corporation for the purpose of establishment of SWM Project in Berhampur. In the site where facility could be set up i.e. enough space for waste receipt, sorting, recycling, processing, composting and landfilling, etc. could be located.</p> <p>Requirement of land for each static compactor station is 80-100 m², the required land is in the possession of BeMC.</p> <p>The site plan shall include:</p> <ul style="list-style-type: none"> - <i>layout of static compactor stations each having 2 static compactors;</i> - <i>utility services;</i> - <i>the limits of site clearing;</i> - <i>road works including external haul routes, access roads, internal haul and service roads, traffic routing and parking areas;</i> - <i>specific measures to deal with site specific physical and environmental challenges;</i> - <i>Specific measure to increase the use of land and thereby increasing the land use efficiency;</i> - <i>Windrow Composting technology of solid waste treatment plant, proposed plant capacity and its scalability during contract period, material flow and refuse efficiency, land requirement, technology tie-up if any, demonstrated case study in India;</i> - <i>perimeter works including fencing, gates, landscaping and internal access corridors;</i> - <i>structures, including administration offices, weigh scales, an equipment and maintenance building, fuel depot and temporary office facilities;</i> - <i>all other related works including storm drainage works, groundwater management works, leachate control and management systems, landfill gas control and management systems, and environmental monitoring stations;</i> - <i>operating cells including a demonstration of the number of cells planned, cell size, sequence of use of the cells, and co-ordinated cover-material storage</i> - <i>a demonstration of a typical cell layout including basal grading, leachate collection, and transfer arrangements, a basal liner/engineered barrier system, and a landfill gas control and venting system;</i> - <i>special waste areas;</i> - <i>temporary and permanent storage areas;</i> - <i>cell closure details including any engineered capping and drainage systems; and</i>

SECTION REFERENCE	REQUIRED INFORMATION
	<ul style="list-style-type: none"> - <i>the proposed final landform</i> - <i>proposed area for green belt development</i>
ITB 3.3(c)	<p>The Operations Plan shall include:-</p> <ul style="list-style-type: none"> - <i>Operating plan for Secondary Transportation of MSW</i> - <i>Operating plan for Treatment & Disposal of MSW</i> - <i>Maintenance plan for plant & machinery of MSW</i> - <i>phased development program of the static compactor stations, solid waste treatment plant (Composting plant with pre-sorting facility) and landfill facility, including progressive cell closure;</i> - <i>a description of standard operating procedures, for waste receipt, inspection and recording, waste placement and compaction, application of daily cover, maintenance protocols, materials recovery and re-use, management of leachate and landfill gas and emergency response procedure;</i> - <i>a description of the proposed operating procedures for any pre-treatment of waste, mechanical or hand-picking sorting of wastes, other techniques to separate recyclable materials, composting techniques, or any other similar waste diversion procedures (i.e. diversion from landfilling) included in the Operator's plan to meet the technical specifications set out in the Operations Services Appendix and the Technical Standards Appendix to the General Conditions of Contract); and</i> - <i>description of the proposed administration of all on-site activities including, but not limited to, waste receipt and recordings, inventory management, financial management, customer services, community liaison and reporting lines</i>
ITB 3.3(e)(ii)(B)	Language capabilities for Bidder's Personnel; English, Odia
ITB 3.3 (g)	Maximum percentage of sub-contracting is 25%. However the nominated sub-contractor whose experience and qualification have been claimed for meeting the qualification criteria specified in Appendix to ITB shall be excluded while applying the ceiling of 25 %.
ITB 3.4(1)	Amount of Bid Security: INR 35,00,000/-
ITB 3.1 (4) (i)	The Design-Build prices shall not be subject to price adjustment
ITB 3.11	Design-Build Price shall remain firm and fixed and will not be subject to price adjustment.
ITB 3.14(1)	Bid Validity Period: 90 days
ITB 3.15(1), 4.1(1) and 4.4(2)(a)	Original and 3 copies.
ITB 4.1(2)(a), 4.2(1), 4.2(3), 4.4(3)(b)	<p>Address for Bid submission:</p> <p>The Commissioner Office of the Commissioner Berhampur Municipal Corporation Berhampur-760002,Ganjam Phone # 0680 225 0290 ,</p>

SECTION REFERENCE	REQUIRED INFORMATION
	<p>email: mcbemc08@gmail.com</p> <p>Web: www.berhampur.gov.in</p> <p>The deadline for the submission of bids is: Date : 16/01/2017 Time: 12.00 Hours <i>The bids will be opened on the same date at 16:00 Hours at the address given above</i></p> <p>In the event of the specified date for the submission of bids, being declared a holiday for the Owner, the bids will be received up to the appointed time on the next working day.</p>
ITB 4.1(2)(b), 4.4(3)(c)	<p>Name of Contract: Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer Basis</p>
ITB 4.1(2)(b), 4.2(1), 5.1(a)	<p>Location, date and time of opening of Bid: The Commissioner Office of the Commissioner Berhampur Municipal Corporation Berhampur-760002,Ganjam Phone # 0680 225 0290 , email: mcbemc08@gmail.com Web: www.berhampur.gov.in</p> <p>The deadline for the opening of bids is: Date : .16/01/2017 Time: 16.00 Hours</p> <p>In the event of the specified date for the opening of bids, being declared a holiday for the Owner, the bids will be opened at the appointed time on the next working day.</p>
ITB 6.5	<p>Amount of Performance Security: 10 % of the Design-Build Services Price</p>
ITB 6.7	<p>Name of the Adjudicator proposed by the Owner: .</p>

ANNEX A to the Bidding Documents - Forms

- (i) Bidder's Bid Form(Envelope-A-Technical Proposal)**
- (ii) Form of Bid Security(Envelope-A-Technical Proposal)**
- (iii) Form for Clarification Questions(Envelope-A-Technical Proposal)**
- (iv) Format of Curriculum Vitae for Proposed Key Staff(Envelope-A-Technical Proposal)**
- (v) Form for Evidence of Positive Net Worth (Envelope-A-Technical Proposal)**
- (vi) Information Forms(Envelope-A-Technical Proposal)**
 - 1. General Information**
 - 1A. Summary of Technical Capacity of Bidder**
 - 2. General Solid Waste Management Experience**
 - 2A General Turnover Information**
 - 2B Joint Venture Summary**
 - 3A Specific Experience in Municipal Solid Waste Management (i.e. Windrow Composting and Scientific Landfill)**
 - 4. Financial Capabilities**
 - 5. Personnel Capabilities**
 - 5A Candidate Summary**
 - 6. Historical Contract Non-Performance**
 - 7. Proposed Facilities of the Bidder in compliance with Minimum Development Obligations**
 - 8. Project Technical Details**
- (vii) Form of Letter of Intent by JV Partners(Envelope-A-Technical Proposal)**
- (viii) Form of Power of Attorney for Joint Venture(Envelope-A-Technical Proposal)**
- (ix) Form of undertaking by JV Partners(Envelope-A-Technical Proposal)**
- (x) Declaration of Undertaking(Envelope-A-Technical Proposal)**
- (xi) Bidder's Price Schedules (In Separate Envelope-B-Financial Proposal)**

Annexure A

Form (i) BIDDER'S BID FORM

[NAME OF PROJECT]

Date: _____

Contract No: _____

[Name of Contract]

To: [Name and address of Owner]

Gentlemen,

Having examined the Bidding Documents, including Addendum Nos *[insert numbers]*, the receipt of which is hereby acknowledged, we, the undersigned, offer to Design, Build, test, pre-commission and commission the Facility and perform the Services under the above-named Contract in full conformity with the said Bidding Documents for the sum mentioned in Bidder's Price Schedules or such other sums as may be determined in accordance with the terms and conditions of the Contract. The Bidder's Price Schedules attached herewith and are made part of this Bid.

We undertake, if our Bid is accepted, to commence the Facility and to achieve Completion within the respective times stated in the Bidding Documents.

If our Bid is accepted, we undertake to provide an advance payment security and the Performance Security in the form, in the amounts, and within the times specified in the Bidding Documents.

We accept the appointment of *[name proposed in Bid Data Sheet]* as the Adjudicator.

or

We do not accept the appointment of *[name proposed in Bid Data Sheet]* as the Adjudicator, and we propose instead that *[name]* be appointed as Adjudicator, whose résumé and hourly fees are attached.

We agree to abide by this Bid, which consists of this letter and the other documents listed in ITB Section 3.2, for the period identified in the Bid Data Sheet as the length of the Bid Validity Period, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

Until a formal contract is prepared and executed between us, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____, [Year].

[signature]

In the capacity of _____

[position]

Duly authorized to sign this bid for and on behalf of _____

[name of Bidder]

Form (ii): FORM OF BID SECURITY (BANK GUARANTEE)

WHEREAS,(name of Bidder including names of all Joint Venture Participants) (hereinafter called "the Bidder") has submitted its Bid (hereinafter called the "Bid") dated (date) for the performance of (name of Contract).

KNOW ALL PEOPLE by these presents that We (name of Bank) of (name of country) having our registered office at (hereinafter called "the Bank") are bound unto (hereinafter called "the Owner") in the sum offor which payment well and truly to be made to the said Owner, the Bank binds itself, its successors, and assigns by these presents.

[The Bidder should insert the amount of the guarantee in words and in figures. This figure should be the same amount as set out in ITB Section 3.4(1) and the Bid Data Sheet. The details related to the Bid Security are set out in the same ITB Section 3.4.]

The CONDITIONS of this obligation are:

- (1) if the Bidder withdraws its Bid during the Bid Validity Period; or
- (2) if the Bidder, having been notified of the acceptance of its Bid by the Owner during the period of Bid validity,
 - (a) fails to sign the Form of Contract in accordance with and when required by ITB Section 6.4; or
 - (b) fails to provide the performance security to the Owner in accordance with and when required by ITB Section 6.5.

We undertake to pay to the Owner up to the above amount upon receipt of its first written demand, without the Owner having to substantiate its demand, provided that in its demand the Owner will note that the amount claimed by it is due to it owing to the occurrence of one or more of the conditions set out above, specifying the occurred condition or conditions.

This Guarantee will remain in full force up to and including 45 days after the expiry of the Bid Validity Period and it may be extended by the Owner in accordance with the Bidding Documents, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date or the extended date.

SEALED with the Common Seal of the said Bank this day of, [Year].

WITNESS
(signature, name and address)

SIGNATURE OF THE BANK
SEAL

Name: _____

Position: _____

Form (iii): Form for Clarification Questions

Bidder's Name: _____

Bidder's Address: _____				Date Submitted: _____
Item No.	Section Reference	Page No.	Section or Article No.	Question/Query/Clarification/Comment
1.				
2.				
3.				
4.				
5.				
6.				

Form (iv): Format of Curriculum Vitae (CV) For Proposed Key Staff

Proposed Position: _____

Name of Firm: _____

Name of Staff: _____

Profession: _____

Date of Birth: _____

Years with Firm/Entity: _____ Nationality: _____

Membership in Professional Societies: _____

Detailed Tasks Assigned: _____

Key Qualifications:

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

Education:

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

Employment Record:

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

Languages:

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

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience. I also certify that I have only given permission for my CV to be included in the Bid submitted by

_____ *[Fill in name of Bidder here.]*

_____ Date: _____
[Signature of staff member and authorized representative of the firm] Day/Month/Year

Full name of staff member: _____

Full name of authorized representative: _____

FORM (V) FOR EVIDENCE OF POSITIVE NET WORTH

[Refer Section 1.6 of Appendix to ITB]

Bidder (type)	Net Worth (INR Cr.) as on Proposal Submission Date
Lead Member	
Nominated Sub-Contractor (if any)	

1. Net Worth shall mean (subscribed and Paid-up Equity + Reserves) less (Revaluation reserves + miscellaneous expenditure not written off + reserves not available for distribution for equity shareholders).
2. The Bidder shall provide a Statutory Auditor's Certificate specifying the net worth of the Bidder and also specifying the methodology adopted for calculating such net worth in accordance with Section 1.6 (ii).

Form (vi): Information Forms

INFORMATION FORM (1)

General Information

All individual firms and each participant in a joint venture submitting the bids are required to complete the information in this form. Nationality information should be provided for all bidders that are partnerships or individually owned firms.

If the Bidder proposes to use nominated subcontractors or sub-consultants, the following information should also be supplied for the subcontractor(s) and sub-consultant(s).

1.	Name of firm	
2.	Head office address	
3.	Telephone	Contact
4.	Fax	Telex
5.	Place of incorporation / registration	Year of incorporation / registration

Nationality of owners ¹		
	Name	Nationality
1.		
2.		
3.		
4.		
5.		

1. To be completed by all owners of partnerships or individually owned firms.

Information Form (1A)

(Refer Appendix to ITB: Qualification Criteria)

Summary of Technical Capacity of Bidder

1. Bidder information (whether Single / JV / Nominated Sub-Contractors (if any): (Please refer clause 1.1 & 1.2 of Appendix to ITB: Qualification Criteria)

2. General Solid Waste Management Experience (of any technology) (Refer clause 1.4 of Appendix to ITB: Qualification Criteria)

S No.	Project Name	Owner/ Authority Name & Address	Project Value (Rs. In Crores)	Technology /Process adopted / Capacity of plant or facility	Project Commencement Date	Work Order No and Date/ Certification from Authority
1						
2						
3						
..						
..						

((i)Please mention page number of Technical Proposal in which Work order of Certification from Authority is enclosed in the Column specified for Work Order.

(ii) Detail information of each of the projects to be provided at Information Form (2) of Form (vi) ANNEX A to the Bidding Documents

(iii) Must include the first Work Order it has ever received to prove that is has been actively engaged in SWM for past 5 years

(iv) In case of a JV, general experience of all the partners must be provided in separate table and each must meet condition specified in clause 1.4 of Appendix to ITB: Qualification Criteria; refer clause 2.1(2))

3. Specific Experience in Municipal Solid Waste Management (Windrow Composting and Scientific Landfill only) undertaken by Bidder as Lead Member (Refer clause 1.5 (a) & (b) of Appendix to ITB: Qualification Criteria)

S No.	Project Name	Owner/ Authority Name & Address	Project Value (Rs. In Crores)	Capacity of Windrow Composting Plant	Capacity of Project Scientific Landfill facility	Project Commencement Date	Work Order No and Date/ Certification from Authority
1							
2							
3							
..							
..							

(i) Please mention page number of Technical Proposal in which Work order of Certification from Authority is enclosed in the Column specified for Work Order.

(ii) Detail information of each of the projects to be provided at Information Form (3a) of Form (vi) ANNEX A to the Bidding Documents.

(iii) In case of a JV, specific experience of all the partners must be provided in separate table. The JV must meet condition specified in clause 2.1(1) Appendix to ITB: Qualification Criteria)

4. Specific Experience of SWM Project undertaken by Nominate Subcontractor (if any) (Refer clause 1.5 (a) & (b) of Appendix to ITB: Qualification Criteria)

Sl No.	Project Name	Owner/ Authority Name & Address	Project Value (Rs. In Crores)	Capacity of Windrow Composting Plant	Capacity of Project Scientific Landfill facility	Project Commencement Date	Work Order No and Date/ Certification from Authority
1							
2							
3							
..							
..							

((i) Please mention page number of Technical Proposal in which Work order of Certification from Authority is enclosed in the Column specified for Work Order.

(ii) Details information of each of the projects to be provided at Information Form (3a) of Form (vi) ANNEX A to the Bidding Documents)

5. Evidence of average annual turnover of minimum INR 40 Cr. during the last three financial years submitted at Page no. _____ of the Technical Proposal as per Information Form (2a) of Form (vi) ANNEX A to the Bidding Documents.

6. CA Certificate / Statutory Auditor certifying positive net worth of the company as on last date of submission of RFP submitted at Page no. _____ of the Technical Proposal as per as per Form (v) ANNEX A to the Bidding.

7. The Bidder's audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Owner, for the last three years submitted at Page no. _____ of the Technical Proposal as per Information Form (4) of Form (vi) ANNEX A to the Bidding Documents.
8. Personal Capabilities Documents submitted at Page no. _____ of the Technical Proposal as per Information Form (5) & Information Form (5A) of Form (vi) ANNEX A to the Bidding.
9. Litigation history submitted at Page no. _____ of the Technical Proposal as per as per Information Form (6) of Form (vi) ANNEX A to the Bidding.

Information Form (2)

(ref. Appendix to ITB Section 1.4)

General Solid Waste Management Experience

Name of Bidder or participant of a joint venture
--

All individual firms and all participants of a joint venture are requested to complete the information in this form with regard to their experience in designing, building, operating, managing and maintaining solid waste management facility

Description of Contract with its Capacity (in TPD)	
Name of Joint Venture Participant Responsible	
Name of City	
Country	
Population served	
Contract Role (joint venture participant, subcontractor, sub consultant, lead, etc.) and percentage share in the total contract	
Nature, role and extent of participation (describe fully)	
Date of contract commencement	
Date of contract termination	
Contract value (INR)	
Individual for reference	
Address, Telephone, Fax for reference	

Information Form (2A)

(ref. Appendix to ITB Section 1.6)

General Turnover Information

Name of Bidder or participant of a joint venture
--

All individual firms and all participants of a joint venture are requested to complete the information in this form with regard to their experience in designing, building, operating, managing and maintaining solid waste management facility. The information supplied should be the annual turnover and net worth of the Bidder (or each member of a joint venture). The annual turnover should be in terms of the amounts billed to clients for each year for work in progress or completed, converted to INRs, at the rate of exchange at the end of the period reported. The annual periods should be complete financial years or calendar years, before the date of submission of Bids. The tangible net worth should be stated as one 31st March 2016.

Use a separate sheet for each participant of a joint venture.

Bidders should not enclose testimonials, certificates, and publicity material with their Application as they will not be taken into account in the evaluation of qualifications.

Annual turnover data (in the area of infrastructure development, engineering construction and solid waste management projects).		
Year	Turnover	INR) /US\$ equivalent (converted at the rate of exchange rate at the end of the period reported)
[Year]		
[Year]		
[Year]		

INFORMATION FORM (2B)

Joint Venture Summary

Names of all participants of a joint venture
1. Lead Participant
2. Participant
3. Participant
4. Participant

Annual turnover data (in the area of infrastructure development and solid waste management projects) and tangible net worth.					
Participant	Information Form (2A) page no.	Turnover in [Year]	Turnover in [Year]	Turnover in [Year]	Tangible Net Worth as on 31 st March 2016
1. Lead Participant					
2. Participant					
3. Participant					
4. Participant					
Totals					

Bidders shall append to Form 2B:

- (a) A document confirming the percentage shareholding of each joint venture participant in the company to be established including the financial stake of each member in the JV partnership; and
- (b) A description of the role and responsibility of each joint venture participant. (Bidders shall make the precise role of each joint venture participant clear in this description).

Bidders are reminded to submit the appropriate powers of attorney as required by Appendix to ITB Section 2.3 and to provide all other information required in the powers of attorney (see Appendix to ITB Section 2, in particular Sections 2.3.) The Joint Venture Bidders may also note the requirements mentioned in ITB Section 3.6 for compliance while submitting the Bid.

Information Form (3A)

(ref. Appendix to ITB Section 1.5)

Specific Experience in Municipal Solid Waste Management (i.e. Windrow Composting and Scientific Landfill)

Name of Bidder or participant of a joint venture
--

Description of Contract/ Solid Waste Management Project	
Whether project involved design, development, construction, testing and commissioning of	
Whether project involved operation and maintenance of solid waste management facility	
Name of Joint Venture Participant Responsible	
Name of City	
Country	
Capacity of solid waste treatment facility in TPD	
Capacity of solid waste disposal facility in TPD	
Population served	
Contract Role (joint venture participant, subcontractor, sub consultant, lead, etc.) and percentage share in the total contract	
Nature, role and extent of participation (describe fully)	
Date of contract commencement	
Date of contract completion	
Contract value in INR or equivalent to US\$	
Individual for reference	
Address, Telephone, Fax for reference	

Provide a complete description of the services provided under this contract.

INFORMATION FORM (4)

(ref. Appendix to ITB Section 1.6)

Financial Capabilities

Name of Bidder or participant of a joint venture
--

Bidders, including each partner of a joint venture, shall provide information about Statutory Auditor's Net Worth facility to demonstrate that they meet the requirements stated in the Appendix to ITB. Each Bidder or participant of a joint venture shall complete this form. If necessary, separate sheets shall be used to provide complete banker information. A copy of the banker's certificate and audited balance sheets shall be attached.

Attach audited financial statements—including, as a minimum, profit and loss account, balance sheet, and explanatory notes—for the period stated in Appendix to ITB 1.6 (for the individual Bidder or each participant of a joint venture).

If audits are not required by the laws of Bidders' countries of origin, partnerships and firms owned by individuals may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns.

INFORMATION FORM (5)
 (ref. Appendix to ITB Section 1.7)

Personnel Capabilities

Name of Bidder or participant of a joint venture
--

For specific positions noted below, Bidders must provide the names of a candidate qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form (5A) for each candidate.

Bidders may propose alternative management and implementation arrangements requiring different key personnel, whose experience records should be provided.

1.	Title of position*
	Name of candidate
2.	Title of position*
	Name of candidate
3.	Title of position*
	Name of candidate
4.	Title of position*
	Name of candidate
5.	Title of position*
	Name of candidate
6.	Title of position*
	Name of candidate

**As listed in BDS - ITB 3.3 in respect of Appendix to ITB Section 1.7*

INFORMATION FORM (5A)

(ref. Appendix to ITB Section 1.7)

Candidate Summary (Max 2 pages)

Name of Bidder or participant of a joint venture
--

Position		Candidate
Candidate Information	Name of Candidate	Date of Birth
	Professional qualifications	
Present Employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (manager/personnel officer)
	Fax	Telex
	Job title of candidate	Years with present employer

Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/Position/Relevant technical and management experience

INFORMATION FORM (6): HISTORICAL CONTRACT NON-PERFORMANCE
(ref. Appendix to ITB Section 1.8)

[The following table shall be filled in for the Bidder and for each partner of a Joint Venture]

Bidder's Legal Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Party Legal Name: *[insert full name]*

ICB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]* pages

Non-Performing Contracts in accordance with Appendix to ITB Section 1.8			
Contract non-performance did not occur during the [number] years specified in Appendix to ITB Section 1.8			
Contract(s) not performed during the [number] years specified in Appendix to ITB Section 1.8			
Year	Non performed portion of contract	Contract Identification	Total Contract Amount (current value in INR or equivalent US\$)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Appendix to ITB Section 1.8			
↑ No pending litigation in accordance with Appendix to ITB Section 1.8			
↑ Pending litigation in accordance with Appendix to ITB Section 1.8			

Information Form (7)

Proposed Facilities of the Bidder in compliance with the Minimum Development Obligations set out in Clause 2.4 in Appendix 3C : Technical Standards of the Contract.

Facility	Capacity/ Area, Make & Technical Specifications, type of structure etc.	Description of the facility, operations and also its compliance with Minimum Development Obligations
<p>A. Secondary Transfer Station with 2 no. Portable Compactors each at all the 5 sites:</p> <p>i. Civil Works</p> <p>ii. Plant and Machinery:</p> <ul style="list-style-type: none"> • Portable Compactor • Hook Loader • Vacuum Truck for leachate transportation 		
<p>B. Processing Facilities (All the components under the processing plant shall be covered with M.S. shed):</p> <ul style="list-style-type: none"> • Compost Pad • Tipping Area • Pre-sorting Facility • Curing & Preparatory Section • Refinement Section • Finishing Section • Storage Godown • Recyclable Storage • Leachate Treatment Plant 		
<p>C. Common Facilities required at the Processing and Disposal site</p> <ul style="list-style-type: none"> • Admin Building • Guard Room • Weigh Bridge and Cabin • Staff Vehicle Parking 		

Facility	Capacity/ Area, Make & Technical Specifications, type of structure etc.	Description of the facility, operations and also its compliance with Minimum Development Obligations
<ul style="list-style-type: none"> • Heavy vehicle parking and Workshop area • Internal Roads • Green Belt • Gate, Compound Wall and Fencing • Storm Water Drainage • Water Supply • Electrification including Streetlighting 		
<p>Civil works for Scientific Landfill</p> <ul style="list-style-type: none"> • Cover and liner system for adequate landfill cell protection, bottom lining, intermediate and final cover; • Leachate collection, control and treatment system; • Landfill gas collection/venting system; • Monitoring systems: monitoring wells and basic laboratory. 		
<p>Plant & Machinery for Compost Plant & Scientific Landfill</p> <p>i. Plant & Machinery for Compost Plant</p> <ul style="list-style-type: none"> • Conveyor system for Feed accepted, rejected waste, compost collection. • Trommels 100mm, 35mm, 16mm, 4mm. • Static Magnetic Separator. • De-stoner with dust collection system • Bag stitching system • Weighing Scale • Structural support 		

Facility	Capacity/ Area, Make & Technical Specifications, type of structure etc.	Description of the facility, operations and also its compliance with Minimum Development Obligations
<p>system for all the components needs to be provided.</p> <p>ii. Vehicles for Compost Plant and Landfill Site.</p> <ul style="list-style-type: none"> • Compactor (15 T) – 1 no. • Tractor Mounted Front End Loader (1 cum capacity) – 3 no. • Frontend Loader with Backhoe (JCB) (1 cum bucket) – 1 no. • Tipper Truck (10 cum) – 2 no. • Leachate Discharge Pump – 2 no. • Tractor Mounted Water Tanker (min 5 KL capacity) with Slurry Pump – 1 no. 		

Proposed O&M Plan for compaction of Waste, Secondary Transportation, Treatment and Disposal of the Waste shall be in compliance with the latest CPEEHO Manual and SWM Rules.

I certify that the work / equipments offered above meet the Minimum Development Obligations as per the Appendix 3C: Technical Standards, clause 2.4 Minimum Development Obligations of Draft Contract at Annex B to the Bidding Document.

If at the time of actual supply / execution of equipment / work, deviation from Minimum Development Obligations is noticed, the supply / execution of the said equipment / work shall be rejected.

_____ Date: _____
[Signature of authorized representative of the firm] Day/Month/Year

Full name of authorized representative: _____

Information Form (8)

Project Technical Details (refer Section 3: Preparation of Bids; Clause 3.3)

1. Executive Summary of the Technical Section (refer Section 3: Preparation of Bids; Clause 3.3 (a)).
2. Design Build Work Plan must include the following (refer Section 3: Preparation of Bids; Clause 3.3 (b)) :
 - i. Drawings
 - ii. Approach and methodology of disposal of treated leachate as per CPHEEO / CPCB.
 - iii. Detailed Program and Schedule
 - iv. Plant & Equipment and Operator’s Equipment
3. Operations Work Plan (refer Section 3: Preparation of Bids; Clause 3.3 (c))
4. Bidder’s Plan and Methodology to ensure Environmental Management Plan for the proposed Project (refer Section 3: Preparation of Bids; Clause 3.3 (d)).
5. Staffing Plan (refer Section 3: Preparation of Bids; Clause 3.3 (e))
 - i. Design Build

Name	Position	Qualification

- ii. Operation and Maintenance

Name	Position	Qualification

The Staffing Plan should be as per the positions listed in the attachment 1 of Appendix 10 to the Contract. Curriculum Vitae as per the format provided in form (iv) of Annex A to the Bidding Document to be provided.

Form(vii): FORM OF LETTER OF INTENT BY JV PARTNERS TO ENTER INTO JV AGREEMENT

THIS LETTER OF INTENT signed on this..... day of..... Two Thousand andby..... a company incorporated under the laws of and having its Registered Office at(hereinafter called the "Party No.1" which expression shall include its successors, executors and permitted assigns) and M/s a company incorporated under the laws of and having its Registered Office at(hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s. a Company incorporated under the laws of and having its Registered Office at (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a contract (hereinafter called the "Contract" in case of award) against the work for the Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) Basis with(hereinafter called the "Owner").

WHEREAS the Party No.1, Party No.2 and Party No.3 intend to enter into a Joint Venture Agreement

AND WHEREAS the Owner invited bids as per the above mentioned Specification to design and build Compost Plant for MSW and Sanitary Landfill facility and Allied Works, and O & M of Complete Works stipulated in the bidding documents.

AND WHEREAS ITB Clause 3.6 and Appendix to ITB - Qualification Criteria forming part of the bidding documents, inter-alia, stipulates that two or more qualified partners, meeting the requirements of 'Qualification Requirement of the Bidder', as applicable may bid, provided, they submit a Letter of Intent to enter into Joint Venture Agreement and the Joint Venture Partners fulfill all other requirements under ITB Clause 5.7 'Qualification of the Bidder' and in such a case, the Letter of Bid (Bid Form) shall be signed by the Partner - In Charge so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract by entering into Joint Venture Agreement as per proforma submitted with the Bid in accordance with ITB 3.6 which will be legally binding on all partners and all obligations hereunder.

The above clause further states that this Letter of Intent shall be attached to the bid and the Contract performance guarantee will be as per the format enclosed with the bidding document without any restrictions or liability for either party.

AND WHEREAS the bid is being submitted to the Owner vide proposal No.....dated..... by Party No.1 based on this letter of Intent between all the parties; under these presents and the bid has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this letter of Intent do hereby declare and undertake:

1. In requirement of the award of the Contract by the Owner to the Joint Venture

Partners, we, the Parties do hereby undertake that M/s..... the Party No.1, shall act as lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Owner for the successful performance of the Contract and shall be fully responsible for the Municipal Solid Waste Management Project in accordance with the Contract for which we shall enter into Joint Venture Agreement as per proforma submitted with the Bid which will be legally binding on all partners:

2. If the Contract is awarded to Joint Venture then in case of any breach or default of the said Contract by any of the parties to the Joint Venture, the party(s) will be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.
3. Further, if the Owner suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents will promptly make good such loss or damages caused to the Owner, on its demand without any demur. It shall not be necessary or obligatory for the Owner to proceed against lead Partner to these presents before proceeding against or dealing with the other Party(s), the Owner can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Owner.
4. The financial liability of the Parties of the Deed of Undertaking to the Owner in the event of award of Contract on the Joint Venture, with respect to any of the claims arising out of the performance or non-performance of the obligations set forth in the Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of the Deed of Undertaking.
5. It is expressly understood and agreed between the Parties to this Letter of Intent that the responsibilities and obligations of each of the Parties shall be as delineated in Appendix-I (to be suitably appended by the Parties along with this Letter of Intent in its bid). It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract in the event of award on Joint Venture.
6. It is also understood that this Letter of Intent is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract if awarded and that this Letter of Intent shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Letter of Intent or on the Joint Venture, other than the express provisions of the Contract.
7. *This Letter of Intent shall be construed and interpreted in accordance with the provisions of the Contract.*
8. *In case of an award of a Contract, we the parties to this Letter of Intent do hereby agree that we shall enter into Joint Venture Agreement as per proforma submitted with the Bid which will be legally binding on all partners and we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favor of the Owner in the currency/currencies of the Contract.*
9. It is further agreed that this Letter of Intent shall be irrevocable and shall form an integral part of the bid. It shall be effective from the date first mentioned above for all

purposes and intents.

IN WITNESS WHEREOF, the Parties to this Letter of Intent have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated
Name

For Lead Partner (Party No.-1) For and on
behalf of M/s

Designation

Signature

Signature of the authorized
representative)

WITNESS:

I.....

II.....

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated
Name

For Party No.-2 For and on behalf of M/s

Designation

Signature

Signature of the authorized
representative)

WITNESS:

I.....

II.....

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated
Name

For Party No.-3 For and on behalf of M/s

Designation

Signature Signature of the authorized
representative)

WITNESS:

I.....

II.....

Form (viii): FORM OF POWER OF ATTORNEY FOR JOINT VENTURE

(On Non-judicial Stamp Paper of Appropriate value, if required as per laws of the country of the bidder, to be purchased in the Name of Joint Venture)

KNOW ALL MEN BY THESE PRESENTS THAT WE, the Partners whose details are given hereunder have formed a Joint Venture under the laws of (*)/ intend to form a Joint Venture (*) [(*) delete whichever is not applicable] and having our Registered Office(s)/Head Office(s) at..... (hereinafter called the 'Joint Venture' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) acting through M/s being the Partner in-charge do hereby constitute, nominate and appoint M/s..... a Company incorporated under the laws of and having its Registered/Head Office at as our duly constituted lawful Attorney (hereinafter called "Attorney" or "Authorized Representative" or "Partner In-charge") to exercise all or any of the powers for and on behalf of the Joint Venture in regard to work for the bids for which have been invited by, (hereinafter called the 'Owner') to undertake the following acts:

- i) To sign and submit proposal and participate in the aforesaid Bid Specification of the Owner on behalf of the "Joint Venture".
- ii) To negotiate with the Owner the terms and conditions for award of the Contract pursuant to the aforesaid Bid and to sign the Contract with the Owner for and on behalf of the "Joint Venture".
- iii) To do any other act or submit any document related to the above.
- iv) To receive, accept and execute the Contract for and on behalf of the "Joint Venture".

For the above purpose, the person(s) authorized by the Partner In-charge shall be the person(s) authorized to act on behalf of the "Joint Venture" as per the Power of Attorney given to him/her/them by the Partner In-Charge,

It is clearly understood that all the partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and the Partner In-charge (Lead Partner) shall ensure performance of the Contract(s) and if one or more Partner fail to perform their respective portions of the Contract(s), the same shall be deemed to be a default by all the Partners.

It is expressly understood that this Power of Attorney shall remain valid binding and irrevocable till completion of the Design Build as well as the Operations and Maintenance Period in terms of the Contract.

The Joint Venture hereby agrees and undertakes to ratify and confirm all the whatsoever the said Attorney/Authorized Representatives/Partner in-charge quotes in

the bid, negotiates and signs the Contract with the Owner and/or proposes to act on behalf of the Joint Venture by virtue of this Power of Attorney and the same shall bind the Joint Venture as if done by itself.

IN WITNESS THEREOF the Partners Constituting the Joint Venture as aforesaid have executed these presents on thisday ofunder the Common Seal(s) of their Companies.

For and on behalf of the
Partners of Joint Venture

The Common Seal of the above Partners of the Joint Venture:

The Common Seal has been affixed there unto in the presence of: WITNESS

1. Signature.....
Name..... Designation.....
Occupation.....
2. Signature.....
Name.....
Designation.....
Occupation.....

Form (ix): FORM OF UNDERTAKING BY THE JOINT VENTURE PARTNERS

(On Non-Judicial Stamp Paper of Appropriate Value, if required as per laws of the country of the bidder, to be purchased in the Name of Joint Venture)

THIS JOINT DEED OF UNDERTAKING executed on thisday ofTwo

Thousand andby a company incorporated under the laws of and having its Registered Office at..... (hereinafter called the "Party No.1. which expression shall include its successors, executors and permitted assigns) and M/s a company incorporated under the laws of and having its Registered Office at (hereinafter called the "Party No.2" which expression shall include its successors, executors and permitted assigns) and M/s a Company incorporated under the laws of and having its Registered Office at (hereinafter called the "Party No.3" which expression shall include its successors, executors and permitted assigns) for the purpose of making a bid and entering into a contract (hereinafter called the "Contract" in case of award) against the work to implement Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) Basis with (hereinafter called the "Owner").

WHEREAS the Party No.1, Party No.2 and Party No.3 have entered into an Agreement dated.....

AND WHEREAS the Owner invited bids as per the above mentioned Specification to implement Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) Basis stipulated in the bidding documents.

AND WHEREAS ITB Clause 3.6 and Annex A Part h Qualification Criteria forming part of the bidding documents, inter-alia, stipulate that an undertaking of two or more qualified partners, meeting the requirements of 'Qualification Criteria of the Bidder', as applicable may bid, provided, the Joint Venture fulfills all other requirements under Clause 5.7 'Qualification of the Bidder' and in such a case, the Letter of Bid (Bid Form) shall be signed by the Partner - In Charge so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract and all obligations hereunder.

The above clause further states that this Undertaking shall be attached to the bid and the Contract performance guarantee will be as per the format enclosed with the bidding document without any restrictions or liability for either party.

AND WHEREAS the bid is being submitted to the Owner vide proposal No.....dated..... by Party No.1 based on this Undertaking between all the parties; under these presents and the bid in accordance with the requirements of ITB Clause 3.6 and Appendix to Bid - Qualification Criteria, has been signed by all the parties.

NOW THIS UNDERTAKING WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the parties of this Deed of Undertaking do hereby declare and undertake:

1. In requirement of the award of the Contract by the Owner to the Joint Venture Partners, we, the Parties do hereby undertake that M/s..... the Party No.1, shall act as Lead Partner and further declare and confirm that we the parties to the Joint Venture shall jointly and severally be bound unto the Owner for the successful performance of the Contract and shall be fully responsible to implement Municipal Solid Waste Management Project at Berhampur Municipal Corporation on Design, Build, Operate and Transfer (DBOT) Basis in accordance with the Contract.
2. In case of any breach or default of the said Contract by any of the parties to the Joint Venture, the parties do hereby undertake to be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.
3. Further, if the Owner suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performances guaranteed as per the specification in terms of the Contract, the Party(s) of these presents undertake to promptly make good such loss or damages caused to the Owner, on its demand without any demur. It shall not be necessary or obligatory for the Owner to proceed against Lead Partner to these presents before proceeding against or dealing with the other Party(s), the Owner can proceed against any of the parties who shall be jointly and severally liable for the performance and all other liabilities/obligations under the Contract to the Owner.
4. The financial liability of the Parties of this Deed of Undertaking to the Owner, with respect to any of the claims arising out of the performance or non-performance of the obligations set forth in this Deed of Undertaking, read in conjunction with the relevant conditions of the Contract shall, however not be limited in any way so as to restrict or limit the liabilities or obligations of any of the Parties of this Deed of Undertaking.
5. It is expressly understood and agreed between the Parties to this Undertaking that the responsibilities and obligations of each of the Parties shall be as delineated in Appendix - I (to be suitably appended by the Parties along with this undertaking in its bid). It is further undertaken by the parties that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Parties under the Contract.
6. It is also understood that this Undertaking is provided for the purposes of undertaking joint and several liabilities of the partners to the Joint Venture for submission of the bid and performance of the Contract if awarded and that this Undertaking shall not be deemed to give rise to any additional liabilities or obligations, in any manner or any law, on any of the Parties to this Undertaking or on the Joint Venture, other than the express provisions of the Contract.
7. This Undertaking shall be construed and interpreted in accordance with the provisions of the Contract.
8. In case of an award of a Contract, we the parties to this Deed of Undertaking do hereby agree that we shall be jointly and severally responsible for furnishing a Contract performance security from a bank in favour of the Owner in the currency/currencies of the Contract.
9. It is further agreed that this Deed of Undertaking shall be irrevocable and shall form an

integral part of the bid and shall continue to be enforceable till the Owner discharges the same or upon the completion of the Contract in accordance with its provisions, whichever is earlier. It shall be effective from the date first mentioned above for all purposes and intents. IN WITNESS WHEREOF, the Parties to this Deed of Undertaking have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated
Name

For Lead Partner (Party No.-1) For and on
behalf of M/s

Designation

Signature

Signature of the authorized
representative)

For Party No.-2

For and on behalf of
M/s.....

WITNESS:

I.....

II.....

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated
Name

For Party No.-2 For and on behalf of M/s

Designation

Signature

Signature of the authorized
representative)

WITNESS:

I.....

II.....

Common Seal of has
been affixed in my/ our presence
pursuant to Board of Director's
Resolution dated

For Party No.-3 For and on behalf of M/s

Name

Designation

Signature

Signature of the authorized
representative)

WITNESS:

I.....

II.....

Form-X: Legally binding signed declaration of undertaking

We underscore the importance of a free, fair and competitive procurement process that precludes fraudulent use. In this respect we have neither offered nor granted, directly or indirectly, any inadmissible advantages to any public servants or other persons in connection with our bid, nor will we offer or grant any such incentives or conditions in the present procurement process or, in the event that we are awarded the contract, in the subsequent execution of the contract.

We also underscore the importance of adhering to minimum social standards ("Core Labour Standards") in the implementation of the project. We undertake to comply with the Core Labour Standards ratified by the country of India.

We will inform our staff about their respective obligations and about their obligation to fulfill this declaration of undertaking and to obey the laws of the country of India.

Signature of the authorized representative of Bidder

Place:

Date:

(All participants in an invitation to tender are required to ensure fair and transparent competition, and to comply with, at a minimum those ILO core labour standards. The Declaration of Undertaking must be signed with legal effect by sufficiently authorised representatives of the bidder, and in the case of joint bids by all partners. Failure to submit this Declaration of Undertaking or to comply with the requirements contained in it shall lead to exclusion from the tender process)

Form (xi): BIDDER'S PRICE SCHEDULES

PREAMBLE TO THE PRICE SCHEDULES

1.0 General

1.1 The Price Schedules are divided into separate Schedules as follows:

Schedule 1 Price for Design-Build Services

Schedule 2 Price for Operations and maintenance Services

1.2 The Price Schedules do not give a full description of the Plant and Equipment, Operator's Equipment (Operations) and Operator's Equipment (Design-Build) to be supplied and the Services to be performed under each item. Bidders are deemed to have read the Draft Contract, including the Technical Specifications Appendix consisting of the Design-Build Appendix, Operations Services Appendix and Technical Standards Appendix, and other sections of the Bidding Documents to ascertain the full scope of the requirements of the Contract included in each item prior to filling in the prices. The entered prices are deemed to include the full scope as aforesaid, including overheads and profit.

1.3 If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with the Instructions to Bidders in the Bidding Documents prior to submitting their Bid.

2.0 Pricing

2.1 Prices shall be filled in indelible ink, and any alterations necessary due to errors shall be initialled by the Bidder.

2.2 The Bid Price shall be quoted in INR and in the manner indicated in the Instructions to Bidders in the Bidding Documents. For each item, Bidders shall complete each appropriate column in the respective Schedules, giving the price breakdown as indicated in the Schedules.

2.2.1 Prices shall be quoted in the Price Schedule on the following basis:

(i) **Price for Design-Build Services** shall comprise following parts:

- a. Cost of design, setting up processing and disposal facility including site development cost, cost of civil works, plant & machinery, materials etc. for the proper execution of the Design-Build Services in accordance with the Contract.

(ii) Price for **Operations and Maintenance Services** shall be quoted as under:

Tipping Fee Rate (TFR): Tipping fee rate per MT basis for Operations Services ("**Tipping Fee Rate-Treatment & Disposal**" or "**TFR**") for all labour, related Operator's Equipment (Operations),

consumables and all matters and things of whatever nature, including the preparation and implementation of plans, programs and reports, and carrying out operations and maintenance services,, training, customer service, as necessary for the proper execution of related Operations Services in accordance with the Contract . The Tipping Fee Rate shall cover all periodic capital expenses on Facility.

3. While quoting the price schedule, the bidder shall taking into account the likely revenue generation by using commercial rights on recyclable material, products and by-products of waste treatment plant and any other commercial rights granted to Operator in Draft Contract. The bidder shall also refer to ITB 3.11 (2).
4. Bidder shall submit with its bid details evidencing that the cost claimed for the payment is based on a realistic assessment of Design Build Services and Operations Services. The owner shall have the option to seek further details including details of costs of similar contracts executed by the bidder in the past.
5. While quoting bid prices, the bidder shall take into account the provisions of ITB 3.11. The bidder shall particularly note that price for Design-Build services shall be firm and fixed, and the O&M prices shall be subject to adjustment in the manner specified in ITB 3.11 and Appendix 6 to GCC.
6. Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in the Draft Contract or elsewhere in the Bidding Documents.
7. When requested by the Owner for the purposes of making payments or part payments, valuing changes or evaluating claims, or for such other purposes as the Owner may reasonably require, the bidder shall provide the Owner with a breakdown of any composite or lump sum items included in the Schedules.

Price Schedule -1

Price for Design-Build Services and Capital Equipment

Sr. No	Particulars	Price	
		In figures	In Words
1	Cost of design, setting up processing and disposal facility including site development cost, cost of civil works, plant & machinery, materials etc. for the proper execution of the Design-Build Services in accordance with the Contract		
2	Total Price for Design-Build Services and Equipment		

Note: The selected bidder shall be required to submit a detailed break-up of the Design Build Services and Capital Equipment (The detailed break-up should correspond to each item of the Minimum Development Obligation clause 2.4 of Appendix 3C: Technical Standards and Billing Schedule in Appendix 2 of the Contract) for billing purpose; such break-up will be reviewed by the Owner, and discussed with the selected bidder before signing the contract. However, for evaluation of bids, the total price for Design-Build Services and Equipment quoted above shall be taken into consideration in accordance with ITB 5.6.

Price Schedule -2

Price for Operations and Maintenance Services

1	“Tipping Fee Rate – Treatment and Disposal” or “TFR” (in INR/MT)	
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Note:

- (1) Payments under Schedule-1 and Schedule-2 shall be made as per Appendix 2 to Contract - Terms and Procedures of Payment.
- (2) The bidder shall provide along with the price schedule a separate table giving details of taxes, duties, levies and other applicable taxes considered by him and included in the prices offered under Schedule-1 and Schedule-2. Service Tax will not be considered as it will be paid separately by the Owner, if applicable, against proof of applicability and payment.

Annex B to the Bidding Documents

The Draft Contract

- (i) Form of Contract**
- (ii) General Conditions of the Contract**
- (iii) Appendices to the General Conditions**

ANNEX B TO THE BIDDING DOCUMENT

The Draft Contract

- (i) Form of Contract**
- (ii) General Conditions of the Contract**
- (iii) Appendices to the General Conditions**

FORM OF CONTRACT
FOR A CONTRACT TO
DESIGN, BUILD, OPERATE & TRANSFER
MUNICIPAL SOLID WASTEMANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL CORPORATION,
ODISHA

CONTRACT FOR MUNICIPAL SOLID WASTE MANAGEMENT PROJECT AT BERHAMPUR MUNICIPAL CORPORATION, ODISHA, ON DESIGN, BUILD, OPERATE AND TRANSFER (DBOT) BASIS

FORM OF CONTRACT

THIS CONTRACT is made and entered into this ____ day of _____, [Year]

B E T W E E N

[Name of Owner], a corporation incorporated under the laws of [Country of Owner] and having its principal place of business at [Address of Owner]

(hereafter the "Owner")

– and –

[Name of Operator Company goes here] incorporated under the laws of [place of incorporation] with its principal place of business at [Address of the Operator]

(hereafter the "Operator")

WHEREAS:

1. The Owner has the jurisdiction to enter into the Contract, as defined in Section 1.1 below, pursuant to the Applicable Law;
2. The Owner has received all requisite approvals necessary and has conformed with all requisite laws in accordance with the Applicable Law to permit the Owner to enter into the Contract;
3. The Owner desires to engage the Operator to *design, construct and operate a new Municipal Solid Waste management facility and ensure the effectiveness and viability of the solid waste treatment plant and solid waste disposal facility*;
4. The Operator has represented to the Owner that it has the skills and ability to design, build, manage, operate, and maintain the solid waste disposal facility in an economical and effective manner with and agrees to do so upon and subject to the terms and conditions of the Contract Documents;
5. The Operator responded to the Bidding Documents dated [_____] organized by the Government of Odisha and was selected as the recommended Operator to fulfil the Design-Build and Operating Services set out in the Technical Standards Appendix; and
6. The Operator has the corporate capacity and authority to enter into the Contract.

NOW THEREFORE, in consideration of the mutual covenants and Agreements hereinafter set forth, the Owner and the Operator agree as follows:

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 Contract Documents

This Contract to Design, Build and Operate an Municipal Solid Waste Management Facility between the Owner and the Operator (the "Contract") consists of the following documents (collectively, the "Contract Documents"), and each of the following shall be read and construed as an integral part of the Contract:

- (a) Form of Contract;
- (b) Special Conditions of Contract (Appendix 1 to the Contract)
- (c) General Conditions of Contract; and
- (d) Remaining appendices to the Contract

1.2 Order of Precedence

(1) In the event of any ambiguity or conflict between the Contract Documents listed in Section 1.1 of this Form of Contract, the order of precedence shall be the order in which the Contract Documents are listed in Section 1.1 of this Form of Contract.

(2) Notwithstanding Section 1.2(1) of this Form of Contract and any other term or condition in the Contract Documents, if any statement or provision in Appendix 11 – Operator's Bid of the General Conditions of Contract, is not consistent with or conflicts with any other term or condition in the remainder of the Contract Documents, the remainder of the Contract Documents shall govern.

1.3 Definitions

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions of Contract and Appendices to the General Conditions of Contract.

ARTICLE 2 - OPERATOR'S COMPENSATION AND TERMS OF PAYMENT

2.1 Operator's Compensation

The Owner hereby agrees to pay to the Operator the Contract Price, in consideration of the performance by the Operator of its obligations hereunder, and the Contract Price is:

(i) Price for Design-Build Services :

- (a) Cost of design, setting up static compactor stations, processing and disposal facility including site development cost, cost of civil works, plant & machinery, materials etc. for the proper execution of the Design-Build Services in accordance with the Contract.

(ii) Price for **Operations and Maintenance Services** shall be as under:

- (a) **Tipping Fee Rate (TFR):** Tipping fee rate per MT basis for Operations Services ("**Tipping Fee Rate-Treatment & Disposal**" or "**TFR**") for all labour, related Operator's Equipment (Operations), consumables and all matters and things of whatever nature, including the preparation and implementation of plans, programs and reports, and carrying out operations and maintenance services,, training, customer service, as necessary for the proper execution of related Operations Services in accordance with the Contract . The Tipping Fee Rate shall cover all periodic capital expenses on Facility.

2.2 Terms of Payment

The terms and procedures of payment by which the Owner will compensate the Operator are set out in the General Conditions of the Contract.

ARTICLE 3 - EFFECTIVE DATE AND STARTING DATES

3.1 Effective Date and Starting Date

The Effective Date, the Design-Build Starting Date and Operations Starting Date for the Contract shall be determined in accordance with the General Conditions of the Contract.

IN WITNESS WHEREOF the Owner and the Operator have caused this Form of Contract to be duly executed by their duly authorized representatives.

EXECUTED as of the date first written above.

[OWNER]

By: _____

Name: _____

Title: _____

Witness: _____

[THE OPERATOR]

By: _____

Name: _____

Title: _____

Witness: _____

INTEGRATED MUNICIPAL SOLID WASTE MANAGEMENT PROJECT IN
BERHAMPUR MUNICIPAL CORPORATION, ODISHA

ON

DBOT BASIS

AGREEMENT NO. _____

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GENERAL CONDITIONS OF CONTRACT

A. CONTRACT AND INTERPRETATION

ARTICLE 1 - CONTRACT AND INTERPRETATION

1.1 Definitions

Unless the context otherwise requires, the following terms wherever used in this Contract have the following meanings:

“Adjudicator” means the person that is named in the SCC;

“Applicable Law” means the laws and any other instruments having the force of law in the Country specified in the SCC, as they may be issued and in force from time to time, including any decree of the President or government of the Country;

“Appointing Authority” is the authority specified in the SCC;

“Authorities” means the Owner and the Country as specified in the SCC;

“Background Information Document” means the Background Information Document provided to the Operator by the Owner during the bidding process that preceded this Contract;

“Bank” means the KfW, Development Bank of Germany;

“Bidding Documents” means the documents issued by the Owner in respect of the bidding process for the selection of an operator to design, build and operate the Facility and to perform the Services;

“Capital Investment Program” means the capital investment program of the Operator, referred to in OSA Section 10.2(1);

“Change” is defined in GC Section 10.1.1(1);

“Change Order” is defined in GC Section 10.1.2(4);

“Completion” means that the Facility and all Design-Build Services have been completed operationally and structurally and put in a tight and clean condition in accordance with the Technical Standards Appendix, and the Operator is entitled to have a Completion Certificate issued in respect of the Facility, or part thereof, in accordance with DBSA Section 6.2;

“Completion Certificate” means a certificate issued by the Independent Engineer in accordance with DBSA Section 6.2;

“Contract” means the agreement between the Owner and the Operator which consists of the Contract Documents;

“Contract Documents” means the Form of Contract, General Conditions, and all appendices to the General Conditions as set out in GC Section 1.2;

“**Contract Price**” is defined in Section 2.1 of the Form of Contract;

“**Contract Records**” is defined in GC Section 1.8.1(1);

“**Contract Term**” means the term of the Contract, including any renewals approved by the Owner, commencing on the Effective Date and continuing to, and including, the End Date;

“**Country**” means the country specified in the SCC;

“**Customers**” means all persons to which the Operator provides solid waste collection, transportation and disposal services;

“**Data Room**” means the data room which may be established by the Owner in the bidding process as set out in the Bidding Documents;

“**DBSA Section**” means Design-Build Services Appendix Section;

“**Design-Build Documents**” means the plans, specifications, designs, models, electronic models and other documents and materials relating to the design and construction of the Site and Facility as may be set out or contemplated in the Design-Build Services Appendix or agreed to by the Parties from time to time during the Contract Term;

“**Design-Build Period**” is defined in GC Section 2.2(a);

“**Design-Build Services**” means the design-build services to be performed by the Operator as contemplated by the General Conditions and the Design-Build Services Appendix;

“**Design-Build Starting Date**” is defined in GC Section 2.1.3(1);

“**Effective Date**” means the date on which this Contract comes into force and effect pursuant to GC Section 2.1.1;

“**End Date**” is defined in GC Section 2.1.2;

“**Existing Operations Services**” is defined in DBSA Section 4.1;

“**Extension Date**” is defined in GC Section 2.4.3;

“**Facility**” means all amenities and facilities, including and incidental to (a) Processing Facility and (b) Municipal Solid Waste Landfill Facility;

“**Force Majeure**” is defined in GC Section 9.8(1);

“**GC Section**” means General Conditions Section;

“**Including**” means including without limitation and “**includes**” means includes without limitation, unless expressly stated otherwise;

“Independent Engineer” means the consultant retained by the Owner to supervise the Operator, in accordance with the Contract Documents;

“Liquidated Damages – Delay” is defined in GC Section 2.3.6(2);

“Manager” is defined in GC Section 8.2(3);

“Monthly Operations Payment” is defined in Section 1.4 of the Terms and Procedures of Payment Appendix;

“Operations Period” is defined in GC Section 2.2(b);

“Operations Starting Date” is defined in GC Section 2.1.3(2);

“Operational Acceptance” means the acceptance by the Owner of the Facility, or part thereof, in accordance with DBSA Section 7.3;

“Operations Services” means the Operations Services to be performed by the Operator as contemplated by the General Conditions and the Operations Services Appendix;

“Operator” means the solid waste treatment and disposal contractor and operator retained by the Owner to carry out the Services and is the Party named as the Operator in the Form of Contract;

“Operator’s Equipment (Design-Build)” means all machinery, apparatus, vehicles and other equipment required for the execution and completion of the Design-Build Services and the remedying of any defects, but does not include material, machinery, apparatus and other equipment forming part of the Plant and Equipment of the Facility;

“Operator’s Equipment (Operations)” means all things of any kind whatsoever, including the equipment, materials, supplies, vehicles and consumables required to operate, maintain and repair the Site and Facility;

“Operator’s Personnel” is defined in GC Section 8.3(1);

“Operator’s Representative” is defined in GC Section 8.1.2(1);

“OSA Section” means Operations Services Appendix Section;

“Owner” means the Party named as Owner in the Form of Contract;

“Owner’s Representative” is defined in GC Section 8.1.1(1);

“Party” means the Owner or the Operator, as the case may be, and **“Parties”** means both of them;

“Performance Security” is defined in GC Section 5.4.1(1);

“Plant and Equipment” means the permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and intended to permanently form or forming part of the Facility;

“Processing” means processing of MSW by which it is transformed into new or recycled product by using Composting technology by Operator pursuant to this Contract.

“Processing Facility” or “Treatment Facility” means the facilities designed and built by the Operator at Site for processing of MSW in accordance to the provisions of this Contract;

“Refuse Matter” means the waste matter obtained after Processing of MSW by each of the relevant Processing Facility;

“Scientific Landfill Facility” means the facilities designed and built by the Operator for landfilling of Refuse Matter and process remnants in accordance to the provision of this Contract;

“Services” means the Design-Build Services and the Operations Services to be performed by the Operator as set out in the General Conditions and the Appendices to the General Conditions;

“Service Area” means the area that falls under purview of operator’s scope as defined and demarked under Appendix 5;

“Site” means the physical area as set out in the Site Appendix identified for the location of the Facility;

“Site Information” is defined in GC Section 3.5(1);

“Static Compactor Stations” means the facilities set up by the operator for compaction of the waste

“Subcontract” means any contract, whether written or verbal, entered into by the Operator and a Subcontractor for the performance of any part of the Services;

“Subcontractor” means any person or entity to which the Operator subcontracts or subconsults any part of the Services in accordance with the provisions of GC Section 8.6, including any person or entity engaged for the supply of any Plant and Equipment, Operator's Equipment (Design-Build) or Operator's Equipment (Operations) or for the provision of any Services;

“Submission Deadline” means the date for the submission of bids, as stated in the Bidding Documents;

“Subsequent Operator” means the Operator that is to assume the provision of the Services upon termination or completion of the Contract and may include one of the Authorities;

“Taxes” is defined in GC Section 5.6;

“Technical Standards” is defined in the Technical Standards Appendix;

“**Tests on Completion**” means those tests set out in Attachment 1 to the Technical Standards Appendix as conducted pursuant to DBSA Section 6.2(1);

“**Third Party**” means any person or entity other than the Parties;

“**Time for Completion**” is defined in GC Section 2.3.2;

“**Time Schedule**” is defined in GC Section 2.3.3(1);

“**Transition Assistance**” is defined in GC Section 2.4.2;

“**TSA Section**” means Appendix 3C to the Contract - Technical Standards Appendix;

“**Unforeseeable**” means not reasonably foreseeable on the Submission Deadline by an experienced operator that conducted or should have conducted the inspections and examinations or who knew or should have known the information described in GC Section 3.5; and

“**War Risks**” is defined in GC Section 9.9(1).

1.2 Contract Documents

Subject to the Form of Contract provisions, all documents forming part of the Contract, and all parts thereof, are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole. The following appendices which are incorporated by reference into the Contract shall be referred to as follows:

Appendix “1”	– Special Conditions of Contract (the “SCC”)
Appendix “2”	- Terms and Procedures of Payment (the “Terms and Procedures of Payment Appendix”)
Appendix “3”	- Technical Specifications consisting of, Appendix “3A” – Design-Build Services (the “Design-Build Services Appendix”) Appendix “3B” – Operations Services (the “Operations Services Appendix”) Appendix “3C” – Technical Standards (the “Technical Standards Appendix”)
Appendix “4”	– Description of the Site (the “Site Appendix”)
Appendix “5”	– Description of the Service Area (the “Service Area Appendix”)
Appendix “6”	– Contract Price Adjustment (the “Contract Price Adjustment Appendix”)
Appendix “7”	– Performance Incentive Compensation (the “Performance Incentive Compensation Appendix”) (DELETED)
Appendix “8”	– Liquidated Damages – Operations (the “Liquidated Damages – Operations Appendix”)
Appendix “9”	– Existing Staff (the “Existing Staff Appendix”) (DELETED)
Appendix “10”	– Expertise of the Operator’s Personnel (the Operator’s Expertise Appendix)
Appendix “11”	– Operator’s Bid (the “Operator’s Bid”)

1.3 Interpretation

1.3.1 Language

(1) All Contract Documents, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be written in the language specified in the SCC and the Contract shall be construed and interpreted in accordance with that language.

(2) If any of the Contract Documents, correspondence or communications are prepared in any language other than the governing language under GC Section 1.3.1(1), the translation of such documents, correspondence or communications into the governing language shall prevail in matters of interpretation.

1.3.2 Singular or Plural

The singular shall include the plural and the plural shall include the singular except where the context otherwise requires.

1.3.3 Headings

The headings in the Contract Documents are included for ease of reference and shall neither constitute a part of the Contract nor affect its interpretation.

1.3.4 Persons

Words importing persons or entities shall include firms, corporations and government entities.

1.3.5 Incoterms

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of the Parties thereunder shall be prescribed by *Incoterms 2010*. *Incoterms* means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1^{er}, 75008 Paris, France.

1.3.6 Entire Agreement

This Contract constitutes the entire agreement between the Owner and the Operator with respect to the subject matter of the Contract and supersedes all communications, negotiations and agreements, whether written or oral, made by the Parties with respect thereto made prior to the date of the Contract.

1.3.7 Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract and is signed by a duly authorised representative of each Party to the Contract.

1.3.8 Number of Days

Except as expressly stated to the contrary elsewhere herein, in computing the number of days for the purposes of the Contract all days shall be counted, including Saturdays,

Sundays and legal holidays in the Country, provided, however, that if the final day of any period shall fall on a Saturday, Sunday, or legal holiday in the Country, then the final day shall be deemed to be the next day which is not a Saturday, Sunday or legal holiday in the Country.

1.3.9 Independent Contractor

(1) The Operator shall be an independent contractor in its performance of the Contract. The Contract does not create any agency, partnership, joint venture or other joint relationship between the Owner and the Operator.

(2) Subject to the provisions of the Contract, the Operator shall be solely responsible for the manner in which the Contract is performed. All employees, agents, representatives or Subcontractors engaged by the Operator in connection with the performance of the Contract shall be under the complete control of the Operator and shall not be deemed to be employees of the Owner, and nothing contained in the Contract, or in any Subcontract awarded by the Operator, shall be construed to create any contractual relationship or legal obligation between the Operator's employees, agents, representatives or Subcontractors and the Owner.

1.3.10 Joint Venture or Consortium

(1) If the Operator consists of a joint venture company of more than one person, the partners hereby authorise the representative named in the SCC to act on their behalf in exercising the Operator's rights and obligations toward the Owner under this Contract, including the receiving of approvals, consents, orders, certificates, instructions and payments from the Owner, amendment of the Contract and in all other matters under the Contract, including the settlement of disputes.

(2) If the Operator is a joint venture company of two or more persons, each partner of the joint venture company, shall be jointly and severally bound to the Owner for the fulfilment of the provisions of the Contract by the Operator. Claims against the partners as the case may be shall be subject to any legal defences available to the Operator, and to any limits on the liability of the Operator including those set out in GC Section 9.2.

(3) The composition, control or constitution of the Operator shall be in accordance with the Operator's Bid and shall not be altered without the prior consent of the Owner.

1.3.11 Non-waiver

(1) Subject to GC Section 1.3.11(2), no relaxation, waiver, forbearance, delay or indulgence by either Party in enforcing any of the terms and conditions of the Contract or the granting of time by either Party to the other shall prejudice, affect or restrict the rights of that Party under the Contract, nor shall any waiver by either Party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

(2) To be a valid waiver, any waiver of a Party's rights, powers or remedies under the Contract shall,

- (a) be in writing;
- (b) be dated and signed by the Owner's or Operator's Representative, whichever is granting such waiver; and
- (c) specify the right, power or remedy being waived and the extent to which it is being waived.

1.3.12 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

1.3.13 Country of Origin

“Origin” means the place where the materials, equipment and other supplies for the Facility are mined, grown, produced or manufactured, and from which the services are provided.

1.3.14 Survival of Obligations

Upon the termination or expiration of the Contract pursuant to the Contract, all rights and obligations of the Parties hereunder shall cease, except those noted in the SCC.

1.4 Notice

(1) All notices to be given under the Contract shall be in writing and shall be sent by personal delivery, courier or facsimile to the address for notice of the relevant Party as set out in the SCC and the following provisions apply:

- (a) Any notice sent by facsimile shall be confirmed by the sender no later than two days after dispatch by a notice sent by courier;
- (b) Any notice sent by courier shall be deemed to have been delivered 10 days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, with proper payment for the courier, and conveyed to the courier service for transmission; and
- (c) Any notice delivered personally or sent by facsimile shall be deemed to have been delivered on the date of dispatch.

(2) A Party may change its address for notice pursuant to this Contract by giving the other Party notice of change in accordance with this GC Section 1.4.

(3) The Operator’s address for the purpose of giving notice pursuant to this GC Section 1.4 shall be in the Country named in the SCC.

(4) Notices shall be deemed to include any approvals, consents, instructions, orders, certificates and similar communications to be given under the Contract.

1.5 Governing Law

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.

1.6 Settlement of Disputes

1.6.1 Adjudicator

(1) If any dispute of any kind whatsoever arises between the Owner and the Operator in connection with or arising out of the Contract including,

- (a) any question regarding the existence, validity or termination of the Contract; and
- (b) any matter related to the performance of the Services,

the Parties shall seek to resolve any such dispute or difference by mutual consultation. If the Parties fail to resolve such a dispute or difference by mutual consultation, the dispute shall be referred in writing, by either the Operator or the Owner, to the Adjudicator with a copy to the other Party or Parties.

- (2) GC Section 1.6.1(1) shall apply,
 - (a) during the execution of the Services and after the completion of the Services; and
 - (b) before and after the termination, abandonment or breach of the Contract.

(3) The Adjudicator shall give its decision in writing to both Parties no later than 30 days after the referral of a dispute. If the Adjudicator has rendered its decision within the 30 day time limit, and no notice of intention to commence arbitration has been given by either the Owner or the Operator prior to the expiration of 60 days after the reference of the dispute to the Adjudicator, the Adjudicator's decision shall become final and binding upon the Owner and the Operator. Any decision that has become final and binding shall be implemented by the Parties forthwith.

(4) The Adjudicator shall be paid a fee at the rate specified in the SCC plus reasonable expenditures incurred in the execution of its duties as Adjudicator, and these costs shall be divided equally between the Owner and the Operator.

(5) If the Adjudicator resigns or dies, or the Owner and the Operator agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Owner and the Operator. If the Owner and the Operator cannot agree on a new Adjudicator within 30 days after the resignation, death or removal of the existing Adjudicator, the new Adjudicator shall be appointed at the request of either Party by the Appointing Authority specified in the SCC.

1.6.2 Arbitration

(1) If either the Owner or the Operator is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within 30 days after a dispute being referred to it, then either the Owner or the Operator may, within 60 days after such reference, give notice to the other Party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

(2) Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with GC Section 1.6.2(1), shall be finally settled by arbitration.

(3) Arbitration proceedings shall be conducted in accordance with the rules of procedure designated in the SCC.

1.6.3 Obligations During Arbitration

Notwithstanding any reference to the Adjudicator or arbitration herein,

- (a) the Parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Owner shall pay the Operator any monies due to the Operator.

1.7 Assignment

(1) The Operator shall not assign to any Third Party the Contract, or any part thereof, or any right, benefit, obligation, or interest therein or thereunder without the prior consent of the Owner, which consent may not be unreasonably withheld.

(2) The Operator may assign, absolutely or by way of charge, any monies due and payable to it or that may become due and payable to it under the Contract.

(3) To be a valid assignment which has been approved by the Owner pursuant to GC Section 1.7(1), the assignment must,

- (a) be in writing;

- (b) be dated and signed by the Owner's Representative; and
- (c) state the specific details of the assignment.

1.8 Contract Records, Accounting and Auditing

1.8.1 Contract Records

(1) Except as provided in GC Section 6.1, all data, information, documentation, account, plans, programs, reports, surveys and guidelines of any kind whatsoever (the "Contract Records") prepared by the Operator in performing the Services shall become and remain the property of the Owner and the Operator shall deliver all Contract Records and a detailed inventory of those Contract Records to the Owner no later than the date of termination or expiration of the Contract, except in respect of such Contract Records that are required to be delivered at an earlier date.

- (2) The Contract Records shall include,
 - (a) information of any kind whatsoever related to the finances, revenues or expenditures of the Owner's operations;
 - (b) all files, documents, plans, drawings, specifications, notes, minutes of meetings and minutes of conversations;
 - (c) all the plans, programs, reports, surveys and guidelines prepared by the Operator in carrying out the Operations Services;
 - (d) the accounts of the solid waste operations at the Facility;
 - (e) all manuals, reports, condition surveys, safety records, audit records, inventories, laboratory test results, procurement records, customer information, financial information, financial statements, invoices, accounting records, subcontracts and personnel records; and
 - (f) the Design-Build Documents,

whether stored in hard copy or electronically.

(3) The Operator shall provide the Owner with unrestricted access to the Contract Records during the term of the Contract, including the right to make and retain copies.

(4) The Operator may retain a copy of the Contract Records but shall not use them for purposes unrelated to this Contract without the prior approval of the Owner. This GC Section 1.8.1(4) does not in any way relieve the Operator of its obligation of confidentiality pursuant to GC Section 6.2.

(5) Except as provided in GC Section 6.1, the Operator acknowledges that the Owner, as owner of the Contract Records, may deal with the Contract Records in any way it determines, including making the Contract Records publicly available and making them available to prospective bidders who may be involved in the process to select a Subsequent Operator.

1.8.2 Accounting

The Operator shall keep accurate and systematic accounts in respect of the Services and the Contract in accordance with internationally accepted accounting principles.

1.8.3 Auditing the Operator's Own Accounts and the Contract Records

- (1) The Owner may, in its sole discretion, audit,
 - (a) the Operator's own accounts, financial information, financial statements and technical information at any reasonable time and with 24 hours notice to the Operator; and

(b) the Contract Records and Design-Build Documents at any reasonable time and without notice to the Operator.

(2) The Owner may complete the audit or audits itself or may retain an independent auditor, at the Owner's expense, to complete the audit or audits.

1.8.4 Operator's Audited Accounts

The Operator shall submit to the Owner, no later than 90 days after the end of the Operator's fiscal year, the annual audited accounts of its own finances for each of the Operator's fiscal years that occur during the Contract Term.

1.8.5 Bank Audit

The Bank may, in its sole discretion, inspect or audit the Operator's accounts, financial information, financial statements and technical information in respect of any matters related to the Contract at any reasonable time and without notice to the Operator and may have the audit carried out by auditors appointed by the Bank.

1.9 Operator's Claims During the Design-Build Period

(1) If the Operator considers itself to be entitled to any extension of the Time for Completion or any additional payment, under any section related to the Design-Build Services of these General Conditions, the Operator shall give notice to the Independent Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and no later than 30 days, after the Operator became aware, or should have become aware, of the event or circumstance.

(2) If the Operator fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Operator shall not be entitled to additional payment, and the Owner shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this GC Section 1.9 shall apply.

(3) The Operator shall also submit any other notices related to the Design-Build Services which are required by the Contract, and supporting particulars for the claim, that are relevant to such event or circumstance.

(4) The Operator shall keep such contemporary records as may be necessary to substantiate any claim related to the Design-Build Services, either on the Site or at another location acceptable to the Independent Engineer. Without admitting the Owner's liability, the Independent Engineer may, after receiving any notice under this GC Section 1.9, monitor the record-keeping or instruct the Operator to keep further contemporary records. The Operator shall permit the Independent Engineer to inspect all these records, and shall, if instructed, submit copies to the Independent Engineer.

(5) No later than 42 days after the Operator became aware, or should have become aware, of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Operator and approved by the Independent Engineer, the Operator shall send to the Independent Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect,

(a) this fully detailed claim shall be considered as interim;

(b) the Operator shall send further interim claims at monthly intervals, giving the accumulated delay or amount claimed, and such further particulars as the Independent Engineer may reasonable require; and

(c) the Operator shall send a final claim no later than 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Operator and approved by the Independent Engineer.

(6) No later than 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Independent Engineer and approved by the Operator, the Independent Engineer shall respond with approval, or with disapproval and detailed comments. The Independent Engineer may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

(7) Each invoice sent by the Operator shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Operator shall only be entitled to payment for such part of the claim as it has been able to substantiate.

(8) The Operator shall proceed in accordance with GC Section 7.2.6 to request,
(a) an extension, if any, of the Time for Completion before or after its expiry in accordance with GC Section 2.3.4; or
(b) an additional payment, if any, to which the Operator believes it is entitled under the Contract.

(9) The requirements of this GC Section 1.9 are in addition to those of any other provision which may apply to a claim. If the Operator fails to comply with this or another provision in relation to any claim, any extension of or additional payment shall take account of the extent, if any, to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under GC Section 1.9(2).

(10) This GC Section 1.9 shall apply only in respect of the Design-Build Services excluding the Existing Operations Services.

B. SUBJECT MATTER OF THE CONTRACT

ARTICLE 2 - CONTRACT TERM, TIMING AND COMPLETION

2.1 General

2.1.1 Effectiveness of Contract

The Form of Contract shall be signed by the Operator and the JV partners, prior to its signing by the Owner. The Contract shall come into force and effect on the date the Form of Contract is signed by the Owner or the date on which encumbrance free possession of Site is handed over to Operator, whichever is later (the "Effective Date"), contingent on final approval by the Bank.

2.1.2 Expiration of Contract

This Contract shall terminate on either,

- (a) the specified number of months after the Effective Date named in the SCC;
- (b) the Extension Date pursuant to GC Section 2.4.3; or
- (c) the date of Contract termination pursuant to GC Section 11.2,

(the "End Date"), whichever is applicable.

2.1.3 Commencement of Services

(1) Unless otherwise stated in the SCC, the Design-Build Starting Date shall be no later than 30 days after the Effective Date and the Owner shall give the Operator at least fourteen days prior notice of the Design-Build Starting Date.

(2) The "Operations Starting Date" shall be the date of the Operational Acceptance Certificate.

2.2 Design-Build Period and Operations Period

The Contract Term shall be divided into two periods as follows:

- (a) the period commencing on the Effective Date and ending on the day immediately prior to the Operations Starting Date (the "Design-Build Period"); and
- (b) the period commencing on the Operations Starting Date and ending on the End Date (the "Operations Period").

2.3 Design-Build Period – Commencement, Delays and Suspension

2.3.1 Commencement of the Design-Build Services

The Operator shall commence the Design-Build Services no later than the Design-Build Starting Date, and shall then proceed with the Design-Build Services with due expedition and without delay.

2.3.2 Time for Completion

The Operator shall complete the whole of the Design-Build Services in accordance with the time for completion set out in the SCC (“Time for Completion”) for the Design-Build Services including,

- (a) successfully completing the Tests on Commissioning; and
- (b) completing all of the Design-Build Services such that the completed Facility can be used as a fully operational Facility in accordance with the Contract.

2.3.3 Design-Build Time Schedule

(1) The Operator shall submit a detailed time programme (the “Time Schedule”) to the Independent Engineer no later than 30 days after the Design-Build Starting Date. The Operator shall also submit a revised Time Schedule whenever the previous Time Schedule is inconsistent with actual progress or with the Operator’s obligations. Each Time Schedule shall include a description of,

- (a) the order in which the Operator intends to carry out the Design-Build Services, including the anticipated timing of each stage of design, Design-Build Documents, procurement, manufacture, inspection, delivery to the Site, construction, erection, testing and commissioning;
- (b) the periods for review and any other submissions, approvals and consents specified in the Contract;
- (c) the sequence and timing of inspections and tests specified in the Contract;
- (d) the scheduled Time for Completion, the planned Time for Completion and the planned New Operations Starting Date;
- (e) all major events and activities in the production of Design-Build Documents; and
- (f) all major phases and milestones of the Design-Build Services.

(2) The Independent Engineer shall review each Time Schedule and provide comments to the Operator as to whether the Time Schedule complies with the Contract. If the Independent Engineer fails to provide such comments prior to the expiration of 21 days after receiving a Time Schedule, the Operator shall proceed in accordance with the Time Schedule, subject to its other obligations under the Contract. The Operator shall be entitled to rely upon the Time Schedule when planning its activities.

(3) The Operator shall promptly give notice to the Independent Engineer of specific probable future events or circumstances which may adversely affect the Design-Build Services or delay the execution of the Design-Build Services. The Independent Engineer may require the Operator to submit an estimate of the anticipated effect of the future event or circumstances, or a proposal under GC Section 10.1.3.

(4) If, at any time, the Independent Engineer gives notice to the Operator that a Time Schedule fails, to the extent stated, to comply with the Contract or to be consistent with actual progress and the Operator’s stated intentions, the Operator shall submit a revised Time Schedule to the Independent Engineer in accordance with this GC Section 2.3.3.

2.3.4 Extension of the Time for Completion

(1) The Time for Completion shall be extended if the Operator is delayed or impeded in the performance of the Design-Build Services by reason of any of the following:

- (a) a Change, unless the Parties have already agreed to an adjustment to the Time for Completion as part of the applicable Change;
- (b) an occurrence of Force Majeure as provided in GC Section 9.8, Unforeseeable physical conditions as provided for in GC Section 9.7, or loss or damage as a result of the occurrences set out in GC Section 9.4(2);
- (c) any suspension order given by the Owner pursuant to GC Section 11.1.1;
- (d) any change in the Applicable Law in accordance with GC Section 9.10;
- (e) any default or breach of the Contract by the Owner or any activity, act or omission of any other contractors employed by the Owner; or
- (f) any other matter specifically mentioned in the Contract,

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the actual delay or impediment sustained by the Operator.

(2) The Operator shall submit, to the Independent Engineer, any notice of a claim for an extension of the Time for Completion in accordance with GC Section 10.1.3.

(3) The Operator shall, at all times, use reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

2.3.5 Rate of Progress

- (1) If, at any time, the Operator's progress in respect of the Design-Build Services,
 - (a) is too slow to complete the Design-Build Services in accordance with the Time for Completion; or
 - (b) has fallen, or will fall, behind the current Time Schedule

other than as a result of a cause listed in GC Section 2.3.4, then the Independent Engineer may instruct the Operator to submit a revised Time Schedule and supporting report describing the revised methods which the Operator proposes to adopt in order to expedite progress and complete the Design-Build Services.

- (2) Unless the Independent Engineer notifies otherwise, the Operator shall adopt the revised methods referred to in GC Section 2.3.5(2), which may require increases in,
 - (a) the working hours or in the numbers of Operator's Personnel, or both; or
 - (b) Plant and Equipment,

at the risk and cost of the Operator. If these revised methods cause the Owner to incur additional costs, the Operator shall, subject to GC Section 1.9, pay these costs to the Owner, in addition to delay damages, if any, under GC Section 2.3.6.

2.3.6 Delay of Completion – Liquidated Damages - Delay

(1) The Operator guarantees that it shall attain Completion of the Facility in accordance with the Time for Completion specified in the SCC and GC Section 2.3.2 or in accordance with an extension of the Time for Completion granted to the Operator in accordance with GC Section 2.3.4.

(2) If the Operator fails to attain Completion of the Facility within the Time for Completion, or any extension thereof in accordance with GC Section 2.3.4, the Operator shall pay to the Owner liquidated damages in the amount specified in the SCC (“Liquidated Damages - Delay”). The aggregate amount of Liquidated Damages - Delay shall in no event exceed the amount specified as “Maximum” in the SCC. The Owner may terminate the Contract pursuant to GC Section 11.2.3 if the Operator reaches the “Maximum” level for Liquidated Damages – Delay.

(3) The payment or payments by the Operator of Liquidated Damages – Delay shall completely satisfy the Operator’s obligation to attain Completion of the Facility within the Time for Completion or any extension thereof pursuant to GC Section 2.3.4.

(4) The payment or payments by the Operator of Liquidated Damages – Delay shall not in any way relieve the Operator of its obligations to complete the Facility or any other obligations and liabilities of the Operator under the Contract.

(5) If the Operator attains Completion of the Facility before the Time for Completion or any extension thereof pursuant to GC Section 2.3.4, and if the Owner intends to pay a bonus to the Operator for early completion, the amount of the bonus is as set out in the SCC. The aggregate amount of such bonus shall in no event exceed the amount specified as “Maximum” in the SCC.

2.4 Operations Period

2.4.1 Commencement of the Operations - Services

The Operator shall commence the Operations Services no later than the Operations Starting Date and shall then proceed with the Operations Services with due exception and without delay.

2.4.2 Services after the End Date

The Operator, upon written request by the Owner no later than 60 days prior to the End Date, shall provide assistance to the Owner, at no cost to the Owner, during a transitional period of up to 60 days after the End Date (the “Transition Assistance”). The purpose of the Transition Assistance is to ensure a smooth transition between the Operator and a Subsequent Operator of the Facility. The Transition Assistance shall be related to only transition services and shall not be the full range of Services as set out in the Operations Services Appendix.

2.4.3 Extension of the Contract

If both Parties agree, this Contract may be extended for a period of up to 5 years after the End Date. The Owner shall notify the Operator no later than 6 months prior to the End Date if it wishes to enter into negotiations in order to extend the duration of the Contract. The date on which the Contract is to expire as a result of an extension shall be the Extension Date.

ARTICLE 3 - OBLIGATIONS OF THE OPERATOR

3.1 General – Services and Standards of Performance

The Operator shall,

- (a) perform the Design-Build Services set out in the Design-Build Services Appendix;
- (b) perform the Operations Services set out in the Operations Services Appendix; and
- (c) perform the Services in accordance with the Technical Standards set out in the Technical Standards Appendix,

all with due care and diligence in accordance with the Contract.

3.2 Law Governing Services

The Operator shall comply with the Applicable Law and shall ensure that the Operator's Personnel and Subcontractors comply with the Applicable Law. The Operator shall indemnify and hold harmless the Owner from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from violation of the Applicable Law by the Operator, the Operator's Personnel the Subcontractors and the Subcontractors' personnel.

3.3 Conflict of Interest

(1) The compensation of the Operator pursuant to GC Article 5 shall constitute the Operator's sole compensation in connection with this Contract and, except as provided in GC Article 5, the Operator shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or in the discharge of its obligations hereunder, and the Operator shall use its best efforts to ensure that the Operator's Personnel, Subcontractors, and the Subcontractors' employees and agents, similarly shall not receive any such additional remuneration.

(2) The Operator, Subcontractors and any entity affiliated with the Operator or the Subcontractors, shall be disqualified, during the Contract Term from providing goods, works or services, other than the Services, with respect to,

- (a) the goods, works and services purchased from the Contingency Fund; and
- (b) the Capital Investment Program.

(3) The Operator, Operator's Personnel, Subcontractors and the employees and affiliates of the Subcontractors shall not engage, either directly or indirectly, in any business or professional activities which would conflict with the activities assigned to them under this Contract.

(4) The Operator shall not participate in any discussions or work and shall not provide any services or advice to the Owner related to,

- (a) except with respect to their responsibilities as set out in the Operations Services Appendix, institutional restructuring or reorganisation of the Owner or a utility or department of the Owner;
- (b) the development or review of bidding documents to retain any Subsequent Operator; or
- (c) the preparations for the procurement process to retain any Subsequent Operator.

(5) Failure of the Operator to comply with this GC Section 3.3, in addition to constituting a breach of this Contract, may result in the disqualification of the Operator from bidding in the procurement process to retain any Subsequent Operator.

3.4 Plant and Equipment, Operator's Equipment (Design-Build) and Operations Equipment (Operations)

(1) The Operator shall prepare a list of all Operator's Equipment (Design-Build) and Operator's Equipment (Operations) (the "Operator's Equipment Lists"). The Operator shall update the Operator's Equipment Lists on an annual basis and shall provide the updated Operator's Equipment Lists to the Owner no later than 30 days after the end of each of the Operator's fiscal years during the Contract Term.

3.5 Site Information and Investigation

(1) The Operator acknowledges that the Owner made available to the Operator, during the bidding process, either directly or by placing the data in the Data Room and Background Information Document, all available data on the Site, (the "Site Information"). The Operator shall be responsible for carrying out its own site investigation including assessment of hydrological and sub surface conditions of the Site and interpreting all data about the Site that is provided to it by the Owner.

(2) The Operator shall be deemed to have inspected and examined the Site and Service Area , its surroundings, the Site Information and other available information, and to have satisfied itself before entering into the Contract, as to,

- (a) the form and nature of the Site and Service Area, including the sub-surface conditions of the Site;
- (b) the applicable hydrological, hydrogeological and climatic conditions at Site;
- (c) the extent and nature of the work, Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations) necessary for the execution and completion of the Services, and the remedying of any defects; and
- (d) the Operator's requirements for access to the Site, accommodation, personnel, power, transport, water and other services.
- (e) socio-economic profile of the Service Area, service user groups in Service Area and condition of streets, roads in the Service Area
- (f) likely quantity of municipal solid waste generation in Service Area and its characteristics and composition including its calorific value

(3) The Operator shall be deemed to have obtained all necessary information as to risks, contingencies and all other circumstances that may influence or affect the performance of its obligations under the Contract.

(4) To the extent the Operator did not make any of the interpretations, investigations or examinations, or did not satisfy itself, or did not obtain such information as called for in this GC Section 3.5, the Operator represents and warrants that it is willing to assume and does hereby assume responsibility for any and all loss and damage from any cause whatsoever which the Operator's interpretations, investigations, examinations and obtaining of information may have avoided and agrees to indemnify the Owner from all risk thereof and from conditions arising or developing in the course of performing the Services which may make the performance of the Services more onerous and more expensive to fulfil or perform than was contemplated on the Effective Date. Notwithstanding anything in the Contract to the contrary, the Operator acknowledges and declares that in entering into the Contract it did not and does not rely upon any information or report provided by or on behalf of the Owner or its agents, representatives or employees.

3.6 Access to the Site and Facility

(1) The Operator shall, during both the Design-Build Period and the Operations Period, provide free and open access to the Site, the Existing Facility, the Facility and Operator's Equipment at the Owner's request. The Owner shall make reasonable efforts to provide reasonable notice to the Operator prior to the Owner's access but such notice is not mandatory. The Owner's representative on the Site, the Existing Facility or at the Facility shall observe all safety and health regulations and reasonable instructions of the Operator.

(2) The Operator shall give all reasonable access to any other contractors employed by the Owner on or near the Site to carry out their work.

(3) If the Operator makes available to other contractors any roads or ways the maintenance for which the Operator is responsible, permits the use by such other contractors of the Operator's Equipment (Design-Build) and Operator's Equipment (Operations), or provides any other service of whatsoever nature for such other contractors, the Owner shall fully compensate the Operator for any loss or damage caused or occasioned by such other contractors in respect of any such use or service, and shall pay to the Operator reasonable remuneration for the use of such equipment or the provision of such services.

(4) The Operator shall also arrange to perform its work so as to minimize, to the extent possible, interference with the work of other contractors. The Independent Engineer, shall determine the resolution of any difference or conflict that may arise between the Operator and other contractors and the workers of the Owner in regard to their work.

(5) The Operator shall notify the Independent Engineer, promptly of any defects in the other contractors' work that come to its notice, and that could affect the performance of the Services by the Operator. The Independent Engineer, shall determine the corrective measures, if any, required to rectify the situation after inspection of the Site and/or Service Area and the Facility. Decisions made by the Independent Engineer, shall be binding on the Operator.

ARTICLE 4 - OBLIGATIONS OF THE OWNER

4.1 Owner's Assistance to the Operator

The Owner shall use reasonable efforts to,

- (a) provide the Operator, Subcontractors and Operator's Personnel with work permits and such other documents as shall be necessary to enable the Operator, Subcontractors or Operator's Personnel to perform the Services;
- (b) arrange for Operator's Personnel and, if appropriate, their eligible dependants to obtain promptly all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Country;
- (c) facilitate the prompt clearance through customs of any property required for the Services and of the personal effects of the Operator's Personnel and their eligible dependants; and
- (d) issue to officials, agents and representatives of the Owner all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services.

4.2 Access to the Site and Facility

The Owner shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto and for providing possession and access to all other areas reasonably required for the proper execution of the Contract including all requisite rights of way. The Owner shall provide the Operator, free of charge, full possession of the Site and the Facility during the term of the Contract.

4.3 Reviews and Approvals of Submissions

(1) Except as otherwise provided in the Contract, if the Operator submits a plan, report or other documentation to the Owner in writing, and the Owner, or the Independent Engineer, is required to approve that submission, the Independent Engineer, shall review and either approve or provide written comment on the Operator's submission no later than 14 days after the day of submission by the Operator to the Independent Engineer.

(2) If the Independent Engineer, fails to approve or refuses to approve the Operator's submission in accordance with GC Section 4.3(1), the Operator shall notify the Owner in writing that it has not received a response to its submission.

(3) If the Independent Engineer, fails to respond to the Operator's written notification pursuant to GC Section 4.3(2) within 14 days after the receipt by the Independent Engineer, of the Operator's written notification, the Operator's submission shall be deemed to be approved.

C. PAYMENT

ARTICLE 5 - CONTRACT PRICE AND PAYMENT

5.1 Contract Price

- (1) The Contract Price shall be as specified in the Form of Contract.
- (2) Unless indicated otherwise in the SCC, the Contract Price shall be,
 - (a) Fixed lump sum in respect of the Design-Build Services - and
 - (b) Fixed tipping fee rate (with payment against minimum assured quantity of waste as specified under SCC),

not subject to any alteration, except in the event of a Change to the Design-Build Services in accordance with GC Section 10.1 or a change to the Operations Services in accordance with GC Section 10.2 or as otherwise provided in the Contract Price Adjustment Appendix (Appendix 6).

(3) Subject to GC Section 9.7, the Operator shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract, including all costs and expenses for the design and building of the Facility and the operation of the Facility.

5.2 Terms of Payment

(1) The Contract Price shall be paid as specified in the corresponding Terms and Procedures of Payment Appendix (Appendix 2) to the Contract Agreement. The procedures to be followed in making application for and processing payments shall be those outlined in the same Appendix.

(2) No payment made by the Owner herein shall be deemed to constitute acceptance by the Owner of the Facility or any part thereof.

(3) In the event that the Owner fails to make any payment by its respective due date or within the period set forth in the Contract, the Owner shall pay to the Operator interest on the amount of such delayed payment at the rate shown in the SCC and as specified in the SCC for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

(4) The currency or currencies in which payments are made to the Operator under this Contract shall be specified in the SCC, subject to the general principle that payments will be made in the currency or currencies in which the Contract Price has been stated in the Operator's Bid.

(5) All payments shall be made in the currency or currencies specified in Section 2 of the Contract.

5.3 Performance Incentive Compensation

Deleted.

5.4 Liquidated Damages - Operations

The Operator shall pay the Owner liquidated damages for failure to meet Technical Standards as set out in the Liquidated Damages – Operations Appendix 8.

5.5 Securities

5.5.1 Performance Security

(1) The Operator shall provide a security for the Operator's proper performance of the Contract to the Owner no later than the date specified in the Bidding Documents (the "Performance Security").

(2) The Performance Security shall be,

- (a) in the amount specified in the SCC;
- (b) denominated in the currency or currencies of the Contract, and
- (c) shall be in the form specified in the Bidding Documents or in another form approved by the Owner.

(3) The Performance Security is a bank guarantee and shall be issued by either,

- (a) a bank or insurance company located in the Country; or
- (b) a foreign bank or insurance company through a correspondent bank or insurance company located in the Country.

(4) The Performance Security shall be valid until 180 days after the End Date, or any extension to the End Date.

(5) The Owner shall return the Performance Security no later than 14 days after its expiration.

(6) The cost of complying with this GC Section 5.5.1 shall be borne by the Operator.

5.5.2 Advance Payment Security

(1) The Operator shall provide a security in an amount equal to the advance payment calculated in accordance with the Terms and Procedures of Payment Appendix and in the same currency or currencies.

(2) The advance payment security shall be in the form provided in the Bidding Documents or in another form approved by the Owner. The amount of the advance payment security may be progressively reduced as provided for in the Terms and Procedures of Payment Appendix. The advance payment security shall be returned to the Operator immediately after its expiration.

5.6 Taxes and Duties

(1) Except as otherwise specifically provided in the Contract, the Operator shall bear and pay all taxes, duties, levies and charges (the "Taxes") assessed on the Operator, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Services in and outside of the Country.

(2) If any tax exemptions, reductions, allowances or privileges may be available to the Operator in the Country, the Owner shall use reasonable efforts to enable the Operator to benefit from any such tax savings to the maximum allowable extent.

D. INTELLECTUAL PROPERTY

ARTICLE 6 - COPYRIGHT – DESIGN-BUILD DOCUMENTS

6.1 Copyright – Design-Build Documents

(1) As between the Parties, the Operator shall retain the copyright and other intellectual property rights in the Design-Build Documents made by or on behalf of the Operator.

(2) The Operator shall be deemed, by signing the Contract, to give the Owner a non-terminable, transferable, non-exclusive, royalty-free licence to copy, use and communicate the Design-Build Documents, including making and using modifications of them. This licence shall,

- (a) apply throughout the actual or intended working life, whichever is longer, of the relevant parts of the Site or Facility;
- (b) entitle any person in proper possession of the relevant part of the Site or Facility to copy, use and communicate the Design-Build Documents for the purposes of completing, managing, operating, maintaining, altering, adjusting, repairing and demolishing the Facility;
- (c) in the case of Design-Build Documents which are in the form of computer programs and other software, permit their use on any computer on the Site or at the Facility and other places as envisaged by the Contract, including replacements of any computers supplied by the Operator; and
- (d) entitle the Owner to make the Design-Build Documents available for inspection by a prospective bidder who may be involved in the process to select a Subsequent Operator.

(3) The Owner shall not, without the Operator's consent, use, copy or communicate the Design-Build Documents to a Third Party by, or on behalf of, the Owner for purposes other than those permitted under GC Section 6.1(2).

6.2 Confidentiality

(1) The Operator shall keep confidential and shall not, without the written consent of the Owner, divulge to any Third Party any documents, data or other information arising directly or indirectly from the performance of Services under the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding this GC Section 6.2(1), the Operator may furnish to its Subcontractors such documents, data and other information to the extent required for the Subcontractors to perform their work under the Contract, in which event the Operator shall obtain from such Subcontractors an undertaking of confidentiality similar to that imposed on the Operator under this GC Section 6.2(1).

(2) The Operator shall not use such documents, data and other information received from the Owner for any purpose other than the Services as are required for the performance of the Contract. The Operator shall not publish, permit to be published, or disclose any particulars of the Services, Site or Facility in any trade or technical paper or advertising materials without the prior written consent of the Owner.

(3) The obligations of the Operator under GC Sections 6.2(1) and 6.2(2), shall not apply to that information which,

- (a) now or hereafter enters the public domain through no fault of the Operator;
- (b) can be proven to have been possessed by the Operator at the time of disclosure and which was not previously obtained, directly or indirectly, from the Owner; or
- (c) otherwise lawfully becomes available to the Operator from a Third Party that has no obligation of confidentiality.

E. EXECUTION OF THE SERVICES

ARTICLE 7 - CONTRACT ADMINISTRATION AND SUPERVISION DURING THE DESIGN-BUILD AND OPERATIONS PERIODS

7.1 General

The Parties acknowledge that two separate approaches to contract administration and supervision will be in place during the Contract Term as follows:

- (a) from the Effective Date until the Operations Starting Date, the Design-Build Supervision approach will be put in place by the Owner; and
- (b) from the Operations Starting Date until the End Date, the Operations Supervision approach will be put in place by the Owner.

7.2 Design-Build Supervision

7.2.1 Supervision During the Design-Build Period

GC Section 7.2 shall apply only during the Design-Build Period.

7.2.2 Independent Engineer's Duties and Authority (Design-Build Period)

(1) The Owner shall appoint the Independent Engineer who shall be responsible for day to day contract management and supervision during the Design-Build Period. The Independent Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

(2) The Independent Engineer shall have no authority to amend the Contract.

(3) Except as specifically provided otherwise in the Contract, the Independent Engineer may exercise the authority attributable to the Independent Engineer as specified in or necessarily to be implied from the Contract. The Owner undertakes not to impose further constraints on the Independent Engineer's authority, except as agreed with the Operator.

(4) If the Independent Engineer is obligated to obtain the approval of the Owner before exercising a specific authority, these restrictions shall be set out in the SCC. If the Independent Engineer exercises a specified authority for which the Owner's approval is required then, for the purposes of the Contract, the Owner shall be deemed to have given approval.

(5) Except as otherwise stated in the Contract,

- (a) if the Independent Engineer carries out duties or exercises authority, specified in or implied by the Contract, the Independent Engineer shall be deemed to act for the Owner;
- (b) the Independent Engineer has no authority to relieve any Party of any duties, obligations or responsibilities under the Contract; and
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test or similar act by the Independent Engineer, including absence of disapproval, shall not relieve the Operator from any responsibility it has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

7.2.3 Delegation by the Independent Engineer

(1) The Independent Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, or independent inspectors appointed to inspect or test items of Plant or Equipment. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. Unless otherwise agreed by both Parties, the Independent Engineer shall not delegate the authority to determine any matter in accordance with GC Section 7.2.6.

(2) Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in GC Section 1.3.1.

(3) Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Operator to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Independent Engineer. However,

- (a) any failure to disapprove any work or Plant and Equipment shall not constitute approval, and shall therefore not prejudice the right of the Independent Engineer to reject the work or the Plant and Equipment; and
- (b) if the Operator questions any determination or instruction of an assistant, the Operator may refer the matter to the Independent Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

7.2.4 Instructions of the Independent Engineer

(1) The Independent Engineer may issue to the Operator, at any time during the Design-Build Period, instructions which may be necessary for the execution of the Design-Build Services and the remedying of any defects, all in accordance with the Contract. The Operator shall only take instructions from the Independent Engineer, or from an assistant to whom the appropriate authority has been delegated under GC Section 7.2.3. If an instruction constitutes a Change, GC Section 10.1 shall apply.

(2) The Operator shall comply with the instructions given by the Independent Engineer or delegated assistant, on any matter related to the Contract. These instructions shall be given in writing.

7.2.5 Replacement of the Independent Engineer

If the Owner intends to replace the Independent Engineer, the Owner shall, not less than 42 days before the intended date of replacement, give notice to the Operator of the name, address and relevant experience of the intended replacement Independent Engineer. The Owner shall not replace the Independent Engineer with a person against whom the Operator raises reasonable objection by notice to the Owner, with supporting particulars.

7.2.6 Determinations by the Independent Engineer

(1) Whenever the Contract provides that the Independent Engineer shall proceed in accordance with this GC Section 7.2.6 to agree or determine any matter, the Independent Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Independent Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

(2) The Independent Engineer shall give notice to the Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under GC Section 1.9.

7.3 Operations Supervision

7.3.1 Supervision during the Operations Period

This GC Section 7.3 shall apply only during the Operations Period and the period of time immediately after the End Date solely for the purpose of resolving transition issues and any outstanding issues arising during the Operations Period.

7.3.2 The Owner shall appoint an Independent Engineer for supervision of the "Operations" during the Operation Period.

7.3.3 Owner Operations Representative's Duties and Authority

(1) The Owner shall appoint an Independent Engineer which shall carry out the duties assigned to it in the Contract.

(2) The Independent Engineer shall have no authority to amend the Contract.

(3) The Independent Engineer may exercise the authority attributable to the Independent Engineer as specified in or necessarily to be implied from the Contract. The Owner undertakes not to impose further constraints on the Independent Engineer's authority, except as agreed with the Operator.

(4) If the Independent Engineer is required to obtain the approval of the Owner before exercising a specified authority, the requirements shall be stated in the SCC. If the Independent Engineer exercises a specified authority for which the Owner's approval is required, then for the purposes of the Contract the Owner shall be deemed to have given approval.

(5) Except as otherwise stated in these General Conditions,

(a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Independent Engineer shall be deemed to act for the Owner;

(b) the Independent Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and

(c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Independent Engineer, including absence of disapproval shall not relieve the Operator from any responsibility it has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

7.3.4 Operations - Delegation by the Independent Engineer

(1) The Independent Engineer may from time to time assign duties and delegate authority to Independent Engineer assistants, and may also revoke such assignment or delegation. Unless otherwise specified by the CSCU in writing, all instructions, approvals, certificates, consents, notices, requests shall be issued by the Independent Engineer. The Independent Engineer shall not delegate the authority to determine any matter in accordance with GC Section 7.3.6.

(2) Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in the SCC.

(3) Each assistant, to whom duties have been assigned or authority has been delegated shall only be authorised to issue instructions to the Operator to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Independent Engineer. However,

- (a) any failure to disapprove any work shall not constitute approval, and shall therefore not prejudice the right of the Independent Engineer to reject the work; and
- (b) if the Operator questions any determination or instruction of an assistant, the Operator may refer the matter to the Independent Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

7.3.5 Instructions of the Independent Engineer

(1) Independent Engineer may issue to the Operator, at any time, instructions which may be necessary for the execution of the Operations Services and the remedying of any defects, all in accordance with the Contract. The Operator shall comply with the instructions given by the Independent Engineer on any matter related to the Contract. These instructions shall be given in writing.

7.3.6 Change in the Independent Engineer

The Owner may, in its sole discretion, change the Independent Engineer. If the Owner intends to change the Independent Engineer, it shall give the Operator 30 days prior notice of the change.

7.3.7 Determinations by the Independent Engineer

(1) Whenever these General Conditions provide that the Independent Engineer shall proceed in accordance with this GC Section 7.3.6 to agree or determine any matter, the CSCU Director shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Independent Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

(2) The Independent Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars.

ARTICLE 8 - REPRESENTATIVES, STAFF AND SUBCONTRACTING

8.1 Representatives

8.1.1 Owner's Representative

- (1) The Owner's representative (the "Owner's Representative") shall be as follows:
 - (a) during the Design-Build Period and Operations Period, the Owner's Representative shall be the Independent Engineer;
- (2) The Owner shall name its representative,
 - (a) no later than 14 days after the Effective Date for the Independent Engineer; and
 - (b) no later than 14 days after the Completion of the Facility for the Independent Engineer.

(3) The Owner may change its representative from time to time and shall give notice of the change without delay. The Owner shall not change its representative at a time and in such a manner as to impede the progress of either the Design-Build Services or the Operations Services.

(4) The Owner's Representative shall represent and act for the Owner at all times during the performance of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract by the Owner shall be given by the Independent Engineer, except as herein otherwise provided.

(5) All notices, instructions, information and other communications given by the Operator to the Owner under the Contract shall be given to the Independent Engineer, except as herein otherwise provided.

8.1.2 Operator's Representative

(1) If the Operator's representative is not named in the SCC, the Operator shall name its representative (the "Operator's Representative") no later than 14 days after the Effective Date and shall request the Owner to approve the proposed Operator's Representative. If the Owner makes no objection to the proposed Operator's Representative, the Operator's Representative shall be deemed to have been approved.

(2) If the Owner objects to the proposed Operator's Representative before the expiration of 14 days after the proposal, the Operator shall propose a replacement no later than 14 days after receiving the Owner's objection and reasons for the objection and GC Section 8.1.2(1) shall apply to the proposed replacement.

(3) The Operator's Representative shall represent and act for the Operator at all times during the performance of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract by the Operator shall be given by the Operator's Representative, except as herein otherwise provided.

(4) All notices, instructions, information, and other communications given by the Owner to the Operator under the Contract shall be given to the Operator's Representative as established pursuant to this GC Section 8.1.2.

(5) The Operator shall not revoke the appointment of the Operator's Representative without the Owner's prior written consent, which shall not be unreasonably withheld. If the Owner consents thereto, the Operator shall appoint some other person as the Operator's Representative, pursuant to the procedure set out in this GC Section 8.1.2.

(6) The Operator's Representative may, subject to the approval of the Owner, which shall not be unreasonably withheld, at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Operator's Representative, and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Owner and the Independent Engineer.

(7) Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with GC Section 8.1.2(6) shall be deemed to be an act or exercise by the Operator's Representative.

8.2 Operator's Superintendence

(1) Throughout the term of the Contract, the Operator shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the Services.

(2) Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications as set out in the SCC and of the operations to be carried out, including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents, for the satisfactory and safe execution of the Services.

(3) The Operator's Representative shall appoint a suitable person as construction or operations manager as applicable (the "Manager"). The Manager shall supervise all work done at the Site and Facility by the Operator and shall be present at the Site or Facility through normal working hours except when on leave, sick or absence connected with the proper performance of the Contract. Whenever the Manager is absent from the Site or Facility, a suitable person shall be appointed to act as his or her deputy.

8.3 Operator's Personnel

(1) The Operator shall provide and employ on the Site for the performance of the Services such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution of the Contract (the "Operator's Personnel"). The Operator is encouraged to use local labour that has the necessary skills. The Operator shall provide all expertise needed to carry out the Services including the expertise listed in the Operator's Expertise Appendix.

(2) Unless otherwise provided in the Contract, the Operator shall be responsible for the recruitment, employment, transportation, accommodation and catering of all labour, local or expatriate, required for the execution of the Contract and for all payments in connection therewith.

(3) The Operator shall be responsible for obtaining all necessary permits and visas from the appropriate authorities for the entry of all labour and personnel to be employed on the Site into the Country.

(4) The Operator shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Operator defaults in providing such means of transportation and temporary maintenance, the Owner may provide the same to such personnel and recover the cost of doing so from the Operator.

(5) The Operator shall at all times during the progress of the Contract use its best endeavours to prevent any unlawful, riotous or disorderly conduct or behaviour by or amongst its employees and the labour of its Subcontractors.

(6) The Operator shall, in all dealings with its labour and the labour of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labour.

8.4 Replacement of Operator's Personnel

The Independent Engineer, may require the Operator to remove and replace any member of the Operator's Personnel who,

- (a) persists in any misconduct or lack of care;
- (b) carries out duties incompetently or negligently;
- (c) fails to comply with any provision of the Contract; or
- (d) persists in any conduct which gives the Owner reasonable cause to be dissatisfied with him or her.

8.5 Existing Staff

If the Operator is obliged to retain staff employed by the Owner as stated in the SCC, it shall do so in accordance with the Existing Staff Appendix.

8.6 Subcontractors

(1) The Operator shall not enter into any contract or contracts that will result in the Operator exceeding the maximum percentage of subcontracting permitted by the Owner in respect of the Design-Build Services and the Operations Services, as set out in the Bidding Documents.

(2) Except with respect to the Subcontractors named in the Operator's Bid, the Operator shall not enter into a contract with any Subcontractor without the prior consent of the Owner.

(3) The Operator shall be responsible for the observance by Subcontractors of the terms and conditions of the Contract and shall ensure that all relevant terms of the Contract are included in the Operator's contracts with Subcontractors.

(4) Subcontracting by the Operator shall not relieve the Operator of any of its obligations under the Contract and the Operator shall be responsible for the acts, omissions and defaults of all Subcontractors, and the Subcontractors, employees, agents and sub-subcontractors, as fully as if they were acts, omissions or defaults of the Operator or the Operator's Personnel.

F. LIABILITY AND RISK DISTRIBUTION

ARTICLE 9 - LIABILITY AND RISK DISTRIBUTION

9.1 Defect Liability

- (1) The Operator warrants that the Site and Facility or any part thereof shall be free from defects in the Design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.
- (2) If during the Defect Liability Period any defect should be found in the Design, engineering, materials and workmanship of the Site, Facility or Plant and Equipment supplied or of the work executed by the Operator, the Operator shall promptly, in consultation and agreement with the Owner regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good, as the Operator shall, at its discretion, determine, such defect as well as any damage to the Facility caused by such defect. The Operator shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facility arising out of or resulting from normal wear and tear.
- (3) The Operator's obligations under this GC Section 9.1 shall not apply to,
 - (a) any Designs, specifications or other data Designed, supplied or specified by or on behalf of the Owner; and
 - (b) any other materials supplied or any other work executed by or on behalf of the Owner, except for the work executed by the Owner under GC Section 9.1(10).
- (4) The Owner shall give the Operator a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Owner shall give all reasonable opportunity for the Operator to inspect any such defect.
- (5) The Owner shall give the Operator all necessary access to the Facility and the Site to enable the Operator to perform its obligations under this GC Section 9.1.
- (6) The Operator may, with the consent of the Owner, remove from the Site any Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations) or any part of the Facility that are defective if the nature of the defect, or any damage to the Facility caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.
- (7) If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facility or any part thereof, the Owner may give to the Operator a notice requiring that tests of the defective part of the Facility shall be made by the Operator immediately upon completion of such remedial work, whereupon the Operator shall carry out such tests.
- (8) If such part fails the tests, the Operator shall carry out further repair, replacement or making good, as the case may be, until that part of the Project Facility passes such tests. The tests shall be agreed upon by the Owner and the Operator.

- (9) If the Operator fails to commence the work necessary to remedy such defect or any damage to the Facility caused by such defect within a reasonable time, which shall in no event be considered to be less than 15 days, the Owner may, following notice to the Operator, proceed to do such work, and the reasonable costs incurred by the Owner in connection therewith shall be paid to the Owner by the Operator or may be deducted by the Owner from any monies due the Operator or claimed under the Performance Security.
- (10) If the Facility or any part thereof cannot be used by reason of such defect or making good of such defect, the Defect Liability Period of the Facility or such part, as the case may be, shall be extended by a period equal to the period during which the Facility or such part cannot be used by the Owner because of any of the aforesaid reasons.
- (11) Except as provided in GC Sections 9.1 and 9.5, the Operator shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facility or any part thereof, the Plant and Equipment, Design or engineering or work executed that appear after Completion of the Site, the Project Facility or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal or wilful action of the Operator.

9.2 Limitation of Liability

Except in cases of criminal negligence or willful misconduct,

- (a) the Operator shall not be liable to the Owner in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits of interest costs, provided that this exclusion shall not apply to any obligation of the Operator to pay liquidated damages to the Owner; and
- (b) the aggregate liability of the Operator to the Owner, whether under the Contract, in tort or otherwise, shall not exceed the aggregate of the total Contract Price (including the Monthly Operations Payment times the original estimate of months during the Operations Period), provided that this limitation shall not apply to any obligation of the Operator to indemnify the Owner with respect to patent infringement.

9.3 Transfer of Ownership and Existing Equipment and Materials

9.3.1 Transfer of Ownership

- (1) Ownership of the Plant and Equipment, including spare parts, to be imported into the Country shall be transferred to the Owner upon delivery at the Site.
- (2) Ownership of the Plant and Equipment procured in the Country shall be transferred to the Owner when the Plant and Equipment are brought on to the Site.
- (3) Deleted.
- (4) Subject to GC Section 9.3.1(5), ownership of the Operator's Equipment (Design-Build) and Operator's Equipment (Operations), including spare parts, shall remain with the Operator or its Subcontractors and shall be transferred to Owner on End Date.
- (5) The Operator shall transfer to Owner as of the End Date any of the Operator's Equipment (Operations), including spare parts free of cost.

(6) Notwithstanding the transfer of ownership of the Plant and Equipment, the responsibility for care and custody of the Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations), together with the risk of loss or damage thereto, shall remain with the Operator pursuant to GC Section 9.4 until the End Date.

9.3.2 Existing Equipment and Materials

(1) The Owner shall transfer the care, control and responsibility for all existing equipment, materials, supplies and consumables, if any (the "Existing Equipment and Materials") to the Operator on the Design-Build Starting Date at no cost to the Operator.

(2) The Operator shall, no later than 15 days after the Design-Build Starting Date prepare a list of the Existing Equipment and Materials and submit it to the Owner for its review and approval. The Operator shall update the list of Existing Equipment and Materials annually and submit it to the Owner for its review and approval.

(3) The Operator shall return all Existing Equipment and Materials on the list, as updated, to the Owner on the End Date in the same condition as they were transferred to the Operator, except for reasonable wear and tear and at no cost to the Owner.

- a. The Operator at the time of handing over shall ensure that the Site and Facility or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.
- b. In case of any defect found in the Facility or of the work executed by the Operator at the time of handing over, the Operator shall promptly, in consultation and agreement with the Owner regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good such defect as well as any damage to the Facility caused by such defect.
- c. If the Operator fails to commence the work necessary to remedy such defect or any damage to the Facility caused by such defect within a reasonable time, which shall in no event be considered to be less than 15 days, the Owner may, following notice to the Operator, proceed to do such work, and the reasonable costs incurred by the Owner in connection therewith shall be paid to the Owner by the Operator or may be deducted by the Owner from any monies due the Operator or claimed under the Performance Security.

9.4 Care of the Site and Facility

(1) Except as provided in GC Sections 9.9 and 9.4(2), the Operator shall be responsible for the care and custody of the Site and Facility or any part thereof until the End Date and shall make good at its own cost any loss or damage that may occur to the Site or Facility from any cause whatsoever during such period. The Operator shall also be responsible for any loss or damage to the Site or Facility caused by the Operator or its Subcontractors in the course of any work carried out, pursuant to GC Section 9.1.

(2) If any loss or damage occurs to the Site or Facility or any part thereof by reason of,

- (a) insofar as they relate to the Country, nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor or operator could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance, including War Risks, taken out under GC Section 9.6;

- (b) any use or occupation by the Owner or any Third Party, other than a Subcontractor, authorized by the Owner of any part of the Site or Facility; or
- (c) any use of or reliance upon any design, data or specification provided or designated by or on behalf of the Owner, or any such matter for which the Operator has disclaimed responsibility herein,

the Owner shall pay to the Operator all sums payable in respect of the Site or Facility executed, notwithstanding that the same be lost, destroyed or damaged. If the Owner requests the Operator in writing to make good any loss or damage to the Facility thereby occasioned, the Operator shall make good the same at the cost of the Owner in accordance with GC Section 10.1. If the Owner does not request the Operator in writing to make good any loss or damage to the Facility thereby occasioned, the Owner shall either request a change in accordance with GC Section 10.1, excluding the performance of that part of the Facility thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facility, the Owner shall terminate the Contract pursuant to GC Section 11.2.1.

(3) The Operator shall be liable for any loss of or damage to any Operator's Equipment (Design-Build), Operator's Equipment (Operations) or any other property of the Operator used or intended to be used for purposes of the Site or the Facility, except where such loss or damage arises by reason of any of the matters specified in GC Sections 9.4(2)(b) and 9.9.

(4) With respect to any loss or damage caused to the Facility or any part thereof, the Operator's Equipment (Design-Build) or the Operator's Equipment (Operations) by reason of any of the matters specified in GC Section 9.9(1), the provisions of GC Section 9.9(3) shall apply.

9.5 Indemnification

(1) Subject to GC Section 9.5(5), the Operator shall indemnify and hold harmless the Owner and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property, arising in connection with the Operator's performance of the Services and by reason of the negligence of the Operator or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Owner, its contractors, employees, officers or agents.

(2) If any proceedings are brought or any claim is made against the Owner that might subject the Operator to liability under GC Section 9.5(1), the Owner shall promptly give the Operator a notice thereof and the Operator may at its own expense and in the Owner's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

(3) If the Operator fails to notify the Owner prior to the expiration of 30 days after receipt of a notice given pursuant to GC Section 9.5(2) that it intends to conduct any such proceedings or claim, then the Owner shall be free to conduct the same on its own behalf. Unless the Operator has so failed to notify the Owner within the 30 day period, the Owner shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

(4) The Owner shall, at the Operator's request, provide all available assistance to the Operator in conducting such proceedings or claim, and shall be reimbursed by the Operator for all reasonable expenses incurred in so doing.

(5) The Owner shall indemnify and hold harmless the Operator and its employees, officers and Subcontractors from any liability for loss of or damage to property of the Owner that is caused by fire, explosion or any other perils, in excess of the amount recoverable from insurances procured under GC Section 9.6, provided that such fire, explosion or other perils were not caused by any act or omission of the Operator.

(6) The Party entitled to the benefit of an indemnity under this GC Section 9.5 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the Party fails to take such measures, the other Party's liabilities shall be correspondingly reduced.

9.6 Insurance

(1) To the extent specified in the SCC, the Operator shall, at its own expense, take out and maintain in effect or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the SCC. The identity of the insurers and the form of the policies shall be subject to the prior approval of the Owner who shall not unreasonably withhold such approval. The Operator shall submit appropriate certificates of insurance demonstrating that the Operator has met its obligations pursuant to this GC Section 9.6 to the Owner no later than the Effective Date.

- (a) Cargo Insurance During Transport Covering loss or damage, occurring while in transit from the Operator's or Subcontractor's works or stores until arrival at the Site, to the Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations), including spare parts therefor;
- (b) Third Party Liability Insurance Covering bodily injury or death suffered by Third Parties, including the Owner's personnel, and loss of or damage to property occurring in connection with the Services;
- (c) Professional Liability Insurance Covering loss or damage by reason of professional negligence in the design, construction and operation of the Site and Facility;
- (d) Automobile Liability Insurance Covering use of all vehicles used by the Operator or its Subcontractors, whether or not owned by them, in connection with the Services and execution of the Contract;
- (e) Workers' Compensation In accordance with the requirements of the Applicable Law;
- (f) Employer's Liability In accordance with the requirements of the Applicable Law; and
- (g) Other Insurance Such other insurance as may be set out in the SCC.

(2) The Owner shall be named as co-insured under all insurance policies taken out by the Operator pursuant to GC Section 9.6(1), except for the Third Party Liability, Workers' Compensation and Employer's Liability Insurances, and the Operator's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Operator pursuant to GC Section 9.6(1), except for the Cargo Insurance During Transport, Workers' Compensation and Employer's Liability Insurances. All insurers' rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

(3) The Operator shall deliver to the Owner certificates of insurance, or copies of the insurance policies, as evidence that the required policies are in full force and effect. The certificates shall provide that no less than 21 days' notice shall be given to the Owner by insurers prior to cancellation or material modification of a policy.

(4) The Operator shall ensure that, where applicable, the Subcontractors take out and maintain in effect adequate insurance policies for their employees and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Operator.

(5) If the Operator fails to take out or maintain in effect the insurances referred to in GC Section 9.6(1), the Owner may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Operator under the Contract any premium that the Owner shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Operator.

(6) Unless otherwise provided in the Contract, the Operator shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GC Section 9.6, and all monies payable by any insurers shall be paid to the Operator. The Owner shall give to the Operator all such reasonable assistance as may be required by the Operator. With respect to insurance claims in which the Owner's interest is involved, the Operator shall not give any release or make any compromise with the insurer without the prior consent of the Owner.

(7) When each insurance premium has been paid, the Operator shall submit a copy of receipts to the Owner and shall notify the Owner's Representative that it has done so.

(8) The Operator shall comply with the conditions stipulated in each of the insurance policies. The Operator shall make no material alteration to the terms of any insurance without the prior approval of the Owner. If an insurer makes, or purports to make, any such alteration, the Operator shall notify the Owner immediately.

(9) Nothing in this GC Section 9.6 limits the obligations, liabilities or responsibilities of the Operator, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Operator.

9.7 Unforeseeable Physical Conditions

(1) In this GC Section 9.7, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Operator encounters at the Site when performing of the Design-Build Services, including sub-surface and hydrological conditions but excluding climatic conditions.

(2) If the Operator encounters adverse physical conditions which it considers to have been Unforeseeable, the Operator shall give notice to the Independent Engineer as soon as practicable.

(3) The Operator's Notice pursuant to GC Section 9.7(2) shall describe the physical conditions, so that they can be inspected by the Independent Engineer, and shall set out the reasons why the Operator considers them to be Unforeseeable. The Operator shall continue performing the Design-Build Services, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Independent Engineer may give. If an instruction constitutes a Change GC Section 10.1.3 shall apply.

(4) If and to the extent that the Operator encounters physical conditions which are Unforeseeable, gives the notice required by GC Section 9.7(2), and suffers delay or incurs Cost due to these conditions, the Operator shall be entitled subject to GC Section 1.9 to,

(a) an extension of time for any such delay, if completion is or will be delayed, under GC Section 2.3.4; and

(b) payment of any such Cost, which shall be included in the Contract Price.

(5) After receiving such notice and inspecting or investigating these physical conditions, the Independent Engineer shall proceed in accordance with GC Section 7.2.6 to agree or determine,

- (a) whether and to what extent these physical conditions were Unforeseeable; and
- (b) the amount of delay or Cost, if any, pursuant to GC Section 9.7(4).

(6) Before additional Cost is finally agreed or determined under GC Section 9.7(5), the Independent Engineer, pursuant to GC Section 7.2.6, may also review whether other physical conditions were more favourable than could reasonably have been foreseen when the Operator submitted the Bid. If and to the extent that these more favourable conditions were encountered, the Independent Engineer may proceed in accordance with GC Section 7.2.6 to agree or determine the reductions in Cost which were due to these conditions, which may be included, as deductions, in the Contract Price. The net effect of all adjustments under GC Section 9.7(4)(b) and all these reductions, for all the physical conditions encountered on the Site, shall not result in a net reduction in the Contract Price.

(7) The Independent Engineer may take account of any evidence of the physical conditions foreseen by the Operator when submitting the Bid, which may be made available by the Operator, but shall not be bound by any such evidence.

9.8 Force Majeure

- (1) "Force Majeure" shall mean any event,
 - (a) beyond the reasonable control of the Owner or of the Operator, as the case may be; and
 - (b) which is unavoidable notwithstanding the reasonable care of the Party affected.
- (2) Force Majeure shall include the events listed below in this GC Section 9.8(2) if the conditions set out in GC Section 9.8(1)(a) and (b) are satisfied:
 - (a) war, hostilities or warlike operations, whether a state of war be declared or not, invasion, act of foreign enemy and civil war;
 - (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts;
 - (c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority;
 - (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague;
 - (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave/tsunami, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster; and
 - (f) shortage of labour, materials or utilities where caused by circumstances that are themselves Force Majeure.
- (3) If the Parties are prevented, hindered or delayed from or in performing any of their obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 14 days after the occurrence of such event.
- (4) The Party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such Party's performance is prevented, hindered

or delayed. The Time for Completion shall be extended in accordance with GC Section 2.3.4(1) for events of Force Majeure during the Design-Build Period. If the Time for Completion is extended in accordance with GC Section 2.3.4(1), the End Date shall be extended for a period of time equal to the period of time during which the relevant event of Force Majeure continued.

(5) The Party or Parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either Party's right to terminate the Contract under GC Sections 9.8(7) and 9.9(6).

(6) No delay or non performance by either Party hereto caused by the occurrence of any event of Force Majeure shall,

- (a) constitute a default or breach of the Contract; or
- (b) subject to GC Sections 9.4(2), 9.9(3) and 9.9(5), give rise to any claim for damages or additional Cost occasioned thereby,

if and to the extent that such delay or non performance is caused by the occurrence of an event of Force Majeure.

(7) If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than 60 days or an aggregate period of more than 120 days on account of one or more events of Force Majeure during the term of the Contract, the Parties will attempt to develop a mutually satisfactory solution, failing which either Party may terminate the Contract by giving a notice to the other, but without prejudice to either Party's right to terminate the Contract under GC Section 9.9(6).

(8) In the event of termination pursuant to GC Section 9.8(7), the rights and obligations of the Owner and the Operator shall be as specified in GC Sections 11.2.1(2) and 11.2.2(1).

(9) Notwithstanding GC Section 9.8(6), Force Majeure shall not apply to any obligation of the Owner to make payments to the Operator herein.

9.9 War Risks

(1) "War Risks" shall mean any event specified in GC Section 9.8(2)(a) and (b) and any explosion or impact of any mine, bomb, shell, grenade or other projectile, missile, munitions or explosive of war, occurring or existing in or near the Country.

(2) Notwithstanding anything contained in the Contract, the Operator shall have no liability whatsoever for or with respect to,

- (a) destruction of or damage to the Site and Plant and Equipment or any part thereof;
- (b) destruction of or damage to property of the Owner or any Third Party; or
- (c) injury or loss of life,

if such destruction, damage, injury or loss of life is caused by any War Risks, and the Owner shall indemnify and hold the Operator harmless from and against any and all claims, liabilities, actions, lawsuits, damages, costs, charges or expenses arising in consequence of or in connection with the same.

(3) If the Site Facility or any Plant and Equipment, Operator's Equipment (Design-Build), Operator's Equipment (Operations) or any other property of the Operator used or intended to be used for the purposes of the Services sustains destruction or damage by reason of any War Risks, the Owner shall pay the Operator for,

- (a) any part of the Facility or the Plant and Equipment so destroyed or damaged, to the extent not already paid for by the Owner;
- (b) replacing or making good any Operator's Equipment (Design-Build), Operator's Equipment (Operations) or other property of the Operator so destroyed or damaged; and
- (c) so far as may be required by the Owner, and as may be necessary for completion of the Services, replacing or making good any such destruction or damage to the Site, Facility or the Plant and Equipment or any part thereof.

(4) If the Owner does not require the Operator to replace or make good any such destruction or damage to the Site or Facility, the Owner shall either request a Change in accordance with GC Section 10.1 excluding the performance of that part of the Facility thereby destroyed or damaged or, where the loss, destruction or damage affects a substantial part of the Site or Facility, shall terminate the Contract, pursuant to GC Section 11.2.1.

(5) Notwithstanding anything contained in the Contract, the Owner shall pay the Operator for any increased Costs that are in any way attributable to, consequent on, resulting from, or in any way connected with any War Risks, if the Operator notifies the Owner in writing of any such increased Cost as soon as practicable.

(6) If, during the term of the Contract, any War Risks occur that financially or otherwise materially affect the execution of the Contract by the Operator, the Operator shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its Subcontractors' personnel engaged in the work on the Services. If the execution of the Services becomes impossible or is substantially prevented for a single period of more than 60 days or an aggregate period of more than 120 days on account of any War Risks, the Parties will attempt to develop a mutually satisfactory solution, failing which either Party may terminate the Contract by giving a notice to the other.

(7) In the event of termination pursuant to GC Section 9.9(4) or 9.9(6), the rights and obligations of the Owner and the Operator shall be as specified in GC Section 11.2.1(2) and 11.2.2(1).

9.10 Change in Laws and Regulations

If, after a date which is 30 days prior to the Submission Deadline in the Bidding Documents, in the Country, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed, which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Operator or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, or the Time for Completion shall be reasonably adjusted to the extent that the Operator has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the Contract Price adjustment provisions where applicable, in accordance with the SCC.

9.11 Patent Indemnity

9.11.1 Indemnity by Operator

The Operator shall indemnify and hold harmless the Owner and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees

and expenses, which the Owner may suffer as a result of any infringement or alleged infringement by the Operator, Subcontractors, or their employees, agents, or representatives, of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing.

9.11.2 Notice of Claim

(1) If any proceedings are brought or any claim is made against the Owner arising out of the matters referred to in GC Section 9.11.1, the Owner shall promptly give the Operator a notice thereof, and the Operator may at its own expense and in the Owner's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

(2) If the Operator fails to notify the Owner no later than 30 days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Owner shall be free to conduct the same on its own behalf. Unless the Operator has so failed to notify the Owner no later than the 30 day period, the Owner shall make no admission that may be prejudicial to the defence of any such proceedings or claim.

(3) The Owner shall, at the Operator's request, give all available assistance to the Operator in conducting such proceedings or claim, and shall be reimbursed by the Operator for all reasonable expenses incurred in so doing.

9.11.3 Indemnity by Owner

The Owner shall indemnify and hold harmless the Operator and its employees, officers and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Operator may suffer as a result of any infringement or alleged infringement by the Owner of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the Effective Date arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Owner.

9.12 Functional Guarantees

(1) The Operator guarantees that during the Tests and Inspection set out in DBSA Article 5, the Facility and all parts thereof shall attain the Functional Guarantees specified in Attachment 1 to the Technical Standards Appendix (the "Functional Guarantees"), subject to and upon the conditions therein specified.

(2) If, for reasons attributable to the Operator, the minimum level of the Functional Guarantees are not met either in whole or in part, the Operator shall at its cost and expense make any such changes, modifications or additions to the Facility or any part thereof as may be necessary to meet at least the minimum level of the Functional Guarantees. The Operator shall notify the Owner upon completion of the necessary changes, modifications or additions, and shall request the Owner to repeat the applicable Tests and Inspection until the minimum level of the Functional Guarantees has been met. If the Operator eventually fails to meet the minimum level of Functional Guarantees, the Owner may consider termination of the Contract, pursuant to GC Section 11.2.3.

(3) If, for any reasons attributable to the Operator, the Functional Guarantees are not attained either in whole or in part, but the minimum level of the Functional Guarantees is met, the Operator shall, at the Operator's option, either

- (a) make such changes, modifications or additions to the Facility or any part thereof that are necessary to attain the Functional Guarantees at its cost

and expense, and shall request the Owner to repeat the Tests and Inspection; or

- (b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions of the Liquidated Damages Appendix.

(4) The payment of liquidated damages under GC Section 9.12(3) up to the limitation of liability specified in the SCC, shall completely satisfy the Operator's guarantees under GC Section 9.12(3), and the Operator shall have no further liability whatsoever to the Owner in respect thereof.

G. CHANGE IN CONTRACT ELEMENTS

ARTICLE 10 - CHANGE IN CONTRACT ELEMENTS

10.1 Change to the Design-Build Services

10.1.1 Introducing a Change

(1) Subject to GC Sections 10.1.2(6) and 10.1.2(10), the Owner shall have the right to propose, and subsequently require, that the Independent Engineer order the Operator from time to time during the performance of the Contract to make any change, modification, addition or deletion to, in or from the Design-Build Services (the "Change"), provided that such Change falls within the general scope of the Design-Build Services and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Design-Build Services and the technical compatibility of the Change envisaged with the nature of the Design-Build Services as specified in the Contract.

(2) The Operator may from time to time during its performance of the Contract propose to the Owner, with a copy to the Independent Engineer, any Change that the Operator considers necessary or desirable to improve the quality, efficiency or safety of the Design-Build Services. The Owner may at its discretion approve or reject any Change proposed by the Operator.

(3) Notwithstanding GC Section 10.1.1(1) and 10.1.1(2), no change made necessary because of any default of the Operator in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.

(4) The procedure on how to proceed with and execute Changes is specified in GC Section 10.1.2 and 10.1.3, and the Independent Engineer shall provide Operator with further details and sample forms on the Change procedures prior to the Design-Build Starting Date.

10.1.2 Changes Originating from Owner

(1) If the Owner proposes a Change pursuant to GC Section 10.1.1(1), it shall send to the Operator a "Request for Change Proposal," requiring the Operator to prepare and furnish to the Independent Engineer as soon as reasonably practicable a "Change Proposal," which shall include the following:

- (a) brief description of the Change;
- (b) effect on the Time for Completion;
- (c) estimated cost of the Change; and
- (d) effect on any other provisions of the Contract.

(2) Prior to preparing and submitting the Change Proposal, the Operator shall submit to the Independent Engineer an "Estimate for Change Proposal," which shall be an estimate of the cost of preparing and submitting the Change Proposal.

- (3) Upon receipt of the Operator's Estimate for Change Proposal, the Owner shall,
 - (a) accept the Operator's estimate with instructions to the Operator to proceed with the preparation of the Change Proposal;
 - (b) advise the Operator of any part of its Estimate for Change Proposal that is unacceptable and request the Operator to review its estimate; or
 - (c) advise the Operator that the Owner does not intend to proceed with the Change.

(4) Upon receipt of the Owner's instruction to proceed under GC Section 10.1.2(3)(a) (the "Change Order"), the Operator shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GC Section 10.1.2(1).

(5) The pricing of any Change shall, as far as practicable, be calculated in accordance with the prices included in the Contract. If such prices are inequitable, the Parties thereto shall agree on specific rates for the valuation of the Change.

(6) If, before or during the preparation of the Change Proposal, it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Operator under this GC Section 10.1.2 would be to increase or decrease the Contract Price by more than 15 per cent, the Operator may give a written notice of objection thereto prior to furnishing the Change Proposal. If the Owner accepts the Operator's objection, the Owner shall withdraw the proposed Change and shall notify the Operator in writing thereof.

(7) The Operator's failure to object pursuant to GC Section 10.1.2(6) shall neither affect its right to object to any subsequent requested Changes or Change Orders herein, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Operator represents.

(8) Upon receipt of the Change Proposal, the Owner and the Operator shall mutually agree upon all matters therein contained. No later than 14 days after such agreement, the Owner shall, if it intends to proceed with the Change, issue the Operator with a Change Order.

(9) If the Owner decides not to proceed with the Change for whatever reason, it shall notify the Operator prior to the expiration of 14 days after the agreement on the Change. Under such circumstances, the Operator shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Operator in its Estimate for Change Proposal submitted in accordance with GC Section 10.1.2(2).

(10) If the Owner and the Operator cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Owner may nevertheless instruct the Operator to proceed with the Change by issue of a "Pending Agreement Change Order."

(11) Upon receipt of a Pending Agreement Change Order, the Operator shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.

(12) If the Parties cannot reach agreement prior to the expiration of 60 days after the date of issue of the Pending Agreement Change Order, then the matter may be referred to the Adjudicator in accordance with the provisions of GC Section 1.6.1.

10.1.3 Changes Originating from Operator

(1) If the Operator proposes a Change pursuant to GC Section 10.1.1(2), the Operator shall submit to the Independent Engineer a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GC Section 10.1.2(1).

(2) Upon receipt of the Application for Change Proposal, the Parties shall follow the procedures outlined in GC Sections 10.1.2(8) and 10.1.2(10). If the Owner chooses not to proceed, the Operator shall not be entitled to recover the costs of preparing the Application for Change Proposal.

10.1.4 Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever a Change is agreed, approved or determined pursuant to GC Section 10.1.2 or 10.1.3, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost

of the Change, and to the proportions of various currencies specified for payment of the Contract Price.

10.1.5 Design-Build Period

GC Sections 10.1.1 to 10.1.4 shall apply during only the Design-Build Period.

10.2 Change to the Operations Services

(1) Except as specifically provided in SCC or Appendix 6 (Contract Price Adjustment Appendix), the Operator shall make no claim whatsoever for any adjustment to the Contract Price during the Operations Period.

ARTICLE 11 - SUSPENSION AND TERMINATION

11.1 Suspension

11.1.1 Suspension by the Owner

(1) The Owner may request the Independent Engineer, by notice to the Operator, to order the Operator to suspend performance of any or all of its obligations under the Contract. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons therefor. The Operator shall thereupon suspend performance of such obligation, except those obligations necessary for the care or preservation of the Site or Facility, until ordered in writing to resume such performance by the Independent Engineer.

(2) If, by virtue of a suspension order given by the Independent Engineer, other than by reason of the Operator's default or breach of the Contract, the Operator's performance of any of its obligations is suspended for an aggregate period of more than 90 days, then at any time thereafter and provided that at that time such performance is still suspended, the Operator may give a notice to the Independent Engineer, requiring that the Owner shall, no later than 30 days after the Owner's receipt of the notice, order the resumption of such performance or request and subsequently order a Change in accordance with GC Section 10.1, excluding the performance of the suspended obligations from the Contract.

(3) If the Owner fails to order the resumption of performance in accordance with GC Section 11.1.1(2), the Operator may, by a further notice to the Independent Engineer, elect to treat the suspension, where it affects a part only of the Services, as a deletion of such part in accordance with GC Section 10.1 or, where it affects the whole of the Services, as termination of the Contract pursuant to GC Section 11.2.1.

11.1.2 Suspension by the Operator

- (1) If, the Owner has,
- (a) failed to pay the Operator any sum due under the Contract within the period specified in the Contract;
 - (b) failed to approve any invoice or supporting documents without just cause under the Contract; or
 - (c) has committed a substantial breach of the Contract,

the Operator may give a notice to the Owner that requires payment of such sum, with interest thereon as stipulated in GC Section 5.2(3) requires approval of an invoice or supporting

documents, or specifies a breach and requires the Owner to remedy the same, as the case may be.

(2) If the Owner fails to pay the sums required by the Operator in accordance with GC Section 11.1.2(1) or fails to remedy the breach or take steps to remedy the breach no later than 14 days after receipt of the Operator's notice, then the Operator may, upon giving 14 days' notice to the Owner, suspend performance of all or any of its obligations under the Contract, or, in the case of the Design-Build Services, reduce the Operator's rate of progress.

(3) If the Operator is unable to carry out any of its obligations under the Contract for any reason attributable to the Owner, including the Owner's failure to provide possession of or access to the Site or other areas in accordance with GC Section 4.2, then the Operator may, upon giving 14 days' notice to the Owner, suspend performance of all or any of its obligations under the Contract, or, in the case of the Design-Build Services, reduce the Operator's rate of progress.

(4) If the Operator's performance of its obligations is suspended or the rate of progress is reduced pursuant to this GC Section 11.1.2, then the Time for Completion shall be extended in accordance with GC Section 2.3.4, and additional Costs incurred by the Operator as a result of such suspension or reduction shall be paid by the Owner to the Operator in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Operator's default or breach of the Contract.

(5) During the period of suspension, the Operator shall not remove from the Site or Facility any Plant and Equipment, Operator's Equipment (Design-Build), Operator's Equipment (Operations), or any part of the Facility, without the prior written consent of the Owner.

11.2 Termination

11.2.1 Termination for Owner's Convenience

(1) The Owner may at any time terminate the Contract for any reason by giving the Operator a notice of termination that refers to this GC Section 11.2.1(1).

(2) Upon receipt of the notice of termination under GC Section 11.2.1(1),

- (a) the Operator shall, either immediately or upon the date specified in the notice of termination,
 - (i) cease all further work, except for such work as the Owner may specify in the notice of termination for the sole purpose of protecting that part of the Facility already executed, or any work required to leave the Site in a clean and safe condition;
 - (ii) terminate all Subcontracts; and
 - (iii) remove all Operator's Equipment (Design-Build) and, except if the Owner asserts its rights pursuant to GC Section 9.3.1(5), Operator's Equipment (Operations) from the Site, repatriate the Operator's Personnel and its Subcontractors' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition; and
- (b) the Operator, subject to the payment specified in GC Section 11.2.2, shall,
 - (i) deliver to the Owner the parts of the Facility executed by the Operator up to the date of termination; and
 - (ii) deliver to the Owner all the Contract Records, including the Design-Build Documents, prepared by the Operator or its Subcontractors as at the date of termination.

11.2.2 Payment upon Termination by the Owner for Convenience

(1) Upon termination of this Contract pursuant to GC Section 11.2.1, the Owner shall make only the following payments to the Operator,

- (a) any portion of the Contract Price payable to the Operator for Services satisfactorily performed prior to the date of termination and calculated as set out in GC Section 5.2;
- (b) the Costs reasonably incurred by the Operator in the removal of the Operator's Equipment (Design-Build) and, except if the Owner asserts its rights pursuant to GC Section 9.3.1(5), Operator's Equipment (Operations) from the Site and in the repatriation of the Operator's Personnel and its Subcontractors' personnel;
- (c) any amounts required to be paid by the Operator to its Subcontractors in connection with the termination of any Subcontracts, including any reasonable cancellation charges;
- (d) the reasonable Costs incurred by the Operator in protecting the Site and Facility and leaving the Site in a clean and safe condition pursuant to GC Section 11.2.1(2)(a)(i); and
- (e) the reasonable Cost of satisfying all other obligations, commitments and claims that the Operator may in good faith have undertaken with Third Parties in connection with the Contract and that are not covered by GC Section 11.2.2(1).

(2) The Operator acknowledges that the only payments to be made to the Operator on termination by the Owner are set out in this GC Section 11.2.2. The Operator shall not make a claim for lost or foregone profits, revenues, consequential damages or any other costs, damages, expenses or losses of any kind as a result of or in connection with the termination of this Contract.

11.2.3 Termination for Operator's Default

(1) The Owner, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances, by giving a notice of termination and its reasons therefor to the Operator, referring to this GC Section 11.2.3(1):

- (a) If the Operator becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Operator is a corporation, a resolution is passed or order is made for its winding up, other than a voluntary liquidation for the purposes of amalgamation or reconstruction, a receiver is appointed over any part of its undertaking or assets, or if the Operator takes or suffers any other analogous action in consequence of debt;
- (b) If the Operator assigns or transfers the Contract or any right or interest therein in violation of the provision of GC Section 1.7; or
- (c) If the Operator, in the judgment of the Owner has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this GC Section 11.2.3(1)(c),

“corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution; and

“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the

detriment of the Owner, and includes collusive practice among bidders, prior to or after bid submission designed to establish bid prices at artificial non-competitive levels and to deprive the Owner of the benefits of free and open competition.

- (2) If the Operator,
- (a) has abandoned or repudiated the Contract;
 - (b) has without valid reason failed to commence work on the Site or Facility promptly or has suspended, other than pursuant to GC Section 11.1.1(2), the progress of Contract performance for more than 30 days after receiving a written instruction from the Owner to proceed;
 - (c) persistently fails to carry out the Services in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause; or
 - (d) refuses or is unable to provide sufficient materials, services, labour or personnel to perform the Services,

then the Owner may, without prejudice to any other rights it may possess under the Contract, give a notice to the Operator stating the nature of the default and requiring the Operator to remedy the same. If the Operator fails to remedy or to take steps to remedy the same within 14 days after its receipt of such notice, then the Owner may terminate the Contract forthwith by giving a notice of termination to the Operator that refers to this GC Section 11.2.3(2).

- (3) Upon receipt of the notice of termination under GC Sections 11.2.3(1) or 11.2.3(2) the Operator shall, either immediately or upon such date as is specified in the notice of termination,
- (a) cease all further work, except for such work as the Owner may specify in the notice of termination for the sole purpose of protecting that part of the Site and Facility already executed, or any work required to leave the Site and Facility in a clean and safe condition;
 - (b) terminate all Subcontracts;
 - (c) deliver to the Owner the parts of the Facility executed by the Operator up to the date of termination; and
 - (d) deliver to the Owner all Contract Records, including the Design-Build Documents, prepared by the Operator or its Subcontractors as of the date of termination.

(4) The Owner may enter the Facility and upon the Site, expel the Operator, and, if the Facility is not completed, the Owner may complete the Facility itself or by employing any Third Party. The Owner may, to the exclusion of any right of the Operator over the same, take over and use with the payment of a fair rental rate to the Operator, with all the maintenance costs to the account of the Owner and with an indemnification by the Owner for all liability including damage or injury to persons arising out of the Owner's use of such equipment, any Operator's Equipment (Design-Build) and Operator's Equipment (Operations) owned by the Operator and on the Site in connection with the Facility for such reasonable period as the Owner considers expedient for the completion of the Facility. Upon completion of the Facility or at such earlier date as the Owner thinks appropriate, the Owner shall give notice to the Operator that such Operator's Equipment (Design-Build) and, except if the Owner asserts its rights pursuant to GC Section 9.3.1(5), Operator's Equipment (Operations) will be returned to the Operator at or near the Site and shall return such Operator's Equipment (Design-Build) and Operator's Equipment (Operations) to the

Operator in accordance with such notice. The Operator shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

11.2.4 Payment upon Termination for Operator's Default

- (1) If the Contract is terminated pursuant to GC Section 11.2.3 and, subject to GC Section 11.2.4(2), the Operator shall be entitled to be paid,
- (a) any portion of the Contract Price payable to the Operator for Services satisfactorily performed prior to the date of termination;
 - (b) the value of any unused or partially used Plant and Equipment on the Site, except to the extent that such Plant and Equipment have already been paid for by the Owner; and
 - (c) the Costs, if any, incurred by the Operator in protecting the Site and Facility and in leaving the Site in a clean and safe condition pursuant to GC Section 11.2.3(3)(a).

Any sums due the Owner from the Operator accruing prior to the date of termination shall be deducted from the amount to be paid to the Operator under this Contract.

(2) If the Owner completes the Facility pursuant to GC Section 11.2.3(4), the cost of completing the Facility by the Owner shall be determined, and, if the sum that the Operator is entitled to be paid, pursuant to GC Section 11.2.4(1), plus the reasonable costs incurred by the Owner in completing the Facility, exceeds the Contract Price, the Operator shall be liable for such excess as follows;

- (a) if such excess is greater than the sums due the Operator under GC Section 11.2.4(1), the Operator shall pay the balance to the Owner; or
 - (b) if such excess is less than the sums due the Operator under GC Section 11.2.4(1), the Owner shall pay the balance to the Operator.
- (3) The Parties shall agree in writing on the computation described in GC Section 11.2.4(2) and the manner in which any sums shall be paid.

11.2.5 Termination by Operator

- (1) If,
- (a) the Owner has,
 - (i) failed to pay the Operator any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the corresponding Terms and Procedures of Payment Appendix, or commits a substantial breach of the Contract, the Operator may give a notice to the Owner that requires payment of such sum, with interest thereon as stipulated in GC Section 5.2(3), requires approval of such invoice or supporting documents, or specifies the breach and requires the Owner to remedy the same, as the case may be; and
 - (ii) failed to pay such sum together with such interest, failed to approve such invoice or supporting documents or give its reasons for withholding such approval, failed to remedy the breach or take steps to remedy the breach no later than 14 days after receipt of the Operator's notice; or

- (b) the Operator is unable to carry out any of its obligations under the Contract for any reason attributable to the Owner, including the Owner's failure to provide possession of or access to the Site or other areas,

then the Operator may give a notice to the Owner thereof, and if the Owner has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach no later than 30 days after receipt of such notice, or if the Operator is still unable to carry out any of its obligations under the Contract for any reason attributable to the Owner no later than 30 days after receipt of the notice, the Operator may, by a further notice to the Owner referring to this GC Section 11.2.5(1), forthwith terminate the Contract.

(2) The Operator may terminate the Contract forthwith by giving a notice to the Owner to that effect, referring to this GC Section 11.2.5(2),

- (a) if the Owner becomes bankrupt or insolvent;
- (b) has a receiving order issued against it, or compounds with its creditors;
- (c) being a corporation, if a resolution is passed or order is made for its winding up, other than a voluntary liquidation for the purposes of amalgamation or reconstruction; or
- (d) a receiver is appointed over any part of its undertaking or assets, or if the Owner takes or suffers any other analogous action in consequence of debt.

(3) If the Contract is terminated under GC Section 11.2.5(1) or 11.2.5(2), then,

- (a) the Operator shall immediately,
 - (i) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Site, Existing Facility and Facility already executed, or any work required to leave the Site in a clean and safe condition; and
 - (ii) terminate all Subcontracts; and
- (b) the Operator, subject to the payment specified in GC Section 11.2.6, shall
 - (i) deliver to the Owner the parts of the Facility executed by the Operator up to the date of termination; and
 - (ii) deliver to the Owner all Contract Records, including the Design-Build Documents, in existence as of the date of termination.

(4) Termination by the Operator pursuant to this GC Section 11.2.5 is without prejudice to any other rights or remedies of the Operator that may be exercised in lieu of or in addition to rights conferred by this GC Section 11.2.5.

11.2.6 Payment upon Termination by Operator

If the Contract is terminated under GC Sections 11.2.5(1) or 11.2.5(2), the Owner shall pay to the Operator all payments specified in GC Section 11.2.2(1), and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Operator arising out of, in connection with or in consequence of such termination.

11.2.7 General Provisions - Termination

(1) In this GC Section 11.2, the expression "Facility executed" shall include all work executed, Services provided, and all Plant and Equipment acquired, or subject to a legally binding

obligation to purchase by the Operator and used or intended to be used for the purpose of the performing the Services, up to and including the date of termination.

(2) In this GC Section 11.2, in calculating any monies due from the Owner to the Operator, account shall be taken of,

- (a) any sum previously paid by the Owner to the Operator under the Contract, including any advance payment paid pursuant to the Terms and Procedures of Payment Appendix;
- (b) any sum owing by the Operator to the Owner under the Contract, including Liquidated Damages – Delay or liquidated damages calculated pursuant to GC Section 5.4.

APPENDIX 1: SPECIAL CONDITION OF CONTRACT

SPECIAL CONDITIONS OF CONTRACT

APPENDIX 1 TO CONTRACT

FOR

DESIGN, BUILD, OPERATE AND TRANSFER

MUNICIPAL SOLID WASTEMANAGEMENT FACILITY AT BERHAMPUR

MUNICIPAL CORPORATION

SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions. The corresponding article and section numbers of the General Conditions are indicated in parentheses.

1. Definitions (GC Section 1.1) – No change

Country: The country is *India*.

2. Language (GC Section 1.3.1(1))

The language is *English*.

3. Joint Venture & Consortium (GC Section 1.3.10)

The GC Section 1.3.10 stands deleted and replaced by the following clause:

- a. If the operator is a joint venture of more than one person, the joint venture partners hereby authorize the Lead Partner as named in the joint venture agreement provided by the Operator as a part of his bid to act on their behalf in exercising all rights and obligations towards the owner under this contract including receiving of approvals, consents, orders, certificates, instructions and payments from the Owner, amendment of the contract and in all other matters under the contract including the settlement of disputes.
- b. If the Operator is a joint venture of two or more persons, each member of the joint venture shall be jointly and severally responsible to the owner for the performance of this contract including fulfillment of all the obligations of the operator.
- c. The composition, control or constitution of the Operator as a joint venture as proposed in the Operator's bid shall not be altered without the prior consent of the owner.

5. Survival of Obligations (GC Section 1.3.14)

Upon termination or expiration of the Contract, the following rights and obligations of the Parties survive:

- (a) Such rights and obligations as may have accrued or to which the Parties may be entitled on the date of termination, and any rights which a Party may have under Applicable Law;
- (b) The Operator's obligations with respect to Contract Records, accounting and auditing set out in GC Section 1.8;
- (c) The Operator's obligations with respect to Transition Assistance set out in GC Section 2.4.2;

- (d) The Parties' rights and obligations with respect to copyright set out in GC Section 6.1;
- (e) The Operator's obligations of confidentiality as set out in GC Section 6.2;
- (f) The Parties' rights and obligations with respect to defect liability set out in GC Section 9.1; and
- (g) The Parties' rights and obligations with respect to indemnification set out in GC Section 9.5.

6. Notice (GC Section 1.4)

All notices to the relevant party shall be sent to the following address:

- a. Operator

- b. Owner

The Commissioner,
Berhampur Municipal Corporation,
Ganjam Odisha - India
Pin Code:-
Tel: +91
Fax: +91
Email: mcbemc08@gmail.com

7. Adjudicator (GC Section 1.6.1(1))

The Adjudicator is:[To be added at the time of signing of Contract]
[Name, address, telephone and facsimile numbers]

8. Adjudicator's Fee (GC Section 1.6.1(4))

The adjudicator shall be paid a fee @ Rs. 10,000/- per day of effective hearing plus actual expenditure towards travel, transportation, lodging, and boarding. The fees and expenditure shall be shared equally by the Operator and the Owner.

9. Appointing Authority for New Adjudicator (GC Section 1.6.1(5))

The Appointing Authority is:

Chairman, Odisha State Centre, The Institution of Engineers (India), Bhubaneswar.

10. Rules of Procedure for Arbitration Proceedings (GC Section 1.6.2(3))

All disputes arising in connection with this contract shall be finally settled under the arbitration & Conciliation Act 1996 of Govt of India by one or more arbitrators appointed in accordance with the rules.

The place of arbitration shall be Bhubaneswar, Odisha. The arbitration shall be conducted in the language for communications defined in GC Clause 1.3.1.

11. End Date (GC Section 2.1.2(a))

For the purposes of GC Section 2.1.2(a), the applicable date shall be 21.5 years or 258 months reckoned from the Effective Date defined in GCC 2.1.1.

12. Design-Build Starting Date (GC Section 2.1.3(1))

The Design-Build Starting Date shall be no later than *30 days* after the Effective Date.

13. Time for Completion (GC Section 2.3.2)

The Operator shall complete the whole of the Design-Build Services within *18 months from the Effective Date*.

14. Delay of Completion - Liquidated Damages (GC Section 2.3.6(2))

The Operator shall be liable to pay Liquidated Damages (0.05% of the Design Build Price per day of delay) to the Owner in accordance with GCC clause 2.3.6 (2), if the Operator fails to achieve various activities/milestones as tabulated below. However, Liquidated Damages recovered on account of delay in completion of an activity/activities listed in serial number 1 to 5 of the table below will qualify for refund to the Operator, if the contracted works of the design-build services part of the contract are completed in all respects within the stipulated Design-Build period or the revised period, if so agreed to by the parties in accordance GCC clause 2.3.4.

S.N	Activity/Milestone	Target Completion Time for activity	Liquidated damages per day for delay in completion of activity/Milestone
(1)	(2)	(3)	(4)
1	Obtaining approval for designs and drawings and obtaining all statutory clearances for commencement of Construction work	2 months	<i>Amount equivalent to 0.05% of 10% of contract value of Design-Build Services</i>
2	Completion of works of 10% of Contract value of Design Build Services stipulated in the signed contract	4 months	<i>Amount equivalent to 0.05% of 10% of contract value of Design-Build Services</i>
3	Completion of works of 20% (cumulative) of Contract value of Design Build Services stipulated in the signed contract	6 months	<i>Amount equivalent to 0.05% of differential 10% of contract value of Design-Build Services</i>
4	Completion of works of 40% (cumulative) of Contract value of Design Build Services stipulated in the signed contract	9 months	<i>Amount equivalent to 0.05% of differential 20% of contract value of Design-Build Services</i>

5	Completion of works of 60% (cumulative) of Contract value of Design Build Services stipulated in the signed contract	12 months	<i>Amount equivalent to 0.05% of differential 20% of contract value of Design-Build Services</i>
6	Completion of works of 75% (cumulative) of Contract value of Design Build Services stipulated in the signed contract	15 months	<i>Amount equivalent to 0.05% of differential 15% of contract value of Design-Build Services</i>
7	Completion of works of contracted Design-Build Services in all respects	18 months	0.05% of the contract Value 25% of the Design Build Services stipulated in the signed contract for each day of delay beyond the Completion Time.

14.1 The target time for completion stipulated in column 3 will be subject to revision, if justified, in the event of extension of time for completion agreed under GCC clause 2.3.4.

15. Maximum Liquidated Damages (GC Section 2.3.6(2))

The Maximum Liquidated Damages – Delay shall be *10% of the price of Design-Build Services*.

16. Operator’s Bonus (GC Section 2.3.6(5))

GC Section 2.3.6(5) section stands deleted.

17. Design-Build Period – Special Operations Requirements

(GC Section 2.3.7 and DBSA Section 4.1)

The Operator is ***not responsible*** for the provision of Existing Operations Services.

18. Access to the Site and Facility (GC Section 4.2)

GC Section 4.2 stands deleted and replaced as:

The Owner shall be responsible for providing physical possession of the Site and access thereto and for providing possession and access to all other areas reasonably required for the proper execution of the Contract including all requisite rights of way. The Owner shall provide the Operator, free of charge, full possession of the Site and the Facility during the term of the Contract.

19. Contract Price (GC Section 5.1(2))

Tipping Fee Rate as specified in the form of contract shall be the base price which will be subject to adjustment during the O&M period in accordance with Appendix 6 to GCC.

For the purpose of GC Section 5.1 (2) b, the minimum assured daily quantity of waste shall be 200 MT. The minimum assured payment against the said assured quantity of waste, shall be calculated on the basis of Tipping Fee Rate as specified above on a monthly basis.

20. Terms of Payment – Interest (GC Section 5.2(3))

For the purposes of GC Section 5.2(3) and the Terms and Procedures of Payment Appendix, the interest rate that will apply to delayed payments is 8 percent per year for the period of delay until payment has been made.

21. Currency (GC Section 5.2(4))

Payments shall be made in INR.

22. Performance Incentive Compensation (GC Section 5.3)

GC Section 5.3 stands deleted

23. Performance Security (GC Section 5.5.1(2)(a))

The Operator shall provide a Performance Security in the amount of ten percent (10%) of the Price of Design-Build Services.

24. Performance Security (GC Section 5.5.1 (2)(c))

The performance security shall be in the form of an irrevocable and unconditional bank guarantee issued by a scheduled Indian bank.

25. Restriction on Independent Engineer's Authority (GC Section 7.2.2(4))

The Independent Engineer shall obtain the approval of the Owner before exercising its authority in the following circumstances:

- (a) approving assignment of the Contract, or any part thereof, under GC Section 1.7;
- (b) determining an extension of the Time for Completion under GC Section 2.3.4;
- (c) certifying additional costs determined under GC Sections 1.9(8)(b) or 9.7; and
- (d) issuing a Change Order under GC Section 10.1.2, except:
 - (i) in an emergency situation, as reasonably determined by the Independent Engineer; or
 - (ii) if such Change Order would increase the original Contract Price by less than 1%.

26. Restrictions on Independent Engineer's Authority (GC Section 7.3.3(4))

The **Independent Engineer** is required to obtain the approval of the Owner before exercising its authority in the following circumstances:

- (a) *approving assignment of the Contract, or any part thereof, under GC Section 1.7;*
- (b) *determining an extension of the Time for Completion under GC Section 2.3.4;*
- (c) *certifying additional costs determined under GC Sections 1.9(8)(b) or 9.7; and*
- (d) *issuing a Change Order under GC Section 10.1.2, except:*
 - (i) *in an emergency situation, as reasonably determined by the Independent Engineer; or*
 - (ii) *if such Change Order would lead to total increase in the original Contract Price by less than 1%.*

27. Owner's Representative (GC Section 8.1.1)

During the design, build period the Owner's representative as the Design Build Engineer will be the Independent Engineer, appointed by the Executive Engineer, Berhampur Municipal Corporation. At the commencement of O&M period, Owner shall name its representative to perform independent engineer's role.

28. Operator's Representative (GC Section 8.1.2(1))

The Operator's representative shall be as under:

Name and address and contact details of Representative

(to be filled at the time of signing of the contract)

29. Existing Staff (GC Section 8.5)

The Operator is not obliged to retain staff employed by the Owner.

30. Maximum Percentage of Subcontracting (GC Section 8.6(1))

25 percent

31. Defect Liability Period

Deleted.

32. Defect Liability (GC Section 9.1) beyond O&M period

Deleted.

33. Insurance (GC Section 9.6)

The existing GC Section 9.6 stands deleted and replaced by the following clause:

9.6.1 General Requirements for Insurances

In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Operator is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Owner. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Owner is the insuring Party, each insurance shall be effected with insurers and in terms consistent with the details contained under this contract. If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Operator shall act under the policy on behalf of these additional joint insured except that the Owner shall act for Owner’s Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the Contract Data (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 9.6.2 (Insurance for works and Operator’s Equipment) and Sub-Clause 9.6.3 [Insurance against Injury to Persons and Damage to Property].

When each premium is paid, the insuring Party shall submit evidence of payment to the

other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Facility and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Operator or the Owner, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Operator and/or the Owner in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to the provisions of GCC & SCC as contained in this contract as applicable.

The Operator shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 9.6) with insurers from any eligible source country

9.6.2 Insurance for Facility and Operator's Equipment

The insuring Party shall insure the Facility, Plant, Materials and Operator's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 9.6.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Facility.

The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Operator is liable arising

from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Operator in the course of any other operations.

The insuring Party shall insure the Operator's Equipment for not less than the full replacement value, including delivery to Site. For each item of Operator's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Operator's Equipment.

Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

- (a) shall be effected and maintained by the Operator as insuring Party,
- (b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,
- (c) shall cover all loss and damage from any cause not listed in the GCC / SCC of this contract.
- (d) shall also cover loss or damage to a part of the Facility which is attributable to the use or occupation by the Owner of another part of the Facility, and loss or damage from the Owner's risks listed in the GCC / SCC excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated in the Contract Data (if an amount is not so stated, this sub-paragraph (d) shall not apply), and (e) may however exclude loss of, damage to, and reinstatement of: (i) a part of the Facility which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below), (ii) a part of the Facility which is lost or damaged in order to reinstate any other part of the Facility if this other part is in a defective condition due to a defect in its design, materials or workmanship, (iii) a part of the Facility which has been taken over by the Owner, except to the extent that the Operator is liable for the loss or damage, and (iv) Goods while they are not in the Country, subject to the provisions of GCC / SCC contained in this contract as applicable.

If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Operator shall (as insuring Party) give notice to the Owner, with supporting particulars. The Owner shall then (i) be entitled subject to provisions of GCC / SCC contained in this contract as applicable, to payment of an amount equivalent to such commercially reasonable terms as the Operator should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 9.6.1 [General Requirements for Insurances].

9.6.3 Insurance against Injury to Persons and Damage to Property

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-

Clause 9.6.2 [Insurance for Facility and Operator's Equipment]) or to any person (except persons insured under Sub-Clause 9.6.4 [Insurance for Operator's Personnel]), which may arise out of the Operator's performance of the Contract and occurring before the issue of the Performance Certificate.

The Insurance cover under this clause shall be as under and to be borne by the operator / contractor.

1. Loss of human life – Rs. Twenty Five Lacs
2. Permanent Disability of human beings - Rs. Ten Lacs.
3. Human Body Injury not resulting into permanent disability -Rs. Two Lacs

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

- (a) shall be effected and maintained by the Operator as insuring Party,
- (b) shall be in the joint names of the Parties,
- (c) shall be extended to cover liability for all loss and damage to the Owner's property (except things insured under Sub-Clause 18.2) arising out of the Operator's performance of the Contract, and
- (d) may however exclude liability to the extent that it arises from:
 - (i) the Owner's right to have the Permanent Facility executed on, over, under, in or through any land, and to occupy this land for the Permanent Facility,
 - (ii) damage which is an unavoidable result of the Operator's obligations to execute the Facility and remedy any defects, and
 - (iii) a cause listed as Owner's Risks as contained in GCC / SCC, except to the extent that cover is available at commercially reasonable terms.

9.6.4 Insurance for Operator's Personnel

The Operator shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Operator or any other of the Operator's Personnel.

The Owner and the Engineer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Owner or of the Owner's Personnel.

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Facility. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Operator shall be responsible for compliance with this Clause

34. Change in Laws and Regulations (GC Section 9.10)

Prices for the Design-Build Services during the Design-Build Period shall remain firm and fixed and will not be subject to price adjustment.

Appendix 2
Terms and Procedures of Payment Appendix

TERMS AND PROCEDURES OF PAYMENT

APPENDIX 2 TO THE CONTRACT

DESIGN, BUILD, OPERATE AND TRANSFER

**MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR
MUNICIPAL CORPORATION, ODISHA**

DECEMBER 2016

APPENDIX 2: TERMS AND PROCEDURES OF PAYMENT

ARTICLE 1 - Terms of Payment

1.1 General

In accordance with the provisions of GC Section 5.2, the Owner shall pay the Operator in the manner and at the times set out in this Terms and Procedures of Payment Appendix.

1.2 Payment during the Design-Build Period

(1) Mobilisation Advance:

Advance payment as an interest free loan for mobilisation and cash flow support for an amount equal to 10 % of the Design-Build Price stipulated in the contract shall be paid to the Operator against 'Bank Guarantee for Advance Payment' for the same amount in two instalments as under subject to the provisions of this Contract.

- (i) 5% within 30 days of effective date of contract; and
- (ii) 5% on mobilization at the site including setting up of the Operator's office, deployment of manpower and machinery & equipment for construction.

(2) Repayment of Mobilisation advance

The Mobilization Advance paid to the Operator by the Owner shall be recovered commencing from the date on which the payment to the Operator has reached 20% of the value of Design, Build and Commissioning Services and shall be recovered at the rate of 25% of Mobilization Advance from each bill submitted by the Operator for the payment. The entire amount of mobilization advance shall be recovered latest by the time payments up to 90% of the value of Design Build & Commissioning services have been paid to the operator.

(3) Payment for Design-Build Price

In respect of the amount for Design-Build Services payable by Owner listed in Schedule 1 Price Schedule of the Operator's Bid (the "Design-Build Price"), the Owner shall make the payments against the Operator's monthly bills prepared for the work done in the preceding month in accordance with the agreed billing schedule incorporated at the end of this Appendix 2. The Independent Engineer will certify the Bill within 15 days of its receipt to confirm completion of portions of the Design-Build Services for which payment has been claimed in the Bill. Liquidated damages for delay in completing the specified milestones/activities in accordance with SCC 14, shall be deducted from the bill and reflected in the amount certified for payment. Owner will make payment of the amount certified in the Bill by the Independent Engineer no later than 30 days after receipt of the certified Bill.

(4) The amounts to be paid to the Operator during the Design-Build Period in accordance with Section 1.2 (3) of this Appendix shall include only costs and expenses of the Operator in building the Facility and providing the Design-Build Services, including all costs and

expenses relating to the Plant and Equipment payable by Owner as per Price Schedule 1 of the Operator's Bid.

1.3 Payment during the Operation Period

In respect of the Operations Services performed by the Operator after the Operations Starting Date, the Owner shall pay the Operator Tipping Fee on monthly basis ("Monthly Operations Payment"). For this purpose, monthly bills for the Operations services performed by the Operator shall be submitted to the Independent Engineer at the end of each month and the bills will include the fee calculated in the following manner.

- (a) Tipping Fee payments will be calculated as below:

$$\text{Tipping Fee} = \text{TFR} \times (\text{WS} - \text{NCW}) - \text{Liquidated Damages}$$

Where

- TFR is the Tipping Fee Rate per MT set out (for the respective year) in the Price Schedule of Operations Services
- WS is the quantity of solid waste in MT received in that month, as certified by Owner Engineer
- NCW is the quantity of Non-Conforming Waste in MT in excess of 5% of the total Municipal Solid Waste collected/received in that month, as certified by Owner Engineer.

Non-Conforming Waste includes:

- Industrial waste
- Radioactive waste
- Bio-medical waste
- Effluents requiring treatment
- Construction and demolition debris

1.4 Holdback from O&M payments towards Post Closure care

The Owner shall deduct from each payment towards O&M due to the Operator an amount equivalent to 1.5% per cent of Tipping fee included in the O&M Bill towards security deposit for meeting the post closure obligations. The Owner shall pay the amounts held back pursuant to this Section 1.4, to the Operator as per schedule which may be agreed between the Owner and Operator at the time of commencement of post-closure care period.

BILLING SCHEDULE FOR DESIGN BUILD SERVICES						
Item No.	Description of Items	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
		Upto 20% of Physical Work	Upto 40% of Physical Work	Upto 60% of Physical Work	Upto 80% of Physical Work	Upto 100% of Physical Work/Completion/Testing
1	Land Site Development					
a	Site clearance	20%	20%	20%	20%	20%
B	Raising the Ground Level upto 3 m including the supply, Filling the Sand (to be protected by Clayey Dike) and Grading, Dressing & Compaction	20%	20%	20%	20%	20%
2	Mandatory Ancillary Civil Works					
A	Green belt development & Landscaping	20%	20%	20%	20%	20%
B	Boundary wall	20%	20%	20%	20%	20%
C	MS Grill Gate					100%
D	Admin Building	20%	20%	20%	20%	20%
E	Internal Roads	20%	20%	20%	20%	20%
F	Heavy Vehicle Parking with Workshop Area					100%
G	Electrification of Site and Street Lighting	20%	20%	20%	20%	20%
H	Construction of the Storm Water Drains	20%	20%	20%	20%	20%
I	Staff Vehicle Parking					100%
J	Weighbridge					
K	Civil structure for weighbridge					100%
L	Supply and Installation of Weighbridge Machine					100%
M	Static Compactor Stations (5 Stations)	20%	20%	20%	20%	20%
N	Installation of the Substation					100%
O	Guard Room					100%
P	Water Supply Works					100%

	TOTAL					

BILLING SCHEDULE FOR DESIGN BUILD SERVICES						
Item No.	Description of Items	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
2	Compost Plant	up to construction of Plinth level	up to casting of RCC super structure	up to Roofing & side sheeting work	Flooring work & final civil work	Final finishing incl Plumbing, Firefighting, electrical work etc.
2.1	Civil Works					
a	Covered Tipping Area (Unloading Platform)	20%	10%	40%	20%	10%
b	Covered Shed for Presorting section	20%	10%	40%	20%	10%
c	Covered Concreted Compost Pad including the Peripheral Leachate Drain	40%	10%	40%	-	10%
d	Covered Shed for Curing and Preparatory Section	20%	10%	40%	20%	10%
e	Covered Shed for Refinement Section	20%	10%	40%	20%	10%
f	Covered shed for Finishing Section	20%	10%	40%	20%	10%
g	Covered Shed for Storage Godown	20%	10%	40%	20%	10%
h	Covered Shed for Recyclables Storage	20%	10%	40%	20%	10%
i	Leachate Collection Sump					100%
j	Electrical Room					100%
k	Toilet Facility					100%
l	Leachate Treatment Plant	20%	10%	40%	20%	10%
	TOTAL					

Item No.	Description of Items	Stage 1	Stage 2
		Procurement and supply of machines and equipments	Testing & commissioning
2.3	Procurement, Supply and Commissioning of Mechanical equipments/machines for Compost Plant	70%	30%
2.4	Vehicles for Compost Plant and Landfill	90%	10%
2.5	Procurement, Supply and Commissioning of Mechanical equipments / machines / vehicles for Static Compactor Stations and Hook Loaders for Secondary Transportation	70%	30%

BILLING SCHEDULE FOR DESIGN BUILD SERVICES						
Item No.	Description of Items	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
3	Sanitary Landfill	Upto 20% of Physical Work	Upto 40% of Physical Work	Upto 60% of Physical Work	Upto 80% of Physical Work	Upto 100% of Physical Work/Completion/Testing
3.1	LF Cell & Infrastructure at land Fill site					
a	Supply of the Soil for the Embankment	20%	20%	20%	20%	20%
b	Construction of peripheral embankment with Clay and Bentonite	20%	20%	20%	20%	20%
c	Supply and construction of the 900 mm thick layer (clay or amended soil) at Bottom	20%	20%	20%	20%	20%
d	Supply and installation of the 1.5 mm HDPE Liner	20%	20%	20%	20%	20%
e	Supply and construction of the drainage layer including the leachate collection system	20%	20%	20%	20%	20%

f	Commissioning of the sanitary landfill including other facilities viz. roads, ramp etc.	20%	20%	20%	20%	20%
g	Installation of the monitoring system	20%	20%	20%	20%	20%
	TOTAL					
Item No.	Description of Items	Stage 1	Stage 2			
		Procurement and supply of machines and equipment	Testing & commissioning			
	TOTAL					

Note: The above billing schedule is indicative broad heads. The selected bidder shall be required to submit a detailed break-up of the quoted Design Build Services and Capital Equipment for billing purpose; such break-up will be reviewed by the Owner, and discussed with the selected bidder before signing the contract.

APPENDIX 3A: DESIGN-BUILD SERVICES APPENDIX

DESIGN-BUILD SERVICES

APPENDIX 3A TO THE GENERAL CONDITIONS

FOR A CONTRACT TO

DESIGN, BUILD, OPERATE AND TRANSFER

**MUNICIPAL SOLID WASTEMANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL CORPORATION,
ODISHA**

DESIGN-BUILD SERVICES APPENDIX

ARTICLE 1 - GENERAL

1.1 Description of Design-Build Services

The Operator shall carry out and be responsible for the design and construction of the Site and the Facility. The Operator's work and services as part of the "Design-Build Services" shall include,

- a) the design services in respect of the Site and the Facility as set out in DBSA Article 2;
- b) the building and construction work and services in respect of the Site and the Facility as set out in DBSA Article 3;
- c) Facility all work and services relating to the services set out in DBSA Sections 1.1 that may be necessary or desirable for the design and construction of the Facility in accordance with and as contemplated by the Design-Build Documents and the Technical Standards for both design and operation.

1.2 Supplementing the General Conditions

The provisions contained in this Design-Build Services Appendix are intended to supplement the General Conditions for the purpose of providing greater specificity of the Design-Build Services that the Operator shall perform.

ARTICLE 2 - DESIGN SERVICES

2.1 General

2.1.1 Design and Engineering

- (1) The Operator shall provide detailed design of the Site and the Facility and the engineering work in respect of that design in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice and technical standards specified in this document.
- (2) The Operator shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Independent Engineer or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Operator by or on behalf of the Owner.
- (3) The Operator shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the Owner, by giving a notice of such disclaimer to the Independent Engineer.

2.1.2 Codes and Standards

Wherever references are made in the Contract to codes and standards, including those codes and standards referred to in the Technical Standards Appendix, in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current 30 days prior to the Submission Deadline shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied after approval by the Owner and shall be treated in accordance with GC Section 10.1.

2.1.3 Design Responsibilities

(1) The Operator's design and design-related services shall include:

- (a) the preparation of a design that meets the criteria set forth in the Design-Build Documents and that provides for the Facility that meets or exceeds the Technical Standards;
- (b) the acquisition of all data and information necessary to prepare the design and that are required to demonstrate that the Facility meets or exceeds the Technical Standards;
- (c) the preparation of schematic design documents to illustrate the scale and character of the Design-Build Services and how the parts of the Design-Build Services functionally relate to each other;
- (d) the preparation of design development documents, based on the schematic design documents accepted by the Owner, consisting of drawings and other documents appropriate to the size of the Site and Facility to describe the size and character of the entire Site and the Facility including architectural, mechanical, civil works, and electrical systems, materials, operational processes, landscaping, and such other elements as may be appropriate;
- (e) the preparation of Design-Build Documents setting forth in detail the requirements for construction based on the design development documents accepted by the Owner;
- (f) obtaining all approvals, permits, including building permits, and licences for the Design-Build Services, except for those approvals, permits or licences that the Owner is explicitly required to obtain itself under the Applicable Law in which case the Operator shall prepare all documentation and provide assistance to the Owner in obtaining such approval, permits or licences;
- (g) the preparation of assurances required to regulatory authorities respecting conformance of the design with the applicable building regulations, environmental standards and occupational health and safety requirements, including construction safety issues;
- (h) the preparation of Changes as set out in GC Section 10.1;
- (i) the coordination required to integrate all parts of the Design-Build Services;
- (j) such other Design-Build Services that may be required from time to time that are agreed to by the Operator and the Owner in writing; and
- (k) the conducting of general reviews of the progress of the design process, to the extent necessary, in order to determine to the Operator's satisfaction that the design services are performed in compliance with the requirements of the Contract and Applicable Laws.

2.1.4 Design-Build Documents

- (1) The Operator shall prepare all of the Design-Build Documents. The Design-Build Documents shall include the plans, designs, drawings, as-built documents, operations manuals, specifications, schematic design documents, design development documents and models, and all modifications thereto required in order to properly and fully test for, analyse for, plan, design and build the Site and the Facility as contemplated in the Technical Standards and the remaining provisions of the Contract.

- (2) The Operator shall prepare any other document, as may be requested by the Independent Engineer, that the Independent Engineer considers necessary to monitor the progress of the Design-Build Services and assess the Operator's compliance with the Contract.
- (3) The Operator shall also prepare any other documents necessary to instruct the Operator's Personnel.
- (4) The Operator shall provide each of the Independent Engineer and the Owner with two sets of all of the Design-Build Documents in reproducible form and shall modify them to keep them up-to-date as requested by the Independent Engineer acting in a professionally reasonable manner. The Design-Build Documents, with the exception of the as-built documents, shall be subject to the review and approval of the Independent Engineer prior to performing any of the services set out in DBSA Article 3 in respect of any Design-Build Document.
- (5) When the Operator notifies the Owner in accordance with DBSA Section 6.2, the Operator shall provide to the Independent Engineer one copy of the as built Design-Build Documents in reproducible form showing the exact as built locations, sizes and details of the Site and the Facility and the Design-Build Services as executed. The Site and the Facility shall not be considered to have reached Completion for the purposes of DBSA Section 6.2 until such Design-Build Documents have been provided. The Operator shall update the as-built Design-Build Documents as necessary for the correction of defects or deficiencies contemplated by DBSA Section 6.2.

2.1.5 Design Considerations

In preparing the design for the Site and the Facility and the Design-Build Documents, the Operator shall,

- (a) protect public health and safety, including by the means set out in DBSA Section 3.3.9;
- (b) maximize the protection of the environment and minimize any adverse environmental impacts caused by the Site and the Facility throughout the Service Area and Country, including as may be required, recommended or advisable pursuant to any technical standard or environmental assessments conducted on, at or near the Site and the Facility and by the means set out in DBSA Section 3.3.11;
- (c) verify estimated anticipated quantities and composition of waste to be processed at the Site and the Facility;
- (d) ensure the Site and the Facility has the capacity to accommodate the anticipated waste based upon the verifications prepared by the Operator pursuant to DBSA Section 2.1.5;
- (e) ensure that the Facility is designed in order to maximize its duration as a fully functional solid waste disposal facility that meets or exceeds the Technical Standards; and
- (f) ensure that the Site and the Facility are designed to meet the requirements of the Technical Standards Appendix including a detailed review of the following measures to deal with environmental mitigation:
 - (i) training materials to assist the Owner in the long-term monitoring of surface water, groundwater wells, emissions and treated leachate effluent;

- (ii) the impact to local property values and the mitigation of the impact of landfill traffic;
- (iii) the impact to the local scavenging community;
- (iv) the control of clinical and hazardous waste;
- (v) the impact of construction and operations noise on the local community;
- (vi) the monitoring of surface water and groundwater impacts of the Site and the Facility including a baseline monitoring program; and
- (vii) the air quality impact to the Site and the Facility including the impact from landfill gas, dust and equipment emissions during construction and operations, odours during operation and exhaust from landfill collection and delivery traffic.

2.2 Design Responsibilities – Off-Site Issues

In preparing the design for the Site and the Facility and the Design-Build Documents, the Owner shall be responsible for:

- (a) improvements to roads that lead to or will be used to access the Facility;
- (b) improvements to or design all access routes from existing local roads to the Site and Facility and intersections with local roads; and
- (c) plans and designs for the extension to the Site and Facility of all utility services required for all of the Services.

2.3 Design Responsibilities – On Site Issues

2.3.1 In preparing the design for the Site and the Facility and the Design-Build Documents, the Operator shall ensure that the design,

- (a) makes adequate preparation and plans and takes adequate measures for controlling access to the Site and the Facility by animals and humans and vehicular traffic at the perimeter of the Site and the Facility, including plans for ditches, berms, plantings and vegetation, fencing, lockable gates at vehicular access points, and the creation of an internal perimeter access corridor inside or, with appropriate local and other approvals, surrounding the Site lands;
- (b) includes parking areas, internal access roads and haul routes to manage traffic flow at the Site and the Facility;
- (c) provides utilities services at the Site and the Facility such as electricity, telephone, potable water, non-potable water and sewage collection and disposal; and
- (d) provides areas for receipt of source separate materials and an on-site materials recovery program.
- (e) makes adequate preparation and plans for smooth flow of traffic, loading and unloading of waste at each of the Static Compactor locations.

2.4 Landfill Cell Layout and Filling Sequence

The Operator shall be responsible for the planning and designing of the area of the Site to be landfilled, that meets or exceeds the Technical Standards (general layout plan) and includes a design that ,

- (a) minimises the lateral and vertical extent of the working face and the extent of deposited waste that is exposed;
- (b) prepares the Site for landfill operations and sets out a typical cell structure;
- (c) plans for the clearing and excavation of land, debris and other material at the landfill area;
- (d) plans for the preparation of a stable base for the waste disposal area;
- (e) incorporates, as required, measures to control and manage groundwater beneath and adjacent to the landfill area;
- (f) incorporates an engineered barrier or liner to prevent leachate from entering surface water and groundwater;
- (g) makes provision for collection and transfer of leachate from within the landfill area to a suitable treatment facility;
- (h) permits grading and construction of the cell floor and sides so that the engineered barrier or liner is not damaged and is structurally whole, competent and stable at all times;
- (i) provides for the installation of surface water and storm water collection and diversion systems in order to protect the landfill area and associated works to minimise the production and generation of leachate;
- (j) provides for the progressive installation of control measures for the management of leachate and landfill gas;
- (k) provides for the deposit of waste in a manner that will prevent damage to the engineered barrier or liner, the leachate control system, collection and transfer system and the landfill gas control and management system;
- (l) plans for the periodic maintenance of the leachate control, collection and transfer and treatment systems and the landfill gas control and management system;
- (m) incorporates appropriate back-up systems in the event of failure of any component of the environmental control and management systems;
- (n) plans for the relocation of all existing utility and services located under, on or over, or traversing under, on or over the Site and Facility;
- (o) plans for the incorporation of an engineered barrier or liner, a drainage layer and an agricultural growth medium, as required, as part of the final cover system at the upper surface of the deposited waste;
- (p) plans for the progressive closure of individual cells on completion;
- (q) plans for the development of individual cells in a coherent and logical sequence and in a manner which ensures the stability of all working faces, of all waste discharge points and the overall stability of the waste mound as it develops progressively and in its final configuration; and
- (r) maximises the useable landfill volume.

2.5 Designation of Landfill On Site Areas for Other Uses

In preparing the design and layout for the Site and Facility, the Operator shall designate areas of the Site and Facility for use in,

- (a) internal vehicle and equipment routing and parking;
- (b) landfilling;
- (c) leachate treatment;
- (d) stockpiling of materials for use in constructing the Facility;

- (e) stockpiling of materials designated as cover materials for use during landfill operations;
- (f) storage of other materials required for site operations;
- (g) site administration and management;
- (h) plant nursery for Owner's use;
- (i) perimeter buffer zones;
- (j) materials and resource recovery including composting; and
- (k) the temporary secure storage and processing of special unacceptable wastes.

2.6 Surface and Ground Water Management

In preparing the design for the Site and the Facility and the Design-Build Documents, the Operator shall,

- (a) inspect and prepare a program to test the Site lands with respect to water elevations, water flow, water generation, absorption, storage and drainage on, in, under and surrounding the planned Site and the Facility;
- (b) plan and design the surface drainage at the Site and the Facility with adequate water drainage channels, pipes, sewers, structures and appurtenances, including for higher, adequate to manage the highest seasonal levels and volumes of stormwater; and
- (c) plan and design the Site and the Facility with adequate protection from flooding whether from rain, groundwater, high rivers, storms or any other source.

2.7 Site Administrative Facility

The Operator shall be responsible for the administration of the Site and the Facility during the Design-Build Period and the Operator shall design,

- (a) temporary office facilities for use by the Operator and its Subcontractors in the administration and execution of the Design-Build Services;
- (b) a permanent office facilities as part of the Facility for use in the administration of the Operations Services to accommodate personnel, furniture, utility services, a lunch room, washrooms and public toilets;
- (c) appropriate signage for the Site and the Facility, including signs that,
 - (i) identify the Facility, sub-components of the Facility and the Owner;
 - (ii) direct traffic in an orderly manner;
 - (iii) identify the temporary and permanent locations of the main onsite administrative offices of the Operator, the Independent Engineer, the Owner and the Subcontractors;
 - (iv) provide warning and hazard notification in designated areas where warranted; and
 - (v) identify areas of the Facility that are restricted to visitors and are accessible to only designated employees of the Operator;
- (d) the landscaping for the Facility as contemplated by the Design-Build Documents;
- (e) any and all weigh scales, temporary scales, a weigh scale house for attendants, equipment to accommodate anticipated truck traffic volumes and truck sizes and types, support systems to record data from the scales and transmit it to other locations, and wheel washing facilities;

- (f) a building for the repair and servicing of all equipment and storage of tools, spare parts and consumables;
- (g) a secure facility for the storage, measurement and dispersal of fuels and provide for the prevention and collection of fuel leaks; and
- (h) a temporary holding area that is lined, bermed, fenced, impermeable and collects run-off, for unacceptable wastes.

2.8 Other Design Responsibilities

The Operator shall carry out the following design or design-related responsibilities:

- (a) the Operator shall prepare plans and designs for all temporary works as required by the Operator's design and as required by the Contract
- (b) the Operator shall prepare plans and designs for systems to control, manage and treat leachate and gas at the landfill area at the Site and the Facility;
- (c) the Operator shall prepare plans and designs for landscaping for the Site and Facility;
- (d) the Operator shall, in consultation with the Owner, prepare plans and designs for the ultimate landform and use of the Site and the Facility;
- (e) the Operator shall prepare plans and designs for any other specific facilities and processes contemplated under, or stipulated by, the Contract, including, but not limited to, materials and resource recovery;
- (f) the Operator shall prepare plans and designs for the acquisition of all data and information necessary to prepare the Operator's design, including, but not limited to, any intrusive site investigations, off-site surveys and environmental baseline monitoring required or contemplated under the Contract; and
- (g) the Operator shall prepare detailed plans and methodologies for the testing and inspection of the Plant and Equipment and any part of the Facility as specified in the Contract and in Attachment 1 to the Technical Standards Appendix.

ARTICLE 3 - BUILDING AND CONSTRUCTION SERVICES

3.1 General

- (1) The Operator shall carry out all building and construction of all items designed pursuant to DBSA Articles 1 and 2 except, the Operator shall not be obliged to carry out building and construction in respect of those items referenced in DBSA Section 2.4(p), for those cells not closed prior to the End Date.
- (2) The Operator shall provide all of the demolition, excavation, building, co-ordination, repair, warranty, review, inspection, testing, quality assurance and control, monitoring, scheduling, clean-up and other construction work and services required for the modification of the Site and the building of the Facility as contemplated by Design-Build Documents.
- (3) The Operator shall have total control of the building and construction services and shall effectively direct and supervise the building and construction services so as to ensure conformity with the Design-Build Documents.
- (4) The Operator shall be solely responsible for construction means, methods, techniques, sequences, and procedures and for co-ordinating the various parts of the Design-Build Services under the Contract.

3.2 Procurement and Transportation

- (1) Subject to GC Section 3.4, the Operator shall manufacture or procure and transport all the Plant and Equipment in an expeditious and orderly manner to the Site.
- (2) The Operator shall at its own risk and expense transport all the Plant and Equipment, the Operator's Equipment (Design-Build) and the Operator's Equipment (Operations)

to the Site by the mode of transport that the Operator judges most suitable under all the circumstances.

- (3) Unless otherwise provided in the Contract, the Operator may to select any safe mode of transport operated by any person to carry the Plant and Equipment, the Operator's Equipment (Design-Build) and the Operator's Equipment (Operations).
- (4) Upon dispatch of each shipment of the Plant and Equipment, the Operator's Equipment (Design-Build) and the Operator's Equipment (Operations), the Operator shall notify the Owner by telex, cable, facsimile or Electronic Data Interchange (EDI) of the description of the Plant and Equipment and of the Operator's Equipment (Design-Build), the point and means of dispatch, and the estimated time and point of arrival in the country where the Site is located, if applicable, and at the Site. The Operator shall furnish the Owner with relevant shipping documents to be agreed upon between the parties.
- (5) The Operator shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the Plant and Equipment, the Operator's Equipment (Design-Build) and the Operator's Equipment (Operations) to the Site. The Owner shall use its reasonable endeavors in a timely and expeditious manner to assist the Operator in obtaining such approvals, if requested by the Operator. The Operator shall indemnify and hold harmless the Owner from and against any claim for damage to roads, bridges or any other traffic facilities that may be caused by the transport of the Plant and Equipment, the Operator's Equipment (Design-Build) and the Operator's Equipment (Operations) to the Site.
- (6) The Operator shall, at its own expense, handle all imported Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations) at the point(s) of import and shall handle any formalities for customs clearance. If the Applicable Law requires any application or act to be made by or in the name of the Owner, the Owner shall take all necessary steps to comply with such Applicable Law. In the event of delays in customs clearance that are not the fault of the Operator, the Operator shall be entitled to an extension in the Time for Completion, pursuant to GC Section 2.3.4.

3.3 Building Responsibilities

3.3.1 Temporary Supports, Structures and Utility Services

- (1) The Operator shall have the sole responsibility for the design, erection, operation, maintenance, and removal of temporary supports, structures and utility services and the design and execution of construction methods required in their use.
- (2) The Operator shall engage and pay for registered professional engineering personnel skilled in the appropriate disciplines to perform those functions referred to in DBSA Section 3.3.1(1) where required by law or by the Design-Build Documents and in all cases where such temporary supports, structures and utility services and their designs and method of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.

3.3.2 Document Review

The Operator shall review the Design-Build Documents and shall report promptly to the Independent Engineer and the Owner any error, inconsistency or omission the Operator may discover. If the Operator does discover any error, inconsistency or omission in the Design-Build Documents, the Operator shall not proceed with the work affected until the Operator has

corrected any such errors or inconsistency or supplied any missing information and these corrections have been approved in writing by the Independent Engineer or the Owner.

3.3.3 Plant and Equipment

- (1) The Operator shall provide and pay for labour, Plant and Equipment, tools, construction machinery and equipment, materials and supplies, water, heat, light, power, transportation, and all other facilities and services necessary for the performance of the Design-Build Services in accordance with the Design-Build Documents.
- (2) The Operator shall ensure that all Plant and Equipment provided are new. Plant and Equipment which are not specified shall be of a quality consistent with those specified and their use shall be acceptable to the Independent Engineer.

3.3.4 Documents at the Site

The Operator shall keep one copy of the Design-Build Documents as up-dated, submittals, reports and records of meetings at the Site, in good order and shall make them available to the Owner and the Independent Engineer upon request and at any reasonable time.

3.3.5 Use of the Site and Facility

- (1). The Operator shall confine construction machinery and equipment, storage of Plant and Equipment, Operator's Equipment (Design-Build) and Operator's Equipment (Operations), and operations of Operator's Personnel to limits indicated by laws, ordinances, permits or the Design-Build Documents and shall not unreasonably encumber the Site with Plant and Equipment, Operator's Equipment (Design-Build) or Operator's Equipment (Operations). The Operator shall not load or permit to be loaded any part of the Site or the Facility with a weight or force that will endanger the safety of the Site or the Facility.
- (2). The Operator shall not store Plant and Equipment, Operator's Equipment (Design-Build) or Operator's Equipment (Operations) at the Site which are not necessary for the construction of the Facility.

3.3.6 Setting Out

- (1) The Operator shall be responsible for the true and proper setting-out of the Site and the Facility in relation to benchmarks, reference marks and lines specified in the Design-Build Documents.
- (2) If, at any time during the construction of the Facility, any error shall appear in the position, level or alignment of the Site and the Facility, the Operator shall forthwith notify the Independent Engineer of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Independent Engineer.

3.3.7 Quality Assurance

- (1) The Operator shall institute a quality assurance system to ensure compliance with the requirements of the Design-Build Documents. Compliance with the quality assurance system shall not relieve the Operator of its duties, obligations or responsibilities.
- (2) The Operator shall submit for approval details of all quality assurance procedures and documents relating to Operator's compliance with the quality assurance system to the Independent Engineer before each stage of the Design-Build Services is commenced as set out in the Time Schedule. When any document is issued to the

Independent Engineer, it shall be accompanied by the signed quality statements for such document, if any. The Independent Engineer may audit any aspect of the quality assurance system and the Operator shall take any corrective action as the Independent Engineer may deem appropriate.

3.3.8 Operator's Access Routes and Rights of Way During the Design-Build Period

- (1) The Operator shall satisfy itself as to the suitability and availability of the access routes it chooses to use during the Design-Build Period for access to and from the Site. The Operator shall, as between the Parties, be responsible for the maintenance of access routes during the Design-Build Period. The Owner will not be responsible for any claims which may arise from the use or otherwise of any access route. The Owner does not guarantee the suitability or availability of any particular access route, and will not entertain any claim for any non-suitability or non-availability for continuous use, during the Design-Build Period, of any such route.
- (2) The Operator shall bear all costs and charges for special or temporary rights-of-way required by it for access to the Site. The Operator shall also provide, at its own cost, any additional facilities outside the Site or Facility required by it for the purposes of the Design-Build Services.

3.3.9 Site Regulations and Safety

- (1) The Operator shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Operator shall prepare and submit to the Owner, with a copy to the Independent Engineer, proposed Site regulations for the Owner's approval, which approval shall not be unreasonably withheld. Such Site regulations shall include rules in respect of security, safety of the Site and Facility, gate control, sanitation, medical care, emergency preparedness, emergency response, on-site safety training of employees and fire prevention.
- (2) The Operator shall comply with all applicable safety regulations in providing the Design-Build Services and in occupying any part of the Site or the Facility. Unless otherwise stated in the Design-Build Documents, the Operator shall, during the Design-Build Period,
 - (a) provide secure fencing, lighting, guarding and watching of the Design-Build Services;
 - (b) provide temporary roadways, footways, guards and fences which may be necessary for the accommodation and protection of its employees, Site visitors, owners and occupiers of adjacent land, the public and others;
 - (c) prepare a manual of safety policies and procedures applicable to each stage of the Design-Build Services and to the Site or the Facility as a whole and distribute such manual to all of its Subcontractors, agents, representatives and employees working at the Site or the Facility; and
 - (d) carry out safety briefings of applicable site regulations to all employees, Subcontractors, agents, representatives and visitors to the Site/Facility and the Facility prior to permitting first access of the applicable person to the Site or the Facility, and at regular intervals thereafter.
- (3) During the Design-Build Period, the Operator shall develop and implement a comprehensive occupational health and safety program for the protection of the Operator's Personnel and all other persons who may attend at the Site or the Facility. The program shall include a description of how the Operator will,

- (a) carry out all occupational health and safety responsibilities in respect of the Site or the Facility as required under the Applicable Law;
- (b) develop and manage all required occupational health and safety reporting procedures; and
- (c) manage all occupational health and safety claims.

3.3.10 Operator's Equipment (Design-Build) and Site Clearance

- (1) All Operator's Equipment (Design-Build) brought by the Operator onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Operator shall not remove the same from the Site without the Independent Engineer's consent that such Operator's Equipment (Design-Build) is no longer required for the execution of the Contract.
- (2) The Operator shall maintain the Site/Facility and the Facility in a tidy condition and free from the accumulation of waste products and debris. The Operator shall remove waste products and debris resulting from the Site and shall leave the Facility clean and suitable for occupancy and performance of the Operations Services before attainment of Substantial Completion. The Operator shall remove products, tools, construction machinery, and equipment, including the Operator's Equipment (Design-Build), not required for the performance of the remaining Design-Build Services.
- (3) Prior to notifying the Owner pursuant to DBSA 6.2(1), the Operator shall remove products, tools, construction machinery and equipment, and waste products and debris, including the Operator's Equipment (Design-Build).
- (4) Upon the issue of any Completion Certificate, the Operator shall clear away and remove, from the Site/Facility and the Facility, all Operator's Equipment (Design-Build), surplus material, wreckage, rubbish and temporary work or structures. The Operator shall ensure that the Site/Facility and the Facility are in a clean and safe condition to the satisfaction of the Owner's Independent Engineer.
- (5) If the Operator fails to remove, no later than 30 days after the issue of the Completion Certificate, any remaining Operator's Equipment (Design-Build), surplus material, wreckage, rubbish and temporary work or structures, the Owner may sell or otherwise dispose of such items. The Owner shall be entitled to retain, from the proceeds of such sale, a sum sufficient to meet the costs incurred in connection with the sale or disposal, and in restoring the Site/Facility and the Facility. Any balance of the proceeds shall be paid to the Operator. If the proceeds of the sale are insufficient to meet the Owner's costs, the outstanding balance shall be recoverable from the Operator by the Owner.
- (6) The Owner will, if requested, use reasonable efforts to assist the Operator in obtaining any local, state or national government permission required by the Operator for the export of the Operator's Equipment (Design-Build) imported by the Operator solely for use in the execution of the Contract that is no longer required for the execution of the Contract.

3.3.11 Protection of the Environment

- (1) The Operator shall take all reasonable steps to protect the environment, both on and off the Site, and to limit damage and nuisance to people and property resulting from pollution, noise, dust and other results of its Services, including,
 - (a) adopting working practices that prevent or minimize the transfer of any pollutant off-site;
 - (b) maintaining the access roads in good repair;
 - (c) using appropriate dust suppressant methods;

- (d) restricting trucking and loud machinery and equipment use to daylight hours;
 - (e) using mufflers, silencers and other appropriate methods to minimize the noise of the construction;
 - (f) using "silt fencing", hay bales, silt traps or other methods to minimize soil erosion and prevent the contamination of surface water and the transportation of soil and sediment off-site onto adjacent properties;
 - (g) building the Facility to prevent the off-site migration of leachate or landfill gases; and
 - (h) maintaining a clean SiteFacility and Facility that are free of garbage, except the disposal area, and debris.
- (2) The Operator shall, at all times during building and construction, ensure that the Environmental Management Plan is followed.
 - (3) The Operator shall monitor groundwater quality upstream and downstream of the Facility, throughout the process of construction.
 - (4) The Operator shall monitor water quality upstream and downstream of the Site and the Facility, prior to and throughout the process of construction.

3.3.12 Security of the SiteFacility and the Facility

Unless otherwise stated in the Design-Build Documents:

- (1) the Operator shall be responsible for keeping unauthorised persons off the SiteFacility and the Facility,
- (2) the Operator shall maintain detailed record of all persons that enter the SiteFacility and the Facility; and
- (3) the Operator shall ensure that authorised persons shall be limited to the Operator's Personnel, the Independent Engineer, employees of Subcontractors and persons authorised by the Owner or the Independent Engineer.

3.3.13 Physical Cultural Property

- (1) The Operator shall take reasonable precautions to prevent its employees, agents, representatives, Subcontractors, or other persons from removing or damaging any fossils, coins, articles of antiquity, and structures and other remains or things of geological or archaeological interest at the Site. The Operator shall, immediately upon discovery of such article or thing, advise the Independent Engineer, who may issue instructions for dealing with it. All fossils, coins, articles of value or antiquity, and structures and other remains or things of geological or archaeological interest discovered on the Site shall be the property of the Owner.
- (2) If the Operator suffers delay or incurs any damages or costs in following any instructions of the Independent Engineer pursuant to DBSA Section 3.3.13(1), and if such delay or damages or costs were Unforeseeable, the Operator shall give notice to the Independent Engineer, with a copy to the Owner. After receipt of such notice, the Independent Engineer shall determine in accordance with GC Section 7.2.6 if the Operator is entitled to any extension of time or any compensation for such damages or costs and shall notify the Operator accordingly.

3.3.14 Emergency Work

- (1) If, by reason of an emergency arising in connection with and during the execution of the Design-Build Services, any protective or remedial work is necessary as a matter of urgency

to prevent damage to the SiteFacility or the Facility, the Operator shall immediately carry out such work.

- (2) If the Operator is unable or unwilling to do such work immediately, the Owner may do or cause such work to be done as the Owner may determine is necessary in order to prevent damage to the SiteFacility or the Facility. In such event the Owner shall, as soon as practicable after the occurrence of any such emergency, notify the Operator in writing of such emergency, the work done and the reasons therefor. If the work done or caused to be done by the Owner is work that the Operator was liable to do at its own expense under the Contract, the reasonable costs incurred by the Owner in connection therewith shall be paid by the Operator to the Owner. Otherwise, the cost of such remedial work shall be borne by the Owner.

3.3.15 Work at Night and on Holidays

- (1) Unless otherwise provided in the Contract, no work shall be carried out outside of the hours of operation of the Facility without prior written consent of the Owner, except where work is necessary or required to ensure safety of the SiteFacility or the Facility or for the protection of life, or to prevent loss or damage to property, when the Operator shall immediately advise the Independent Engineer, provided that provisions of this DBSA Section 3.3.15 shall not apply to any work which is customarily carried out by rotary or double-shifts.
- (2) Notwithstanding GC Section 8.3(6) or DBSA Section 3.3.15(1), if and when the Operator considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Owner's consent thereto, the Owner shall not unreasonably withhold such consent.

ARTICLE 4 - EXISTING FACILITY OPERATIONS (DELETED)

There is no facility at present in the city for systematic municipal solid waste management.

ARTICLE 5 - TEST AND INSPECTION

5.1 Tests and Inspection

- (1) The Operator shall at its own expense carry out at the place of manufacture or on the Site all such tests and inspections of the Plant and Equipment and any part of the Facility as are specified in the Contract and in Attachment 1 to the Technical Standards Appendix. The Operator shall, in addition to those tests and inspections set out in the Contract, develop a plan for all testing and inspection of the Facility that is required in order to complete the Facility in accordance with the Technical Standards Appendix.
- (2) The Owner and the Independent Engineer or their designated representatives shall be entitled to attend any test or inspection, provided that the Owner shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- (3) Whenever the Operator is ready to carry out any test or inspection, the Operator shall give a reasonable advance notice of such test or inspection and of the place and time thereof to the Independent Engineer. The Operator shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Owner and the Independent Engineer (or their designated representatives) to attend the test or inspection.
- (4) The Operator shall provide the Independent Engineer with a certified report of the results of any test or inspection.

- (5) If the Owner or Independent Engineer, or their designated representatives, fails to attend the test or inspection, or if it is agreed between the Parties that such persons shall not do so, then the Operator may proceed with the test or inspection in the absence of such persons, and shall provide the Independent Engineer with a certified report of the results thereof.
- (6) The Independent Engineer may require the Operator to carry out any test or inspection not required by the Contract, provided that the Operator's reasonable costs and expenses incurred in the carrying out of such test or inspection shall be added to the Contract Price. Further, if such test or inspection impedes the progress of work on the Facility or the Operator's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected.
- (7) If any Plant and Equipment or any part of the Facility fails to pass any test or inspection, the Operator shall either rectify or replace such Plant and Equipment or part of the Facility and shall repeat the test or inspection upon giving a notice under DBSA Section 5.1(3).
- (8) If any dispute or difference of opinion arises between the Parties in connection with or arising out of the test or inspection of the Plant and Equipment or part of the Facility that cannot be settled between the parties within a reasonable period of time, it may be referred to an Adjudicator for determination in accordance with GC Section 1.6.1(1).
- (9) The Operator shall give the Owner and the Independent Engineer, at the Owner's expense, access at any reasonable time to any part of the Facility or any place where the Plant and Equipment are being manufactured or installed in the Facility, in order to inspect the progress of the work and the manner of manufacture or installation, provided that the Independent Engineer shall give the Operator a reasonable prior notice.
- (10) The Operator agrees that neither the execution of a test or inspection of Plant and Equipment or any part of the Site and the Facility, nor the attendance by the Owner or the Independent Engineer, nor the issue of any test certificate pursuant to DBSA Section 5.1(4), shall release the Operator from any other responsibilities under the Contract.
- (11) No part of the Facility or foundations shall be covered up on the Site without the Operator carrying out any test or inspection required under the Contract. The Operator shall give a reasonable notice to the Independent Engineer whenever any such part of the Facility or foundations are ready or about to be ready for test or inspection; such test or inspection and notice thereof shall be subject to the requirements of the Contract.
- (12) The Operator shall uncover any part of the Facility or foundations, or shall make openings in or through the same as the Independent Engineer may from time to time require at the Site, and shall reinstate and make good such part or parts.
- (13) If any parts of the Facility or foundations have been covered up at the Site after compliance with the requirement of DBSA Section 5.1(12) and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Owner, and the Time for Completion shall be reasonably adjusted to the extent that the Operator has thereby been delayed or impeded in the performance of any of its obligations under the Contract.

ARTICLE 6 - COMPLETION OF THE FACILITY

6.1 Monthly Progress Notice

- (1) The Operator shall submit to the Independent Engineer after the end of each month six copies, each signed by the Operator's Representative named in accordance with GC Section 8.1.2, a notice (the "Monthly Progress Notice") in such form as the Independent Engineer may prescribe, showing the percentage of completion that the Operator considers it has effected in the preceding month, in respect of the Design-Build Services.
- (2) The Independent Engineer shall, no later than 30 days after receipt of the Monthly Progress Notice, deliver to the Owner a statement (the "Independent Engineer's Statement") indicating, separately, the percentage of completion of the Design-Build Services that the Independent Engineer considers the Operator has effected in the applicable month.
- (3) If the Independent Engineer notifies the Operator of any defects or deficiencies, or both, in any of the Design-Build Services, the Operator shall correct the defects or deficiencies, and shall confirm compliance with the Independent Engineer's instructions while submitting the Next Progress Notice as per DBSA Section 6.1(1).

6.2 Completion

- (1) As soon as the Design-Build Services have, in the opinion of the Operator, been completed in accordance with the Appendix 3C - Technical Standards Appendix, excluding minor items not materially affecting the operation or safety of the Facility, and the Facility has satisfactorily passed all Tests on Completion as set out in Attachment 1 to the Technical Standards Appendix, the Operator shall so notify the Owner in writing (the "Notice of Completion") and provide the as-built Design-Build Documents referred to in DBSA Section 2.1.4(4).
- (2) The Independent Engineer shall, no later than 30 days after receipt of the Operator's notice under DBSA Section 6.2(1), either issue a Completion Certificate stating that the Facility has reached Completion as of the date of the Operator's notice under DBSA Section 6.2(1), or notify the Operator in writing of any defects or deficiencies or both.
- (3) If the Independent Engineer is not satisfied that the Design-Build Services are complete, the Independent Engineer shall notify the Operator in writing of any defects or deficiencies no later than 7 days after receipt of the Notice of Completion.
- (4) If the Independent Engineer notifies the Operator of any defects or deficiencies or both, the Operator shall then correct such defects or deficiencies, and shall repeat the procedure described in DBSA Section 6.2(1).
- (5) If the Independent Engineer is satisfied that the Design-Build Services have reached Completion, the Independent Engineer shall, no later than 7 days after receipt of the Operator's repeated Notice of Completion, issue a Completion Certificate stating that the Design-Build Services have reached Completion as of the date of the Operator's repeated Notice of Completion.
- (6) If the Independent Engineer fails to issue the Completion Certificate and fails to inform the Operator of any defects or deficiencies 14 days after receipt of the Notice of Completion or 7 days after receipt of the Operator's repeated Notice of Completion, then the Design-Build Services shall be deemed to have reached

Completion as of the date of the Notice of Completion or repeated Notice of Completion as the case may be.

- (7) As soon as possible after Completion, the Operator shall complete all outstanding minor items so that the Site and Facility are fully in accordance with the requirements of the Contract, failing which the Owner will undertake such completion and deduct the costs thereof from any monies owing to the Operator.

ARTICLE 7 - COMMISSIONING AND OPERATIONAL ACCEPTANCE

7.1 Commissioning

- (1) Commissioning of the Facility shall be commenced by the Operator immediately after issue of the Completion Certificate by the Independent Engineer, pursuant to DBSA Section 6.2(2), or immediately after issue of the deemed Completion, under DBSA Section 6.2(6).

7.2 Tests on Commissioning

- (1) The Tests on Commissioning as set out in Attachment 1 to the Technical Standards Appendix, and repeats thereof, shall be conducted by the Operator during Commissioning of the Facility to ascertain whether the Facility or the relevant part can attain the technical standards set out in the Technical Standards Appendix. The Operator's and Independent Engineer's advisory personnel shall attend the Tests on Commissioning, and shall advise and assist the Owner. The Owner shall promptly provide the Operator with such information as the Operator may reasonably require in relation to the conduct and results of the Tests on Commissioning, and any repeats thereof.
- (2) If for reasons not attributable to the Operator, the Tests on Commissioning of the Facility cannot be successfully completed within 21 days after the period from the date of Completion specified in the SCC or any other period agreed upon by the Owner and the Operator, the Operator shall be deemed to have fulfilled its obligations with respect to the Tests on Commissioning.

7.3 Operational Acceptance

- (1) Operational Acceptance shall occur in respect of the Facility when the Tests on Commissioning have been successfully completed.
- (2) At any time after the successful completion of the Tests on Commissioning, the Operator may give a notice to the Independent Engineer requesting the issue of an Operational Acceptance Certificate in respect of the Facility.
- (3) The Independent Engineer shall, after consultation with the Owner, and no later than 7 days after receipt of the Operator's notice, issue an Operational Acceptance Certificate.
- (4) If within 7 days after receipt of the Operator's notice, the Independent Engineer fails to issue the Operational Acceptance Certificate or fails to inform the Operator in writing of the justifiable reasons why the Independent Engineer has not issued the Operational Acceptance Certificate, the Facility shall be deemed to have been accepted as of the date of the Operator's said notice.

ARTICLE 8 - REPORTING DURING THE DESIGN-BUILD PERIOD

8.1 Design-Build Progress Reports

- (1) The Operator shall prepare monthly progress reports of the Design-Build Services during the Design-Build Period and submit six copies of the reports to the

Independent Engineer. The first report shall cover the period up to the end of the calendar month after that in which the Design-Build Starting Date occurred and reports shall be submitted monthly thereafter, each no later than 14 days after the last day of the month to which it applies.

- (2) The Design-Build Services monthly reports shall include the following information:
- (a) photographs and detailed descriptions of progress, including each stage of design, procurement, manufacture, delivery to the Site or the Facility, construction, erection, testing and commissioning;
 - (b) charts showing the status of Design-Build Documents, purchase orders, manufacture and construction;
 - (c) for the manufacture of each main item, equipment, machinery, floor or component of the Facility, the name of manufacturer, manufacture location, percentage progress, and the actual or expected dates of commencement of manufacture, Operator's inspections, tests and delivery relating thereto;
 - (d) detailed records of the Operator's Personnel and Operator's Equipment (Design-Build) on the Site or at the Facility and the actual usage of the Operator's Equipment (Design-Build) during the reporting period and the tasks performed by the Operator's Personnel;
 - (e) copies of quality assurance documents, test results and certificates of the Plant and Equipment;
 - (f) all monitoring results;
 - (g) Facility safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;
 - (h) percentage completion achieved compared with the planned percentage completion for each milestone; and
 - (i) where any activity is behind in the scheduled completion, comments and likely consequences and a description of the corrective action being taken.

APPENDIX 3B: OPERATIONS SERVICES APPENDIX

**OPERATIONS SERVICES
APPENDIX 3B TO THE CONTRACT
DESIGN, BUILD, OPERATE AND TRANSFER
MUNICIPAL SOLID WASTEMANAGEMENT FACILITY IN BERHAMPUR
MUNICIPAL CORPORATION, ODISHA**

OPERATIONS SERVICES APPENDIX

ARTICLE 1 - INTERPRETATION

1.1 Definitions

“**Annual Data Report**” is defined in OSA Section 6.1(1);

“**Annual Report**” is defined in OSA Section 12.2;

“**Closure and Rehabilitation Plan**” is defined in OSA Section 4.5;

“**Community Liaison and Public Education Program**” is defined in OSA Section 3.9;

“**Contingency Fund**” is defined in OSA Section 10.1.2(1);

“**Environmental Management and Mitigation Plan**” is defined in OSA Section 3.6(1);

“**Final Condition Survey**” is defined in OSA Section 5.2(2);

“**Financial Management and Customer Services Information Systems Plan**” is defined in OSA Section 3.8(1);

“**Maintenance Management Program**” is defined in OSA Section 3.7(1);

“**Materials Management Plan**” is defined in OSA Section 3.10;

“**Mid-Term Condition Survey**” is defined in OSA Section 5.2(1);

“**Occupational Health and Safety Program**” is defined in OSA Section 3.4(1);

“**Operations and Maintenance Manuals**” is defined in OSA Section 4.4;

“**Operations Plan**” is defined in OSA Section 4.2;

“**Monthly Report**” is defined in OSA Section 12.1;

“**Remediation Plan**” is defined in OSA Section 5.3;

“**Sampling and Monitoring Programs**” is defined in OSA Section 3.2(1);

“**Scavenging Management Program**” is defined in OSA Section 3.3;

“**Source Separation Programs**” is defined in OSA Section 3.5;

“**Standard Operating Procedures**” is defined in OSA Section 4.3(1);

“**User Charges**” means user charges notified by Owner and levied on users of Facility;

“Transition Plan” is defined in OSA Section 4.6(1).

1.2 Supplementing the General Conditions

The provisions contained in this Operations Services Appendix are intended to supplement the General Conditions for the purpose of providing greater specificity of the Operations Services that the Operator shall perform.

ARTICLE 2 - OVERALL DESCRIPTION OF SERVICES AND REQUIREMENTS FOR PLANS, PROGRAMS AND REPORTS

2.1 Overall Description of Services to be Provided by the Operator

The Operator shall,

- (a) operate and manage the Facility, to
 - (i) Compact the incoming waste at Static Compactor stations and transport the waste to the site
 - (ii) Carry out Segregation at site and Processing of solid waste using the technology proposed in the Bid;
 - (iii) recycle and resell for reuse certain categories of solid waste;
 - (iv) dispose of Refuse Matter within a defined area at the Scientific Landfill facility;
 - (v) compact and cover the solid waste that is disposed of;
 - (vi) develop and manage plans for the closure and rehabilitation of cells at the Facility and develop and manage plans for the closure and remediation of the Facility;
 - (vii) collect, monitor and treat leachate;
 - (viii) collect, monitor and discharge gas from the solid waste facility;
 - (ix) fence and secure the Facility from scavengers and prevent unauthorized access of other persons; and
 - (x) take measures to control potential environmental nuisance, including but not limited to, odours, litter, pests, insects, rodents and birds;
- (b) maintain the Facility and develop a comprehensive maintenance management program for the Facility;
- (c) develop and manage programs to train and advance the skills of the Operator’s Personnel;
- (d) carry out all customer relations and services functions including weighing of waste received at the Processing Facility and Refuse Matter disposed at Scientific Landfill Facility, and assisting the Owner in the solid waste billings and collections functions of the Owner as required under the Contract;
- (e) plan and manage the implementation of the Repair and Rehabilitation Plans including periodic replacement and augmentation of Facility at its own cost;
- (f) provide periodic reports on the operation and management of the Facility;

- (g) except as otherwise provided, carry out all management, financial and administrative responsibilities relating to the disposal of solid waste at the Facility,
- (h) as set out in this Operations Services Appendix.

2.2 General Provisions Applicable to Plans and Programs

2.2.1 List of Plans and Programs

In accordance with this Operations Services Appendix, the Operator is required, in addition to its other responsibilities, to develop the following:

- (a) an Operations Start-up Plan/Program including a detailed and comprehensive program for each of the following:
 - (i) Sampling and Monitoring;
 - (ii) Scavenging Management;
 - (iii) Occupational Health and Safety;
 - (iv) Source Separation;
 - (v) Environmental Management and Mitigation;
 - (vi) Maintenance Management;
 - (vii) Financial Management and Customer Services Information Systems; and
 - (viii) Community Liaison and Public Education;
- (b) an Operations Plan/Program including,
 - (i) Operations Plan;
 - (ii) Standard Operating Procedures;
 - (iii) Operations and Maintenance Manuals;
 - (iv) Materials Management Plan
 - (v) Closure and Rehabilitation Plan; and
 - (vi) Transition Plan; and
- (c) an Asset Management Program including,
 - (i) Mid-Term Condition Survey;
 - (ii) Final Condition Survey; and
 - (iii) Asset Remediation Plans; and
- (d) an Annual Data Report.

2.2.2 General Requirements for all Plans and Programs

With respect to each of the plans and programs listed in OSA Section 2.2.1 the Operator shall meet the following requirements:

- (a) The Operator shall submit each of the plans and programs to the Independent Engineer in the language set out in the SCC for its review and approval.
- (b) In its preparation of the plan and programs, the Operator shall consult with the Independent Engineer as the documents are being developed.
- (c) The Operator shall begin the implementation of the recommendations of the plans and programs in accordance with the implementation schedule or timing set out in the plans and programs upon receiving approval of the plans and programs from the Independent Engineer.

- (d) The Operator shall review and update each of the plans and programs annually and shall include summaries of the reviews, updates and revisions in the Annual Reports.
- (e) The Operator shall provide a status report on the implementation of all recommendations set out in the documents as part of the Monthly Reports and Annual Reports.
- (f) The plans and programs shall be implemented by the Operator at the Operator's expense.

2.2.3 Consistency among Plans and Programs

The Operator shall ensure that all plans and programs required to be developed pursuant to this Operations Services Appendix and all recommendations contained therein are consistent and in compliance with Applicable Law, and are developed in accordance with the General Quality Standards as defined in the Technical Standards Appendix.

ARTICLE 3 - OPERATIONS START-UP PLANS AND PROGRAMS

3.1 Operations Start-up Plan - General

The Operator shall develop and implement an Operations Start-up Plan that includes the plans, programs and activities described in OSA Sections 3.2 to 3.6.

3.2 Sampling and Monitoring Program

- (1) The Operator shall develop the Facility's waste characterisation, landfill, gas, leachate, groundwater and surface water sampling and monitoring programs (the "Sampling and Monitoring Programs"). The Sampling and Monitoring Programs shall include,
 - (a) detailed rationale, methodologies, procedures, protocols and locations and schedules for all sampling and testing processes carried out under the Sampling and Monitoring Programs;
 - (b) a program to inspect, sample, monitor landfill and characterise the wastes delivered to the Facility;
 - (c) a program to sample and monitor landfill gas generation, collection and emission from the Facility;
 - (d) a program to sample and monitor the generation, accumulation, collection, and treatment of the leachate at the Facility and the discharge of treated leachate effluent from the Facility;
 - (e) a program to sample and monitor the quality of groundwater and surface water at the Facility and at neighbouring properties;
 - (f) a program to monitor whether the Facility is complying with standards prescribed under the Applicable Law and any regulatory approvals for the Facility;
 - (g) a detailed protocol for immediately notifying the Owner and any relevant regulatory authority of the failure to meet the standards of the Sampling and Monitoring Programs; and
 - (h) a protocol for addressing any non-compliance of the Facility to meet or to adhere to operational criteria as contemplated by, or stipulated under, the Environmental Management and Mitigation Plan.

(2) The Owner may in its sole discretion require the Operator to take samples on the Owner's behalf for the purpose of allowing the Owner to review the testing and laboratory analysis program of the Operator.

3.3 Scavenging Management Program

The Operator shall develop a program (the "Scavenging Management Program") to prevent uncontrolled scavenging at the Facility, which shall include a program to permit scavenging of wastes at designated locations at the Facility prior to the compaction and covering of the waste.

3.4 Occupational Health and Safety Program

(1) The Operator shall develop the occupational health and safety practices, programs and manuals and develop a comprehensive occupational health and safety program for the protection of the Operator's Personnel, and all other persons who may attend at the Facility (the "Occupational Health and Safety Program").

(2) The Occupational Health and Safety Program of the Operator shall include a description of how the Operator will,

- (a) carry out all occupational health and safety responsibilities in respect of the Facility as required under the Applicable Law;
- (b) develop medical screening for the Operator's Personnel;
- (c) provide ongoing occupational health and safety training for the Operator's Personnel;
- (d) provide appropriate clothing and protective equipment to Operator's Personnel and all other persons visiting the Facility;
- (e) brief and advise any other person who attends the Facility of the applicable provisions of the Occupational Health and Safety Program;
- (f) develop and manage all required occupational health and safety reporting procedures; and
- (g) manage all occupational health and safety claims.

3.5 Environmental Management and Mitigation Plan

(1) The Operator shall be responsible for all aspects of environmental mitigation at the Facility including all matters listed in OSA Section 3.6 and shall develop a plan for environmental mitigation (the "Environmental Management and Mitigation Plan").

(2) The Environmental Management and Mitigation Plan shall include programs to mitigate environmental impacts at the Facility and neighbouring properties, including,

- (a) odour minimization;
- (b) mud prevention and reduction by, among other things, grading and draining roads, clearing site entrances, and providing wash or wheel cleaning facilities at site exits;
- (c) dust prevention and reduction by, among other things, vegetating exposed areas, covering exposed stockpiles and applying dust suppressants to roads;
- (d) noise prevention and reduction by, among other things, limiting the hours of equipment usage, using mufflers, silencers and using fencings, noise screening or berms;
- (e) site litter prevention, collection and disposal by, among other things, using portable litter fences that are cleaned regularly, litter patrols to pick up litter within the Site, at the Site perimeter and off-Site, and covering incoming trucks;

- (f) the identification and temporary storage of unacceptable wastes including hazardous industrial, radio-active, biomedical and asbestos wastes and animal carcasses and the provision of assistance to the Owner in the off-Site disposal of the unacceptable wastes;
- (g) the mitigation of public health and safety concerns about rodents, insects, birds and pests by, among other things, applying daily and intermediate cover, eliminating areas of standing water, and employing control and culling programs; and
- (h) the mitigation of visual impacts of the Facility by using berms and screening, among other things.

3.6 Maintenance Management Program

- (1) The Operator shall develop a comprehensive maintenance program for the Facility and the equipment (the “Maintenance Management Program”).
- (2) The Maintenance Management Program developed by the Operator shall include,
 - (a) a corrective maintenance program;
 - (b) a preventive maintenance program;
 - (c) the development of a computerised maintenance management system;
 - (d) a program for all maintenance activities required to maintain any warranties related to the Facility;
 - (e) a vehicle and equipment maintenance program;
 - (f) the identification of essential spare parts and the maintenance of practicable inventory levels of such essential spare parts; and
 - (g) a system of planning, scheduling and recording all maintenance activities.

3.7 Financial Management and Customer Services Information Systems Program

- (1) The Operator shall carry out a comprehensive review of the existing information systems in respect of the Owner with respect to all matters relating to,
 - (a) financial management, including accounting systems;
 - (b) the billings and collection systems; and
 - (c) Customer service, including data bases relating to complaints and questions and response times with respect to complaints and questions,

(the “Financial Management and Customer Services Information Systems Plan”).

- (2) The Financial Management and Customer Services Information Systems Plan shall include,
 - (a) an analysis of existing information systems; and
 - (b) a review of existing accounting systems and developing the Operator’s accounting systems based on international standards.

3.8 Community Liaison and Public Information Program

- (1) The Operator shall develop a community liaison and public education program (the “Community Liaison and Public Education Program”).
- (2) The Community Liaison and Public Education Program developed by the Operator shall include,
 - (a) procedures for receiving, handling and resolving complaints from members of the public about the Facility;
 - (b) public education about the Facility including landfill tours and outreach programs;

- (c) programs to encourage waste reduction, waste diversion and the reuse and recycling of wastes; and
 - (d) training municipal staff in the operations of the Facility.
- (3) The Operator shall consult and liaise with other organisations and government agencies carrying out public education programs related to waste treatment and disposal before the development of the Community Liaison and Public Education Program and during the implementation of the program.

3.9 Materials Management Plan

The Operator shall develop a plan for the management, marketing, handling and sale of source separated materials delivered to the Site (the “Materials Management Plan”).

ARTICLE 4 - OPERATIONS PLAN/PROGRAM

4.1 Operations Plan/Program – General

The Operator shall develop and implement an Operations Plan/Program that includes the plans, programs and activities set out in OSA Sections 4.2 to 4.6.

4.2 Operations Plan

The Operator shall develop a plan in respect of operations at the Facility (the “Operations Plan”). The Operations Plan shall include a plan or program with respect to,

- (a) establishing and maintaining entrances including the posting of signs at the Facility;
- (b) monitoring and recording access to the Facility;
- (c) establishing and maintaining an office at the Facility;
- (d) managing workshops, stores and warehouses;
- (e) managing all aspects of exterior lighting;
- (f) providing mobile plant;
- (g) managing the physical plant, including the leachate collection, transfer and treatment systems and gas collection and emission systems;
- (h) providing and maintaining telephone, electric and other utility services;
- (i) providing and maintaining fencing to secure the Facility;
- (j) establishing a waste reception area;
- (k) classifying, sorting, storing and stockpiling wastes;
- (l) classifying, and storing and processing wastes that are not acceptable for disposal at the Facility;
- (m) developing plans for access to roads and the management of roads and onsite traffic movement;
- (n) preparing cells to receive waste;
- (o) placing waste in cells and providing direction to waste haulers at the tipping face;
- (p) maximising cell capacity and compacting waste including maximizing diversion of wastes delivered to the Site from landfilling;
- (q) performing periodic surveys of the waste disposal area for the purpose of testing and evaluating compaction rates;

- (r) selecting and applying daily and intermediate cover to the waste and minimising the open tipping face; and
- (s) managing contingencies, including wet weather planning.

4.3 Standard Operating Procedures

- (1) The Operator shall prepare standard operating procedures for the Facility (the “Standard Operating Procedures”).
- (2) The Operator shall update the Standard Operating Procedures on an ongoing basis to reflect any changes to the Facility.

4.4 Operations and Maintenance Manuals

- (1) The Operator shall prepare operations and maintenance manuals for the Facility (the “Operations and Maintenance Manuals”).
- (2) The Operator shall ensure that the Operations and Maintenance Manuals are developed with respect to the Facility and all vehicles and equipment under the Operator’s control.
- (3) The Operator shall update the Operations and Maintenance Manuals on an ongoing basis to reflect any changes to the Facility.

4.5 Closure and Rehabilitation Plan

The Operator shall develop a plan for the closure and rehabilitation of cells at the Facility (the “Closure and Rehabilitation Plan”), which shall include,

- (a) selecting, applying and maintaining an impervious cover material and growing vegetation on the cells;
- (b) testing and monitoring of leachate and gas from cells;
- (c) maintaining the security of closed cells;
- (d) grading and contouring of closed cells; and
- (e) rehabilitating of closed cells.

4.6 Transition Plan

- (1) At least two years prior to the End Date, the Operator shall develop a plan to hand-over the Facility to the Owner or the Subsequent Operator at the end of the term of the Contract (the “Transition Plan”).
- (2) The Transition Plan shall include,
 - (a) plans to transfer the Facility to the Subsequent Operator;
 - (b) transition plans with respect to the Operator’s Personnel including a plan for transition of the Operator’s Personnel to a Subsequent Operator;
 - (c) a proposed process for the transfer of all Contract Records to the Owner;
 - (d) plans to transfer operations and maintenance functions to the Subsequent Operator; and
 - (e) a program to train staff of the Owner in all aspects of the operation and maintenance of the Facility.
- (3) No later than 6 months prior to the End Date, the Operator shall carry out the training program prepared in accordance with OSA Section 4.6(2)(e).

ARTICLE 5 - ASSET MANAGEMENT PROGRAM

5.1 Asset Management Program – General

The Operator shall develop and implement an Asset Management Program that includes the plans, programs and activities described in OSA Sections 5.2 and 5.3.

5.2 Mid-Term and Final Condition Surveys

(1) Prior to the end of every third year in the Operations Services Period, the Operator shall conduct a condition survey of the Facility (the “Mid-Term Condition Survey”).

(2) Prior to the End Date, the Operator shall conduct a condition survey of the Facility using the Mid-Term Condition Survey as a guide (the “Final Condition Survey”).

5.3 Asset Remediation Plans

At the same time that the Operator prepares the Mid-Term and Final Condition Surveys, the Operator shall prepare and submit to the Owner for the approval of the Owner a plan to remediate any deficiencies in the Facility (the “Remediation Plans”) including plans to remediate the impact of leachate, gas or other effects of the Facility on the site and surrounding area.

ARTICLE 6 - ANNUAL DATA REPORT

6.1 Annual Data Report

(1) The Operator shall carry out a comprehensive review of the operations, maintenance, administration and commercial performance of the Facility in the first year of operations (the “Annual Data Report”), and shall report to the Owner on its findings.

(2) The Operator shall update the Annual Data Report for each year of the contract Term and shall report to the Owner on its findings.

(3) The Annual Data Report shall include,

- (a) quantitative and qualitative data with respect to and analysis and a description of, the level and quality of performance of the Facility in the first year of operations including data, analysis and descriptions with respect to,
 - (i) volumes of waste received from Collection & Transportation Operator, sorted and stored and their classifications and volume of waste received at the Site that is diverted from landfill (and method of diversion);
 - (ii) volumes of waste disposed of at the Facility and the actual compaction rates achieved;
 - (iii) the remaining capacity of the Facility and its projected life;
 - (iv) level, type and frequency of maintenance of the Facility, vehicles and equipment;
 - (v) type and frequency of breakdown and breakdown repairs to the Facility and vehicles and equipment;
 - (vi) response times for breakdown repairs;
 - (vii) events which resulted in the temporary closure of the Facility and/or the suspension of Facility operations;
 - (viii) the volume and type of cover material used;
 - (ix) the effectiveness of the leachate and gas collection systems;
 - (x) the volumes of leachate and landfill gas collected and treated and the volume of treated leachate effluent discharged off-site and landfill gas emitted off-site;
 - (xi) the condition of groundwater and surface water at the Facility and the impacts of the Facility on the groundwater and surface water off-site;

- (xii) the effectiveness of any security systems to prevent scavenging; and
- (xiii) the effectiveness of programs to control environmental nuisances, including odours, litter, pests, insects, rodents and birds;
- (b) an analysis and description of the level and quality of performance of the Facility in the first year of operations with respect to billings, collection and customer service including an analysis and description of,
 - (i) billing and collection losses including an analysis of unpaid accounts; and
- (c) an analysis and description of the customer service including an analysis and description of the handling of customer complaints and percentage of queries or complaints that were resolved during the Customer's first contact with the Facility; and
- (d) an analysis and description of key characteristics of the Facility's work force in the first year of operations including statistics with respect to overtime, absenteeism, days lost to workplace accidents, productivity and staff training.

(4) The Operator shall include, in the Annual Data Report, all calculations, estimates and assumptions, including those used to measure performance in respect of and to calculate, estimate and set the base line standards.

(5) Prior to the Operator's review pursuant to OSA Section 6.1(1), the Operator shall submit to the Owner a proposed outline of the Annual Data Report for review and approval by the Owner.

ARTICLE 7 - GENERAL SERVICES

7.1 Procurement – Contingency Fund (deleted)

Deleted.

7.2 User Charges and Revenue Generation

(1) At the request of the Owner, the Operator shall provide advice and assistance to the Owner in respect of all matters relating to the establishment of User Charges for Customers and the generation of revenues from the Facility.

(2) The Operator's advice and assistance shall include,

- (a) providing assistance to the Owner in all negotiations and discussions with regulators;
- (b) providing financial modelling;
- (c) providing background information and expert advice with respect to the setting of User Charges, including advice on international trends and approaches to User Charges;
- (d) conducting research and investigation on various User Charges related matters; and

(3) The Operator shall be free to generate revenue through sale of recyclable waste and by-products of treatment plant or use the same for commercial purposes. However, if the Operator fails to generate revenue as aforesaid or use the recyclable waste or by-products of

treatment plant for envisaged commercial purpose(s), the Owner shall not be responsible in any manner and shall not compensate the Operator in any manner whatsoever.

7.3 New Technologies, Regulatory Matters and Corporate Communications

The Operator shall advise, assist and provide technical expertise to the Owner in all matters relating to,

- (a) new technologies available in the marketplace in respect of the Facility and the Owner's activities and responsibilities;
- (b) legal requirements proposed by regulators;
- (c) proposals for changes to existing regulatory requirements; and
- (d) media relations and issues.

7.4 Financial, Administrative and Regulatory Management

The Operator shall manage all day-to-day financial, administrative and regulatory matters with respect to the operation of the Facility, including,

- (a) keeping proper accounts according to international standards;
- (b) day to day information systems management;
- (c) day to day procurement management;
- (d) preparation of reports required by any regulators or government authorities and discussions with regulators and government authorities; and
- (e) management of all permits and licences.

ARTICLE 8 - SOLID WASTE DISPOSAL OPERATIONS

8.1 Inventory Management

8.1.1 Inventory Management

(1) The Operator shall manage and monitor the inventory of vehicles, equipment, materials and supplies.

(2) The Operator's inventory management and monitoring shall include,

- (a) keeping a record of the cost of vehicles, Equipment, Materials and Supplies used subdivided by profit centres according to a chart of accounts codes;
- (b) maintaining a comprehensive analysis of equipment, materials and supplies kept in storage as well as an analysis of acceptable minimum levels of Equipment, Materials and Supplies kept in storage and appropriate re-order levels;
- (c) maintaining an ability to carry out a stocktaking and inventory reconciliation process;
- (d) carrying out an ongoing review of procedures and forms;
- (e) establishing an internal system control method, including audit trails;
- (f) carrying out an analysis of stocks, costing and turnover; and
- (g) carrying out an analysis of the information systems with respect to inventory management functions.

8.2 General Solid Waste Processing Facility and Disposal Facility Operation Services

8.2.1 Operations

The Operator shall have responsibility for all operations at the Facility, including all matters listed in OSA Section 4.2, and shall operate the Facility in accordance with the Operations Plan.

8.2.2 Surface Water Management

The Operator shall be responsible for the management of surface water at the Facility and the management of the effects of the Facility on surface water at neighbouring properties including,

- (a) ensuring the proper drainage of the Facility;
- (b) minimising the amount of soil and sediment entrained in run-off and carried off-Site;
- (c) collecting, storing and treating polluted surface water and maintaining temporary storage facilities for polluted surface water pending treatment;
- (d) monitoring surface water and impacts of the Facility on surface water; and
- (e) remediating impacts of the Facility on surface water.

8.2.3 Groundwater Management

The Operator shall be responsible for the management of groundwater at the Facility and the management of the effects of the Facility on the groundwater of neighbouring properties including,

- (a) establishing groundwater flow patterns, seasonal groundwater elevations and the rate of groundwater flows;
- (b) constructing wells or using existing wells to obtain representative upstream and downstream samples of groundwater flow, baseline groundwater quality and the type and extent of any contamination originating from the Site or the Facility; and
- (c) carrying out remedial measures to mitigate the impacts of the Facility on groundwater, including making operational changes.

8.2.4 Leachate Collection and Treatment

The Operator shall be responsible for collecting and treating leachate at the Facility, including,

- (a) monitoring the quality of leachate at the Facility and the quality and volume of leachate that is collected by the leachate collection system;
- (b) monitoring the head of leachate above the engineered barrier or liner;
- (c) managing, operating and maintaining all leachate collection systems such as pipes, pumps and other equipment associated with the leachate collection system;
- (d) treating leachate and testing treated leachate prior to its disposal or discharge; and
- (e) disposing or discharging of leachate.

8.2.5 Landfill Gas Management

The Operator shall be responsible for the management of landfill gases at the Facility including,

- (a) the monitoring of gases discharging from the Facility;
- (b) the extraction of gases from cells at the Facility;
- (c) where applicable, a program for the venting, flaring or beneficial use of landfill gases; and
- (d) the monitoring of the levels of gases and the potential explosiveness of gases inside buildings at the Facility, outside buildings at the Facility, and at neighbouring properties.

ARTICLE 9 - MAINTENANCE OF THE FACILITY AND EQUIPMENT

9.1 General Maintenance Services

The Operator shall carry out all corrective and preventive maintenance programs for the Facility and the equipment in accordance with the approved Maintenance Management Program.

ARTICLE 10 - REPAIR, REPLACEMENT AND REHABILITATION, CONTINGENCY AND CAPITAL INVESTMENT PROGRAM

10.1 Repair, Replacement and Rehabilitation and Contingency

10.1.1 Repair, Replacement and Rehabilitation of the Assets

(1) The Operator shall carry out or caused to be carried out all repair, replacement and rehabilitation of the Facility and Site and as required for the ongoing operations of the Facility.

(2) The Operator's obligation to carry out all repair, replacement and rehabilitation shall include all repair, replacement or rehabilitation related to,

- (a) the Facility or any part thereof; including,
 - (i) Processing Facility
 - (ii) Weigh scales/ weighbridge
 - (iii) Scientific Landfill Facility with special emphasis on
 - (A) the leachate collection, transfer and treatment system;
 - (B) the surface water management system;
 - (C) the groundwater management system; and
 - (D) the landfill gas management system
- (b) the Site or any part thereof; and
- (c) the Operator's Equipment (Operations),

during the term of the Contract.

(3) The Operator's obligation to carry out repair, replacement and rehabilitation shall exclude only a repair, replacement or rehabilitation that was,

- (a) directly caused as a result of a Force Majeure event;
- (b) Unforeseeable; or
- (c) directly caused as a result of a War Risk;

10.1.2 Contingency Fund (Deleted)

10.2 Capital Investment Program

(1) Apart for the Design-Build Services, the Operator shall also be responsible for carrying out any capital investment programs for expansion or increase of capacity of Processing Facility and Scientific Landfill Facility or any part thereof so as to be able to process 100% throughput of solid waste generated in Service Area throughout the Contract Duration.

ARTICLE 11 - FINANCIAL MANAGEMENT AND CUSTOMER SERVICE

11.1 Customer Services and Financial Management Services

11.1.1 Billings and Collection [Deleted]

11.1.2 Waste Measurement

The Operator shall,

- (a) install and secure separate computerised weigh scales and supporting data base management system at the Processing Facility and Scientific Landfill Facility in accordance with general instructions from the Owner;
- (b) read the weigh scales in accordance with general instructions of the Owner each time a Customer enters or leaves the Facility;
- (c) register all weigh scale readings in the appropriate computer database;
- (d) develop a monitoring program to ensure the accuracy of the calibration of the weigh scales, provide written reports on the results of the monitoring program, and develop methods to improve the weigh scale reading process to ensure greater accuracy and improve any deficiency;
- (e) respond to reports of the malfunctioning of the weigh scale operation;
- (f) provide daily reports to the Independent Engineer of the quantity and types of waste entering the Processing Facility;
- (g) monitor and weigh the amount of waste separated from wastes recieved at the Processing Facility that is not disposed of at the Facility; and
- (h) monitor the amount of waste that is deposited at the Scientific Landfill Facility.

11.1.3 Complaints

The Operator shall,

- (a) establish and implement procedures for receiving, handling and resolving complaints from members of the public about the Facility; and
- (b) establish and implement procedures for receiving, handling and resolving complaints from customers.

ARTICLE 12 - QUARTERLY AND ANNUAL REPORTS

12.1 Monthly Reports

(1) In addition to any other reports required, the Operator shall prepare and deliver to the Owner once every three months a report (the "Independent Engineer") in the language specified in the SCC that includes, but is not limited to, the following,

- (a) a progress report on each of the documents listed in OSA Section 2.2.1;
- (b) where applicable, a report on the implementation of the recommendations of the documents in OSA Section 2.2.1;
- (c) a report on the performance of the Operator as measured based on the Technical Standards;
- (d) an environmental quality monitoring report including information about landfill gas collection and emissions, leachate collection and treatment, groundwater and surface water quality, and scavenging, pest control,

security, litter, dust and noise emissions, and other matters relating to environmental issues;

- (e) a report on the physical inspection and safety deficiencies of the Facility;
- (f) a financial report in respect of operations and maintenance costs;
- (g) a revenue, billings and collection report including data with respect to unpaid accounts;
- (h) information about the volume of waste delivered at the Facility, stored at the Facility, disposed of at the Facility and the compaction rate; and
- (i) summary of complaints received and response times.

(2) The Independent Engineer shall be delivered no later than 15 days after the last day of the quarter for which the report applies.

12.2 Annual Report

The Operator shall, no later than 30 days after the last business day of each Contract Year, submit to the Owner an annual report (the "Annual Report") in the language specified in the Special Conditions of Contract summarising the activities of the Operator in the previous Contract Year in the areas described in OSA Section 12.1 and any other information that may be required by the Owner.

APPENDIX 3C: TECHNICAL STANDARDS APPENDIX

TECHNICAL STANDARDS APPENDIX

APPENDIX 3C TO THE CONTRACT

FOR A CONTRACT TO OPERATE

**MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL
CORPORATION**

ARTICLE 1 - GENERAL

1.1 Documents Comprising the Technical Standards Appendix

- (1) The Technical Standards Appendix consists of,
 - (a) the Technical Standards General Provisions;
 - (b) the Technical Standards Appendix Chart; and
 - (c) Attachment 1 – Tests to be carried out by the Operator.
- (2) The Technical Standards Appendix Chart sets out the technical standards with reference to the Design-Build and Operations Services Appendices Sections.

1.2 Supplementing the General Conditions and Design-Build or Operating Services Appendix

The Technical Standards Appendix supplements the General Conditions and the Design-Build and Operations Services Appendices for the purpose of providing greater specificity of the technical standards which the Operator is required to meet.

ARTICLE 2 - THE TECHNICAL STANDARDS CHART

2.1 Design-Build or Operations Services Appendix Description

The descriptions contained in the column of the Technical Standards Appendix Chart entitled, “Description of Service” are for the convenience of the Operator and do not supersede the actual wording of the Design-Build and Operations Services Appendices.

2.2 General Quality Standards

- (1) The term “General Quality Standard” means a standard of performance which,
 - (a) is competent, efficient, economical and in accordance with internationally accepted techniques used in the waste disposal and civil works construction industries;
 - (b) is in accordance with professional engineering, accounting and consulting standards, as applicable, recognized by national or international professional bodies;
 - (c) is in accordance with sound management, commercial, technical, design and engineering practices;
 - (d) employs appropriate technology and safe and effective equipment, machinery and methods;
 - (e) is in accordance with national and local standards and codes in the Owner’s Country;
 - (f) protects the interests of the Authorities;
 - (g) is in accordance with the Applicable Law;
 - (h) is in accordance with the technical specifications and design standards of the Owner as provided to the Operator;
 - (i) is in accordance with the applicable Environmental Assessment and Environmental Management and Mitigation Plan; and
 - (j) is in accordance with the Design-Build Documents as approved by the Owner.
- (2) In the event of any conflict or inconsistency between any standards that comprise the General Quality Standard, local and national standards in the Owner’s Country shall prevail over international standards.

(3) The Operator shall, at all times, carry out the Services in accordance with the Technical Standards as specified and, where a specific technical standard of quality of performance has not been specified, the Operator shall perform the Services to the standard of “General Quality Standards” set out in Section 2.2(1) of the Technical Standards Appendix.

(4) If the Owner is subjected to fines or penalties as a result of the Operator’s breach of these Technical Standards, such fines or penalties shall be paid by the Operator

2.3 Design-Build Services

(1) In respect of the Design-Build Services, the Operator shall ensure that the design of the Facility is prepared by qualified designers who are professionally recognized to design the Facility.

(2) The Operator warrants that the Operator and its designers and design Subcontractors have the experience and capability necessary for the design.

2.4 Minimum Development Obligations

A. Secondary Transfer Station with 2 no. Portable Compactors each at all the 5 sites:

i. Civil Works (all the works shall be designed as per the relevant Indian Standard codes and approved by Independent Engineer)

- a. Shed: The structure should be an RCC framed structure designed as per the relevant IS codes. The structure should have an M. S. Roofing system with suitable protective coating and support system of trusses and purlins design as per the relevant Indian Standard codes. The structure should be covered by brick masonry walls from all sides and have openings with ventilators and rolling shutters large enough for the movement of vehicles for the project. The Shed should have a minimum clear height of 5.2 meters and minimum area of 9m x 9m and should be sufficient to accommodate the working of 2 no. 10.5 cum capacity portable compactors.
- b. Concrete flooring: The flooring should be impermeable and designed to withstand the load impacts from the vehicles used for collection and transportation of waste. The floor should further be able to withstand the load from the portable compactors.
- c. Drainage system with leachate collection tank: The leachate generated from the compaction of waste should be collected from the drains and stored in an underground leachate collection tank (at least 4 m³ or capacity sufficient for catering to 2 days of leachate generation whichever is higher). The leachate shall be transported to the ETP at the disposal site using vacuum trucks. The leachate collection tank should have access for the vacuum truck for emptying the tank.

ii. Plant and Machinery

a. Portable Compactor: The Portable Compactor should have the following technical specifications:

- Total Volume : Min 10.5 m³
- Cycle Time : Around 45 sec
- Packing pressure : Min 200 bar
- Packing Thrust : Min 230 KN
- Electric Motor : Min 3.7 KW Single Phase

- Exterior dimension (approx) : L= 4880mm, W=2250mm H=2040mm
- One hydraulically operated device to receive and unload the waste in to container i.e. Tip cart capacity should be approx. 450 litre.
- All Hydraulic Cylinders and allied components and all hydraulic pumps must be from manufacturers of ISO 9001 : 2008 certified.
- A compactor container body shall be 10.5 cum so that the same can be lifted by Hook Loader mounted on 16 MT GVW chassis for transportation and unloading of compacted garbage at the dumping ground.
- The compactor shall be of front loading type with a hydraulic operated device to receive waste from hand cart approx 2 to 3 hand carts / 1 to 2 tricycle vans at a time and unload the same waste in to the container.
- The container shall be provided with leachate collection tray for collection of leachate during compaction of garbage & there should be suitable drainage system to the leachate collection tank.
- The size of charge chamber of the compactor shall be minimum 2 cum.
- The floor of charge chamber shall be approx. 8mm. thick wear resistance plate & shall be supported by longitudinal members intermediate bracing. All side walls & top of the container must be strong enough for smooth service throughout it's service life.
- The compactor cycle shall be minimum 0.8 cum per cycle & shall be between 30 – 50 seconds.
- The compactor force shall be approx. 230 – 240 K.N
- The compactor head shall be powered by Hydraulic power unit.

b. Hook Loaders (minimum 4 no.):

The vehicle should be truck chassis mounted, Rear Loading Hook Loader capable of lifting fully filled min 10.5 M³ capacity Portable compactor. The machine should have self loading and unloading features. The main structure of the equipment to be of a robust construction specially designed for heavy duty applications.

The unit to have one pair of specially articulated strengthened steel boom arms linked through a tie-rod, that move about the hinged axis on the chassis, to load and unload the Portable compactor, filled with waste material.

The loading and unloading of the Portable compactor to be done by the reverse and forward movements of the hydraulic cylinders connected to Hook loader arms. There should be two emergency light on cabin.

Stabilizers to be provided at suitable locations along the rear of the vehicle to ensure vehicle stability during the loading & unloading cycle of operation.

All Hydraulic Cylinders, allied components and all hydraulic pumps must be from manufacturer of ISO 9001:2008 certified company. (Documents to be provided with offer). The details specification of Hydraulic Cylinders, Stabilizers are to be given justifying that those are capable to lift / load / unload the fully loaded 10.5 m³ portable compactor.

Engaging / disengaging of the vehicle PTO to be performed from inside the cabin. Other controls / operating levers to be provided outside and inside the cabin at a convenient location, for easy operations.

The chains and hooks provided to lift the Portable compactor must be specifically strengthened to lift such heavy loads.

The Chassis to be supplied by the supplier with a factory fitted split shaft PTO and one no Hydraulic Jack.

The following minimum technical specifications of the vehicle must be provided:

Manufacturer & Model : Reputed manufacturer with standard design make EURO IV (BSIV) compliant chassis as per Govt. notification

GVW : Min 16 MT
 HP : Min 130 HP
 Wheel Base : 4200 mm. (approx.)
 Engine : 6 Cylinder and water cooled
 Tyre : 10.00 X 20 - 16 Ply
 Diesel Tank : Capacity – 100 Ltr. (min.)

The following minimum technical specifications of the Hydraulic System should be maintained:

Pump: Gear/Axial piston type coupled to PTO.

Max. operating pressure 140 bar

Control valve: Two spools DC type with built in relief.

Hydraulic Cylinders: 2 nos. double acting for boom arms.
 1 or 2 nos. double acting for stabilizer.

Hydraulic Tank: 50 Ltrs capacity with accessories like filler-cum breather, level gauge, line isolator valve and drain plug.

- Self weight of the hook Loader should be approx. 2 Ton.
 - Hook height should be less than 1600 mm
 - Tipping time should be 30-35 seconds.
 - Loading & unloading time should be approx. 30-35 seconds respectively.
 - Ground rail supply & fitment to be provided.
- c. Vacuum Truck for leachate collection and transportation (min. 1 no.):
- The vehicle should have a minimum tank capacity of 4000 litres with carbon steel body. Vacuum Pump with suction lift of 6m equipped with wire strengthened hose.
 - The minimum specifications of the vehicle

Engine	Power	102 Ps (75 KW)
	Displacement	2672 ml
	Emission Standards	To meet the latest MoEFCC / CPCB / NGT notification
Chassis	Wheel base / no. of axle	3360 / 2
	Tyre Specification	7.00 - 16

B. Processing Facilities (All the components under the processing plant shall be covered with M.S. shed):

i. Compost Pad (Minimum Area – 10510 sqm)

The Compost Pad is the area where the accepted waste from Pre-Sorting operation is stacked into Windrows. The Compost Pad must be stable, durable and impervious. It is to be constructed with an appropriately designed pavement combination of RCC and PCC as per relevant IRC and Indian Standard codes. The compost pad shall have a slope of about 1% to drain the excess water (storm water or leachate) from the windrows into a leachate collection tank. The Shed will have a height of 6 meters. M.S. Roofing needs to be provided with suitably designed trusses, purlins, Columns etc. Based on the operational requirement, the shed may be open or have side cladding / brick masonry walls. The RCC foundation to be designed according to the geotechnical conditions of the site.

The design of the Compost Pad should be designed to meet the following conditions:

- The base has to provide a barrier to prevent the percolation of leachate and/or nutrients to the sub-soil and groundwater.
- The surface has to facilitate equipment movement even during wet weather conditions.
- The surface area has to accommodate waste for 3 weeks, with sufficient room for equipment to manoeuvre and an area to establish a static pile for curing compost.
- The space between windrows should be sufficient for movement of the windrow turning vehicles to be employed in the plant.

ii. Tipping Area (Minimum area – 600 sqm)

This area is essential for overall smooth functioning and regulated flow of MSW feedstock into the processing area. The tipping area should be adequately sized shed (sides open) to receive predetermined quantities of waste daily.

The shed would be of 6m height and should have M. S. sheets with suitably designed trusses, purlins, columns and RCC foundation. The flooring should be stable, durable and impervious. The area should have proper drains leading to a leachate collection tank, connected to the leachate treatment system.

The area should be large enough to handle daily and weekly variations in waste quantity and should be provided with sheds to cater to wet weather conditions.

iii. Pre-Sorting Facility (Minimum Area – 300 sqm)

Since a lot of dry waste is also expected to reach the facility, a Pre-Sorting Facility is required to recover recyclable material and inerts. The facility shall provide sufficient space for both manual and mechanical separation. The flooring should be stable, durable and impervious. The area should be large enough to handle daily and weekly variations in waste quantity and should be provided with sheds to cater to wet weather conditions. The open shed (6m height) proposed should have M. S. sheets with suitably designed trusses, purlins, columns and RCC foundation.

iv. Curing Section and Preparatory Section (Minimum Area – 400 sqm)

The Waste received from the Monsoon Shed would undergo mechanical screening at the preparatory section. The mechanical equipment for the screening process would be at the Preparatory Section. The preparatory section would be covered by a shed 6m height. The flooring should be stable, durable and should be designed taking into consideration the mechanical equipment installed for screening of the waste received from the Monsoon Shed. The shed should have sufficient space for the reject pads used to collect the rejects from the mechanical screening process.

Curing of the compost would be done after the material from the windrows have been screened. Sufficient area should be provided for the curing operation for 3 to 4 weeks. The flooring should be stable, durable and impervious. Suitably designed PCC and RCC flooring should be provided.

The Shed will have a height of 6 meters. The Floor must be stable, durable and impervious and should be constructed with an appropriately designed combination of RCC and PCC. M.S. Roofing needs to be provided with suitably designed trusses, purlins, Columns etc. Based on the operational requirement, the shed may be open or have side cladding / brick masonry walls. The RCC foundation to be designed according to the geotechnical conditions of the site.

v. Refinement Section (Minimum Area – 300 sqm)

The material received after curing process is further refined in this section to produce the final product. This section would be a covered shed with a height of 8 meters. The Floor must be stable, durable and impervious and should be constructed with an appropriately designed combination of RCC and PCC. M.S. Roofing needs to be provided with suitably designed

trusses, purlins, columns etc. Based on the operational requirement, the shed may be open or have side cladding / brick masonry walls. The RCC foundation to be designed according to the geotechnical conditions of the site.

vi. Finishing Section (Minimum Area – 300 sqm)

The packaging of the final product would be done here. The area shall be covered with M.S. Shed with a height 6m. The Floor must be stable, durable and impervious and should be constructed with an appropriately designed combination of RCC and PCC. M.S. Roofing needs to be provided with suitably designed trusses, purlins, columns etc. Based on the operational requirement, the shed may be open or have side cladding / brick masonry walls. The RCC foundation to be designed according to the geotechnical conditions of the site.

vii. Storage Godown (Minimum Area – 400 sqm)

The Storage Godown should have a sufficient area to store 90 days of produce. The area should be a covered shed with M.S. Sheets and have brick masonry wall on all the sides. . The Floor must be stable, durable and impervious and should be constructed with an appropriately designed combination of RCC and PCC. M.S. Roofing needs to be provided with suitably designed trusses, purlins, columns etc.

viii. Recyclable Storage (Minimum Area – 300 sqm)

The area would be utilized to store the recyclables recovered during the Pre-Sorting stage. The area should be a covered shed with M.S. Sheets and have brick masonry wall on all the sides. . The Floor must be stable, durable and impervious and should be constructed with an appropriately designed combination of RCC and PCC. M.S. Roofing needs to be provided with suitably designed trusses, purlins, columns etc.

ix. Leachate Treatment Plant and Site Leachate Management

The entire SWM processing and disposal facility shall be designed with proper gradient and surface drainage system so that the entire surface runoff is directed towards the leachate collection tank. The Leachate Collection Tank should be designed and constructed for sufficient capacity to cater for the requirements of the facility. The design should be as per the relevant Indian Standard codes. Leachate should be used for moistening the waste placed in the windrows. The excess the leachate produced should be sent to the leachate treatment plant. Suitable technology as per the CPHEEO guidelines and CPCB guidelines should be adopted for the collection and treatment of the leachate. The ETP shall be designed to treat the additional leachate load brought from transported by the Vacuum Trucks from Secondary Transfer Station.

C. Common Facilities required at the Processing and Disposal site

i. Admin Building (Minimum Built-up Area – 400 sqm)

The Admin Building shall be designed to house the main office, meeting hall, quality control lab and other support services. The building should be RCC framed structure with masonry wall. The building should be designed complying to all relevant Indian Standard codes and

National Building Code. The building should be complete in all respect with all necessary fixtures for doors & windows, water supply and electrical installation and suitable finishing for flooring and walls. The same shall be in approved by the Independent Engineer.

ii. Guard Room (Minimum Built-up Area – 15 sqm)

One number of Guard Room is proposed. The type of construction shall be RCC framed structure with masonry walls size 3.0m x 3.0m. The structure should comply with all relevant Indian Standard codes and National Building Code and complete in all respect including all the electrical fixtures, doors and windows, flooring etc as approved by the Independent Engineer.

iii. Weigh Bridge and Cabin

The Weigh Bridge should be suitably located to weigh the fresh waste being received at the site before being transported to the Tipping Area. The minimum platform size should be 9m x 4m and the should have a capacity of 30 MT. A small control room of RCC framed structure and masonry walls of 3m x 3m should be provided complying to all relevant Indian Standard codes and National Building Code. The room should be complete in all respect including all the electrical fixtures, doors and windows, flooring etc as approved by the Independent Engineer.

iv. Staff Vehicle Parking (Minimum Area – 100 sqm)

The staff vehicle parking shall be surface parking covered with MS structure, truss and M.S. or G.I. Sheets with all the sides open. The surface shall be concrete and designed for proper drainage. The pavement shall be designed as per the relevant IRC and Indian Standard codes.

v. Heavy Vehicle Parking and Workshop area (Minimum Area – 1000 sqm)

The Heavy Vehicles Parking should be designed for the parking of all the vehicles in the facility. There should also be sufficient parking space for waste transportation vehicles expected to reach. The parking area shall be suitably designed concrete surface with proper drainage. The surface shall be concrete and designed for proper drainage. The pavement shall be designed as per the relevant IRC and Indian Standard codes.

Workshop is proposed which would include an RCC framed building with partly RCC roof and partly truss with MS or GI sheet roofing for Vehicle Maintenance. Concrete flooring is proposed as per the relevant IRC and Indian Standard codes. The facility for washing of the vehicles should be provided at the workshop.

vi. Internal Roads (Minimum Area of 6900 sqm)

Internal roads should be provided to give access to all the components of the facility. Suitably designed Concrete or Bituminous road shall be provided with proper drainage throughout. The same shall be designed as per the relevant IRC and Indian Standard codes.

vii. Green Belt (Minimum Area of 11040 sqm)

A green belt would be provided to mitigate various emissions. Green belts would be of wide strip of trees and shrubs planted in rows to reduce air velocity there by facilitating settling of the particles on the leaf surfaces and allowing absorption of the pollutant gases. It would

serve to cool the atmosphere by transpiration from the leaf surface and also provide habitat for birds, reptiles and insects. Green belt shall be provided as per the norms of CPHEEO manual, CPCB and MoEFCC.

viii. Gate, Compound Wall and Fencing

Compound Wall shall be provided around the complete perimeter of the facility. The walls shall be Masonry with RCC columns and beams provided at sufficient intervals. The wall should minimum 2m high and shall be properly designed as per the relevant Indian Standard codes. Barb Wire fencing should be provided on top of the wall, designed and installed as per the relevant Indian Standard code.

M.S. Gate should be provided at the entrance. The entrance should be wide enough to allow easy access for all vehicles envisaged for the facility.

ix. Storm Water Drainage

The Storm Water drainage system should be designed to cater for the surface run off and leachate within the project area by gravity flow. Rectangular drains with brick masonry should be adopted for the surface runoff collection. The drains should be designed for easy maintenance and land optimization.

The storm water drainage system should be designed to minimize the leachate generation and prevent pollution of surface water and to divert the storm water from entering the active cell of the landfill.

x. Water Supply

The facility shall be provided with the Water Supply from the relevant source which should be sufficient to meet the requirement of the Compost Plant and Sanitary Landfill. The water will be used for moisturizing the garbage as well as the other plant requirements like washing, cleaning, drinking, etc. Bore-wells should be proposed if water supply is not available at the site. All required infrastructure including water storage reservoir for continuous water supply should be provided. Water distribution system suitably designed as per the relevant Indian Standard codes should be provided for all the components of the facilities.

xi. Electrification of the Site including Street Lighting

The power requirement for the waste processing plant and sanitary landfill including loads of processing equipments, general lighting, street lighting, utility equipments, etc. The required power will be supplied from the nearest substation. The electrical system would include receiving yard, Switchgear room, and distribution system, lighting and earthing system.

All the yard and street should be provided with street lighting not only to assist the movement of vehicles and personnel but also to increase safety and security in the area. It is recommended that all lighting should be by 150W SVL mounted on streetlight columns or on power poles. Average spacing of poles is 30 meter interval.

D. Waste Disposal Facility

i. Scientific Landfill

The Scientific Landfill should be designed for a capacity 30% of the average waste generation of 250 TPD for 20 years. The capacity should take due care of daily cover, lining system and intermediate and final cover.

The landfill should be designed and constructed in 4 phases over a period of 20 years as per the latest CPHEEO manual / SWM Rules and should include the following components:

- Cover and liner system for adequate landfill cell protection, bottom lining, intermediate and final cover;
- Leachate collection, control and treatment system;
- Landfill gas collection/venting system;
- Monitoring systems: monitoring wells and basic laboratory.

E. Plant and Machinery for Processing and Disposal Facility

i. Processing Plant Machineries should be as designed per the latest SWM Rules and CPHEEO and compost generated should meet the parameters mentioned in SWM Rules 2016. Indicative list of equipment for segregation and refinement include:

- Conveyor system for Feed accepted, rejected waste, compost collection.
- Trommels 100mm, 35mm, 16mm, 4mm.
- Static Magnetic Separator.
- De-stoner with dust collection system
- Bag stitching system
- Weighing Scale
- Structural support system for all the components needs to be provided.

ii. Minimum number of Vehicles for Processing Plant and Scientific Landfill

- Compactor (15 T) – 1 no.
- Tractor Mounted Front End Loader (1 cum capacity) – 3 no.
- Frontend Loader with Backhoe (JCB) (1 cum bucket) – 1 no.
- Tipper Truck (10 cum) – 2 no.
- Leachate Discharge Pump – 2 no.
- Tractor Mounted Water Tanker (min 5 KL capacity) with Slurry Pump – 1 no.

F. Operation and Maintenance (O&M) for the Proposed Project Facilities

The Operator would be responsible for the entire O&M of the proposed facilities for the contractual period including repair & maintenance. The O&M should meet the criteria laid out as per the latest SWM Rules and CPHEEO Manual. The Operator will also be responsible to obtain and maintain all the Approvals required for the implementation of the project.

- The Operator shall be responsible for the provision of requisite plant, machinery, vehicles, equipment and other equipment essential for O&M of the Landfill & Processing Facility and Secondary Transfer Stations. This shall also include any

redundancy, spare vehicles/ equipment to meet the Operation and Performance standards as per the latest SWM Rules.

- The Operator will be responsible for the provision of technical inputs, consumable materials and required staff for O&M of the facilities. The cost of power and water required for O&M will be borne by the Operator.
- The Operator shall be responsible for implementation of the Environmental Management Plan as mentioned in the Environmental Clearance and latest SWM Rules.
- The Operator shall be responsible for implementation and bearing the recurring capital cost related to phase-wise implementation of the project as per the latest SWM Rules and CPHEEO including phasing of scientific landfill and replacement of vehicles and machinery as and when required.

Section	Description of Services	Technical Schedule/Performance Standard
DESIGN- BUILD AND OPERATION SERVICES APPENDIX		
ARTICLE 2 – DESIGN SERVICES		
DBSA 2.1.4	Design-Build Documents	<p>Operator shall specify and provide the Owner and the Independent Engineer with the list the engineering codes and standards/norms used at the Facility in no later than 30 days after issue of Notice to Proceed.</p> <p>The Operator shall finalize in consultation with the Independent Engineer/Owner an implementation plan within 30 days after issue of notice period which shall include:-</p> <p>General</p> <ul style="list-style-type: none"> • Prepare Schedule for implementation of the Project indicating milestones specified under this Contract. • The Critical Path Method (CPM)/ Programme Evaluation and Review Technique (PERT) charts or similar activity planning technique/ method for monitoring. This would cover all stages/ aspects of implementation of the Landfill and Processing Facility Construction Works including design and engineering, procurement of materials; • Manpower deployment plan including designation of key personnel for management and supervision of all project activities; • processing facility, sanitary landfilling including Construction Works so as to ensure the desired quality including a well-equipped functional laboratory; • Procurement plan covering details of vehicles ,equipment and machinery that would be used, their locations, and arrangements for conveying and handling materials; • Reporting formats for providing details of the physical progress in implementation of the Project. • The Operator shall Obtain all the required Approvals to commence construction of the Landfill and Processing Facility; • Make its own arrangements for supply of construction material and equipment needed for the

Section	Description of Services	Technical Schedule/Performance Standard
		<p>construction of the Landfill and Processing Facility in accordance with the applicable Laws;</p> <ul style="list-style-type: none"> • Mobilise the requisite resources, personnel and organisations necessary for the same and designated and appointed suitable officers/ representatives as it may deem appropriate with responsibility to supervise construction and for exchange of information with the Independent Engineer and the Owner;
	<p>Equipment and Machinery</p>	<ul style="list-style-type: none"> • Operator will make arrangements for procurement of equipment/ machines, spares, accessories, tyres, tubes, hydraulic oil, lubricants, diesel, petrol etc. for day to day running, operation and maintenance of Secondary Transportation, Treatment and disposal vehicles and equipment. • The technical specification of all the equipment and vehicles shall be approved by the Independent Engineer/Owner.
	<p>Human Resource Deployment</p>	<p>The Operator shall, during the Contract Period, have requisite staff/representatives as required to supervise the work, to deal with public and representatives of Owner and to be responsible for all necessary exchange of information required for performing operations and providing services under this contract.</p> <ul style="list-style-type: none"> • The driver appointed/engaged by the Operator shall have a valid driving licence as desired for the specific vehicle. • No municipal worker will be made available for waste collection, loading and unloading, driving or for any other purpose. Operator shall not hire any person already in services with Owner without approval of Owner. Operator should take affidavit from all his employees that presently he is not working with Berhampur Municipal Corporation. • Uniform for the workers should be inscribed with Berhampur Municipal Corporation name. Operator may also inscribe his company name along with Municipality. The design should be approved in consultation with Owner. Workers shall wear clean uniforms during all periods of operations. • The Operator shall be responsible for health safety measures of his workers. • The Operator shall have to comply with the norms mentioned in the Manual on Municipal solid Waste Management issued by the Central Public Health and Environmental Organization, Ministry of Urban Development, Government of India.

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> • The Operator shall employ skilled, disciplined and sincere drivers, cleaners, helpers and mechanics in sufficient numbers for carrying out loading, unloading and transportation operations at the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract for timely fulfilling of the Operator’s obligations under the Contract and to the satisfaction of Owner. The number of drivers, cleaners and helpers to be deployed for transportation operations will be at the discretion of the Operator. However, the Operator must comply with Labour Laws and must provide the adequate staff for weekly off, leave etc. He shall have to prepare vehicle-wise work distribution plan by considering minimum one driver and two helpers with each vehicle. Besides, sufficient number of drivers and helpers shall be deployed for smooth running of transportation operations during absence of any driver and or helper because of any reason. These are indicatives and for guidance only to deploy the minimum staff. The Operator shall have to deploy the required numbers of desired staff as essential to perform the transportation operations. • Any lack of workforce shall be considered as Operator’s deficiency. The Operator shall ensure sufficient staff for different operations under this Contract. No additional payments will be made, if the increase in the work force and equipment are needed at a later stage to meet the requirement of work. The Operator may, at his own cost and responsibility, increase workforce and equipment in order to meet the requirement of work. The Operator has to ensure presence of adequate workforce to carry out the different task effectively to the satisfaction of Owner and Independent Engineer. • The Manager shall have to be qualified, experienced and competent and authorized by the Operator to take decisions and direct the Coordinators and supervisors. The Manager, Coordinators and Supervisors shall be deemed to have full authority of the Operator and any instructions given to them/him by the Independent Engineer/Owner shall be deemed to have been given to the Operator. The Manager and Coordinators should be easily accessible at all times during the working hours as defined in this bid document and should be contactable at all times. • The Operator shall have to withdraw such person, who is found to be in-disciplined, misbehaving, under the influence of intoxicant or whose services are considered detrimental to the interests of the Corporation’s. The Operator shall be solely responsible for the behavior and honesty of deployed

Section	Description of Services	Technical Schedule/Performance Standard
		<p>Workforce. The Independent Engineer/Owner reserves the right to ask for the replacement of the personnel not found fit enough in respect of discipline, honesty and sincerity. The Operator shall ensure that such person leaves the service area within seven (7) days and has no further connection with operation under this Contract. The Operator shall then appoint or deploy a suitable replacement. Failure to replace the personnel after issuance of notice by the Independent Engineer/Owner will be considered as deficiency in the service.</p> <ul style="list-style-type: none"> • The Operator shall comply with all the provisions of the laws regarding deployment of labor under the contract. It shall be the liability and responsibility of the Operator to implement the provisions of Acts; the Abolition of Contract Labor Act, The Minimum Wages Act, the Workmen’s Compensation Act and Provident Fund Act. • The Operator shall not employ in connection with the operations and services under this contract any person less than 18 years age. • At all times during continuance of the Contract, the Operator shall abide by all existing and future labour enactment and rules made there under, regulations, notifications and bye-laws of the Central, State or Local Government. The Operator shall keep the Corporation indemnified in case any action is taken against the Corporation by any Authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. • The Operator shall keep all records desired under the said labour laws submit periodical returns to the respective statutory Authority. The Operator shall in respect of labour employed by him comply with or cost to be complied with provisions of the various labour laws and the Rules and Regulations as applicable to them in regards to matters provided therein. • The Operator shall take preventive and mitigation measures to avoid accidents due to its operation in the Service Area. The Operator shall maintain monthly record of all accidents and mishaps and submit the same to the Owner. • The Operator shall obtain the license in accordance with the Rules and Provisions of Contract Labour (Regulation and abolition) Act, 1970 and adhered all terms and condition stipulated therein if applicable. • The Operator shall pay the staff deployed by him under this Contract as per the minimum wages act in

Section	Description of Services	Technical Schedule/Performance Standard
		<p>force and amendments.</p> <ul style="list-style-type: none"> • Notwithstanding anything contained herein, the Corporation may take such action as may be necessary for compliance of the various Applicable Labour Laws and to recover the cost thereof from the Operator. • The Operator shall, if required by the Competent Authority, deliver to him, in such form and at such intervals as the Competent Authority may prescribe, a return showing the numbers of the several classes of staff employed by the Operator for any purpose under this contract and such other information as the Competent Authority may require. • If the Corporation is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/byelaws/ acts /rules / regulations including amendments if any, on the part of the Operator and in connection with labour enactment, the Employer shall have the right to deduct any money due to the Operator including its amount of Security Deposit. The Employer shall also have the right to recover, from the Operator, any sum required or estimated to be required for making good the loss or damage suffered by the Corporation. • To avoid mishap or accident during the operation, the Operator shall ensure that only skilled staff/drivers with sufficient experience in their respective trade are deployed on the job and are not put to over exertion as per prevailing labour laws of the State and/or Central Governments. The drivers must always be in possession of a valid and relevant professional driving license. • The Operator shall take full responsibility to provide the following facilities to his deployed staff/ labourers. • The payment of wages to the workers & giving all other facilities according to the Minimum Wages Act & Employees State Insurance Scheme. • Annual medical check-up of each staff engaged with management and handling of MSW under this Contract for communicable diseases at the Operator's cost and submitting the report to the Competent Authority. • Ensuring deployed staff in pre-scribed uniform and Identity Card with photo during working hours. • Logo of Berhampur Municipal Corporation shall be as per the approved design on the uniform.

Section	Description of Services	Technical Schedule/Performance Standard
	Complaint Redressal mechanism	<ul style="list-style-type: none"> • The Operator shall design and implement a complaint redressal system to address customer complaints in line with established standard protocol (“Complaint Redressal Center”). • The Complaint Redressal Center implementation shall be finalised by the Operator in accordance with the O&M plan and approved by the Owner incorporating the below mentioned requirements: • One manual center for accepting of the complaints. • Having adequate number of telephones lines with voice recording facility for receiving customer calls/complaints. • Mobile communication system between the “Complaint Redressal Center” and the supervisory field staff of the operator. • The Complaint Redressal Centre shall have an overall supervisor, first line supervisors capable of understanding work plan, organizing the work accordingly, and capable of directing, disciplining and controlling work force shall be appointed before commencing the work. The Operator shall provide space for designated officer by the Owner in for monitoring and supervision. • The Complaint Redressal Centre shall be operational from 8 A.M. to 5 P.M. seven (7) days a week. • All complaints related to the Project would need to be addressed within twenty-four (24) hours of receiving the complaint failing which the Independent Engineer / Owner will have the right to demand an explanation or resolution of the complaint to their satisfaction. • A “complaint redressal log book” should be maintained by the Operator containing the relevant information including the action and time taken for compliant redressal. • Format of the complaint redressal log book would be finalised in consultation with the Independent Engineer. • The Operator would be required to submit a monthly complaint and redressal record to the Independent Engineer with a summary of complaints including: Categorization of type of complaints • Number of complaints during the previous month • Percentage of complaints addressed in twenty-four (24) hours • Percentage of complaints not addressed in twenty-four (24) hours and reasons therefor • Major unresolved complaints if any

Section	Description of Services	Technical Schedule/Performance Standard
	Record Keeping	<p>The Operator shall maintain and keep all O&M records (the “Records”) for Treatment and disposal of Waste at the location decided in consultation with the Owner inter alia including the following:</p> <ul style="list-style-type: none"> • Attendance cards/ register of the manpower deployed • Log book of vehicles • Register for issue of uniforms and protective gears • O&M records of all vehicles • Any other record for regulatory compliance. • The Operator shall finalize the formats for the records in consultation with the Independent Engineer and document the same. • The Operator would keep the Records for a period as per the statutory requirements or for at least ten (10) years, whichever is higher. • The Records shall be made available upon the request of the Independent Engineer or the Owner. • The Operator shall maintain monthly record of all accidents and mishaps and submit the same to the Owner.
	Landfill and Waste Processing Construction standards	<p>The Operator shall comply with the Landfill and Processing Facility Construction Performance Standards set out in this Schedule. Operator will ensure that the processing and landfill site meets all the applicable Laws, including the MSW Rules, CPHEEO guidelines, pollution norms and other relevant guidelines. The Operator will also be responsible to obtain and maintain all the Approvals required for the implementation of the project.</p> <ul style="list-style-type: none"> • The Operator shall be responsible for the provision of requisite plant, machinery, vehicles, equipment and other equipment essential for construction of the Landfill and Processing Facility. This shall also include any redundancy, spare vehicles/ equipment to meet the Landfill and Performance Facility Construction Performance Standards and Landfill and Processing Facility Operation Performance Standards. • The Operator will be responsible for the provision of technical inputs, consumable materials and required staff for construction of the facilities. The cost of power and water required during the construction and testing period will be borne by the Operator.

Section	Description of Services	Technical Schedule/Performance Standard
DBSA 2.1.2	Codes and Standards	All applicable rules, regulations, guidelines, standards as per the following shall be adopted in consultation with the Owner. In case there is any inconsistency between these regulations, the opinion of the Independent Engineer will be binding as to the applicability of specific provisions.
DBSA 2.1.5	Design and Construction Responsibilities – Secondary Transfer Stations with Static Compactors, processing site and landfill	<p>Design the Facility to have sufficient redundancy to remain functional and performing at a level which satisfies the requirements of the Technical Standards Appendix no less than 99.5% of the time once the Facility is in operation.</p> <p>Layout</p> <ul style="list-style-type: none"> Looking at the site conditions, dimensions of the proposed site, human habitation, existing plantation, an indicative lay out for the Facility has been provided for the purposes of this Bid. The Operator shall propose a revised layout (if feel so). This would be finalised subsequently in consultation with Independent Engineer/Owner during the Design Period. <p>Overall Design Parameters</p> <p>Secondary Transfer Stations with Static Compactors</p> <p>Static Compactor Stations of 5 No.s, each consisting of 2 compactors shall be provided in accordance to the building bye laws of ULB and rules & regulations of OSPCB/CPCB and also conforming to the SWM rules 2016. Stationary / Portable type compactor shall be capable of being transported from one location to another. It shall come as an integral unit incorporating the container and the compaction unit. The compactor shall be transported by a specially designed Hook loader / dumper placer unit mounted on a 16T GVW truck chassis.</p>

Section	Description of Services	Technical Schedule/Performance Standard
		<p>GPS tracking system for monitoring the movement of the transportation of these vehicles shall be installed.</p> <p>Processing Facility</p> <ul style="list-style-type: none"> • The waste shall be processed through composting technique. Other processes for resource separation and recycling of plastic, metal, glass etc. which would minimize rejects going to the Landfill shall be followed to ensure that a maximum of 25% of the waste is disposed in the landfill. Pre-sorting facility shall be an integral part of the processing plant. • The Processing Facility shall adhere to the MSW Rules and more specifically Article 5 of Schedule 2 and Schedule 4 of the MSW Rules 2016 and amendments time to time as applicable. • Although efforts would be made to segregate at source; Processing Facility should be designed considering that the incoming Waste would be mixed in nature. • The design of the plant including the geotechnical investigation, Hydrogeological investigations, structural design calculation including design conditions, analysis, member design, etc. shall be submitted by the Operator to the Independent Engineer for approval with the design drawings. Relevant codes and standards, data, etc. referred to shall also be submitted by the Operator to facilitate the checking by the Independent Engineer. • The segregation area, windrows and compost processing plant shall be covered adequately to protect the facility and prevent leachate runoff from the processing area. • Leachate collecting drains shall be provided on the floor of the tipping floor/inspection bay and windrow area for draining of leachates which shall be collected in a sump well with a facility to recycle the leachate and Treatment of the excess leachate for disposal. <p>Sanitary Landfill</p> <ul style="list-style-type: none"> • The Landfill shall conform to the minimum design and construction requirements set out in this Schedule and the MSW Rules. • There shall be only one common entry-cum-exit point into the Landfill from the Processing Facility. • The Operator shall utilize the Sites excluding the waste processing area for the purpose of setting up the

Section	Description of Services	Technical Schedule/Performance Standard
		<p>Landfill in accordance with the implementation plan that:</p> <ul style="list-style-type: none"> ○ maximises the quantity of waste diverted from landfill ○ maximises the available landfill footprint ○ is consistent with prevailing meteorological, geological, seismological and hydrogeological conditions <ul style="list-style-type: none"> ● Adopt the following design life: <ul style="list-style-type: none"> ○ civil works - 40 years; ○ mechanical and electrical plant – 25 years; ○ electronic control equipment – 15 years; and ○ cabling – 15 years ● Design should be in accordance with local road authority and land use standards. ● Designed to ensure that no line up of trucks is so long as to extend to the on-site roads ● Designed to ensure conformity with local utility requirements or national codes ● Facility and Site services shall include, electricity, telephone, potable water, water for other purposes (Municipal Solid Waste facilities, cleaning, irrigation, and fire protection) and Municipal waste collection and disposal treatment ● Utility services shall have a service life at least equal to the projected Facility life
	<p>Site preparation and mitigation measures</p>	<ul style="list-style-type: none"> ● The ISWM facility shall be built with state of the art practices with stringent engineering. As the Site is surrounded by water from all sides; all efforts should be made to contain pollution and protect water bodies, ground water, underground soil, ambient air and biodiversity by adopting appropriate remedial measures. ● Wherever necessary, as per ground conditions and in compliance of MSWM Rules - the ground level of the Facility shall be raised. ● Provide superior lining system (double composite liner) where possible in place of simple sanitary lining for the landfill and preventive geo-membrane barrier layer for the entire site to cut off the transmission of the leachate and gas through sub soil. ● The landfill shall be designed preferably as a bio-reactor type landfill (where-in the leachate is re-

Section	Description of Services	Technical Schedule/Performance Standard
		<p>circulated to speed up the decomposition of the organic matter.</p> <ul style="list-style-type: none"> • Where possible constructing solid masonry raised boundary wall in place of fencing to avoid vector nuisance. Where possible, enclosures shall be provided with nets, wind screen and hanging creepers to improve the sanitary conditions and aesthetics. • As the Site is cyclone prone, adopting cyclone resistant constructional measures for the facilities such as following smaller structural modules, concrete framed type structures, providing enough toe protection to the embankments is recommended. Steep slopes for the embankments are to be avoided. Embankment slopes shall not be steeper than 2.5H:1V. • As the area in general experiences heavy rainfall (1500mm) and extreme winds (250kmph), the structure in the Facility shall be designed for these weather conditions of the region. • All waste water and run-off at the Site shall be impounded, treated and utilised in the Facility. Effluent from the Site shall be practically minimised by recirculation. • Leachate Treatment Plant shall be established to treat the excess leachate generated to meet the relevant CPCB waste water discharge criteria. No untreated discharge shall be allowed from the Facility to enter into any water course, stream or nallah. The Facility shall have arrangements for pumping out the liquid waste after treatment, if any. Similarly, the landfill facility shall transport the hazardous waste, if any to the hazardous waste landfill facility. • The fool proof leak detection system together with ground water monitoring wells and gas monitoring wells shall be provided for early detection of the contamination, if any in the sub-soil/vadose zone. For release of gas flaring-up devices (minimum 2 nos.) shall be provided so as to release the excess gas pressures. • The area shall be cut-off from pest, animals and unauthorised persons in order to eliminate the contamination. Further all outgoing vehicles (wheel washing) shall be provided with mandatory washing facility to minimise the spreading of contamination by vehicles. • A state-of-the-art laboratory with dedicated staff shall be provided to inspect, test, and accept/reject the waste entering the Facility. Appropriate laboratory equipment and glassware shall be considered for the facility.

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> • The post-closure care of landfill Site shall be carried out for 15 years. • The Facility shall have adequate fire-fighting equipment and required water storage. • The Facility shall have a first aid arrangement access to shower and eye wash with an oxygen bank at the Site. All the workmen shall be covered under medical and accidental insurance.
Access to the site	Plan and design Site and Facility for access control by humans and animals and vehicular traffic at the Site and Facility perimeter	<ul style="list-style-type: none"> • Chain link fencing/masonry boundary wall shall be 2.5m in height and razor wire shall be installed where theft or vandalism is expected • Ditch/berm/planting and configuration shall be capable of deterring animals • Fencing/masonry boundary wall shall include perimeter fencing and internal fencing of unacceptable waste storage areas, material storage and equipment compounds, fuel storage facilities and leachate and landfill gas control and management systems; and • Fencing/masonry boundary wall shall include lockable gates at vehicular access points • General Quality Standard
	Design for an internal perimeter access corridor	<ul style="list-style-type: none"> • Access corridor must have minimum width of 5 meters and be in accordance with the Environmental Assessment and the applicable environmental standards • Access corridor must accommodate Site servicing, monitoring, devices, remedial measures, nuisance control measures and planting
	Design parking areas, internal access roads and haul routes to manage traffic flow at the Site and the Facility	<ul style="list-style-type: none"> • Road works as per IRC codes/ guidelines • Single roads with a minimum width of 4 metres, excluding shoulders, or where volumes are higher, 2 lanes with a minimum of 7.5 metres, excluding shoulders • Roads must be constructed such that there is no inhibition of traffic movement • Roads must be designed and constructed such that the flow of traffic is uninterrupted under all weather conditions • Parking lots shall be sized sufficiently to accommodate staff and visitors, with a minimum capacity of 12 vehicles and a bicycle stand to accommodate 30 bicycles • Roads must be designed and sized to ensure safe and efficient traffic flow for a minimum gross vehicle weight of 25 MT • Roads must be designed to be structurally stable and such that the roads drain and have no ponding or

Section	Description of Services	Technical Schedule/Performance Standard
		surface washouts • Roads must be designed and constructed to be erosion resistant
DBSA 2.3(c)	Provide utility services at the Site and Facility	• In accordance with local utility requirements or national codes or MSW management rules 2016, 2006. • CPHEEO Manuals <ul style="list-style-type: none"> - Manual on Water Supply & Treatment, Third Edition, Revised-updated, May 1999. - Manual on Sewerage & Sewage Treatment, Second Edition, 1993. - Manual on Municipal Solid Waste Management, 2016. - Manual on Operation and Maintenance of Water Supply systems, 2005. • Facility and Site services shall include, electricity, a minimum of 2 telephone land lines, potable water, water for other purposes (sanitary facilities, cleaning, irrigation, and fire protection) and Municipal Solid Waste collection and disposal treatment • Utility services shall have a service life at least equal to the projected Facility life
DBSA 2.3(d)	Design areas for permitted collection, receipt of source separated materials and an on-site materials recovery program	• No collection at tipping face • 1/3 of daily waste on a movable belt • The local rules for collection must be considered here. • Provide adequately-sized areas for managing source-separated waste streams • Manage biodegradable wastes and recyclable waste
DBSA 2.4 Landfill Cell Layout and Filling Sequence		
DBSA 2.4(a)	Minimise the tipping face	• General Quality Standard * • The tipping face shall be able to accommodate 4 waste delivery vehicles at any one time • Maximum height of the tipping face shall be 2.5 metres
DBSA 2.4(b)	Prepare the Site for landfill operations	• Site design for landfilling operations and associated activities must include design grading • Design must ensure that surface drainage passing through the Site is not obstructed or contaminated • Soil erosion and dust generation must be minimised • Graded slopes in the Site must be a minimum of 5% and a maximum of 25%

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> • Design must ensure that there is sufficient cross-sectional area in relocated water courses to accommodate peak flows up to including annual storm events • Vegetative cover must be established on any exposed areas of ground surface during the course of Site preparation • Sedimentation ponds must be established to contain polluted drainage and runoff containing soil and sediment • Must be in accordance with the applicable environmental standards
DBSA 2.4(c)	Clearing and excavation of land, debris and other material	<ul style="list-style-type: none"> • General Quality Standard* • Must be no deeper than 1.5 metres above the maximum seasonal elevation of groundwater and in accordance with the applicable environmental standards • Any excavated/cut slope and fill shall be stable in both the short-term and the long-term • If natural clay is used, the engineered barrier shall be a minimum of 1.0 metre thick, placed and compacted in a minimum of four lifts • All materials shall be free of organic matter and debris • Prior to construction, the Operator shall prepare and test a test pad of the proposed engineered barrier
DBSA 2.4(f)	Engineered barrier	<ul style="list-style-type: none"> • Hydraulic conductivity no greater than the equivalent of 1 metre of clay with a permeability no greater than 1×10^{-7} metres per second
DBSA 2.4(p)	Progressive closure of individual cells on completion	<ul style="list-style-type: none"> • Design must isolate waste from surface exposure, minimise infiltration of precipitation, provide for upward venting of landfill gas, and support land uses including vegetation • Design must include for the provision of a minimum of 1050 mm of soil as final cover of which 150mm must be top soil quality to support vegetation growth • Design must include surface slopes with a minimum gradient of 5% and a maximum 25% • Design must include vent stack areas of coarse high permeability sand and gravel to vent migrating gases • Design must include final cover to be applied progressively upon reaching final design grades
DBSA 2.5	Designation of Landfill On-Site Areas for Other Uses	
DBSA 2.5	Designate areas for	<ul style="list-style-type: none"> • Design must establish temporary on-site areas to accommodate unacceptable waste streams such as

Section	Description of Services	Technical Schedule/Performance Standard
	landfilling, stockpiling cover materials and the temporary secure storing and management of unacceptable wastes	compostables, tires, biomedical wastes or hazardous wastes, with a storage capacity of 2 days <ul style="list-style-type: none"> • Surface of temporary storage area must be impermeable • All surface water from temporary storage areas shall be collected and treated to appropriate standards
<i>DBSA 2.6 Surface and Ground Water Management</i>		
DBSA 2.6(a)	Inspect and test the Site and the Facility for water flow and drainage	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards • Design must include a minimum of 12 test wells on the periphery of the Site at a reasonable distance from one another • Monthly sampling and testing of surface water quality and groundwater levels and quality commencing no later than 1month after the Effective Date • Design shall ensure that there is no adverse impact on groundwater levels, flow or quality, and no long-term change to groundwater elevations • Design must include an engineered barrier
DBSA 2.6(b)	Design water drainage systems	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards • Design must ensure that there is no obstructions to, or contamination of surface water
DBSA 2.6(c)	Protect the Site and the Facility from flooding	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards • Design must ensure that there is no contamination of groundwater or surface water
<i>DBSA 2.7 Site Administrative Facility</i>		
DBSA 2.7(a)	Design temporary office facilities for the Owner and the Operator	<ul style="list-style-type: none"> • Local building code • Temporary office shall be provided with an adequate power supply, power points, lighting, air conditioning, potable water supply, washroom fittings and consumables • The temporary office for the Owner shall be ready for occupation within six weeks of the Design-Build Start Date

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> • The office shall have a minimum floor area of not less than seventy five square metres and contain not less than two office spaces, a storeroom and a hygienic toilet/washroom • The office shall be secure and provided with security locks • Allows for continued operation
DBSA 2.7(a)	Record Room	<p>Owner's requirement</p> <ul style="list-style-type: none"> • One record room cum store of size 3mx4m for the owner with the following facility shall be provided: <ul style="list-style-type: none"> - One table - Three chairs - One rack
DBSA 2.7(b)	Design of a new permanent administrative office facility	<ul style="list-style-type: none"> • Local building code • Layout shall provide for convenient and efficient use • Building must be large enough to accommodate all anticipated Site personnel • Individual rooms shall be lockable and secure • Design must include the provision of adequate furnishings for all personnel • Building must be equipped with power, heating, ventilation, washrooms, running water and appropriate lighting • The following rooms shall be provided <ul style="list-style-type: none"> - lobby, with separate access to each room - Manager's office, minimum of 10 square metres - two other offices, each a minimum of 6 square metres - mess room/kitchen, a minimum of 20 square metres - laboratory, a minimum of 10 square metres - toilets/washroom, two rooms, one for men and one for women, fitted with toilet, shower, eye wash, hand washing basin and fillings - conference room, minimum of 15 square metres - storage room, minimum of 5 square metres

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> The office shall have provision for air conditioning and appropriate storage and locker space and adequate lighting and power provisions
DBSA 2.7(c)	Design signage for the Site and the Facility	<p>Operator shall erect two signboards, one in Oriya and the other in English, of a size not less than 2 ft. by 4 ft each, adjacent to the main entrance to the Landfill and Processing Facility in a manner such that it is ordinarily visible to any person using such entrance. The signboard shall prominently display the following text in English (and its translation in Oriya) in black upper case letters on a white/yellow background:-</p> <p>“This property belongs to Berhampur Municipal Corporation and has been handed over to M/s _____ for Developing, Operating and Maintaining an Integrated Waste Management Facility”.</p> <p>It shall also have another sign board with the caption “A Development Project of Berhampur Municipal Corporation financed through OUIDF, Co-financed by KfW, a Development Bank of Germany”</p> <p>It shall have information on hours and days of operations and types of waste accepted; and emergency contact information The Operator shall ensure that the signboard is maintained in good condition throughout the Concession Period.</p>

Section	Description of Services	Technical Schedule/Performance Standard
DBSA 2.7(e)	Design weigh scales and wheel washing facilities	<ul style="list-style-type: none"> • Equipment must be designed to accommodate projected truck volumes and vehicle types and to weigh incoming trucks and vehicles with a minimum delay of 15 minutes at peak times • Weigh scales must have a minimum capacity of 30 MT • Systems must be capable of recording and transmitting data electronically including vehicle identification, weight of vehicle, origin, category of waste, time and date, and charges • Data system must be capable of being linked to billing system and must generate written records • Wheel washing facilities for all out-going vehicles shall comprise low volume, high pressure hand-held/automatic lances and spray adjacent to the access road near the exit gate.
DBSA 2.7(f)	Design a building for the repair and servicing of all equipment and storage of tools, spare parts and consumables	<ul style="list-style-type: none"> • Building must be permanent, weatherproofed, well ventilated and lit with access doors for large equipment • Building must accommodate the repair and servicing of all equipment, with capacity for two vehicles at anytime • Building must have a concrete floor that accommodates equipment without breaking up • Building must include areas for storage of tools, spare parts and consumables and such areas must be secured • Local building code
DBSA 2.7(g)	Design a secure facility for the storage and dispersal of fuels	<ul style="list-style-type: none"> • This activity is not envisaged within the facility
DBSA 2.7(h)	Temporary holding area for unacceptable wastes	<ul style="list-style-type: none"> • Minimum capacity of 2 days of storage
DBSA 2.8 <i>Other Design Responsibilities</i>		
DBSA 2.8(b)	MSW treatment and processing	<p>a. The following treatment and processing cycle shall be adopted:</p> <ul style="list-style-type: none"> ▪ Secondary segregation through mechanical process into 4 components: - Wet Organic waste, Dry organic waste, Recyclable waste (Plastic, Metal, etc.) and Refuse Matter.

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> ▪ Composting of dry organic Waste – aerobic composting through windrow method. ▪ Palletisation or fluffing of dry organic matter. This is optional at the discretion of the bidder. <p>b. Disposal of final Refuse Matter i.e. 25% of the total waste will need to be sent for disposal in MSW Land fill Site. However the construction debris shall not be collected by the operator.</p>
	Composting unit	<p>The composting unit shall be completely covered and shall have the following components/sections of appropriate size and capacity, as required for such a facility:</p> <ul style="list-style-type: none"> ▪ Tipping Area ▪ Pre-Sorting area ▪ Composting pad ▪ Curing and Preparation Section ▪ Refinement Section ▪ Finishing Section ▪ Storage Godown ▪ Recyclable Storage ▪ Admin Building ▪ Laboratory ▪ Water pond ▪ Leachate Treatment Plant and Site Leachate Management ▪ Pumping unit ▪ Water sprinkling unit ▪ Water tanker ▪ Air supplying unit with pipings and pumps ▪ Firefighting installations ▪ Protective screens and nylon nets for vector control ▪ Electrical back up room ▪ Eye Wash & shower room and toilet

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> ▪ 0.3 metres wide lined peripheral drain for leachate collection ▪ Weigh Bridge and Cabin ▪ Staff Vehicle Parking ▪ Guard Room ▪ Heavy Vehicle Parking and Workshop area ▪ Internal Roads ▪ Greenbelt ▪ Boundary Wall and Gate <p>These units shall be on raised platform to avoid sub merged condition. All the facilities shall have 1.5mm thick HDPE continuous barrier lining below all floorings.</p> <p>Adequate Pre-sorting facility shall be provided.</p> <p>The indicative equipment at compost facility:</p> <ul style="list-style-type: none"> ▪ Pre-sorting unit with mechanical separators ▪ Shredder ▪ Coarse and fine Refuse Matter separator ▪ Elevated hopper, flat conveyors, chutes, rubber lined chutes. ▪ Trommels for coarse segregation and fine segregation (one each) ▪ R- Feeders ▪ Weighing scales ▪ Reject hopper ▪ Conveyors ▪ Reject compactor ▪ Windrows composter ▪ Compressor ▪ Sweeping brooms, tools and tackles

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> ▪ Electricals and electrical back up ▪ Reject area and reject hopper <p>The indicative list of vehicles for compost and landfill facility of adequate numbers:</p> <ul style="list-style-type: none"> ▪ Compactor (15 T) – 1 no. ▪ Tractor mounted front end loader (1 cum capacity) – 3 no. ▪ Front end loader with backhoe (1 cum bucket) – 1 no. ▪ Tipper Truck (10 cum) – 2 no. ▪ Tractor Mounter Water Tanker (5 kl) with slurry pump.
	Municipal Solid Waste Landfill facility	<p>The Municipal Solid Waste landfill shall have the following components:</p> <ul style="list-style-type: none"> ▪ Earthen Embankments ▪ Clayey embankments and clay liner with amended clay (15% bentonite) ▪ Double composite liner (Clay liner + Geo-membrane) barrier at bottom ▪ Clay liner + 2.5mm thick Geo-grid and Geo-membrane barrier for the inner sloping side ▪ Drainage layer at bottom, sides and top ▪ Protective layer on the inner sides and bottom ▪ Provision for daily soil cover ▪ Leachate collection system consisting of HDPE pipe, PE100, PN10 laterals (160mm OD) and header (305OD) ▪ Lined concrete Leachate collection sump with pump room ▪ Leachate pumps ▪ Leachate Recirculation piping ▪ Provision for Temporary HDPE covering system ▪ Daily soil cover platform ▪ Earthen Separation Dykes for Cell management and storm water confinement/diversion ▪ Storm water collection and diversion piping ▪ Peripheral drains

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> ▪ Manholes ▪ Gratings ▪ Passive Gas collection system with piping and vents and 2 nos flaring units. ▪ Back wash piping and pumps for flushing the leachate collection system ▪ Monsoon waste store shed ▪ Rejects Bay ▪ Water Sprinkler for dust suppression ▪ Ramps ▪ Peripheral road on the Embankment ▪ Yard Lighting ▪ Slope protection all round on the outside toe ▪ Green turfing on Slopes ▪ Landscaping ▪ Buffer zone & safe zone ▪ Green belt ▪ Access Road ▪ Storm water drain and cross drainage works ▪ Boundary wall on all sides ▪ Water harvesting structures ▪ Wheel washing arrangements for outgoing vehicles ▪ Time office and gate <p>The ISWM facility shall have dedicated light vehicles – like motor cycle, pick up van and a jeep for movements.</p>
	Liner system	<p>The Operator shall provide a non-permeable lining system at the base and walls of waste disposal area, which shall consist of the following:</p> <ul style="list-style-type: none"> • A 900 mm thick layer of soil (clay or amended soil) having permeability coefficient not greater than 1×10^{-7} cm/sec. The soil should be amended with additives as per IS: 6186-1986 specification for Bentonite to

Section	Description of Services	Technical Schedule/Performance Standard
		<p>reach the required permeability coefficient.</p> <ul style="list-style-type: none"> • A 1.5 mm thick Grade I smooth HDPE liner as per IS: 10889-1984 (Specification for High Density Polyethylene Films) A 200 mm thick protective silt layer shall be laid over High Density Polyethylene liner at the base and suitable protection shall be provided to HDPE at the side walls. • Top cover shall consist of Geo-textile – 300gsm, HDPE Geo- membrane – 1.5mm thick and Clay liner
DBSA 2.8 (b) (continued)	Design leachate management and treatment systems at the Site and the Facility	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards • Design must ensure that piping is not blocked by sedimentation, debris, algal or fungal growth and that the structural integrity is maintained • General specification as follows: <ul style="list-style-type: none"> – The leachate collection and leak detection pipes with HDPE, PE100, PN10 grade – Minimum internal pipe diameter of leachate collection laterals 150mm; – Minimum internal diameter of leachate collection header pipe 300 mm – Minimum internal pipe diameter of leak detection laterals 100 mm; – Minimum internal diameter of leak detection header pipe 225 mm – Perforations of 6-12mm at 150mm c/c alternating at 10:00, 11:00, 12:00, 01:00, and 02:00 o'clock positions on the lateral pipes of leachat collection and leachate detection pipe; Or laser cut as per standard practice – Thickness of gravel 60cm using gravel with a hydraulic conductivity no less than 1×10^{-2} metres per second – grade of gravel and lateral piping layer of 2% (for leachate collection and leak detection) – grade of header piping at 1% (for leachate collection and leak detection) – spacing between lateral pipes of 10m (for leachate collection and leak detection) – Cut off collars in place where leachate piping headers exit the cell to the perimeter piping/temporary partitioning of cells – Maximum leachate head of 0.3 metre above the top of the engineered barrier – System must be capable of dealing with maximum leachate at any point during Facility's life span – Leachate effluent quality in accordance with national standards.

Section	Description of Services	Technical Schedule/Performance Standard
		<ul style="list-style-type: none"> • Design shall provide for the segregation of surface water from leachate • Design shall provide suitable collection and extraction facilities for leachate accumulating in the landfill • The leachate shall be re-circulated in the landfill (bioreactor type landfilling). • Design and selection of materials for leachate management system and location of discharge point into receiving body shall be discussed with and approved by the Independent Engineer and the Owner. • Design shall provide a suitable system for the transfer of leachate from the collection system to the treatment facility • Leachate levels shall be monitored continuously and shall be capable of being read electronically • The leachate extraction system shall be capable of running automatically between and above specified leachate levels and volumes • The leachate treatment system shall be capable of running automatically between and above specified leachate levels and volumes • The leachate treatment system shall be designed to treat influent levels to standards to which leachate effluent must comply with prior to discharge off-Site • All components of the leachate collection, extraction, transfer and treatment system shall be capable of being maintained in a clean condition to ensure effective operation
DBSA 2.8(b) (continued)	Design landfill gas management system at the Site and the Facility	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards • Design must include passive venting to ensure that explosive or flammable conditions are not created
DBSA 2.8(c)	Design landscaping	<ul style="list-style-type: none"> • Provide a horticultural area for a plant nursery with a minimum of 100 square metres in area • Plant native trees in buffer zone in accordance with the applicable environmental standards
DBSA 2.8(d)	Prepare plans and designs for the ultimate landform and use of the Site and the Facility	<ul style="list-style-type: none"> • In accordance with the applicable environmental standards

Section	Description of Services	Technical Schedule/Performance Standard
DBSA 2.8(e)	Prepare plans and designs for other specific facilities and processes required by the Contract, including materials and resource recovery	<ul style="list-style-type: none"> • <i>Refuse Matter disposed at Scientific Landfill Facility shall not exceed more than 25% of the solid waste collected.</i>
DBSA 2.8(e)	Prepare plans and designs for the acquisition of all data necessary to prepare Operator's design	<ul style="list-style-type: none"> • Data shall include information with respect to, <ul style="list-style-type: none"> - Site geology, - Geotechnical conditions, clay mineralogy (compatibility of waste/leachate with liner materials), availability of lining materials (clay, drainage materials – gravel, slope stability) - hydrogeology - hydrology - existing and baseline environmental conditions - waste quantities and characteristics - Metrological and climatological details (wind, rainfall, temperature, cyclone, earthquakes etc.) - City profile (population, projections, road network, road conditions existing collection points etc.) - Availability and suitability of clay material from borrow areas
DBSA 2.8(f)	Prepare plans and methodologies for testing and inspection of the Plant and Equipment and any part of the Facility	<ul style="list-style-type: none"> • In accordance with Attachment 1 and General Quality Standard. • Various quality control tests would be undertaken as per the Landfill and Processing Facility Construction Performance Standards and standards prescribed by Bureau of Indian Standards. Where no testing methods are specified by the said standards, details of the tests to be carried out and specifications to be achieved for the Landfill and Processing Facility Construction Works or part thereof shall be agreed upon with the Independent Engineer prior to construction. • The tests would be carried out at a location that the Independent Engineer may reasonably require, at the cost and expense of the Operator. • The Independent Engineer may from time to time require removal of any material, equipment, machinery

Section	Description of Services	Technical Schedule/Performance Standard
		<p>which, in its opinion, does not meet the Landfill and Processing Facility Construction Performance Standards specified in this Schedule and the implementation plan.</p> <ul style="list-style-type: none"> • Where material properties of the Project facilities vary from or comply only marginally with the specifications contained in this Schedule and the implementation plan, the Independent Engineer may increase the frequency of testing as appropriate at the cost of the Concessionaire. • The Concessionaire shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or plant and shall supply samples of materials, as required by the Independent Engineer to undertake tests. • The Independent Engineer may from time to time require removal/substitution of any material, equipment or machinery which, in its opinion, do not meet the standards specified in this Schedule from the construction site, within such time as may be specified in its instructions. • Re-execution, of any or part of the Landfill and Processing Facility Construction Works which in the opinion of the Independent Engineer do not meet the standards set out in this Schedule.
ARTICLE 3 – BUILDING AND CONSTRUCTION SERVICES		
DBSA 3.3.9 Site Regulations and Safety		
DBSA 3.3.9(1)	Submit proposed Site regulations for approval, 6 copy to each of the Owner and the Independent Engineer	<ul style="list-style-type: none"> • <i>No less than 30 days before beginning any work at the Site</i>
ARTICLE 4 – EXISTING FACILITY OPERATIONS (DELETED)		
	N. A.	<ul style="list-style-type: none"> •
ARTICLE 5 – TEST AND INSPECTION		
DBSA 5.1 Tests and Inspection		
DBSA 5.1(a)	Provide the Independent	<ul style="list-style-type: none"> • No later than 7 days after the test or inspection takes place

Section	Description of Services	Technical Schedule/Performance Standard
	Engineer with a certified report of the results of any test or inspection	
ARTICLE 8 – REPORTING DURING THE DESIGN-BUILD PERIOD		
DBSA 8.1 Design-Build Progress Reports		
DBSA 8.1	Prepare monthly progress reports during the Design-Build Period and submit the reports	<ul style="list-style-type: none"> • Report submitted no later than 14 days after the end of the month

Section of the Operations Services Appendix	Description of Services	Technical Standard
OPERATIONS SERVICES APPENDIX		
ARTICLE 3 – OPERATIONS START-UP PLAN		
OSA 3.2 Sampling and Monitoring Program		
OSA 3.2	Develop the Sampling and Monitoring Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date • In accordance with the applicable environmental standards
OSA 3.3 Scavenging Management Program		
OSA 3.3	Develop the Scavenging Management Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 3.4 Occupational Health and Safety Program		
OSA 3.4	Develop the Occupational Health and Safety Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 3.5 Source Separation Program		
OSA 3.5	Develop the Source Separation Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 3.6 Environmental Management and Mitigation Plan		

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 3.6(1)	Develop the Environmental Management and Mitigation Plan	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date • In accordance with the applicable environmental standards
OSA 3.6(2)(a)	Odour minimisation	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standard. • As there are some villages in the vicinity, a chain link fencing of suitable height is proposed in one side of the facility to reduce odour and visibility of the waste.
OSA 3.6(2)(b)	Mud prevention and reduction	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Maintain proper road grading • Provide and operate a wheel-cleaning facility • Sweep/clean public roads at site entrances • No mud transferred to public roads
OSA 3.6(2)(c)	Dust prevention and reduction	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Vegetate exposed areas of ground surface and maintain access roads with dust control measures • All stockpiles must be covered or vegetated • In accordance with Environmental Assessment
OSA 3.6(2)(d)	Noise prevention and reduction	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Limit Plant and Equipment usage to daylight hours • Noise berms and barriers adjacent to tipping face and other sensitive areas

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 3.6(2)(e)	Site litter prevention, collection and disposal	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Cover face at the end of each working day with at least 100mm of soil or other suitable Refuse Matter and apply an intermediate cover of at least 300mm of soil to any areas that will not be receiving waste for periods in excess of four weeks • Portable litter fences, pick up litter at site perimeter and off-site and cover incoming trucks
OSA 3.6(2)(f)	Storage of unacceptable wastes	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • In accordance with Environmental Assessment • Secure storage and management of unacceptable wastes and cooperate with the Owner or its designate in clearing out the storage area every 2 days • Restrict access to authorized personnel only, including provision of secure fencing
OSA 3.6(2)(g)	Mitigate public health and safety concerns arising from rodents, pests, insects and birds	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Cover face at the end of each working day with at least 100mm of soil or other suitable Refuse Matter and apply an intermediate cover of at least 300mm of soil to any areas that will not be receiving waste for periods in excess of four weeks • Eliminate areas of standing water and use control programs such as baiting and spraying of rodents, pests and insects, and noise scaring of birds
OSA 3.6(2)(h)	Mitigate the visual impact of the Facility	<ul style="list-style-type: none"> • In accordance with Environmental Management and Mitigation Plan and the applicable environmental standards • Permanent berms around Facility and temporary berms at tipping face • Plant trees in buffer zones in accordance with the applicable environmental standards • Maintain screening within perimeter access corridor

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 3.7 Maintenance Management Program		
OSA 3.7	Develop the Maintenance Management Program	<ul style="list-style-type: none"> • General Quality Standard • In accordance with manufacturer’s and supplier’s specifications and recommendations • No later than 90 days prior to the Operations Starting Date
OSA 3.8 Financial Management and Customer Service Information Systems Program		
OSA 3.8	Develop the Financial Management and Customer Service Information Systems Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 3.9 Community Liaison and Public Information Program		
OSA 3.9	Develop the Community Liaison and Public Information Program	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 3.10 Materials Management Plan		
OSA 3.10	Develop the Materials Management Plan	<ul style="list-style-type: none"> • General Quality Standard • Maximise diversion of waste from landfill • No later than 90 days prior to the Operations Starting Date
ARTICLE 4 – OPERATIONS PLAN/PROGRAM		
OSA 4.2 Operations Plan		
OSA 4.2	Develop the Operations Plan	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 4.2(a)	Establish and maintain entrances at the Facility	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(b)	Monitor and record access to the Facility	<ul style="list-style-type: none"> • Ensure all waste delivery vehicles are recorded • In accordance with Operations Plan
OSA 4.2(c)	Manage the office at the Facility	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(d)	Manage workshops, stores and warehouses	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(e)	Manage the exterior lighting	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(f)	Provide the mobile plant	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(g)	Manage the physical plant	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(h)	Provide and maintain utility services	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(i)	Provide and maintain fencing/boundary wall	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(j)	Establish a waste reception area	<ul style="list-style-type: none"> • In accordance with Operations Plan • Monitor safety conditions of incoming trucks • Record and weigh electronically all vehicle deliveries of waste or materials to the Site, both in and out, on a computerised measurement system and database • Record all incoming waste loads

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 4.2(k)	Classify, sort, store and stockpile wastes	<ul style="list-style-type: none"> • In accordance with Operations Plan • Record all waste categories and tonnages
OSA 4.2(l)	Dispose and manage unacceptable wastes	<ul style="list-style-type: none"> • Record details of all unacceptable wastes • In accordance with Operations Plan
OSA 4.2(m)	Traffic and road management	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(n)	Cell preparation	<ul style="list-style-type: none"> • In accordance with Operations Plan
OSA 4.2(o)	Place waste and provide direction to waste haulers at the tipping face	<ul style="list-style-type: none"> • In accordance with Operations Plan • The first 2 metres of waste above the engineered barrier and collection systems must be select waste only, screened manually by the Operator • There must be a spotter with visible clothing and radio contact to direct traffic on the Site during operations • Divert recyclable materials and biodegradable materials • Inspect waste for acceptability prior to incorporation into disposal area • No hot waste/fire borne to be incorporated into the disposal area • Maximum lift height shall be 2.5m • Tipping face shall be limited to a width sufficient to accommodate four delivery vehicles at any one time
OSA 4.2(p)	Maximise cell capacity and compact waste	<ul style="list-style-type: none"> • In accordance with Operations Plan • Achieve a minimum overall density of 700kgs/cubic meter of compacted waste, including daily cover • Minimum of three to five passes of compaction plant

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 4.2(q)	Test and evaluate compaction rates	<ul style="list-style-type: none"> • In accordance with Operations Plan • No later than 15 days after each three month period in a Contract Year
OSA 4.2(r)	Apply daily and intermediate cover to the waste and minimise the size of the open tipping face	<ul style="list-style-type: none"> • In accordance with Operations Plan • Cover face at the end of each working day with at least 100mm of soil or other suitable material and apply an intermediate cover of at least 300 mm of soil to any areas that will not be receiving waste for periods in excess of four weeks
OSA 4.2(s)	Manage contingencies	<ul style="list-style-type: none"> • In accordance with Operations Plan • Incorporate contingency areas in operational planning
OSA 4.3 Standard Operating Procedures		
OSA 4.3	Develop the Standard Operating Procedures	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 4.4 Operations and Maintenance Manuals		
OSA 4.4	Develop the Operations and Maintenance Manuals	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the Operations Starting Date
OSA 4.5 Closure and Rehabilitation Plan		
OSA 4.5	Develop the Closure Plan	<ul style="list-style-type: none"> • General Quality Standard* • To be completed during the Design Build Service Period • The Parties jointly with the Independent Engineer shall discuss and jointly prepare the O&M plan for the Post Closure Activities relating to the Landfill, under the provisions of the prevailing statutory regulations (“Post Closure Maintenance Plan”). • The Operator shall maintain the Landfill during the Post Closure Period in accordance with the

Section of the Operations Services Appendix	Description of Services	Technical Standard																				
		<p>Post-Closure Maintenance Plan.</p> <ul style="list-style-type: none"> • Post-closure maintenance shall be in accordance with MSW Rules 2016 and amendments thereof, SWM manual of CPHEEO, CPCB guidelines and other applicable Laws and shall involve periodical inspections by the Operator, of at least once every three (3) months, of the Landfill to monitor land surface care, leachate collection, and methane control by way of flaring and to maintain flaring equipment. • Post-closure maintenance shall also involve investigations for detection of adverse environmental impacts, if any, and implementation of measures for mitigation of the same • The inspections/test during the post closure care shall include but not limited to the following: <table border="1"> <thead> <tr> <th>Inspection/tests</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Leachate Quantity</td> <td>One time in a year</td> </tr> <tr> <td>Gas Quantity</td> <td>One time in a year</td> </tr> <tr> <td>Surface water run-off</td> <td>Inspection 4 times in a year</td> </tr> <tr> <td>Cover system settlement</td> <td>Inspection 4 times in a year</td> </tr> <tr> <td>Leachate Quality</td> <td>1 time in a year</td> </tr> <tr> <td>Ground water quality at 4 well</td> <td>3 times in a year (summer, monsoon and post monsoon)</td> </tr> <tr> <td>Surface water quality</td> <td>2 times in a year</td> </tr> <tr> <td>Gas quality within the landfill</td> <td>2 times in a year</td> </tr> <tr> <td>Air quality monitoring</td> <td>Two times in a year</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Upon the expiry of the Post Closure Period, the Operator shall hand back peaceful possession of the Landfill to Owner free of cost and in good condition. 	Inspection/tests	Frequency	Leachate Quantity	One time in a year	Gas Quantity	One time in a year	Surface water run-off	Inspection 4 times in a year	Cover system settlement	Inspection 4 times in a year	Leachate Quality	1 time in a year	Ground water quality at 4 well	3 times in a year (summer, monsoon and post monsoon)	Surface water quality	2 times in a year	Gas quality within the landfill	2 times in a year	Air quality monitoring	Two times in a year
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ARTICLE 5 – ASSET MANAGEMENT PROGRAM																						

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 5.2 Mid-Term Condition Survey and Final Condition Survey		
OSA 5.2(1)	Conduct a Mid-Term Condition Survey	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days prior to the mid-point of the New Operations Period
OSA 5.2(2)	Conduct a Final Condition Survey	<ul style="list-style-type: none"> • General Quality Standard* • No earlier than 180 days and no later than 90 days prior to the End Date
OSA 5.3 Asset Remediation Plan		
OSA 5.3	Prepare the Remediation Plan	<ul style="list-style-type: none"> • General Quality Standard* • In conjunction with the Final Condition Survey, as applicable
ARTICLE 6 – ANNUAL DATA REPORT		
OSA 6.1 Annual Data Report		
OSA 6.1(1)	Develop the Annual Data Report	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days after the end of each year of Operations
OSA 6.1(2)	Update and report on the Annual Data Report	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days after the end of each year of Operations, and no later than the End Date in the final year of Operations
ARTICLE 7 – GENERAL SERVICES		
OSA 7.4 Financial, Administrative and Regulatory Management		

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 7.4	Management of the day-to-day financial, administrative and regulatory matters	<ul style="list-style-type: none"> • General Quality Standard*
ARTICLE 8 – SOLID WASTE DISPOSAL OPERATIONS		
OSA 8.2.1 Operations		
OSA 8.2.1	Operate the Facility	<ul style="list-style-type: none"> • 5:00 a.m. to 9:00 p.m., seven days per week for the receipt and recording of waste loads • 7:00 a.m. to 5:00 p.m., seven days per week, for the spreading, disposal and compaction of waste • All other management and administration activities shall be restricted, as far as practicable, to daylight hours • Maintain trafficability of site roads at all times • Ensure that the Facility is operated in a manner which permits waste delivery vehicles to be turned around within 20 minutes of entering the Site • Monitor and record rainfall on a daily basis • Inspect all incoming waste loads, either at the waste reception area and at the disposal face
OSA 8.2.2 Surface Water Management		
OSA 8.2.2(a)	Ensure proper drainage	<ul style="list-style-type: none"> • General Quality Standard* • 1 in 2 year return period flows must be accommodated in the working area
OSA 8.2.2(b)	Minimise the amount of soil and sediment entrained in run-off	<ul style="list-style-type: none"> • General Quality Standard* • Vegetate exposed areas as soon as possible • Employ silt traps and barriers to prevent off-Site transfer of soil and sediment

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 8.2.2(c)	Collect, store and treat polluted surface water and maintain storage facilities for polluted surface water	<ul style="list-style-type: none"> • General Quality Standard* • Develop and maintain storage facilities and treat and dispose of contaminated water • No contamination of surface water is permitted
OSA 8.2.2(d)	Monitor surface water quality	<ul style="list-style-type: none"> • General Quality Standard* • Monitor surface water runoff upstream and downstream of the Site and at any surface water management ponds on a quarterly basis for the following parameters: <ul style="list-style-type: none"> - pH - temperature - conductivity - chloride - sodium - hardness - iron - colour - dissolved oxygen - biological oxygen demand (BOD) - total suspended solids (TSS) - total dissolved solids (TDS) - NO₃-N - chromium (VI) - oil and grease - arsenic - cadmium

Section of the Operations Services Appendix	Description of Services	Technical Standard
		<ul style="list-style-type: none"> - lead - mercury - total coliforms] - In accordance with the approved Sampling and Monitoring Program
OSA 8.2.2(e)	Remediate surface water impacts	<ul style="list-style-type: none"> • No further degradation of surface water is permitted
OSA 8.2.3 Groundwater Management		
OSA 8.2.3(a)	Establish a groundwater flow pattern	<ul style="list-style-type: none"> • No later than 60 days after the Operations Start Date • Monitor groundwater elevations and flow pattern on a monthly basis, both within the Site and in the vicinity of the Site <p><i>[Note: Groundwater flow pattern should be established in Environmental Assessment or preliminary design phase.]</i></p>
OSA 8.2.3(b)	Obtain representative water quality samples (upstream and downstream) of groundwater flow, baseline groundwater quality and the type and extent of any contamination	<ul style="list-style-type: none"> • General Quality Standard* • No degradation of groundwater quality • Minimum of 12 wells on the periphery separated at a reasonable distance • Samples taken at least once every 2 months for the following parameters: <ul style="list-style-type: none"> - pH - temperature - conductivity - chloride - sodium - hardness

Section of the Operations Services Appendix	Description of Services	Technical Standard
		<ul style="list-style-type: none"> - iron - manganese - boron - colour - dissolved oxygen - biological oxygen demand (BOD) - total dissolved solids (TDS) - NO₃-N - chromium (VI) - oil and grease - arsenic
OSA 8.2.3(b) (continued)	Obtain representative water quality samples (upstream and downstream) of groundwater flow, baseline groundwater quality and the type and extent of any contamination	<ul style="list-style-type: none"> - cadmium - lead - mercury - total coliform - fecal coliforms • In accordance with the approved Sampling and Monitoring Program
OSA 8.2.3(c)	Carry out remedial measures to mitigate the impacts on groundwater	<ul style="list-style-type: none"> • No degradation of groundwater quality
OSA 8.2.4 Leachate Collection and Treatment		

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 8.2.4(a)	Monitor the quantity and quality of leachate	<ul style="list-style-type: none"> • Electronically monitor hydraulic level of leachate within a cell on a continuous basis during the Operations Services Period • Report hydraulic levels of leachate to the Owner on a monthly basis • Monitor discharge volumes continuously at the outfall from the Site if any. • Monitor the quality of treated leachate effluent at the outfall from the Site at least once each month during the Operations Services Period • Monitor representative samples for quantity and quality of leachate influent and effluent once each month for the following parameters during the Operations Services Period: <ul style="list-style-type: none"> - pH - temperature - conductivity - chloride - sodium - hardness - iron - colour - dissolved oxygen

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 8.2.4(a) (continued)	Monitor the quantity and quality of leachate	<ul style="list-style-type: none"> - biological oxygen demand (BOD) - total suspended solids (TSS) - total dissolved solids (TDS) - NO₃-N - chromium (VI) - oil and grease - arsenic - cadmium - lead - mercury - total coliforms
OSA 8.2.4(c)	Manage, operate and maintain leachate collection system	<ul style="list-style-type: none"> • General Quality Standard* • No discharge of leachate to groundwater • Prevent the buildup and discharge of leachate from an operating cell • Maximise permitted leachate head of 1.0 metre above the top of the engineered barrier • Inspect system once each year and clean as required during the Operations Services Period • In accordance with Maintenance Management Program
		<ul style="list-style-type: none"> • Minimise the potential for the formation of perched leachate within the deposited waste • Minimise the generation of landfill leachate by separation of clean surface water from the landfill leachate • prevent surface ponding of leachate

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 8.2.4(d)	Treat leachate and test prior to its disposal or discharge	<ul style="list-style-type: none"> • General Quality Standard* • Treat leachate with appropriate options at affordable levels such as aerated lagoons, recirculation or other appropriate procedures or systems prior to discharge • No discharge of untreated leachate to surface water or groundwater permitted • In accordance with the approved Sampling and Monitoring Program
OSA 8.2.4(e)	Discharge or dispose of leachate	<ul style="list-style-type: none"> • General Quality Standard* • Discharge treated leachate effluent only if it attains the required standards for discharge • In accordance with the approved Sampling and Monitoring Program
OSA 8.2.5 Landfill Gas Management		
OSA 8.2.5(a)	Monitor the Facility for the presence of landfill gases	<ul style="list-style-type: none"> • General Quality Standard* • Monitor presence of gas before entering underground ducts, chambers and weighscale pits
OSA 8.2.5(b)	Extraction of landfill gases	<ul style="list-style-type: none"> • General Quality Standard* • Passive venting
OSA 8.2.5(c)	Program for managing landfill gases	<ul style="list-style-type: none"> • General Quality Standard* • Control landfill gas for the following considerations: <ul style="list-style-type: none"> - personal safety - safety and Facility protection - odours - presence of methane and carbon dioxide in confined spaces - flammable and explosive conditions

Section of the Operations Services Appendix	Description of Services	Technical Standard
OSA 8.2.5(d)	Monitor the levels of gases and their potential explosiveness	<ul style="list-style-type: none"> • General Quality Standard* • Monitor with handheld devices for levels of methane and carbon dioxide before entering underground or confined spaces • Monitor landfill gas production rates and combustion to determine: <ul style="list-style-type: none"> - need for active rather than passive collection systems - need for flares and torches - feasibility of obtaining carbon credits (under Kyoto Protocol) or successful energy recovery <p>[Note: <u>Landfill Gas Management</u></p> <p>For health and safety reasons, the use of handheld devices to detect the presence of methane/carbon dioxide should be used before entering any underground areas, and on a weekly basis at least. Records will illustrate any occurrences or patterns that may result in the need for probes in specific areas. It will largely be field conditions in the first years of operations that will dictate measures to be taken.]</p>
ARTICLE 9 – MAINTENANCE OF THE FACILITY AND EQUIPMENT		
OSA 9.1 General Maintenance Services		
OSA 9.1	Carry out maintenance programs	<ul style="list-style-type: none"> • In accordance with Maintenance Management Program • Manufacturer’s service recommendations • Maintain sufficient level of spare parts for equipment to ensure continuous operation of critical equipment • Equipment must be in good working condition for day to day operations • Buildings must be clean, safe and in the same condition as they were constructed, normal wear and tear excepted

Section of the Operations Services Appendix	Description of Services	Technical Standard
ARTICLE 11 – FINANCIAL MANAGEMENT AND CUSTOMER SERVICE		
OSA 11.1 Customer Services and Administrative Services		
OSA 11.1.1 Billings and Collection		
OSA 11.1.1(2)(a)	Collect amounts from Customers	Operator is not required to collect user charges and any such fee.
OSA 11.1.2 Waste Measurement		
OSA 11.1.2(b)	Read the weigh scales	<ul style="list-style-type: none"> • All the vehicles carrying Waste for delivery at the Sites shall be weighed at the entry gate by the designated weighbridge in the manner specified in this Schedule. Following data shall be recorded at the weighbridge facility for each vehicle. <ul style="list-style-type: none"> – Date and time of weighing – Registration number of the vehicle – Total laden weight of the vehicle – Time of entry of the vehicle – Total unladen weight of the vehicle – Net weight of waste – Time of exit of the vehicle • The manufacturer’s operation manuals for the individual units shall be adhered to strictly Data from each weighing procedure shall be recorded in a database. Periodically, a back-up copy of the weighing records shall be re-produced on compact disc (CD) and stored for records. • Not later than by the end of each day the weighbridge records of the day should be printed and kept for records. • The format for recording shall be finalised in consultation with the Independent Engineer,

Section of the Operations Services Appendix	Description of Services	Technical Standard
		<p>and the same shall be documented as part of the O&M plan.</p> <ul style="list-style-type: none"> • In the event that the weighbridge is not in operation, unless modified with mutual consent of the Concessionaire and the Owner, the monthly average of the immediately preceding month shall be considered. • The weighbridge should have safe working conditions and provisions for the workers therein as per Good Industry Practice.
ARTICLE 12 – QUARTERLY AND ANNUAL REPORTS		
OSA 12.1 Quarterly Reports		
OSA 12.1	Prepare a Quarterly Report	<ul style="list-style-type: none"> • General Quality Standard* • No later than 15 days after the last day of the period to which the report applies
OSA 12.2 Annual Report		
OSA 12.2	Prepare the Annual Report	<ul style="list-style-type: none"> • General Quality Standard* • No later than 90 days after the end of each year in the Operations Services Period

* General Quality Standard

1. National Acts and Rules (Environmental Standards)

- a. Wild life (Protection) Act 1972.
- b. The Water (Prevention and Control of Pollution) Act 1974.
- c. The Water (Prevention and Control of Pollution) Rules, 1975.
- d. Forest (Conservation) Act, 1980.
- e. Air (Prevention and Control of Pollution) Act, 1981.
- f. The Environment (Protection) Act, 1986.
- g. Hazardous Waste (Management & Handling Rules), 1989.
- h. Guidelines for the Management and Handling of Hazardous Waste, 1991.
- i. The Public liability Insurance Act, 1991.
- j. The Biomedical wastes (Management and Handling) rules, 1998.
- k. The Recycled Plastics (Manufacture and Usage) Rules, 1999.
- l. Hazardous waste (Management and Handling Amendment) Rules, 2016.
- m. Municipal Solid Waste (Management & Handling) Rules, 2016.
- n. Criteria for Hazardous Waste Landfill, 2001.
- o. Hazardous Substances (Management & Handling Amendment rules), 2003.
- p. The Biomedical wastes (Management and Handling) (Amendment) Rules, 2003.
- q. The Noise Pollution (Regulation and Control) (Amendment) Rules, 2006.
- r. Hazardous waste (Handling, management and Trans-boundary movement) Rules, 2009.
- s. Coastal Regulation Zone Notification, 2011.
- t. E-waste Management and Handling Rules, 2011.
- u. The Plastic waste (Management and Handling) Rules, 2011.
- v. CPHEEO Manuals
 - Water Supply & Treatment, Third Edition, Revised-updated, May 1999.
 - Sewerage & Sewage Treatment, Second Edition, 1993.
 - Municipal Solid Waste Management, 2016.
 - Operation and Maintenance of Water Supply systems, 2005
- w. IS 10500 –1991 Drinking water specification.
- x. IS 4764 – 1973 Tolerance limits for sewage effluents discharged into inland surface waters.
- y. MSW Rules 2016 and amendments
- z. Central Public Health & Environmental Engineering Organisation (CPHEEO)
 - aa. guidelines/standards/manual
 - bb. Bureau of Indian Standards (BIS)
 - cc. All applicable rules, regulations, acts, guidelines, standards of Central Pollution Control Board (CPCB)
 - dd. All applicable rules, regulations, acts, guidelines, standards of Odisha State Pollution Control Board (OSPCB)
 - ee. Suitable specification/standard devised by the Independent Engineer and the
 - ff. Owner
 - gg. Buildings and structures shall be designed in accordance with relevant Indian Standards and codes. The relevant design standards and codes are indicated here (but not limited to):

2. Construction Codes

Civil

- a. IS 875 -1987, Code of Practice for Design Loads (other than Earthquake Loads) for Building Structures.(Part 1 – Dead Loads, Part 2 – Imposed Loads, Part 3 – Wind Loads, Part 4 – Snow Loads, Part 5 – Special Loads and Load Combinations.
- b. IS 1893-1984, Criteria for earthquake resistant design of structures. (Part 1)-2002, (General provisions and buildings).
Part 4-2005, Industrial structures including stack like structures.
- c. IS 456 –2016, Code of practice for plain and reinforced concrete.
- d. IS 800 –1984, Code of practice for general construction in steel.
- e. IS 3370-1965 (Parts 1 to 4), Code of practice for liquid retaining structures.
- f. 1200 –1992, Method of measurement for building works & civil engineering works.

Electrical

- g. Indian Electricity Rules, 1956 (2011).
- h. IS 3043 –1987, Code of Practice for Earthing.
- i. TAC rules

3. Other labour laws applicable to establishment engaged in construction work

- a. Workmen Compensation Act, 1923.
- b. Trade Union Act, 1926.
- c. Payment of Wages Act, 1936.
- d. Industrial Employment Standing Orders Act, 1946
- e. Industrial Disputes Act, 1947.
- f. Minimum Wages Act, 1948.
- g. Factories Act, 1948.
- h. Maternity Benefit Act, 1951.
- i. Employees P.F and Misc. Provisions Act, 1952.
- j. Payment of Bonus Act, 1965.
- k. Contract Labour (Regulation & Abolition) Act 1970.
- l. Payment of Gratuity Act, 1972.
- m. Equal Remuneration Act, 1979.
- n. Child labour (Prohibition & Regulation) Act, 1986.
- o. The Public Liability Insurance Act, 1991.
- p. Odisha Resettlement and Rehabilitation Policy – 2006.

4. General

- a. IS SP: SP 7: 2005 “National Building Code of India 2005”
- b. IS 875 Part 1: 1985 “Code of practice for design loads (other than earthquake) for buildings and structures Part 1 Dead loads - Unit weights of building material and stored materials (Incorporating IS 1911 : 1967)”
- c. IS 875 Part 2: 1987 “Code of practice for design loads (other than earthquake) for buildings and structures: Part 2 Imposed loads”
- d. IS 875 Part 3: 1987 “Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures - Part 3 : Wind Loads”
- e. IS 875 Part 5: 1987 “Code of practice for design loads (other than earthquake) for buildings and structures Part 5 Special loads and load combinations”
- f. IS 1080 : 1985 “Code of Practice For Design And Construction of Shallow Foundations in Soils (other than Raft, Ring and Shell)”
- g. IS 1904 : 1986 “Code of Practice for Design and Construction of Foundations in Soils:
- h. IS 2911 : Part 1 : Sec 1 : 1979 “Code of practice for design and construction of pile foundations: Part 1 Concrete piles, Section 1 Driven cast in-situ concrete piles”

- i. IS 2911 : Part 1 : Sec 2 : 1979 “Code of practice for design and construction of pile foundations: Part 1 Concrete piles, Section 2 Bored cast-in-situ piles”
- j. IS 2911 : Part 1 : Sec 3 : 1979 “Code of practice for design and construction of pile foundations: Part 1 Concrete piles, Section 3 Driven precast concrete piles”
- k. IS 2911 : Part 1 : Sec 4 : 1984 “Code of practice for design and construction of pile foundations: Part 1 concrete piles, Section 4 Bored precast concrete piles”
- l. IS 2950 : Part I : 1981 “Code of Practice for Design and Construction of Raft Foundations Part I : Design
- m. IS 6403 : 1981 “Code of practice for determination of bearing capacity of shallow foundations” Liquid Retaining Structures
- n. IS 3370 : Part 1 : 1965 “Code of practice for concrete structures for the storage of liquids:
 - o. IS 3370 : Part 2 : 1965 “Code of practice for concrete structures for the storage of liquids: Part 2 Reinforced concrete structures”
 - p. IS 8237 : 1985 “Code of Practice for Protection of Slope for Reservoir Embankment (First Revision)” Seismic Resistant
 - q. IS 1893: 2002 “Criteria for Earthquake Resistant Design of Structures - Part 1 :
 - r. IS 4326: 1993 “Earthquake Resistant Design and Construction of Buildings - Code of Practice”
 - s. IS 13828:1993 “Improving Earthquake Resistance of Low Strength Masonry Buildings – Guidelines”
 - t. IS 2470 : Part 1 : 1985 “Code of practice for installation of septic tanks: Part I design, criteria and construction”
 - u. IS 2470 : Part 2 : 1985 “Code of practice for installation of septic tanks: Part II Secondary treatment and disposal of septic tank effluent (Second Revision)”
 - v. SP 20 (S and T) : 1991 “Handbook on Masonry Design and Construction”

Attachment 1

Tests to be carried out by the Operator

SECTION 1 – TESTS ON PLANT AND EQUIPMENT

The Tests on the Plant and Equipment and the applicable standard of performance for the Tests on the Plant and Equipment shall be in accordance with:

- (a) the adopted standards and codes of practice;
- (b) manufacturer's or supplier's recommendations or specifications;
- (c) the approved construction quality assurance procedures and inspections;
- (d) good engineering practice; and
- (e) The plant and equipment shall be new and not worn out to avoid breakdowns and pollution.

SECTION 2 – TESTS ON COMPLETION

The Tests on Completion and the applicable standard of performance for the Tests on Completion shall be:

- (a) All mechanical Plant and Equipment shall be activated and tested under normal field conditions to ensure full functioning in accordance with the supplier's or manufacturer's specifications and recommendations. Any and all control systems shall be verified as operational and functioning in accordance with the supplier's or manufacturer's specifications and recommendations;
- (b) All pumps shall be activated and tested under normal field conditions to ensure full functioning in accordance with the supplier's or manufacturer's specifications and recommendations. The achievable flow capacity and discharge rates shall be verified under the stipulated range of design working conditions;
- (c) All pipework, and associated valves and controls, shall be pressure-tested to ensure the absence of leaks, the continuity of the pipework, the absence of blockages and restrictions and the functioning of any and all control valves and monitoring systems. The capacity of the pipework shall be verified under the stipulated range of design working conditions;
- (d) All electrical systems shall be activated and tested to ensure proper functioning in accordance with the approved design. All electrical systems shall be tested to ensure continuity of electrical circuits, the functioning of all controls and cut-off systems and to ensure that installations have been performed in accordance with designated electrical standards. Third party verification of the correct and safe installation of primary electrical circuits shall be provided;
- (e) All automatic controls shall be activated and tested to ensure that they are activated automatically in accordance with stipulated trigger conditions specified in the approved design. High and low trigger levels shall be tested as appropriate;
- (f) All measurement systems, including associated computer programs and software, shall be calibrated and their full functioning confirmed under the anticipated range of normal working conditions;
- (g) All lining systems shall be tested to ensure that they are free of deficiencies, imperfections, holes and leaks. The method of testing shall be appropriate to the materials being examined and in accordance, as appropriate, with the approved construction quality assurance protocol; and
- (h) The thickness and continuity of critical components of landfill engineering, including the engineered barrier, the leachate collection system and drainage components, shall be verified by visual inspection.

SECTION 3 – TESTS ON COMMISSIONING

The Tests on Commissioning and the applicable standard of performance for the Tests on Commissioning shall be:

- (a) The full operation and functioning of the Facility, and individual components thereof, with the exception of the leachate treatment system, shall be tested for a trial period of one week (seven continuous days) at the design incoming waste load of approximately 200 MT per day;
- (b) The Facility shall function efficiently and with no breach of environmental or performance standards throughout the whole period of the trial;
- (c) All control and operational Plant and Equipment and systems shall function efficiently and in conformity with the approved design; and
- (d) The leachate treatment system shall be tested over a period of three to six months once the Facility has begun to generate and accumulate leachate. The treated leachate effluent shall comply with applicable discharge standards at the end of the test period.

SECTION 4 – TESTS ON OPERATIONAL ACCEPTANCE

The Tests on Operational Acceptance and the applicable standard of performance for the Tests on Operational Acceptance shall be:

- (a) The installed equipment at the facility shall be functional/in running condition for at least 95%, of the time and fulfill the duty conditions
- (b) The services proposed at the facility shall also be available and reliable for at least 95% of the time

SECTION 5 – FUNCTIONAL GUARANTEES

The Operator's Functional Guarantees are as follows:

- (a) The Facility shall function and operate efficiently in accordance with the Technical Standards set out in this Technical Standards Appendix and in accordance with the approved design;
- (b) The Facility shall provide adequate void capacity for the receipt and landfilling of wastes delivered to the Site in order to comply with the project requirements; The Operator shall design, construct, install and operate all appropriate mitigation and control measures to ensure no unauthorized discharges and emissions to the environment beyond any levels specified and contemplated under the Applicable Law; and
- (c) The Operator shall employ all appropriate and necessary levels of Plant and Equipment, equipment and resources in order to ensure the continuous uninterrupted operation of the Facility throughout the Contract Period.

APPENDIX 4: SITE APPENDIX

DESCRIPTION OF THE SITE

APPENDIX 4 TO THE CONTRACT MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR ODISHA

SITE APPENDIX

GENERAL

1.1 Site

1.1.1 For the purposes of the Contract, the “Site” shall mean the areas outlined in the map set out in Attachment 1 to this Site Appendix (the “Site Map”). The Site is shown in the following maps:

- (a) Site Map 1: Location of Berhampur Municipal Corporation
- (b) Site Map 2: Project Site Topographical Survey
- (c) Site Map 3: Location of Project site at Berhampur Municipal Corporation
- (d) Site Map 4: Location of Project Site on Topo Sheet
- (e) Site Map 5: General Layout plan of the Facility
- (f) Site Map 6: Indicative Sectional Details of the Landfill

1.1.2 Site Location

Berhampur is the oldest city of Ganjam district located in the state of Orissa. It is mainly a trading centre for southern Orissa having its influence over eight districts. The city was declared as a Municipality in the year 1867 and a Class-I Town category as per the 2001 census. Berhampur Municipal Corporation (BeMC) was established in the year 2008 having an area of 79.80 sq. km and is divided into 40 administrative wards.

The geographical scope of this study area as per the Terms of Reference (ToR) of this project is the existing municipal limits of Berhampur Municipal Corporation (Figure - 1) comprising of 40 wards with an area of 79.80 sq. km and population of 355,823 as per 2011 census. The town has witnessed widespread growth in its population over the years and is the fourth most populous town of Orissa.

1.1.3 Rainfall, Temperature and Humidity

River Rushikulya also known as the “Ganga” of Ganjam flows at a distance of about 30 km from the city and discharges into the Bay of Bengal near Gopalpur port. The city has a good number of large tanks/ lakes and is bounded in the west and north by a range of hillocks having granite rocks of igneous origin.

The climate is pleasant and soothing due to its close proximity to the Bay of Bengal. Maximum summer temperature is 40 °C whereas minimum winter temperature is 22 °C. The mean daily temperature varies between remains at 33 °C to 38 °C. May is the hottest month of the year whereas December is the coldest. The period from June to September marks the south-west monsoon and 70% of annual precipitation is received during this period and the average annual rainfall is around 1250 mm. High humidity prevails in the atmosphere both in summer and rainy months. The general soil condition is clayey except in some places where hard soil and rocky beds are also found.

1.1.4 Topography

The topographical survey of the existing land parcel indicates that the site has steep gradient and the RL contour level at the site ranges from 56.3 to 84.8 m. It means that the level difference on the site from one point to other is 28.5 m, which increases gradually from the southern edge of the site to the northern end of the site. The average elevation of the site is 58.15 m above mean

sea level with gradient towards south. The graphical representation of the site contours is provided in Figure below

1.1.5 Hydrogeology

Major part of the district is underlain by the hard crystalline rocks of the Archaen Age. Sediments of recent to sub-recent age occur along the coastal tracts discontinued patches. Minor laterite also occurs in the area as capping over the older formations i.e. Granite Gneiss and its Khondalitic variant. The landfill site at Mohuda is located at the foothills of granite hillocks and may have rock fractures system which provides pathways to pollutants and contaminants to ground water regime and also alluvial sediments that may have easy accessibility. Information on geological status of the site and surrounding areas collected from the Officials of Public Health Engineering Department (PHED) indicates that the overall soil strata around the site is rocky with initial 15 – 20 m of soft soil followed by hard rock strata.

Information on hydrogeology, ground water resource and water levels has been collected from the CGWB report for Ganjam district⁶. Granite and granite gneisses are the most prevalent rock types in the district. The weathered residuum ranging in thickness from 5m to 25m and the fractured Jones constitute the principal repository of ground water in the hard rocks. Groundwater occurs under water table conditions in the weathered residuum and circulates through fractures and fissures below. Groundwater occurs under unconfined to semi-confined conditions and can be developed through shallow tube wells and open wells. The area is in the Mahanadi deltaic region (11km) close to the confluence of Mahanadi and Bay of Bengal.

1.2 Site appreciation

The suitability of the site for waste processing and disposal facility has been assessed in accordance to the site suitability criteria provided in the SWM Rules, 2016 and also as per the guidelines provided in the Municipal Solid Waste Management Manual⁷. Based on these criteria, the waste processing and disposal site at Mahuda Village is suitable and can be used as a waste processing and disposal facility. The detailed criteria and assessment is provided in table below

SITE SUITABILITY CRITERIA FOR WASTE PROCESSING AND DISPOSAL FACILITY

SN	Location criteria		Evaluation of proposed site
	Feature	Exclusion limits	
<i>As per SWM Rules 2016</i>			
1	The landfill site shall be away from habitation clusters, forest areas, water bodies monuments, national parks, wetlands and places of important cultural, historical or religious interest;	200m	There is no such thing observed within 500m radius from the site. The nearest settlement is NGO GRAM VIKAS at a distance of more than 900 m from the site.
2	A buffer zone of no-development shall be maintained around landfill site and shall be incorporated in the Town Planning Department's land-use plans	Not Specified	Berhampur Development Authority needs to notify no-development zone around the site
3	Airport or Airbase	20 km	No airport within 20 km

<i>As per MSW Manual, CPHEEO - Guidelines</i>			
1	Lakes or ponds	200 m	No lakes or ponds are located within 200 m of site
SN	Location Criteria		Evaluation of Proposed Site
	<i>Feature</i>	<i>Exclusion Limits</i>	
<i>As per MSW Manual, CPHEEO - Guidelines</i>			
2	Navigable river or stream	30 m	No navigable river are located within 30 m of
3	100 year flood plain	Within the flood plain	Site is not located in a flood plain
4	Right of way of National Highway	200 m	No Right of Way of National Highway is located within 200 m of site.
5	Notified habitation	500m; Development within 500m zone around the project site boundary to be regulated	Nearest habitation is within the NGO GRAM VIKAS campus – more than 900 m from the site.
6	Public parks	300 m	No public parks are present within 300 m of site
7	Critical habitat areas	Within habitat area	No critical habitats are present near project site
8	Wetlands	Within wetlands	No wetlands are present near project site
9	Groundwater table	In areas where groundwater table is less than 2 m	Post monsoon ground water table at site more than 10 m deep
10	Water supply well	500 m	No bore well or tube well were identified inside the 500 m zone.
11	Coastal Regulation Zone:	In a coastal regulation zone	The site does not fall within coastal regulation zone
12	Unstable zone	A landfill should not be located in potentially unstable zones	Berhampur falls in the seismic zone II and is under low risk category.

System Design and Infrastructure Assessment

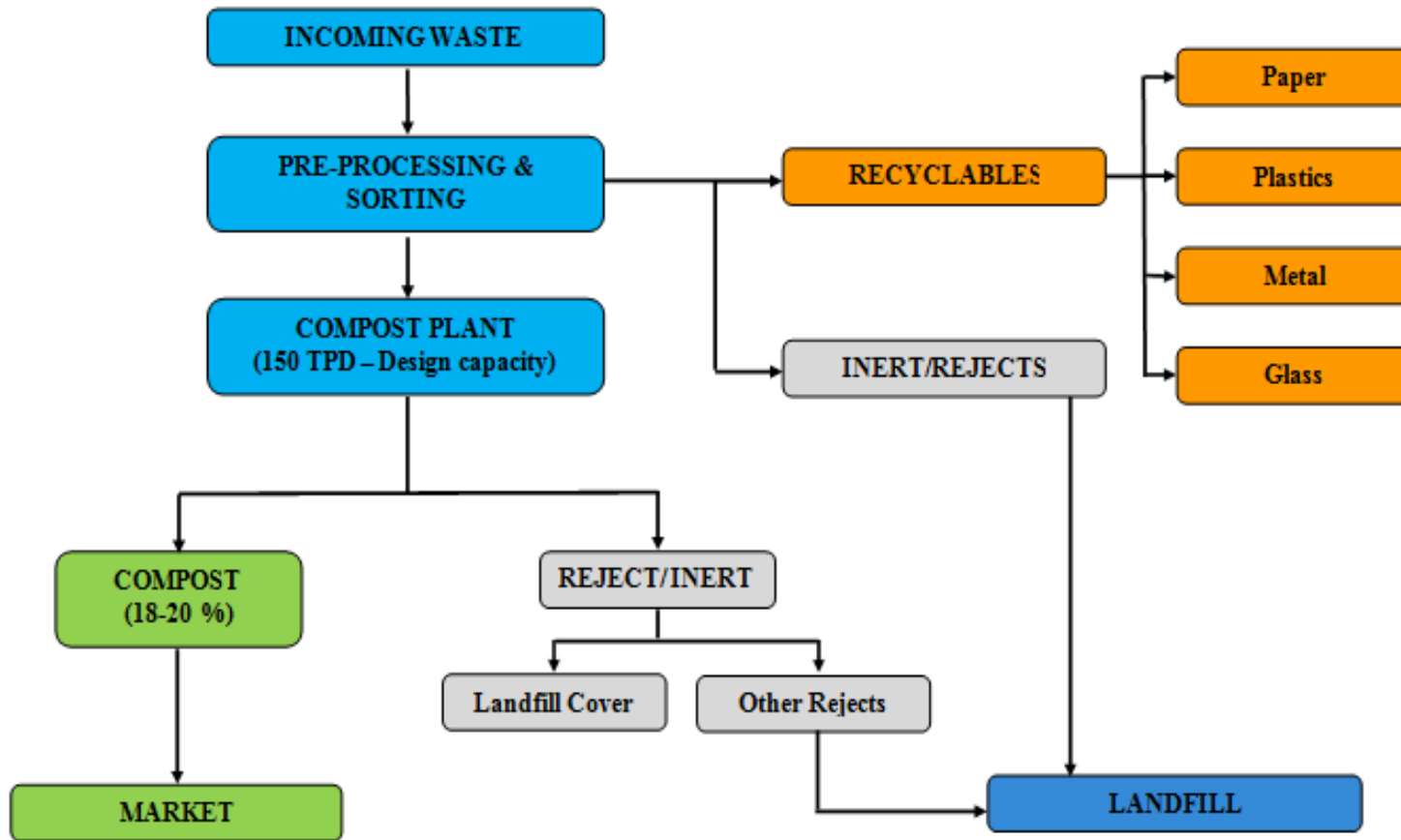
Proposed Waste Management System

The options analysis has resulted in the identification of a recommended system, the highlights of which are as follows:

- Treatment and Disposal Facility:
 - Pre-sorting facility for segregation of waste and recovery of recyclables;
 - Windrow composting system for processing of organic waste; and
 - Sanitary landfill for disposal of rejects and inert material.

The schematic diagram of the proposed scheme for treatment and disposal is shown in Figure 1.

Figure 1: Proposed Scheme for Waste Treatment & Disposal



1.5 Design Period and Capacity

The Project is proposed to commence from 2018, considering tendering and appointment of Contractor by end of 2016 and construction period of 1.5 years. The collection and transportation operation can start during the interim period in the first year itself.

Table 29 shows the waste collection, transportation, processing and disposal requirements for the next 20 years for Berhampur. The design capacities have been calculated based on 5 years average waste generation.

Table 1: Waste Quantities for Design Requirement - 20 years

SN	Duration	Waste Generation Average 5 years	Compost Plant		Pre-Sorting facility		Landfill	
			Compost Plant	Design Capacity	Pre-sorting facility	Design Capacity	Rejects for landfill	Design Capacity
1	2018-22	186	149	200	186	246	56	60
2	2023-27	220	176		220		66	70
3	2028-32	259	207		259		78	80
4	2033-37	306	245		306		92	90

All figures in tons per day (TPD)

The waste characterization for Berhampur Municipal Corporation has been conducted by taking samples from various locations. The locations have been so chosen that it would give the representative characteristics of wastes at source of generation, at secondary collection points and also at disposal site. The summary of the Municipal Solid Waste of Berhampur City is shown in Table 30 below.

Table 30: Waste Characterization for Berhampur City

Sampling Locations		Physical Composition					
Location Type	Location Name	Food/Organic waste (%)	Wood & wood product (%)	Paper & cardboard (%)	Textile (%)	Park & Garden waste (%)	Glass, plastic, metal, other inert (%)
Residential Household	Ward No. 31 (HIG)	72.71	3.23	8.23	0.30	3.07	12.46
	Ward No. 10	78.24	2.06	4.92	0.80	1.35	12.63
	Ward No. 12 (Slum area)	73.07	2.20	8.21	0.87	1.47	14.17
	Ward No. 1 (Slum area)	76.80	7.75	3.28	0.79	0.74	10.63
	Average	75.20	3.81	6.16	0.69	1.66	12.47
Secondary Collection Points	Cancer ward	61.33	5.32	10.92	0.89	3.81	17.74
	Panchadhala	28.01	10.49	11.06	6.52	18.42	25.49
	Kapileswar	46.49	13.66	3.19	0.58	7.30	28.78
	Harida Kindi	46.72	6.56	4.41	1.74	12.51	28.45
	Average	45.64	9.01	7.40	2.43	10.51	25.12
Vegetable & fruit markets	Madraj	59.63	7.52	4.79	0.00	5.80	22.27
	Gate bazar	91.42	2.36	0.66	0.33	1.47	3.77
	P Market	85.90	1.02	1.78	0.38	2.81	8.12
	Giri market	86.36	2.83	1.69	0.27	2.53	6.33

Sampling Locations		Physical Composition					
Location Type	Location Name	Food/Organic waste (%)	Wood & wood product (%)	Paper & cardboard (%)	Textile (%)	Park & Garden waste (%)	Glass, plastic, metal, other inert (%)
	Average Market	80.82	3.43	2.23	0.24	3.15	10.12
Landfill	Average	24.76	15.66	2.53	3.70	6.83	46.52
	Overall Average	56.61	7.98	4.58	1.77	5.54	23.56

The Waste Characterization provided in table 30 above is for indicative purposes only. The actual composition may vary on day to day basis.

Basic Design – Treatment and Disposal

SWM Rules 2016 prescribe that land filling should be restricted to non-biodegradable, inert waste and other waste that are not suitable for recycling or for biological processing including residues and pre-processing rejects of waste processing facilities. SWM Rules 2016 also prescribe that land filling of mixed waste should be avoided unless the same is found unsuitable for waste processing. The physical composition of the MSW at Berhampur indicates that approximately 70% of the total MSW generated is bio-degradable. This necessitates the development of treatment facility along with the disposal facility.

The different options for treatment of waste for Berhampur have been discussed in the Chapter 7. Composting with pre-sorting facility and sanitary landfill has been identified as most suitable treatment and disposal option for Berhampur. Considering the regional setting of Berhampur, characteristics of the waste, windrow aerobic windrow composting is proposed for the project.

It has been assumed that approximately 80% of the waste transported to the facility will be diverted to the compost pad and approximately 10% of the recyclable can be recovered at the pre-sorting facility.

The average waste diverted to the compost plant will vary from 149 TPD during year 2018- 22 to 245 TPD during year 2033-37. Average waste diverted to the compost plant during the design period is 196 TPD. As indicated in Table 29, the design capacity of the compost plant has been proposed as 200 TPD. The 200 TPD compost plant should be sufficient to process waste for next 20 years with minor up gradation at the end of 10 years. The infrastructure for the plant has also been proposed in such a way so that the capacity of the plant in future can be increased by 20-30%, if required. Further, the current design assumes one shift of 8 hours which can be increased in case of increase in supply of waste in future.

The capacity of the waste pre-sorting facility proposed for Berhampur is 250 TPD considering one shift of 8 hours per day. Phase wise design capacity of landfill have also been calculated and shown in Table 29. It has been assumed that approximately 30% of the total waste generated will find its way to the landfill which includes around 20% inert, 15% rejects from the compostable waste and 10% other rejects from the process. The rejects for land filling varies from average 56 TPD in year 2018-22 to average 92 TPD during year 2033-37. Accordingly, the landfill facility has been designed for different phases.

Site Layout & Land Requirement

Total land available for development of facility is 33.62 acres (approximately 13.6 ha). The land currently available for disposal of waste is sufficient to accommodate the processing and landfill facility for 25 years. However, for the current design, the life of the facility has been considered as 20 years. The total area requirement for development of composting and pre-sorting facility is 1.95 ha. The total area for development of landfill for 20 years is 7.59 Ha.

A typical layout for integrated waste processing and disposal facility for Berhampur is provided in Figure 17. The land area requirement for facility component including treatment and disposal facility is summarized in Table 31.

Table 2: Area Requirement for Treatment & Disposal Facility

SN	Parameter	Units	Area
I	Total available area	m ²	136,000
A	Compost & Pre-Sorting Area Requirement		
1	Tipping area / receiving of MSW	m ²	600
2	Pre-sorting facility	m ²	300
3	Compost pad	m ²	7500
4	Monsoon Shed	m ²	3010
5	Curing shed	m ²	400
6	Refinement section	m ²	300
7	Finishing section	m ²	300
8	Storage/ Godown (90 days)	m ²	400
9	Recyclable storage	m ²	300
	Total Compost & pre-sorting area (including circulation area)		19,500
B	Landfill		
1	Cell 1	m ²	24076
2	Cell 2	m ²	26878
3	Cell 3	m ²	24943
	Total landfill (20 years)	m²	75897
C	Common infrastructure for Facility		
1	Roads (3.5 meter width and 7 meter width)	m ²	6900
2	Green belt (5 meters width)	m ²	11040
3	Leachate collection pond	m ²	600
4	Admin Building	m ²	200
5	Guard Room	m ²	15
6	Landfill Vehicle parking	m ²	1000
7	Staff vehicle parking	m ²	100
8	Panel Room	m ²	20
	Total common Infrastructure	m²	19875
9	Weighbridge with cabin	m ²	85



Figure 2: Layout for Integrated Waste Processing and Disposal Facility for Berhampur

Processing Facility – Composting and Pre-Sorting

Key Design Parameters for Processing Facility

Composting has been recommended for Berhampur since it is a simple process in comparison to other processing technologies and has comparative low capital and operational cost. Currently, no source segregation of waste has been proposed for the project and facility has been designed to receive mixed waste. The key design parameters for developing the composting and pre-sorting facility are provided below:

- Design Capacity of compost plant: 200 TPD
- Design capacity of pre-sorting plant: 250 TPD
- Operating hours: 8 Hours (one shift)
- Density of the incoming waste: 0.35 tonne/m³
- Density of compost: 0.6 tonne/ m³
- Decomposition time: 3 weeks in windrows; 2 weeks in monsoon shed and 2 weeks of curing
- Segregation system for recyclables: primarily manual segregation
- Storage area considered for compost and recyclables: 90 days

Process Description

Waste transferred to the facility shall be diverted to the pre-sorting section. Pre-sorting section will comprise of trommel screen of 100 mm perforation along with accept and reject conveyors. The waste from the reject conveyor shall be transferred to the manual segregation conveyor for material recovery and waste from the accept conveyor will be transferred to the composting windrows. Bulk compostable fraction of waste shall be shredded before transfer to the windrows. Composting of the waste in the windrows can be achieved in approximately 3 weeks under controlled climatic and process conditions. The windrows require turning at a specified frequency to ensure that the inner sections or core of the windrows do not turn anaerobic which can actually be detrimental to the process.

The machinery used to turn the windrows can be standard front-end loaders or specialized compost turners. Compost turners generally are faster and do a better job of mixing than front-end loaders. Front-end loaders are less expensive to purchase, and can also be used for unloading incoming waste and loading finished product. Alternative method of turning includes drilling air holes, installing aeration pipes and forcing airflow through the piles. For Berhampur, since the waste quantity is not substantial, front end loaders have been suggested. Material after composting in the windrows needs further stabilization. Decomposed material coming from the compost pad is transferred to the monsoon shed and stabilized further for about 15 – 20 days.

Material from the monsoon shed is then fed to the Coarse Segregation Section for intermediate screening. This is completely automated section with single point feeding. After processing, material is conveyed to the curing section. The equipment line-up contains a Feeder Conveyor and two Trommel Screens of 35mm and 16mm perforations respectively with their associated conveyors. The two stage screening system is adopted to achieve maximum screening efficiency.

Screened material coming out of this section is below 16 mm, uniform in texture and contains semi – stabilised organic compost, which is further transferred to curing section for complete

stabilization. Rejection from Trommel mainly consists of undigested organic matter and inert material. This material can be used as masks on the fresh garbage windrows. This masking prevents bird attraction and also assists in decomposition process.

Material coming out of the Coarse Segregation Section is stored in curing section for 15 days for further stabilisation and moisture control. Some additives as rock phosphate may be added at this stage to improve quality of final product.

A refinement section is incorporated in the machine line to remove impurities such as glass, plastic, leaves and inert and to maintain the size below 6 mm, as per compost quality norms. In this section, cured material is firstly fed to a drag feeder conveyor which in turn gradually feeds the same to the Trommel Screen 6/4 mm at a controlled rate. The screened material coming out of the Trommel screen is sent to the gravity separator, which further removes the impurities such as glass, metals, sand and silica from the compost. From here, the compost is passed through a liquid add mixer where quality enhancer in powder or liquid form is added.

From the refinement section, high quality compost is then passed through the packing spout for final packing. At packing spout, material is packed in 50 kg bags and then weighed. Bags are then stitched using a portable sewing machine and finally stacked in the finished product godown.

The process flow diagram for composting process is shown in Figure 18 and the material balance is shown in Figure 19.

Process Output

The output from the processing facility includes compost produced by processing the biodegradable waste by aerobic windrow composting process and other recyclables. It is envisaged that compost generated from the plant shall be in the range of 15 -18% of the input waste (33 TPD assuming 18% yield).

The final compost characteristics shall depend on the inlet waste and the operational procedures. The nutritive value of the compost produced in terms of nitrogen, phosphorus and potassium shall be > 1 and C/N ratio of the compost shall be in the range of 15-20. Compost should comply with the standards laid down by SWM Rules 2016 for application to food crops.

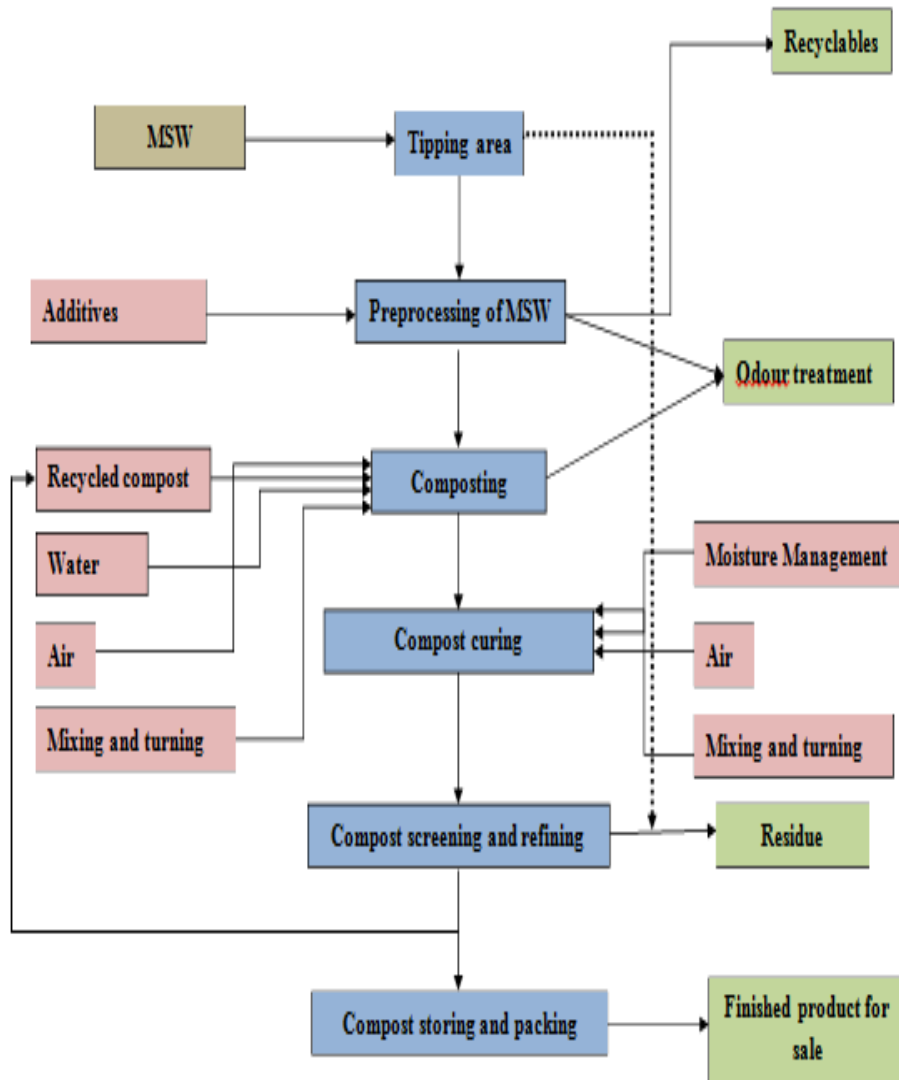
The recyclables recovered from the pre-sorting facility has also been estimated, though the quantity will vary considerably depending on the level of recycling done informally earlier by waste collector during collection and transportation process. Out of the net available material, the potential amounts recoverable and marketable are 90% for plastics, metal, glass and paper (an average 10% is lost or not recovered and finds itself back to landfill). The pre-sorting will recover, paper, plastic, glass and metal. Paper and plastic and metal are proposed to be baled and sold, either to private dealers or directly to recycling facilities. The metal and glass can be stored separately and sold to the respective dealers.

The summary estimates of the output from the process along with related assumptions are provided in the following section:

- Compost: 33 TPD (based on average waste of first five years i.e. 186 TPD)
- Assumed output/ yield: 18%
- Moisture content in compost: 20%

- Assumed days of operation for compost plant : 330
- Bulk density of the compost: 0.6 tonnes/m³
- Recyclables: 14 TPD or 5,110 tonnes per annum (based on average waste of first five years i.e. 157 TPD)

Figure 3: Process Flow Diagram of Composting Plant



Waste Disposal – Sanitary Landfill

A sanitary land fill typically comprise of following systems and components:

- Cover and liner system for adequate landfill cell protection, bottom lining, intermediate and final cover;
- Leachate collection, control and treatment system;
- Landfill gas collection/venting system;
- Monitoring systems: monitoring wells and basic laboratory.

For design of the landfill, standard design criteria prescribed in SWM Rules 2016 and CPHEEO manual has been followed.

Key design parameters

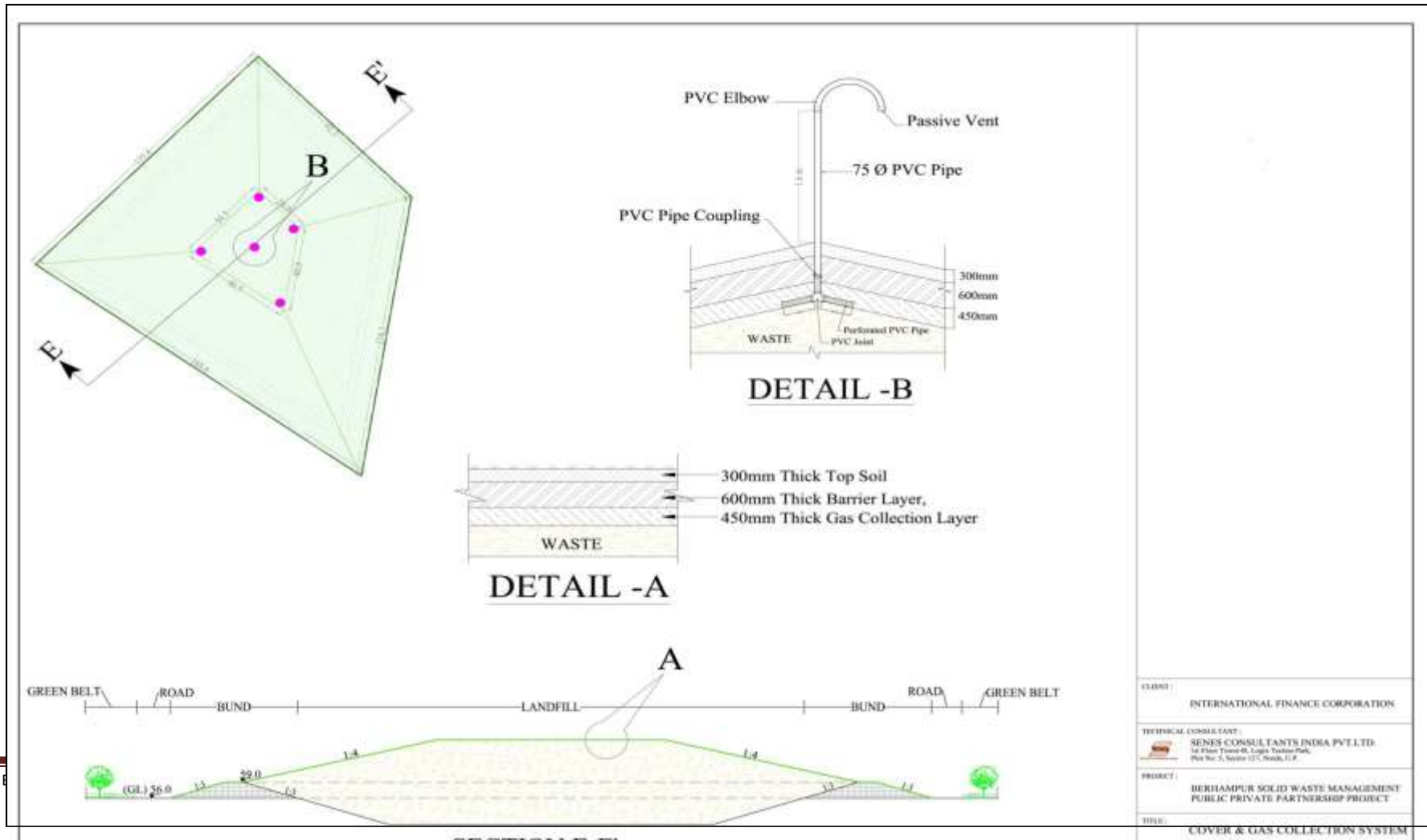
Key design parameters considered for the sanitary landfill are as under:

- Considering the average waste generation of 250 tonnes per day for 20 years, the landfill has been designed for approximately 30% of the total waste generation. This 30% has been calculated considering only non-biodegradable, non-recyclable and inert fraction of total waste generated to be disposed in the landfill.
- The total volumetric capacity of the landfill including the daily cover and the liner system is 792,132 m³ for 20 years. Following assumption has been made to arrive at the foresaid volume:
 - 10% of landfill volume has been considered for daily cover and 12.5% of the volume has been considered for base liner. These volume allowances are in accordance with the guidelines provided in CPHEEO manual for SWM.
 - The density of the waste at the landfill has been assumed as 850 kg/ m³.
- The landfill has been designed in four phases for approximately 20 years. The first phase being for 6 years; second phase for 6.5 years; third phase for 2 years and; the fourth phase for 5 years. The phase wise division has been done based on the site profile. The current site has the capacity to accommodate waste to approximately 25 years. The area for future development has been marked on the site plan.
- The total area requirement for development of landfill for 20 years has been estimated as 7.59 ha. This has been arrived considering slope below the ground as 1:2 and slope for the cover system as 1:4.
- The depth of the landfill has been assumed at 6 m from the ground level approximately 4 meters high from the post monsoon water level on site. Since the terrain is hilly, the relative depth of the landfill base from the ground level will vary at different places on site. Similarly, the height of each section from different points on site will be different. The parameters like volumetric capacity, life and average waste disposed in different phase is provided in Table 32.

Table 3: Landfill Development – Phase Wise Details

Item	Unit	Cell 1	Cell 2	Combined Cell 1&2	Cell 3
Average design capacity	T/day	57	71	82	92
No of years	years	6	6.5	2	5
Height of the landfill	m	10	13	16	13
Waste disposed in landfill	Tonnes	124444	180604	59616	167599
Total design capacity of landfill	M³	185202	268781	88723	249426

- The design of the liner system has been proposed based on the guidelines provided in CPHEEO manual. The guidelines primarily prescribe construction of a non-permeable lining system at the base and sides of waste disposal area having a composite barrier of 1.5 mm. High Density Polyethylene (HDPE) geomembrane or equivalent, overlying 90 cm of soil (clay/amended soil) having permeability coefficient not greater than 1×10^{-7} cm/sec.
- Leachate Conveyance System is a network of perforated HDPE pipes laid on the drainage layer. The primary function of Leachate Conveyance System is to collect and convey leachate out of the landfill unit and to control the depth of the leachate above the liner. The leachate collection system should be designed to meet the hydraulic performance standard of maintaining less than 30 cm depth of leachate or head above liner. Feeder pipes (160mm) and header pipes (315 mm) have been proposed for collection and conveyance of leachate.
- It has been estimated that maximum quantity of leachate generated from cell 1 during the active life of the landfill (assuming average rainfall of 1400 mm per year and cell area of 21,080 m²) is 170 m³. Leachate generated from the landfill will be stored in the leachate holding tank of 600 m³ capacity (20x15x2). The capacity of the tank is sufficient to collect and store leachate for three days. The leachate holding tank will also collect leachate from the compost pad and landfill. It is proposed to recycle leachate back to the compost plant and landfill to increase the rate of decomposition.
- The cover system proposed for the project is in line with the specifications provided in MSW rules and comprise of gas collection layer (450 mm granular layer), barrier layer (600 mm clay/amended soil) and top vegetation layer (450 mm soil). Passive vents shall be provided at the time of final cover placement over the cells to ensure that excess gas pressures do not build up below the landfill cover. The placement of one vent per 5,000 m² of cover will be adequate.



1.6 Implementation Plan

The proposed Municipal Solid Waste Management system provides a comprehensive and holistic solution to the MSW management problem for Berhampur. The plan itself has been worked as set of independent but well synchronized projects and together provides a long term, efficient and cost effective solution for MSW management expected to be generated over the next 20 years in Berhampur. The implementation plan for Berhampur Integrated MSW management system is shown in Table 33.

Table 4: Implementation Plan – Berhampur Municipal Solid Waste Management

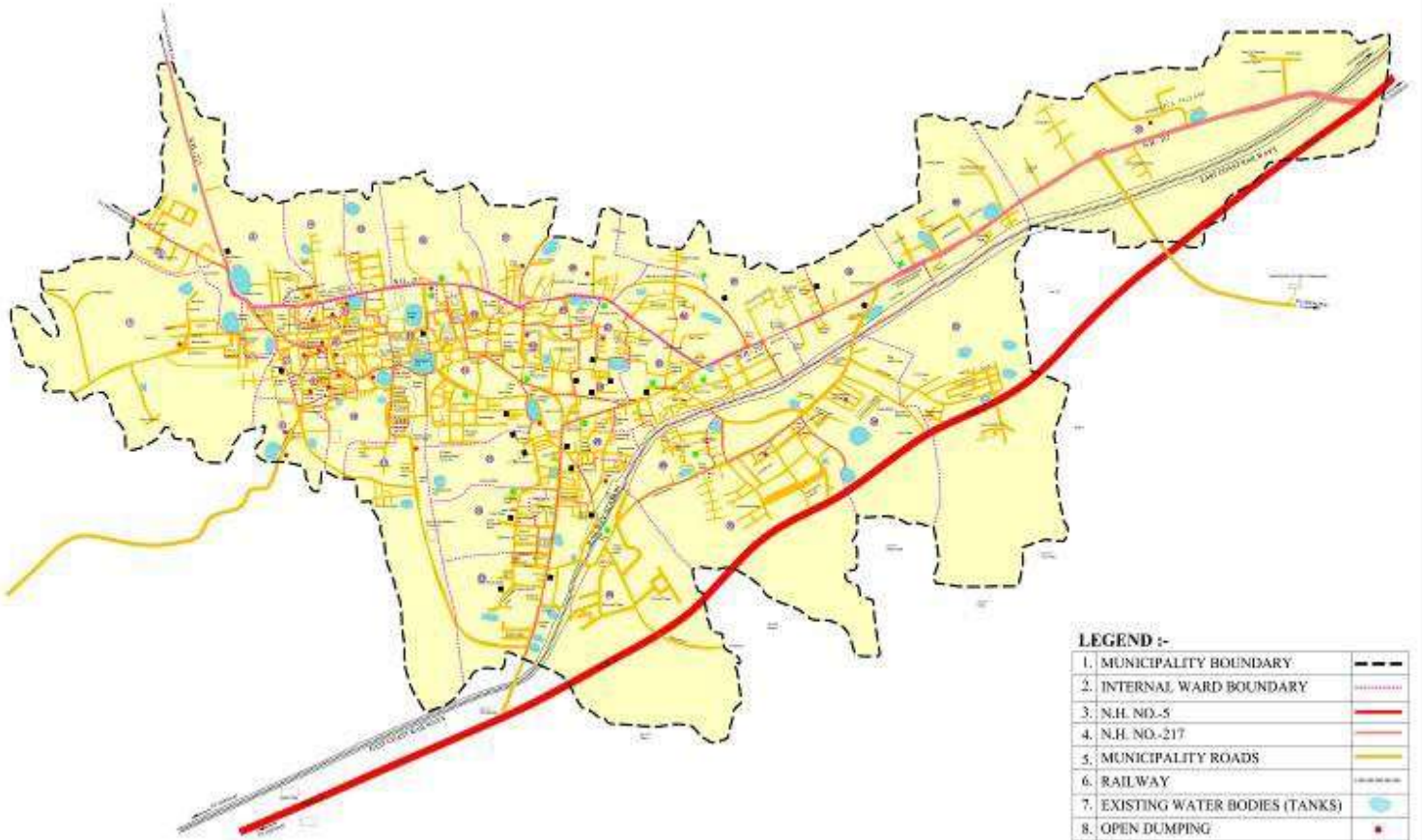
To be submitted

Attachment 1

Site Map

Site Map 1: Location of Berhampur Municipal Corporation

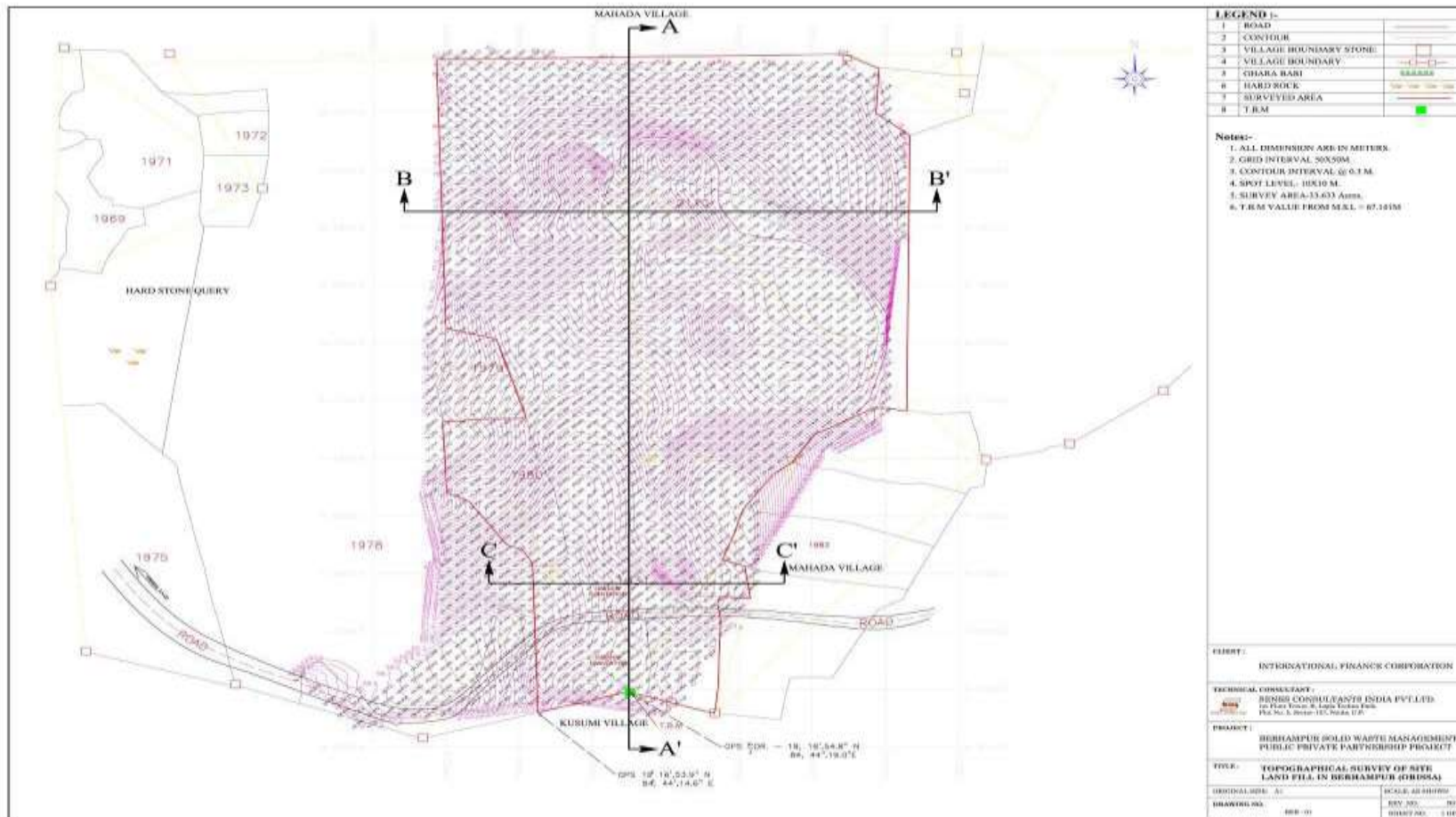
CITY MAP OF BERHAMPUR BERHAMPUR MUNICIPALITY, DIST. GANJAM, ORISSA

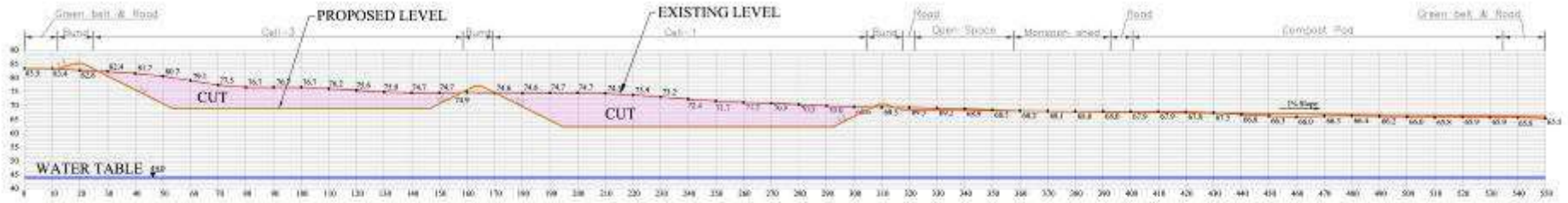


LEGEND :-

1. MUNICIPALITY BOUNDARY	---
2. INTERNAL WARD BOUNDARY
3. N.H. NO.-5	—
4. N.H. NO.-217	—
5. MUNICIPALITY ROADS	—
6. RAILWAY	—+—+—+—+—
7. EXISTING WATER BODIES (TANKS)	●
8. OPEN DUMPING	■
9. 3mt BIN	■
10. 9mt BIN	●
11. WARD TEXT	⊙

Site Map 2: Project site on Topographical Survey





SECTION A-A'

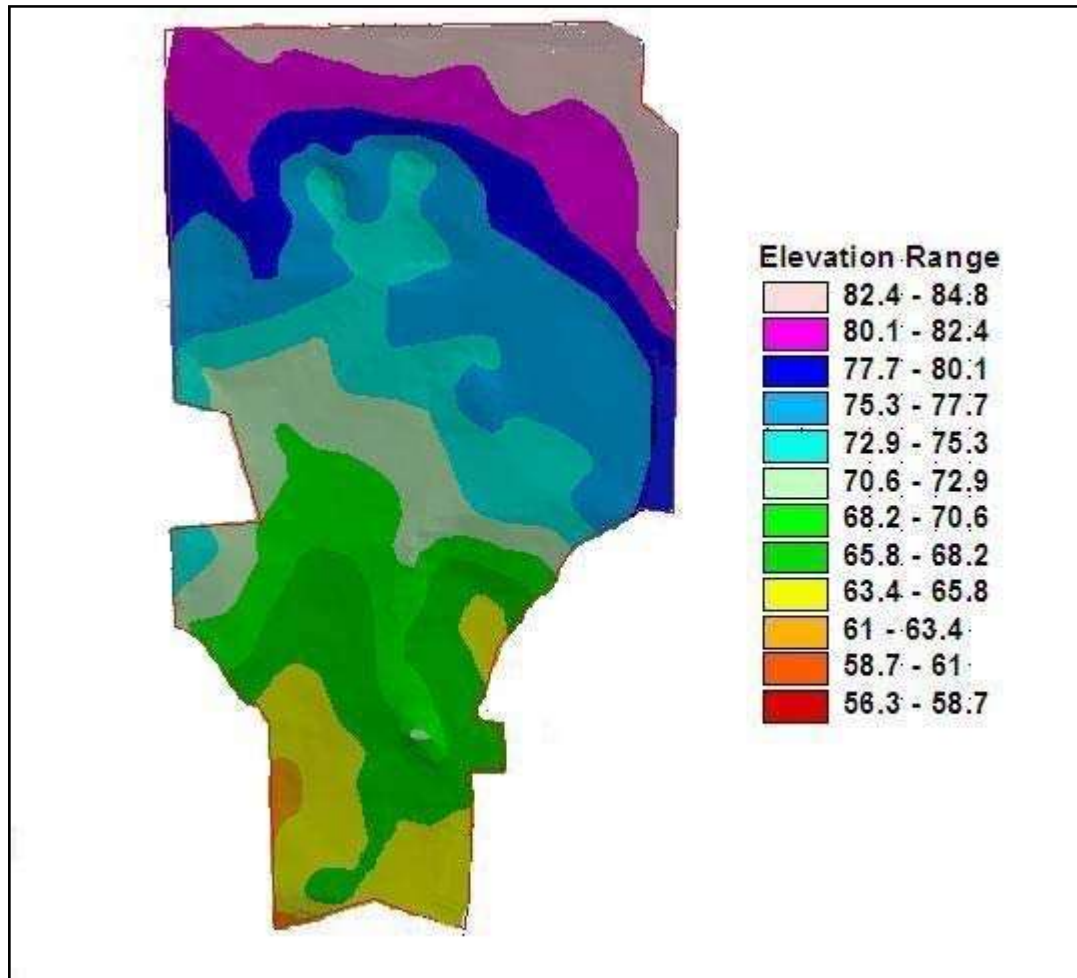


SECTION B-B'



SECTION C-C'

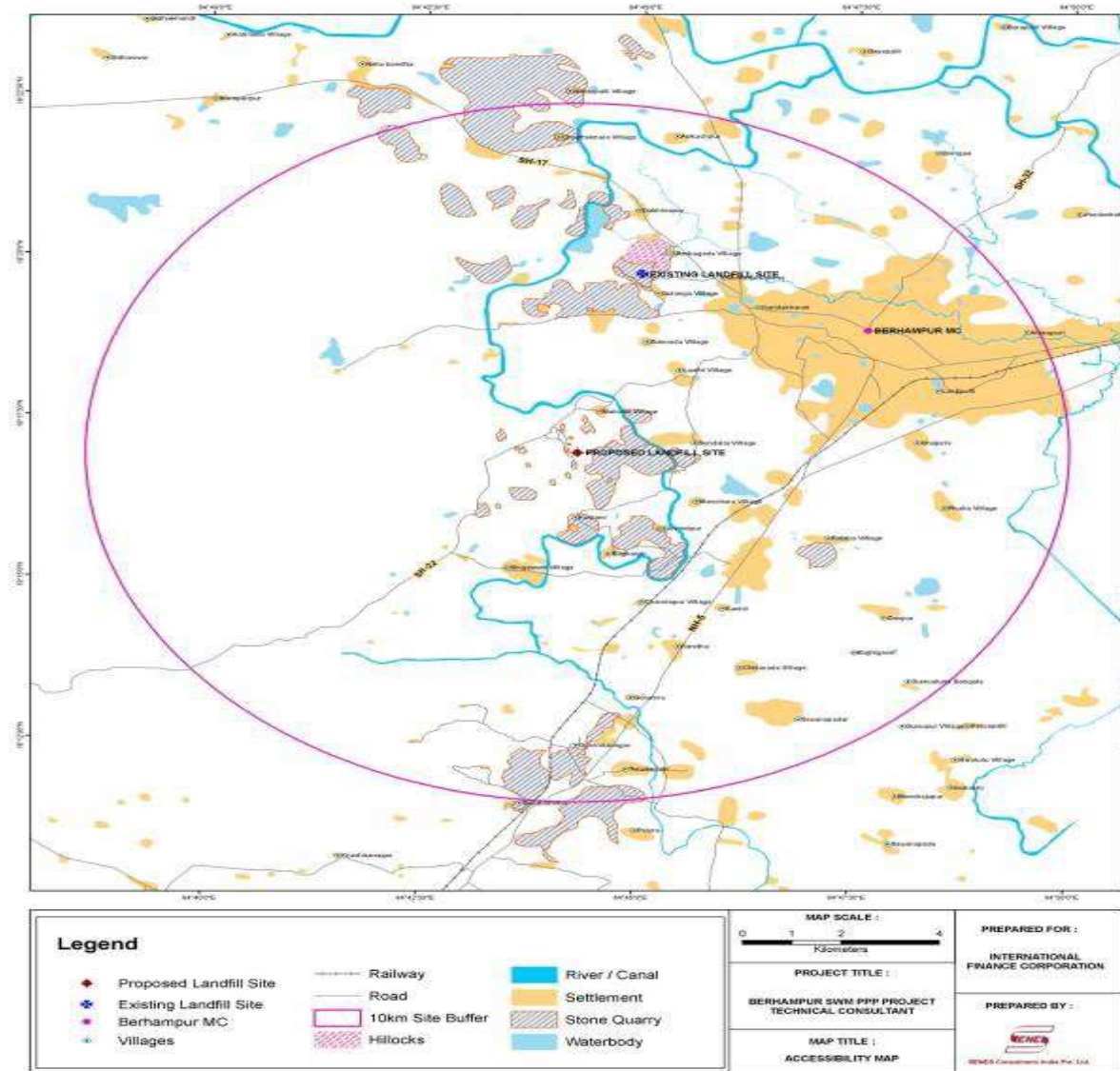
ALL DIMENTION & LEVEL ARE IN METERS



Site Map 3: Location of Project site at Berhampur Municipal Corporation



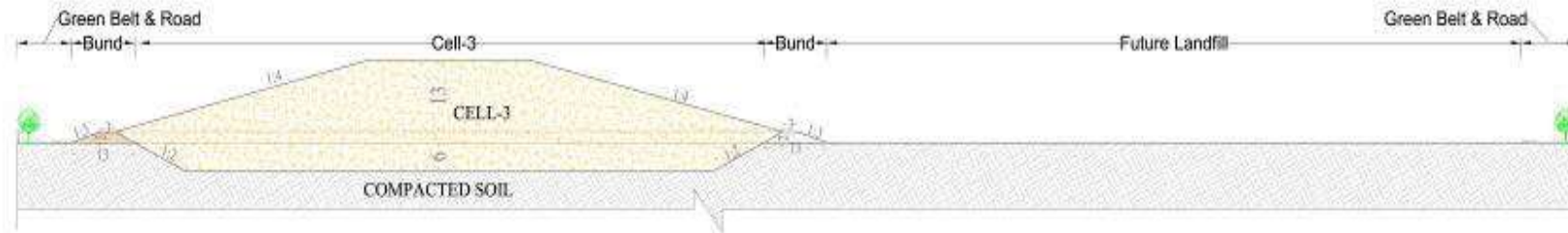
Site Map 4: Location of Project Site on Topo Sheet



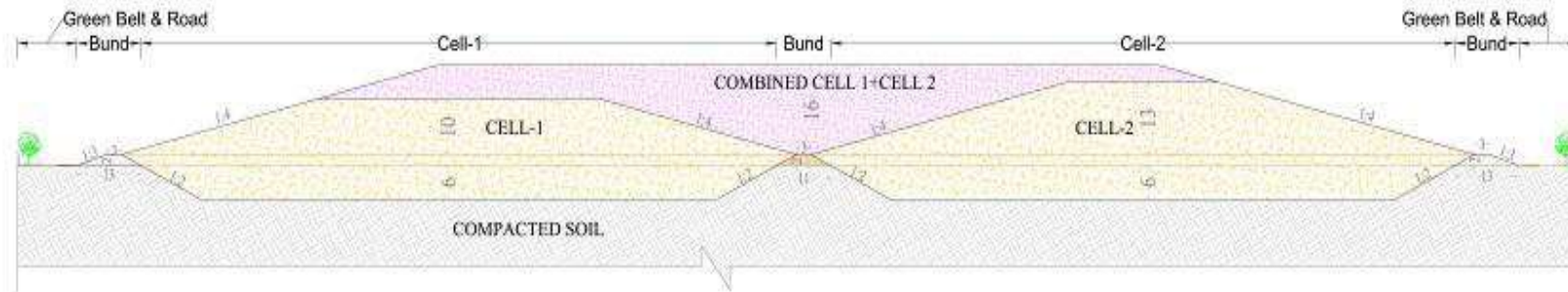
Site Map 5: Layout Plan of the Facilities



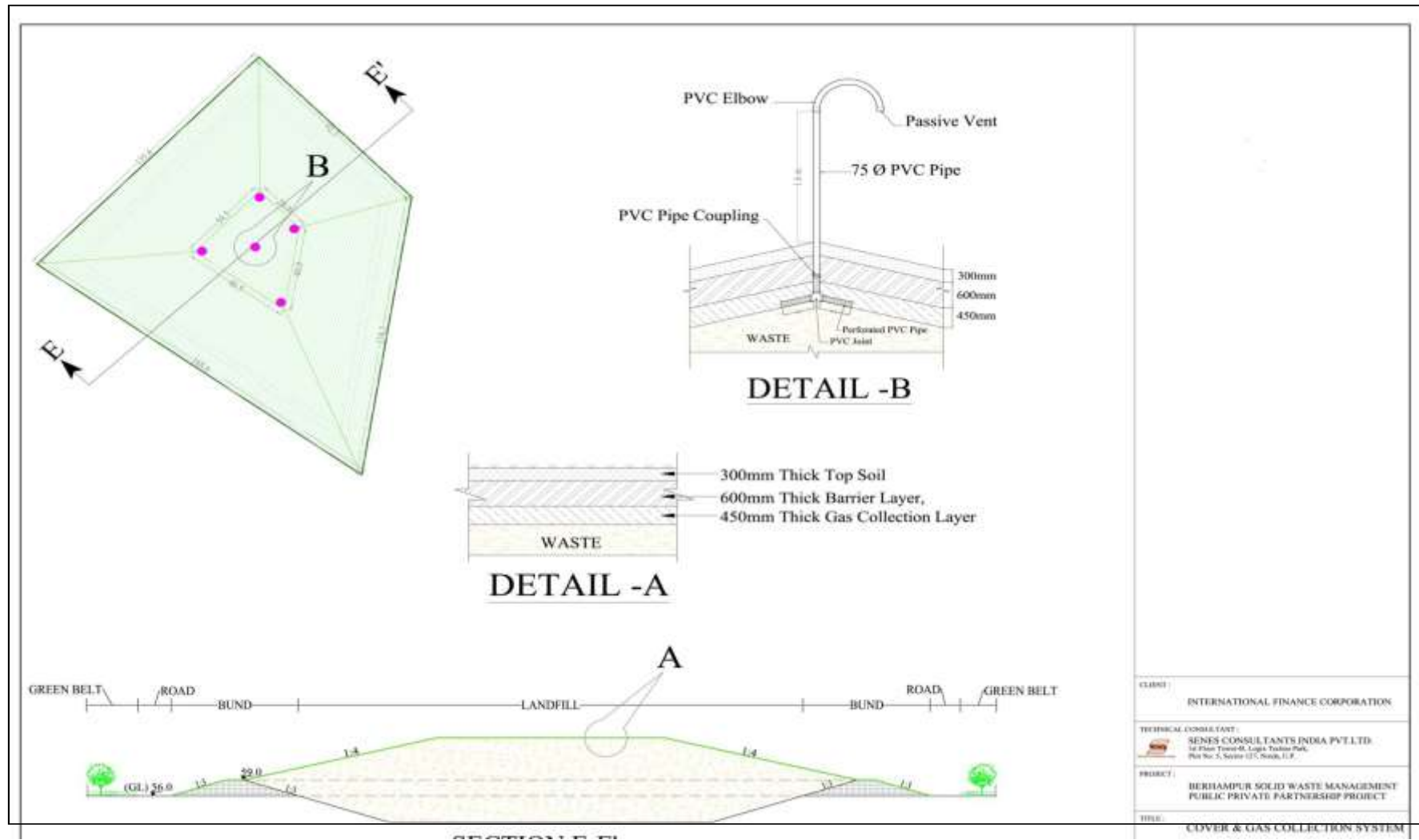
Site Map 6: Indicative Sectional Details of the Landfill



SECTION A-A'



SECTION B-B'



APPENDIX 5: SERVICE AREA APPENDIX

SERVICE AREA

APPENDIX 5 TO THE CONTRACT

DESIGN, BUILD AND OPERATE

**MUNICIPAL SOLID WASTEMANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL CORPORATION,
ODISHA**

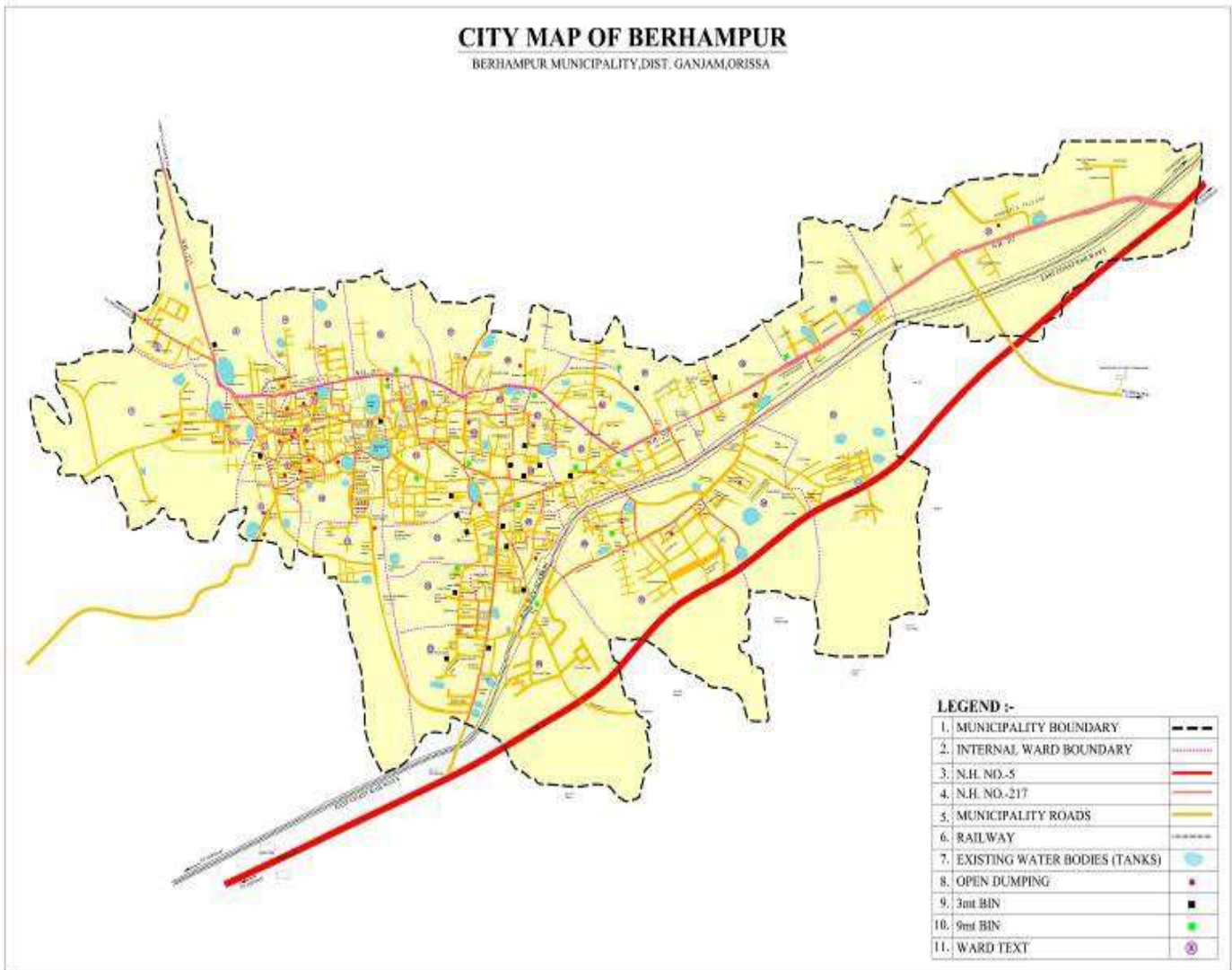
ARTICLE 1 - GENERAL

1.1 Service Area

- (1) For the purpose of the Contract, the “Service Area” shall mean,
 - (a) the areas outlined in the maps set out in Attachment 1 to this Service Area Appendix (the “Service Area Maps”); and constitute 40 wards.
- (2) Notwithstanding Section 1.1(1) of this Service Area Appendix and the Service Area Maps,
 - (a) the Owner may, in its sole discretion, amend the Service area in accordance with the Applicable Law; and
 - (b) the Operator acknowledges that the Service Area shall include or exclude, as applicable, any increase, decrease or change to the Service Area in accordance with the Applicable Law.
 - (c) In case of such increase, decrease or change to the Service Area, the contract price adjustment shall be in accordance with Appendix 6.

Attachment 1

Service Area Map(40 Wards)



APPENDIX 6: CONTRACT PRICE ADJUSTMENT APPENDIX

CONTRACT PRICE ADJUSTMENT

APPENDIX 6 TO THE CONTRACT

DESIGN, BUILD, OPERATE AND TRANSFER

**MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL
CORPORATION, ODISHA**

CONTRACT PRICE ADJUSTMENT APPENDIX

1.1 CONTRACT PRICE ADJUSTMENT

Tipping Fee Adjustment

- (1) The operator shall be paid on the basis of rates incorporated in the contract agreement.
- (2) Tipping Fee Rate shall be adjusted and revised annually during Operation Period. The first revision of the said rates shall be effective from the month in which O&M services commence and the same shall be valid for 12 months. These rates shall be revised subsequently year after year for the entire O&M period, and each revision shall be applicable for the 12 months period.

The rates would be revised in accordance with the following methodology.

- a. The formula for adjusting the Tipping Fee shall be as under:

$$TFR_n = TFR_0 \times [0.20 + \{0.40 \times (WPI_n/WPI_0) + 0.40 \times (CPI_n/CPI_0)\}],$$

Where,

TFR_n = Tipping Fee per MT as applicable for the n^{th} year of O&M services

TFR_0 = Base Tipping Fee Rate per MT stipulated in the contract

WPI_n is the WPI of the 1st month of n^{th} year of O&M services

WPI_0 is the WPI of the month in which the deadline for bid submission falls

CPI_n is the CPI of the 1st month of n^{th} year of O&M services

CPI_0 is the CPI of the month in which the deadline for bid submission falls

APPENDIX 7: INCENTIVE COMPENSATION APPENDIX

[DELETED]

**PERFORMANCE INCENTIVE COMPENSATION
APPENDIX 7 TO THE GENERAL CONDITIONS
FOR
CONTRACT TO
DESIGN, BUILD, OPERATE AND TRANSFER
MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL CORPORATION,
ODISHA**

PERFORMANCE INCENTIVE COMPENSATION APPENDIX PROVISIONS

This appendix 7 to Schedule B stands deleted

APPENDIX 8: LIQUIDATED DAMAGES - OPERATIONS

LIQUIDATED DAMAGES-OPERATIONS

APPENDIX 8 TO THE CONTRACT

DESIGN, BUILD AND OPERATE

**MUNICIPAL SOLID WASTE MANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL
CORPORATION, ODISHA**

LIQUIDATED DAMAGES - OPERATIONS

SECTION 1 - GENERAL

1.1 Operator's Acknowledgements

The Operator acknowledges and agrees that,

- (a) a failure of the Operator to meet the Technical Standards set out in the Appendix 3C - Technical Standards Appendix is a breach of the Contract;
- (b) the Owner shall deduct liquidated damages (the "Liquidated Damages") upon an Occurrence (as defined in LDA Section 1.2), from the Operator's Bill for Operations Services; and
- (c) Liquidated Damages payable under this Liquidated Damages Appendix do not constitute the only or the full quantum of damages incurred by the Owner as a result of an Occurrence and represent only a genuine pre-estimate of the damages that will be suffered by the Owner upon an Occurrence.

1.2 Definition of Damages

For the purposes of this Liquidated Damages Appendix, the Operator shall be obliged to pay Liquidated Damages in accordance with LDA Article 2 if it breaches certain identified Technical Standards set out in the Appendix 3C - Technical Standards Appendix as identified in this Liquidated Damages Appendix.

1.3 No Waiver

The right of the Owner to receive such Liquidated Damages shall not limit any of its other rights pursuant to the Contract including, without limitation, the Owner's rights pursuant to GC Section 1.6 and 11.2.

SECTION 2 - CALCULATION OF LIQUIDATED DAMAGES

2.1 Calculation for Breach of Technical Standards

(1) Liquidated Damages shall be deducted from the O&M payments due to the Operator for each Occurrence. The amount of the Liquidated Damages for each Occurrence shall be calculated pursuant to the table hereunder.

(2) Liquidated Damages shall not be applicable for an Occurrence listed in LDA Section 2.1(1) if Independent Engineer is satisfied that the cause of the Occurrence was beyond the Operator's control.

(3) The total amount of Liquidated Damages payable by the Operator in any month shall not exceed *40 per cent* of the fee for that month.

Performance Criteria

Sr. No.	Performance Criteria	Performance Monitoring Frequency	Means of verification	Tolerance	Liquidated Damages for the occurrence
1	Technical parameters:-				
1A	<p>The Operator fails to reduce the Refuse Matter (RF) disposed in Scientific Landfill Facility to less than 20% of MSW received in a quarter:</p> <p><i>If IRF is 20.1% -30%</i></p> <p><i>If IRF is 30.1% -35%</i></p> <p><i>If IRF is 35.1% -40%</i></p> <p><i>If IRF is 40.1% -50%</i></p> <p><i>If IRF is more than 50%</i></p>	Quarterly	Monitoring with proofs by Independent engineer/inability to provide the records of the weighment/Record showing more than 25% waste going to landfill/surprise checks	Nil	<p><i>Tipping Fee for the corresponding quarter</i></p> <p><i>2% of Tipping Fee</i></p> <p><i>5% of Tipping Fee</i></p> <p><i>10% of Tipping Fee</i></p> <p><i>20% of Tipping Fee</i></p> <p><i>50% of Tipping Fee</i></p>
2B	Other technical parameters				
	<p>a. Failure to process the waste in accordance with agreement at processing site.</p> <p>b. The Operator fails to achieve the minimum overall density of 700kgs/cubic</p>	Monthly	Monitoring/Reports verified by Independent engineer or authorized representative of Owner.	Nil	<i>2% of the tipping fee for the corresponding period</i>

Sr. No.	Performance Criteria	Performance Monitoring Frequency	Means of verification	Tolerance	Liquidated Damages for the occurrence
	meter of compacted waste, including daily cover (OSA 4.2(q)) c. The Operator fails to maintain leachate heads within 1 m of the top of the engineered barrier(OSA 8.2.4(c)) d. The Operator is in breach of any of the conditions stipulated in the Environmental Compliance Certificate				

APPENDIX 9: EXISTING STAFF APPENDIX

[DELETED]

EXISTING STAFF

APPENDIX 9 TO CONTRACT

DESIGN, BUILD, OPERATE AND TRANSFER

**MUNICIPAL SOLID WASTEMANAGEMENT FACILITY IN BERHAMPUR MUNICIPAL CORPORATION,
ODISHA**

AUGUST 2015

EXISTING STAFF APPENDIX

Appendix 9 to Annex B Stands Deleted

APPENDIX 10: OPERATOR'S EXPERTISE APPENDIX

OPERATOR'S EXPERTISE

APPENDIX 10 TO CONTRACT

FOR

DESIGN, BUILD, OPERATE AND TRANSFER

**MUNICIPAL SOLID WASTEMANAGEMENT FACILITY AT BERHAMPUR
MUNICIPAL CORPORATION**

OPERATOR'S EXPERTISE APPENDIX

ARTICLE 1-GENERAL

1.1 Key Personnel

In addition to meeting the requirement to provide expertise in accordance with Section 1.1 of this Operator's Expertise Appendix, the Operator shall provide all Key Staff listed in Attachment 1 to this Operator's Expertise Appendix. The Operator shall staff each "Key Staff" position with a separate individual.

Attachment 1 to the Operator's Expertise Appendix

List of Key Staff

Attachment 1 to the Operator's Expertise Appendix

1 List of Key Staff during Design Build Services

Key Personnel	Qualification & Experience
Project Manager	ME/M-Tech in Environmental /Public Health Engineering with at-least 15 years' experience and should have relevant experience in at least 2 SWM projects on Municipal Solid Waste management in the capacity of project management/design supervision/construction management.
Construction Manager	B.E./B-Tech in Civil Engineering and should have 10 years of experience in construction supervision. Experience in projects related to construction of sanitary landfills, composting sites is desirable.
Design and Construction Engineer - Processing facilities	BE/B. Tech in Civil /Environmental/Mechanical Engineering/Chemical/Public Health Engineering with 10 years relevant experience in designing and construction supervision of the processing of the MSW.
Landfill Design and Construction Engineer	BE/B. Tech in Civil /Environmental/Mechanical Engineering with 10 years relevant experience in designing and construction of sanitary landfills.
Health & Safety Expert	Masters in Environmental Engineering/Science with 10 years relevant experience in designing sanitary landfills following MSWM Rules and SWM manual and guidelines.
Procurement Expert	BE/B. Tech in Civil/Mechanical Engineering /MBA with 8 years relevant experience in procurement
Construction Quality Assurance / Control Manager / Engineer	BE/B-Tech/M.Sc. in Environment with 05 years of relevant experience in Quality Control/Quality Assurance

2 List of Key Staff during Operation Services

Key Personnel	Qualification & Experience
Project Manager	ME/M-Tech in Environmental /Public Health Engineering with at-least 15 years' experience and should have relevant experience in at least 2 SWM projects.
Financial expert	Chartered Accountant/Cost Accountant/MBA in Finance with 5 years of experience
Sanitary Landfill Operations Engineer	BE/B. Tech in Civil Engineering with 10 years of relevant experience in Construction Supervision and O&M sanitary and/or hazardous landfills.
Environmental Engineer	Masters in Environmental Engineering/Science with 10 years exp
Manager Operations– Treatment & Disposal	Graduation in any stream with 5 years of experience in the Treatment & Disposal activities
Operator – Processing plant	BE/ B. Tech in Civil/Mechanical/Environmental Engineering with 10 years of experience of project management, plant management, supervising implementation of processing facilities and sanitary landfill
Maintenance Engineer	BE/B.Tech in Mechanical Engineering with 8 years of experience.

APPENDIX 11: FORM OF PERFORMANCE SECURITY

FORM OF PERFORMANCE SECURITY

_____ [Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: _____ [Name and Address of Owner]

Date: _____

PERFORMANCE GUARANTEE NO.: _____

We have been informed that _____ [name of Bidder] (hereinafter called "the Bidder") has entered into Contract No. _____ [reference number of the contract] dated _____ with you, concerning a contract to design, build and operate an Municipal Solid Waste Management project in Berhampur Municipal Corporation, Odisha (hereinafter called "the Contract").

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

At the request of the Operator, we _____ [name of Bank] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____ [amount in figures] (_____) [amount in words], upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contract is in breach of its obligations under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than the earlier of:

- (a) six months after the End Date, as defined in the Contract; or
- (b) six months after the date of termination of the Contract pursuant to its terms.

Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

Yours truly,

[Name of Bank]

Authorised Signature

APPENDIX 12: FORM OF BANK GUARANTEE – ADVANCE PAYMENT

FORM OF BANK GUARANTEE – ADVANCE PAYMENT

[Name of Contract]

To: *[Name and address of Owner]*

Dear Ladies and/or Gentlemen,

We refer to the Contract Agreement (“the Contract”) signed on *[date]* between you and *[name of Operator]* (“the Operator”) concerning the Services set out in the Contract to Design, Build and Operate an Municipal Solid Waste Management Facility (ISWMF).

Whereas, in accordance with the terms of the Contract, the Owner agreed to pay or cause to be paid to the Operator an advance payment in the amount of *[number]* percent (____%) of the Contract Price for the Design-Build, , Commission, Operate and Maintaining ISWMF for 20 years, namely a payment of: *[amount of foreign currency in words]*, *[amount in figures]*, and *[amount of local currency in words]*, *[amount in figures]*.

By this letter we, the undersigned, *[name of Bank]*, a Bank (or company) organised under the laws of *[country of Bank]* and having its registered/principal office at *[address of Bank]*, do hereby jointly and severally with the bidder irrevocably guarantee repayment of the amounts upon the first demand of the Owner without cavil or argument in the event that the bidder fails to commence or fulfil its obligations under the terms of the Contract, and in the event of such failure, refuses to repay all or part (as the case may be) of the advance payment to the Owner.

Provided always that the Bank’s obligation shall be limited to an amount equal to the outstanding balance of the advance payment, taking into account such amounts that have been repaid by the Bidder from time to time in accordance with the terms of payment of the Contract as evidenced by appropriate shipping documents or payments certificates.

This Guarantee shall remain in full force from the date upon which the advance payment is received by the bidder until the date upon which the bidder has fully repaid the amount is advanced to the Owner in accordance with the terms of the Contract. At the time at which the outstanding amount is nil, this Guarantee shall become null and void, whether the original is returned to us or not.

Any claims to be made under this Guarantee must be received by the Bank during its period of validity.

Yours truly,

[Name of the Bank]

Authorized Signature

**APPENDIX 13: ADDENDA TO THE DOCUMENTS LISTED IN ITB SECTION
2.1(A) TO (E), IF ANY ARE ISSUED BY THE OWNER**

APPENDIX 14: OPERATOR'S BID

OPERATOR'S BID

APPENDIX 14 TO THE CONTRACT

FOR

DESIGN, BUILD OPERATE AND TRANSFER

MUNICIPAL SOLID WASTE MANAGEMENT FACILITY AT BERHAMPUR

MUNICIPAL CORPORATION

*[Note: The Operator's Bid is separately bound. It is entitled
_____ and consists of
_____ volumes.]*