

<<**Name of ULB**>>
<<**Name of the State**>>

REQUEST FOR PROPOSAL

**Design, Build, Operate and Transfer of Integrated
Waste Processing and Engineered Sanitary Landfill
Facilities For Mixed Municipal Solid Waste in -----
Town**

MONTH YEAR

INSTRUCTION TO BIDDERS

Disclaimer

The information contained in this Request for Proposal (hereinafter referred to as "RFP") document provided to the Bidders, by XXX ULB, Government of -----(name of state) (hereinafter referred to as "XXX") or any of their employees or advisors, is provided to the Bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

The purpose of this RFP document is to provide the Bidder(s) with information to assist the formulation of their proposals. This RFP document does not purport to contain all the information each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for XXX, their employees or advisors to consider the business / Investment objectives, financial situation and particular needs of each Bidder who reads or uses this RFP document. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and where necessary obtain independent advice from appropriate sources. XXX, their employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP document.

XXX may, in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP document.

Request for Proposal Document

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Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill
Facilities For Mixed Municipal Solid Waste in ----- Town

Schedule of Bidding Process

XXX would endeavour to adhere to the following schedule during the Bidding Process:

Sl. No.	Event Description	Date
1	Issue of RFP	-Insert date -
2	Site Visits for interested parties	-Insert date -
3	Last date of receiving queries	-Insert date -
4	Pre-bid meeting	-Insert date -
5	Proposal Due Date	-Insert date -
6	Opening of Technical Bids	-Insert date -
7	Opening of Financial Bids	-Insert date -

Instructions to Bidders

1. Scope of Proposal

- 1.1 The Municipal Solid Waste (Management and Handling) Rules, 2000 (hereinafter referred to as “MSW Rules”) mandate that Urban Local Bodies(ULB) carry out treatment and disposal of Municipal Solid Waste (MSW) in a scientific manner in waste processing and engineered sanitary landfill facilities. MSW Rules also mandate that MSW shall be treated and only inert / non-biodegradable material should be landfilled.
- 1.2 With an objective to improve the urban infrastructure and municipal service delivery levels, the Government of India, along with the states and ULBs is implementing the Jawaharlal Nehru National Urban Renewal Mission (JnNURM) over a 7 year period in 65 ULBs in India. JNNURM seeks to improve the levels of municipal services including MSWM by providing reform-linked funding for the implementation of urban infrastructure projects.
- 1.3 Solid waste management, including development of waste processing and engineered sanitary landfill facilities, a key component of municipal services, is eligible for funding under JnNURM. 65 Towns has been identified as eligible ULB under JnNURM UIG scheme. Other small towns are eligible for project development under the UIDSSMT scheme under the JNNURM.
- 1.4 Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill Facilities for Mixed Municipal Solid Waste in ----- Town are proposed to be implemented with private participation under a Build - Operate - Transfer (BOT) Concession framework (hereinafter referred to as “the Project”) for a Concessionaire period of --- years.
- 1.5 XXX invites detailed proposals (hereinafter referred to as “Proposal”) for the Project. The brief scope of work is set out in Appendix A and the detailed scope of work has been set out in the Draft Concession Agreement.
- 1.6 The proposals would be evaluated on the basis of the evaluation criteria set out in this RFP document as per *Appendix F* in order to identify the successful Bidder for the Project (hereinafter referred to as “Successful Bidder”). The Successful Bidder would then have to enter into a Concession Agreement with the ULBs and perform the obligations as stipulated therein, in respect of the Project.
- 1.7 Terms used in this RFP document, which have not been defined herein, shall have the meaning ascribed thereto in the Concession Agreement.

2. Eligible Bidders

2.1 The Bidders eligible for participating in the qualification process shall be any one of the following two categories:

Category 1: A single Business Entity¹ meeting the qualification criteria as set out in Proof of Qualification

Category 2: In case the Bidder, which is a Business Entity, (hereinafter referred to as “Lead Member”) does not have the qualification criteria as set out in Proof of Qualification, the same may be procured from a suitably qualified operator, (hereinafter referred to as “Operator”), with whom a valid Memorandum of Understanding (hereinafter referred to as “MoU”) formalizing such an arrangement should be in place. The Operator must also be a Business Entity. This joint entity shall hereinafter be referred to as "Consortium".

The term Bidder used hereinafter would therefore apply to both the above-mentioned categories.

2.2 Any entity, which has earlier been barred by XXX / the ULBs / Government of (Insert name of state) from participating in any project being undertaken by XXX / Government of ----- (insert abbreviated name of state), would not be eligible to submit a Proposal, if such bar subsists as on the Proposal Due Date.

3. Additional Requirements for submitting Proposal by a Consortium

3.1 Wherever required, the Proposal shall contain the information required of each of the members of the Consortium.

3.1 The members of the Consortium shall furnish Power of Attorney duly signed by authorized representative(s) of the members.

3.2 The Proposal shall be signed by the duly authorized signatory of the Lead Member and shall be legally binding on all the members of the Consortium.

3.3 The Consortium shall submit a MoU as part of its Proposal. The MoU shall, inter alia, include the following:

a. Convey the intent of the Lead Member to enter into a separate management agreement with the Operator for implementing the Project or form a joint venture company with the Operator with the Lead Member committing to hold a minimum equity stake equal to 51% of such company at all times

¹ Business Entity means a company duly incorporated under the Companies Act, 1956 or a registered partnership firm. In case of a partnership firm, a copy of the certificate of registration, issued by the concerned authority, should be submitted along with the Proposal

during the Concession Period. In case the Project is awarded to the Consortium or joint venture company, as the case may be, would enter into a Concession Agreement with the XXX and shall subsequently carry out all the responsibilities as Successful Bidder in terms of the Concession Agreement.

- b. Clearly set out the roles and responsibilities of each Member of the Consortium for implementing the Project.
- c. Include a statement to the effect that the members of the Consortium shall be jointly liable for the implementation of the Project in accordance with the terms of the Concession Agreement.
- d. In naming the Lead Member and the Operator of the Consortium, it should include their successors and permitted assigns.

A copy of the MoU should be submitted as part of the Proposal. The MoU entered into between the Members of the Consortium should be specific for the Project and should contain the above requirements, failing which the Proposal would be liable to be considered as non-responsive.

4. Number of Proposals

Each Bidder can submit only one (1) Proposal for the Project, in response to this RFP. Any Bidder who submits more than one Proposal, either individually or as a part of consortia, for the Project will be disqualified and cause the disqualification of such consortia.

5. Validity of Proposal

The Proposal shall remain valid for a period not less than ----- weeks from the Proposal Due Date (hereinafter referred to as "Proposal Validity Period"). XXX reserves the right to reject any Proposal, which does not meet the requirements.

6. Proposal Preparation Cost

The Bidder shall be responsible for all the costs associated with the preparation of its Proposal and its participation in the bidding process. XXX will not be responsible or in any way be liable for such costs, regardless of the conduct or outcome of the Proposal.

7. Earnest Money Deposit (EMD)

- 7.1 Each Proposal shall be accompanied by EMD of Rs. ----- (Rupees ----- only).
- 7.2 The EMD shall be either in the form of a crossed demand draft / banker's cheque drawn in favour of the -----, XXX on any scheduled bank and payable at -----

- 7.3 The EMD of every unsuccessful Bidder would be returned within a period of ---- weeks from the date of announcement of the Successful Bidder. The EMD submitted by the Successful Bidder would be released upon furnishing of the Performance Security, by way of an irrevocable Bank Guarantee, issued by a scheduled bank located in India in favour of XXX for due and punctual performance of the obligations relating to the Project.
- 7.4 The EMD shall be forfeited in the following cases:
- a. If the Bidder withdraws its Proposal during the interval between the Proposal Due Date and expiration of the Proposal Validity Period.
 - b. If the Successful Bidder fails to provide the Performance Security within the stipulated time or any extension thereof provided by XXX; and
 - c. If any information or document furnished by the Bidder turns out to be misleading or untrue in any material respect.

8. Format and Signing of Proposal

- 8.1 The Proposal and all related correspondence and documents should be written in english. Supporting documents and printed literature furnished by the Bidder with the Proposal may be in any other language provided that they are accompanied by certified translations of the pertinent passages in english language. Supporting materials, which are not translated into english, may not be considered. For the purpose of interpretation and evaluation of the Proposal, the english language translation shall prevail.
- 8.2 The currency for the purpose of the Proposal shall be the Indian Rupee (INR). If the Proposal is submitted in any other currency, XXX reserves the right to use suitable exchange rate for the purpose of uniformly evaluating all Proposals.
- 8.3 The Bidder would provide all the information as per this RFP. XXX would evaluate only those Proposals that are received in the required format and are complete in all respects. Each Proposal shall comprise the following:

A. Part I Submission

- a. Covering letter in the format set out in Appendix B
- b. Details of the Bidder in the format set out in Appendix C
- c. Copy of the certificate of registration issued by the authority concerned (In case of a registered firm or society)

- d. Power of Attorney set out in Appendix D (Applicable both for Single Business Entity and Consortium).
- e. Power of Attorney set out in Appendix D1 (only in case of Consortium).
- f. Memorandum of Understanding entered between Lead Member and Operator as set out in Clause 3.3 (only in case of Consortium)
- g. Anti – Collusion Certificate as per Appendix E
- h. Proof of Qualification in the format set out in Appendix F
- i. Proof of Purchase of the RFP Document or demand draft for Rs. ----- (Rupees ----- only) in case the RFP is downloaded from the website
- j. Technical Proposal as per format set out in Appendix G
- k. Earnest Money Deposit as per Clause no. 7

B. Part II Submission

- a. Financial Proposal in the format set out in Appendix H

- 8.4 The bidder shall seal the Part I and Part II of the Proposal in two separate envelopes, duly marking the envelopes as “PART I SUBMISSION” and “PART II SUBMISSION”. These envelopes shall than be sealed in a single outer envelope.
- 8.5 The Bidder shall prepare one (1) original and one (1) copy of the Proposal, clearly marked “ORIGINAL” and “COPY” respectively. In the event of any discrepancy between the original and the copy, the original shall prevail.
- 8.6 The Proposal, both the original and the copy shall be typed or written in indelible ink and each page shall be initiated by an authorized signatory of the Bidder, as applicable. All the alterations, omissions, additions, or any other amendments made to the Proposal shall also be initiated by the person(s) signing the Proposal.

9. Sealing and Marking of Proposal

- 9.1 The Bidder shall seal the original and copy of the Bid in separate envelopes, duly marking the envelopes as “ORIGINAL” and “COPY”. The envelopes shall then be Sealed in a single outer envelope.
- 9.2 Each of the envelopes, both outer and inner, must be super scribed with the following information:
- a. Name and Address of Bidder
 - b. Contact person and phone numbers
 - c. Proposal for the Project: “The development of integrated waste processing and engineered sanitary landfill facilities in ----- town”
- d. TO BE OPENED IN THE PRESENCE of (insert designating of authorized personnel of the XXX) ONLY

- 9.3 If the envelope is not sealed and marked as instructed above, XXX assumes no

responsibility for the misplacement or premature opening of the contents of the Proposal submitted and such Proposal, may, at the sole discretion of XXX, may be rejected.

10. Proposal Due Date

10.1 Proposals should be submitted before ----- hours IST of Proposal Due Date, in the manner and form as detailed in this RFP. Proposals submitted through facsimile transmission or telex will not be accepted.

10.2 XXX may, in exceptional circumstances, and at its sole discretion, extend the above Proposal Due Date by issuing an Addendum. Any Addendum thus issued will be sent in writing to all those who have purchased the RFP document and would also be posted on the website. The same will also be communicated to those who have downloaded the RFP document from the website and have duly intimated this fact to XXX giving their particulars including address for communication by fax.

10.3 It is desirable that each Bidder submits its Proposal after visiting the Project Site for ascertaining the location, surroundings, or any other matter considered relevant.

10.4 Bidders would be granted permission by XXX for visit of the Project Site on receipt of a formal written request, reasonably in advance of the proposed date of visit as mentioned in the **Schedule of Bidding Process**.

10.5 It would be deemed that by submitting the Proposal, the Bidder has:

- a. made a complete and careful examination of this RFP document
- b. received all relevant information requested from XXX
- c. made a complete and careful examination of the various aspects of the Project including but not limited to:

- (i) the Project Sites
- (ii) the conditions of the access roads and utilities in the vicinity of the Project Sites
- (iii) conditions affecting transportation, access, disposal, handling and storage of materials
- (iv) clearances obtained by XXX for the Project, and
- (v) all other matters that might affect the Bidder's performance under the terms of this RFP document.

10.6 XXX shall not be liable for any mistakes or errors on the part of the Bidder in respect of the above.

10.7 At any time prior to the Proposal Due Date, XXX may, for any reason, whether at its own initiative or in response to clarifications requested by any Bidder, modify the

RFP document by the issuance of Addenda. Any Addendum thus issued will be sent in writing to all those who have purchased the RFP document and would also be posted on the website. The same will also be communicated to those who have downloaded the RFP document from the website and have duly intimated this fact to XXX giving their particulars including address for communication by fax.

11. Opening of Proposals and Clarifications

- 11.1 XXX would open the Proposals on any working day within --- days of the Proposal Due Date for the purpose of evaluation.
- 11.2 XXX reserves the right to reject any Proposal not submitted on time and which does not contain the information/documents as set out in this RFP document.
- 11.3 To facilitate evaluation of Proposals, XXX may, at its sole discretion, seek clarifications in writing from any Bidder regarding its Proposal. The request for such clarification or substantiation and the response shall be in writing or by facsimile. No material change in the substance of the Proposal would be permitted by way of such clarification/substantiation.
- 11.4 Information relating to the examination, clarification, evaluation, and recommendation of the Proposal shall not be disclosed to any person not officially concerned with the process. XXX will treat all information submitted as part of the Proposal in confidence and would require all those who have access to such material to treat the same in confidence. XXX will not divulge any such information unless it is ordered to do so by any authority pursuant to applicable law or order of a competent court or tribunal or any Government Authority that has the power under law to require its disclosure.
- 11.5 To clarify and discuss issues with respect to the Project and the RFP, XXX may hold Pre-Proposal meeting.
- 11.6 Prior to the Pre-Proposal meeting, the Bidders may submit a list of queries, if any, to the Project requirements and/or the Concession Agreement. Bidders must formulate their queries and forward the same to XXX prior to the meeting. XXX may, in its sole discretion or based on inputs provided by Bidders, amend the RFP.
- 11.7 Bidders may note that XXX will not entertain any deviations to the RFP at the time of submission of the Proposal or thereafter. The Proposal to be submitted by the Bidders would have to be unconditional and the Bidders would be deemed to have accepted the terms and conditions of the RFP with all its contents including the Concession Agreement. Any conditional Proposal shall be regarded as non-responsive and would be liable for rejection.
- 11.8 XXX will endeavour to hold the Pre-Proposal meeting as per the schedule of bidding process. The details of the meeting will be separately communicated to the Bidders.

- 11.9 Attendance of the Bidders at the Pre-Proposal meeting is not mandatory.
- 11.10 All correspondence / enquiries should be submitted to the following in writing by fax/registered post / courier:

Name and Designation of Officer
Address of XXX office

12. Evaluation

12.1 Proposal Evaluation: Part I Submission

- 12.1.1 The Part I Submission of the Proposal would first be checked for responsiveness with the requirements of the RFP.

The Proposal would be considered as responsive if it meets the following conditions:

- a. it is received / deemed to be received by the Proposal Due Date including any extension thereof.
- b. it is signed, sealed and marked as stipulated in Clause 8 and Clause 9.
- c. it contains all the information and documents as requested in the RFP.
- d. it contains information in formats specified in this RFP.
- e. it mentions the Proposal Validity Period as set out in Clause 5.
- f. it provides information in reasonable detail. ("Reasonable Detail" means that, but for minor deviations, the information can be reviewed and evaluated by XXX without communication with the Bidder). XXX reserves the right to determine whether the information has been provided in reasonable detail.
- g. there are no inconsistencies between the Proposal and the supporting documents.

A Proposal that is substantially responsive is one that conforms to the preceding requirements without material deviation or reservation. A material deviation or reservation is one;

- a). which affects in any substantial way, the scope, quality, or performance of the Project, or
- b). which limits in any substantial way, inconsistent with the RFP, XXX's rights or the Bidder's obligations under the Concession Agreement, or
- c). which would affect unfairly the competitive position of other Bidders presenting substantially responsive Proposals.

- 12.1.2 In case the Proposal is found to be responsive, Part I Submission would be evaluated in accordance with the criteria for qualification of Bidders set out in Appendix F, based on the Proof of Experience submitted by the Bidders and such Bidders would be Qualified Bidders.

- 12.1.3 The Technical Proposal of the Qualified Bidders would be evaluated for adequacy of design and operations so as to comply with the conditions set out in Concession Agreement.

- 12.1.4 As part of the evaluation of the Part I Submission, XXX may also request the

Bidder to submit clarifications.

- 12.1.5 The evaluation of the Part II Submission would be taken up only after Part I Submission is found to meet the requirements of this RFP. XXX reserves the right to reject the Proposal of a Bidder without opening the Part II Submission if, in its opinion, Part I Submission is not substantially responsive with the requirements of this RFP.

12.2 Proposal Evaluation: Part II Submission

- 12.2.1 Part II Submission of all the Bidders whose Part I Submission meets the requirements of the RFP will be evaluated. The format for quoting the Financial Proposal is set out in Appendix H. The Bidders would be required to submit the Proposed Tipping Fee² as the Financial Proposal

12.3 Selection Methodology

- 12.3.1 The Financial Proposals would be ranked in ascending order of the Proposed Tipping Fee, with the Bidder quoting the lowest Proposed Tipping Fee being ranked first and the Bidder quoting the second lowest Proposed Tipping Fee ranked as second and so on.
- 12.3.2 The Bidder ranked first in accordance with the above procedure would be declared as the Preferred Bidder.
- 12.3.3 In case there are two or more Bidders quoting the same best Financial Proposal, XXX may in such case call all such Bidders for negotiations and select the Preferred Bidder on the outcome of the negotiations. The selection in such cases shall be at the sole discretion of XXX.
- 12.3.4 The Tipping Fee that will be quoted by the Bidder could be positive (+) or negative (-). Positive tipping fee is the amount that will be paid by XXX annually to the Bidder whereas negative tipping fee is the amount the Bidder will pay to XXX annually. The Bidder shall clearly mention in their Financial Proposal whether the Tipping Fee is + or -.
- 12.4 XXX reserves the right to reject any Proposal, if:
- a. at any time, a material misrepresentation is made or discovered; or
 - b. the Bidder does not respond promptly and diligently to requests for supplemental information required for the evaluation of the Proposal.

Rejection of a Proposal by XXX as aforesaid would lead to the disqualification of the Bidder. If the Bidder is a Consortium, then the entire Consortium would be disqualified

² Averagefee quoted per year of the concessionaire period of operations, per ton of Residual Inert Matter as measured at the engineered sanitary landfill entry gate (in the manner set out in detail in the Concession Agreement)

/rejected. If such disqualification / rejection occurs after the Proposals have been opened and the Preferred Bidder gets disqualified / rejected, then XXX reserves the right to:

- a. either select the next best Bidder, or
 - b. take any such measure/s as may be deemed fit in the sole discretion of XXX, including annulment of the bidding process.
- 12.5 In the event of acceptance of the Preferred Bidder with or without negotiations, XXX shall declare the Preferred Bidder as the Successful Bidder. XXX will notify the Successful Bidder through a Letter of Acceptance (hereinafter referred to as “LoA”) that its Proposal has been accepted.
13. The Successful Bidder shall execute the Concession Agreement within ---- weeks of the issue of Load or within such further time as XXX may agree to in its sole discretion.
14. Failure of the Successful Bidder to comply with the requirements of Clause 7.3 or Clause 13 shall constitute sufficient grounds for the annulment of the LoA, and forfeiture of the EMD. In such an event, reserves the right to
- a. either invite the next best Bidder for negotiations, or
 - b. take any such measures as may be deemed fit in the sole discretion of XXX, including annulment of the bidding process.
15. To assist in the examination, evaluation, and comparison of Proposals, may utilise the services of consultant(s) or advisor(s)
16. Notwithstanding anything contained in this RFP, XXX reserves the right to accept or reject any Proposal, or to annul the bidding process or reject all Proposals, at any time without any liability or any obligation for such rejection or annulment, without assigning any reasons thereof.

Brief Scope of Work

The Brief Scope of Work for the Bidder is as set out below. Detailed specifications are set out in the Concession Agreement attached with this RFP document.

1. The contours of the Project include:
 - (a) Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill Facilities for Mixed Municipal Solid Waste in ----- - Town and transfer of the facilities back at the end of the Concession Period
 - (b) Receipt and processing of MSW received at the waste processing facilities
 - (c) Transportation and landfill the residual inerts in the engineered sanitary landfill at ----- (*insert site location*)
2. The Successful Bidder would design, procure, finance, construct, operate and maintain the Project during the Concession Period on a Build – Operate – Transfer (BOT) Concession basis. The Project would be transferred back to the ULBs at the end of the Concession Period.
3. The Successful Bidder shall at its cost, expenses and risk make such financing arrangements, in a timely manner as would be necessary to implement the Project, and to meet all of its obligations under the Concession Agreement.
4. The Successful Bidder shall adhere to the Construction Requirements and achieve Commercial Operations Date (COD) on or before the Scheduled Project Completion Date, as specified in the Concession Agreement.
5. The Successful Bidder may undertake Construction Works by itself or through a Contractor possessing requisite technical, financial and managerial expertise / capability; but in either case, the Successful Bidder shall remain solely responsible to meet the Construction Requirements, as specified in the Concession Agreement.
6. The Successful Bidder shall operate and maintain the Project in accordance with the O&M Requirements as set out in the Concession Agreement.
7. The Successful Bidder shall, at all times, ensure that all aspects of the Project and processes employed in the construction, operation and maintenance thereof shall conform with the laws pertaining to environment, health and safety aspects including rules such as MSW Rules, policies and guidelines related thereto.
8. The Successful Bidder shall maintain the landfill during the post closure period as per the specifications set out in the Concession Agreement and would be required to hand back the Project to the ULBs at the end of the Concession Period.

Appendix B

Covering Letter

(On the Letterhead of the Bidder or Lead Member in case of a Consortium)

Date:

To

Designation of Officer

Address of XXX office with contact details

**Design, Build, Operate and Transfer of Integrated Waste Processing and
Engineered Sanitary Landfill Facilities for Mixed Municipal Solid Waste in ---
--- Town**

Dear Sir,

Being duly authorized to represent and act on behalf of (hereinafter referred to as “the Bidder”), and having reviewed and fully understood all of the Proposal requirements and information provided and collected, the undersigned hereby submits the Proposal on behalf of _____ for the Project in **one (1) original** and **one (1) copy**, with the details as per the requirements of the RFP, for your evaluation.

We confirm that our Proposal is valid for a period of ----- weeks from Proposal Due Date.

We also hereby agree and undertake as under:

Notwithstanding any qualifications or conditions, whether implied or otherwise, contained in our Proposal we hereby represent and confirm that our Proposal is unqualified and unconditional in all respects and we agree to the terms of the proposed Concession Agreement, a draft of which also forms a part of the RFP document provided to us.

Yours faithfully,

For and on behalf of (*Name of Bidder*)

Duly signed by the Authorised Signatory of the Bidder

(Name, Title and Address of the Authorised Signatory)

Appendix C

Details of Bidder

(On the Letter Head of the Bidder or Lead Member in case of a Consortium)

1.
 - (a) Name of Bidder
 - (b) Address of the office(s)
 - (c) Date of incorporation and/or commencement of business

2. Brief description of the Bidder's main lines of business.

3. Details of individual(s) who will serve as the point of contact / communication for XXX with the Bidder:
 - (a) Name :
 - (b) Designation :
 - (c) Company/Firm :
 - (d) Address :
 - (e) Telephone number :
 - (f) E-mail address :
 - (g) Fax number :
 - (h) Mobile number :

4. Name, Designation, Address and Phone Numbers of Authorised Signatory of the Bidder:
 - (a) Name :
 - (b) Designation :
 - (c) Company/Firm :
 - (d) Address :
 - (e) Telephone number :
 - (f) E-mail address :
 - (g) Fax number :
 - (h) Mobile number :

FORMAT FOR POWER OF ATTORNEY FOR SIGNING OF PROPOSAL

(On Stamp paper of relevant value)

POWER OF ATTORNEY

Know all men by these presents, We..... (name and address of the registered office) do hereby constitute, appoint and authorize Mr / Ms..... (name and residential address) who is presently employed with us and holding the position of..... as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to, Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill Facilities For Mixed Municipal Solid Waste in ----- Town (hereinafter referred to as “the Project”) on Build, Operate and Transfer (hereinafter referred to as “BOT”) Concession basis, on behalf of the XXX including signing and submission of all documents and providing information / responses to XXX in all matters in connection with our Proposal for the Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall always be deemed to have been done by us.

Dated this the _____ Day of _____ 20XX

For _____

(Name and designation of the person(s) signing on behalf of the Bidder / Lead Member in case of Consortium)

Accepted

_____ Signature)

(Name, Title and Address of the Attorney)

Date:

Note:

- 1. To be executed by the Lead Member in case of a Consortium.*
- 2. In case of Bidders who are not resident in India, the Power of Attorney may be submitted on plain paper attested by any authorised officer of the Embassy of India and duly stamped by the Department of Stamps & Registration, Government of------(name of state).*
- 3. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.*
- 4. Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a resolution/power of attorney in favour of the Person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*
- 5. In case an authorized Director of the Bidder signs the Proposal, a certified copy of the appropriate resolution conveying such authority may be enclosed in lieu of the Power of Attorney.*

Appendix D1

**FORMAT FOR POWER OF ATTORNEY FOR DESIGNATING LEAD MEMBER OF
CONSORTIUM**

(On a Stamp Paper of relevant value)

POWER OF ATTORNEY

Whereas, XXX (hereinafter referred to as "XXX") has invited proposals from Bidders for taking up on Build, Operate and Transfer (hereinafter referred to as "BOT") Concession basis, Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill Facilities For Mixed Municipal Solid Waste in ----- Town (hereinafter referred to as "the Project").

Whereas, the Consortium being one of the Bidders is interested in bidding for the Project and implementing the Project in accordance with the terms and conditions of this Document, and

Whereas, it is necessary under this Document for the members of the Consortium to designate the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's Proposal for the Project or in the alternative to appoint one of them as the Lead Member who, would have all necessary power and authority to do all acts, deeds and things on behalf of the Consortium, as may be necessary in connection with the Consortium's Proposal for the Project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT;

We, M/s. _____, and M/s _____ (the names and address of the registered offices), do hereby designate M/s _____ being one of the members of the Consortium, as the Lead Member of the Consortium, to do on behalf of the Consortium, all or any of the acts, deeds or things necessary or incidental to the Consortium's Proposal for the Project, including submission of Proposal, participating in conferences, responding to queries, submission of information/ documents and generally to represent the Consortium in all its dealings with XXX, any other Government Agency or any person, in connection with the Project until culmination of the process of bidding and thereafter till the Concession Agreement is entered into with XXX.

We hereby agree to ratify all acts, deeds and things lawfully done by the Lead Member and our said attorney pursuant to this Power of Attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/Consortium.

Dated this theDay of20XX

.....

(Executants)

(TO BE EXECUTED BY BOTH MEMBERS OF THE CONSORTIUM)

- (i) *Note: The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure (for a body corporate).*

Format For Anti-Collusion Certificate

Anti-Collusion Certificate

We hereby certify and confirm that in the preparation and submission of our Proposal, we have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing which is or could be regarded as anti-competitive.

We further confirm that we have not offered nor will offer any illegal gratification in cash or kind to any person or agency in connection with the instant Proposal.

Dated thisDay of, 20XX

.....
(Name of the Bidder³)

.....
(Signature of the Authorised Person)

.....
(Name of the Authorised Person)

Note:

- 1. On the Letter head of the Bidder*
- 2. To be executed by both members in case of Consortium*

³ Name of all members in case of Consortium

Appendix F

Proof of Qualification

1. Minimum Qualification Criteria

The Bidder must satisfy the following Qualification Criteria for experience in order to qualify for the Project.

- a) Successfully designed, constructed, operated and maintained at least one SWM integrated project by adopting composting and Refuse Derived Fuel (RDF) technologies to process Mixed Municipal Solid Waste during last five FY.
- b) Successfully designed, constructed, operated and maintained at least one Sanitary Landfill Project for disposal of Mixed Municipal Solid waste in last five FY.
- c) Earned annual revenue of at least Rs. ----- (Rupees -----) from sale of compost during the last two FY (i.e. FY 20XX & FY 20XY) by operating and maintaining Compost Plant.
- d) Earned annual revenue of at least Rs. ----- (Rupees -----) from sale of RDF products during the last two FY (i.e. FY 20XX & FY 20XY) by operating and maintaining RDF Plant.

2. Details of Experience

The Bidder should furnish the details of eligible experience as set out below:

S No.	Qualification Criteria for Experience	Project Name	Location	Year of Commissioning	Operational Since FY
1	Design, Construction, Operation and maintaining Integrated Compost and RDF plants <i>(input waste handled in TPA)</i>				
	Design, Construction, Operation and maintaining Sanitary Landfill Project <i>(input waste handled in TPA)</i>				
2	Revenue from sale of compost in Rupees FY20XX: Rs. ----- FY 20XY: Rs. -----				

S No.	Qualification Criteria for Experience	Project Name	Location	Year of Commissioning	Operational Since FY
3	Revenue from sale of RDF Products in Rupees FY20XX: Rs. ----- FY 20XY: Rs. -----				
4	Collection and transportation of waste				

3. Supporting Documents

The following documents would need to be submitted to support the Bidder's claim of experience stated in the table above.

S No.	Qualification Criteria for Experience	Supporting Documents
1.	Design, Construction, Operation and maintaining Integrated Compost and RDF plants <i>(input waste handled in TPA)</i>	i. Copy of agreement with Municipal ii. Body or any other client for the relevant years which clearly mentions the quantum of waste being supplied to the compost and RDF plants, OR iii. Certificate from the Municipal Body or Pollution Control Board or any other client, OR iv. Certificate from an independent auditor ⁴
2.	Design, Construction, Operation and maintaining Sanitary Landfill Project <i>(revenue from sale of compost in Rupees)</i>	i. Copy of agreement with Municipal ii. Body or any other client for the relevant years which clearly mentions the quantum of waste being supplied to the landfill site, OR iii. Certificate from the Municipal Body or any other client, OR iv. Certificate from independent auditor
3.	Revenue from sale of compost <i>(input waste in TPA)</i>	i. Certificate from independent auditor clearly specifying the revenues from sale of compost for the relevant years ⁵

⁴ The independent auditor issuing the certificate should clearly indicate his/her membership number assigned by the Institute of Chartered Accountants of India (ICAI) or equivalent organisation abroad

⁵ Sales made on credit during the year may also be included

S No.	Qualification Criteria for Experience	Supporting Documents
4.	Revenue from sale of RDF Products <i>(input waste in TPA)</i>	i Certificate from independent auditor clearly specifying the revenues from sale of RDF products for the relevant years

Note:

1. The Bidder should provide the details mentioned above based on its own experience or its subsidiary (ies) or its parent company. Experience of the Bidder's associate company (ies) will not be considered for evaluation of the Experience of the Bidder.
2. The financial year would be the same as the one normally followed by the Bidder for its Annual Report / annual financial statement.

4. Financial Capability

- 4.1 Financial Capability of the Bidders would be evaluated on the basis of the following:
 - (a) Net worth as at the end of the most recent financial year that is FY 20XX
 - (b) Aggregate net cash accruals for the last two completed financial years that is FY 20YY and FY 20ZZ
 - (c) Average turnover for the last two completed financial years that is FY 2006 and FY 2007

The Bidder should provide information regarding the above based on audited annual accounts for the respective financial years. The financial year would be the same as the one normally followed by the Bidder for its annual financial statement.

- 4.2 The Proposal must be accompanied by the audited annual financial statements of the Bidder for the last two financial years.
- 4.3 In case the annual accounts for the latest financial year are not audited and therefore the Bidder could not make it available, the Proposal shall give an undertaking to that effect and the statutory auditor shall certify the same. In such a case, the Bidder may provide the unaudited Annual Accounts (with Schedules) for the latest financial year. The Bidder would have to provide the Audited Annual Financial Statements for the two years preceding the latest financial year, which would be used for the purpose of evaluation of the Proposal. In case the Bidder fails to provide such Audited Annual Financial Statements and certificate from statutory auditor specified hereinabove, the Application will be rejected as non-responsive.

5. Evaluation Criteria for Financial Capability

- 5.1 For the purpose of Qualification, a Bidder would be required to satisfy the Financial Capability measured on the following criteria:

- (a) Networth of the Bidder as at the end of FY 20XX shall be at least equal to Rs. ----- (Rupees ----- only), and
- (b) The aggregate net cash accruals of the Bidder for the last two financial years that is FY 20XX and FY 20YY shall be at least equal to Rs. ----- (Rupees ----- only).
- (c) The average turnover of the Bidder for the last two financial years that is FY 20XX and FY 20YY shall be at least equal to Rs. ----- (Rupees Five ----- only)

The Bidder must satisfy *any two (2)* of the following above-mentioned parameters for Financial Capability in order to qualify for the Project.

6. Special Conditions for Consortium

- 6.1 In case the Bidder is a Consortium, either the Lead Member or the Operator should meet the experience criterion as stipulated in Clause 1 of this section and the Lead Member should meet the financial capability criteria as stipulated in Clause 4 of this section.
- 6.2 In case a joint venture company is established for the purpose of implementing the Project, the Lead Member shall commit to hold a minimum equity stake equal to 51% of such company at all times during the Concession Period.

7. Other Conditions

- 7.1 The Bidder should provide the details mentioned above based on its own Financial Capability. Financial Capability of the Bidder's parent company or any associate company (ies) or its subsidiary (ies) will not be considered for computation of the Financial Capability of the Bidder.
- 7.2 The financial year would be the same as the one normally followed by the Bidder for its Annual Report / annual financial statement.

Appendix G

Guidelines and Format for Technical Proposal

The Bidder shall submit a Technical Proposal setting out the approach to the Project. The Technical Proposal shall comply with the Construction Requirements and O&M Requirements as set out in Schedules of the Concession Agreement. The design and approach for implementing the Project shall also be in compliance with the Applicable Law, including the MSW Rules.

The Technical Proposal shall set out the following components:

- a. Methodology Statement
- b. Process Flow Chart and Material Balance Statement
- c. Resource Utilization Statement
- d. Area Allocation Statement
- e. Operations & Maintenance Scheme
- f. Project Schedule
- g. Environment, Health & Safety Policy and Practice

a. Methodology Statement

The Bidder shall provide a methodology statement, which broadly sets out the approach to the Project. The methodology statement shall include the Bidder's appreciation of the Project, the sequencing of activities to be performed, the facilities to be provided, design standards and basis for calculations of the Processing and Landfilling activities. The methodology statement should address aspects relating to all the activities of Processing and Landfilling including receipt, weighment and Processing of MSW, Landfilling process (liner system, method of filling and covering of Landfill Waste), leachate and greenhouse gas management activities.

The methodology statement should clearly demonstrate the compliance of the approach to be adopted by the Bidder for the implementation of the Project to the minimum specifications set out in the Concession Agreement.

b. Process Flow Chart and Material Balance Statement

The Bidder shall provide a process flow chart and a material balance statement setting out the activities and the outputs at each stage. The components, which shall be addressed, include Processing of MSW and Landfilling of Residual Inert Matter, leachate generation and treatment, greenhouse gas emission and mitigation. The Bidder should indicate supporting calculations and assumptions, if any.

c. Resource Utilisation Statement

A statement indicating the procurement, deployment and utilisation of the resources shall be provided. The statement shall include proposed organizational structure, employee deployment, equipment procurement and utilisation, contracting activities,

utilisation of office and other facilities.

d. Area Allocation Statement

The Bidder shall set out the area utilisation plan for the Project Facilities including the Processing Facility, Landfill Facility, other facilities and common areas etc.

e. Operations and Maintenance Scheme

The Bidder shall separately set out the operations and maintenance scheme for Processing of Municipal Solid Waste and Landfilling of Landfill Waste indicating the operational practices during the Active Operations Period and Post Closure Period. The maintenance (regular and emergency) schedules and mechanism should also be indicated over the Concession Period.

f. Time Schedule

The Bidder shall indicate an activity schedule over the Concession Period including the Construction Activities, O&M Activities, Landfilling, and laying of the final cover.

g. Environment, Health & Safety Policy and Practice

The Bidder shall indicate the environment, health and safety policy and practices, which are proposed to be adopted during the Concession Period. The aspects relating to employee and worker safety, control mechanisms of litter, pest, odour, fire, surface runoffs etc needs to be elaborated.

Appendix H

FORMAT FOR FINANCIAL PROPOSAL

I. Proposed Tipping Fee

The Tipping Fee is Positive/Negative:

1	In Figures	
2	In words	

Note:

- 1. Positive tipping fee is the amount that will be paid by XXX annually to the Bidder whereas negative tipping fee is the amount the Bidder will pay to XXX annually.*
- 2. Proposed Tipping Fee Rate would be the fee, in the first year of operations, per tonne of Residual Inert Matter landfilled measured at the Landfill Entry Gate, (in the manner as set out in detail in the Concession Agreement), paid to the Bidder by the ULBs.*
- 3. In case of difference in amount quoted in figures and words, the higher value would be considered for evaluation.*

DRAFT CONCESSION AGREEMENT

Draft CONCESSION AGREEMENT

between

XXX ULB

acting through its authorised Officer on this behalf

AND

CONCESSIONAIRE

For

**Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered
Sanitary Landfill Facilities For Mixed Municipal Solid Waste in ----- Town**

Month/Year

This Concession Agreement mutually agreed and entered into on this _____ day of _____,
Two Thousand and _____ at _____,

BETWEEN

XXX ULB, established under the provisions of the (hereinafter referred to as “XXX” which expression shall unless excluded by or repugnant to the context, be deemed to include its successors and assigns);

AND

_____, a company incorporated under provisions of the Companies Act, 1956, having its registered office at _____, hereinafter referred to as “Concessionaire” which expression shall unless repugnant to the context include its successors and permitted assigns, OF THE OTHER PART.

WHEREAS,

- A. The Ministry of Environment and Forests (MoEF), Government of India (GoI), has formulated the Municipal Solid Wastes (Management and Handling) Rules 2000 ("MSW Rules"), which makes it mandatory for every municipal authority to implement a scientific solid waste management system wherein the Municipal Solid Waste is duly processed and the residual inert/non-biodegradable solid wastes disposed in an Engineered Sanitary Landfill (as hereinafter defined).
- B. The urban local body (ULB) XXX is responsible for providing municipal and civic services, which includes the collection, transportation, treatment and disposal of Municipal Solid Waste generated in the area under its jurisdiction. XXX currently disposes the collected Municipal Solid Waste at designated dumping sites.
- C. XXX desires to develop municipal solid waste processing and engineered sanitary landfill facilities at select locations through private participation on Design, Build, Operate and Transfer (DBOT) basis.
- D. XXX had, carried out extensive project development work in connection with the Project (as hereinafter defined). The Request for Proposal document of which this Agreement forms a part has been approved by the _____ Committee prior to commencement of bid process.
- E. XXX had invited competitive proposals from eligible Bidders for implementing the Project and in response thereto received proposals from several Bidders including the Concessionaire for implementing the Project.
- F. XXX, after evaluating the aforesaid Proposals, accepted the Proposal submitted by the Concessionaire and issued Letter of Acceptance No. _____ dated _____ to the Concessionaire for developing the Project.
- G. XXX hereto is required to enter into the Concession Agreement being these presents to record the terms, conditions and covenants of the Concession.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:-

ARTICLE 1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively ascribed to them hereunder:

“**XXX**” shall mean ----- Municipality/Municipal Corporation.

“**Additional Cost**” shall mean the additional capital expenditure and / or the additional operating costs or both as the case may be, which the Concessionaire would be required to incur as a result of Change in Law.

“**Affected Party**” shall mean the Party claiming to be affected by a Force Majeure Event in accordance with Article 8.2.

“**Agreement**” shall mean this Agreement, and include any amendments hereto made in accordance with the provisions hereof.

“**Applicable Law**” shall mean all laws in force and effect, including MSW Rules, as of the date hereof and which may be promulgated or brought into force and effect hereinafter in India including judgments, decrees, injunctions, writs or orders of any court of record, as may be in force and effect during the subsistence of this Agreement and applicable to the Project / the Concessionaire.

“**Applicable Permits**” shall mean all clearances, permits, authorisations, consents and approvals required to be obtained or maintained by the Concessionaire under Applicable Law, in connection with the construction, operation and maintenance of the Project during the subsistence of this Agreement.

“**Appointed Date**” shall mean the date of this Agreement.

“**Arbitration Act**” shall mean the Arbitration and Conciliation Act, 1996 and shall include any amendment to or any re-enactment thereof as in force from time to time.

“**Assured Waste Quantity**” shall mean the assured quantity of Municipal Solid Waste required to be supplied by the ULBs in accordance with Article 6.1(a).

“**Bio-medical Waste**” shall have the meaning ascribed to it under the Biomedical Wastes (Management & Handling) Rules, 1998.

“**Book Value**” shall mean the cost of the fixed assets incurred by the Concessionaire for the Project, net of accumulated depreciation computed on straight line basis in accordance with the rates specified in Companies Act, 1956 and as determined by an independent firm of chartered

accountants mutually agreed upon and appointed by the Parties.

“Change in Law” shall have the meaning ascribed thereto in Article 8

“COD” shall mean the commercial operations date of the Project which shall be the date on which the ----- has issued the Provisional Readiness Certificate or the Readiness Certificate in accordance with the provisions of Article 5.5.

“Concession” shall have the meaning ascribed thereto in Article 2.1.

“Concession Period” shall have the meaning ascribed thereto in Article 2.2.

“Concessionaire” shall mean _____ and includes its successors and permitted assigns expressly approved by XXX.

“Concessionaire's Associates” shall mean any company/ies which is/are controlled by the Concessionaire. For the purpose of this definition, the term “control” means the power to direct the management or policies of such entity, directly or indirectly, through the ownership of shares or other securities, by contract or otherwise, provided that the direct or indirect ownership of fifty one per cent (51%) or more of its voting share capital is deemed to constitute control of such entity, and “controlling” and “controlled” shall be construed accordingly.

“Construction Requirements” shall mean collectively the Waste Processing Facility Construction Requirements and the Landfill Facility Construction Requirements.

“Construction Works” shall mean all works and things required to be constructed by the Concessionaire, pursuant to the Construction Requirements and O&M Requirements.

“Contractor” shall mean any Person with whom the Concessionaire has entered into / may enter into any material contract in relation with the Construction Works and O&M Requirements.

“Drawings” shall mean all of the drawings, designs, calculations and documents pertaining to the Project in accordance with the Construction Requirements and O&M Requirements.

“Effective Date” shall mean the date on which the Sites are handed over to the Concessionaire in accordance with Article 3.

“Emergency” shall mean a condition or situation that is likely to endanger the safety of the individuals on or about the Project Facilities or which poses an immediate threat of material damage to any of the Project Facilities.

“Encumbrance” shall mean any encumbrance such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations and shall include without limitation any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project, physical encumbrances, claims for any amounts due on account of taxes, cess, electricity, water and other utility charges and encroachments on the Project Facilities.

“Engineered Sanitary Landfill” shall mean the area within the Landfill Facility, designed with protective measures against pollution of ground water, surface water and air fugitive dust, windblown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion, and utilitised for disposal of Landfill Waste.

“Expiry Date” shall mean the date on which Post Closure Period ends.

“Financing Documents” shall mean collectively the documents evidencing Lenders’ commitment to finance the Project.

“Financial Year” shall mean the period commencing from April 1 of any given year to March 31 of the succeeding year.

“Fit for Landfilling” shall have the meaning ascribed to it in Schedule 5.

“Force Majeure” or **“Force Majeure Event”** shall mean an act, event, condition or occurrence as specified in Article 8.

“GoI” shall mean the Government of India.

“GoGG” shall mean the Government of ----- (*name of state government*).

“Good Industry Practice” shall mean the exercise of that degree of skill, diligence, prudence and foresight in compliance with the undertakings and obligations under this Agreement which would reasonably and ordinarily be expected of a skilled and an experienced person engaged in the implementation, operation and maintenance or supervision or monitoring thereof of any of them of a project similar to that of the Project.

“Government Agency” shall mean GoI, GoGG(state government), XXX or any state government or governmental department, commission, board, body, bureau, agency, authority, instrumentality, court or other judicial or administrative body, central, state, or local, having jurisdiction over the Concessionaire, the Sites / Project Facilities or any portion thereof, or the performance of all or any of the services or obligations of the Concessionaire under or pursuant to this Agreement.

“Grant Payment” shall have the meaning ascribed thereto in Article 6.

“Handback Requirements” shall have the meaning ascribed thereto in Article 10.

“Hazardous Waste” shall have the meaning as defined under the Hazardous Wastes (Management and Handling) Rules, 1989 and as amended thereto.

“Implementation Period” shall mean the period from the Effective Date to COD.

“Landfilling” shall mean disposal of the Landfill Waste in the Engineered Sanitary Landfill in accordance with the terms of this Agreement.

“Landfill Facility” shall mean collectively the facilities set out in Schedule 3, including the Engineered Sanitary Landfill to be duly designed, engineered, and constructed in accordance with the provisions specified thereto.

“Landfill Facility Construction Requirements” shall mean the requirements as to design and construction of the Landfill Facility set forth in Schedule 3.

“Landfill Life” or **“Active Operations Period”** shall mean the period commencing from COD and expiring on earlier of

- a. 25 years or
- b. upon completion of activities as per Clause 5.4 of Operations and Maintenance Requirements for Landfill Facility (Schedule 5) when the Engineered Sanitary Landfill is fully filled with Landfill Waste and a final cover designed in accordance with the MSW Rules is laid on the Engineered Sanitary Landfill, and in accordance with the provisions of this Agreement.

Provided that prior to achievement of either of the above, the Landfill Life may be further extended after discussions between Parties on mutually agreed terms.

“Landfill Waste” shall mean the Residual Inert Matter, duly certified as fit for landfilling by the Project Engineer in accordance with the O&M Requirements.

“Lenders” shall mean financial institutions, banks, funds and trustees for bond holders or debenture holders, who have provided funds to the Concessionaire for financing any part of the Project.

“Material Adverse Effect” shall mean a material adverse effect on (a) the ability of the Concessionaire to exercise any of its rights to perform/discharge any of its duties/obligations under and in accordance with the provisions of this Agreement and/or (b) the legality, validity, binding nature or enforceability of this Agreement.

“Material Breach” shall mean a breach by either Party of any of its obligations under this Agreement which has or is likely to have a Material Adverse Effect on the Project and which such Party shall have failed to cure.

“MSW Rules” shall mean the Municipal Solid Wastes (Management and Handling) Rules, 2000 and includes any amendments thereto.

“Municipal Solid Waste” or **“MSW”** shall have the meaning ascribed to it in the MSW Rules.

“Mixed Municipal Solid Waste” or **“MMSW”** shall mean the MSW which is unsegregated or partly segregated.

“Negative Tipping Fee” shall mean the Tipping Fee payable by the Concessionaire to XXX.

“O&M Requirements” shall mean the requirements as to operation and maintenance of the Project Facilities set forth in Schedule 4 and Schedule 5.

“Parties” shall mean the parties to this Agreement and **“Party”** shall mean either of them, as the context may admit or require.

“Performance Security” shall mean the guarantee for performance of its obligations to be procured by the Concessionaire in accordance with Article 5.1.

“Permitted Investments” shall mean interest bearing demand or time deposits or similar arrangements with scheduled public sector banks in India, Public financial institutions in India, GoI wholly owned corporations or GoI statutory bodies (which in all cases have credit ratings of at least AA) or its equivalent thereof by an approved credit rating agency which is reasonably acceptable to the Parties provided, however, that no Permitted Investment shall have a maturity in excess of six (6) months.

“Person” shall mean (unless otherwise specified or required by the context), any individual, company, corporation, partnership, joint venture, trust, unincorporated organisation, government or government body or any other legal entity.

“Positive Tipping Fee” shall mean the Tipping Fee payable by the XXX to Concessionaire.

“Post Closure Maintenance Plan” shall have the meaning ascribed thereto in Article 10.2.

“Post Closure Activities” shall mean the activities to be undertaken by the Concessionaire during the Post Closure Period in accordance with the provisions of Schedule 5.

“Post Closure Period” shall mean the period commencing from the day immediately following the Active Operations Period and ending on the fifteenth anniversary of the said day.

“Preliminary Notice” shall mean the notice of intended Termination by the Party entitled to terminate this Agreement to the other Party setting out, inter alia, the underlying Event of Default.

“Processing” shall mean the process involving microbial decomposition of the organic matter in a controlled manner or a method of converting municipal solid waste into RDF.

“Project” shall mean design, financing, construction, operation and maintenance of the Project Facilities in accordance with the provisions of this Agreement.

“Project Engineer” shall mean a reputed Person being a firm, company or a body corporate appointed in accordance with Article 4 for supervision and monitoring of compliance by the Concessionaire with the Construction Requirements and O&M Requirements, more particularly to undertake, perform, carry out the duties, responsibilities, services and activities set forth in Schedule 6.

“Project Facilities” shall mean the Sites, together with the Waste Processing Facilities, Landfill Facility and all other related facilities located thereon, and any other offsite facilities created for the Project.

“Proposed Site” shall mean land admeasuring ___ acres bearing Survey number ___ located at _____ (more fully described in Schedule 1) identified and handed over to the Concessionaire, for the purpose of designing, financing, constructing, operating and maintaining the facilities for Processing Municipal Solid Waste in accordance with provisions of Schedule 2, during the Concession Period.

“**Punch List**” shall have the meaning ascribed thereto in Article 5.5 (f).

“**Readiness Certificate**” shall mean the certificate issued by Project Engineer certifying, inter alia, that:

- (i) the Concessionaire has constructed all the facilities within the Waste Processing Facilities and the Landfill Facility so as to enable receipt of Municipal Solid Waste for Processing and Landfilling.
- (ii) the Concessionaire has obtained all approvals necessary to receive the Municipal Solid Waste supplied by XXX.

“**RDF**” shall mean Refuse Derived Fuel.

“**Remuneration**” shall mean all fees, costs, charges and expenses payable to the Project Engineer in accordance with the terms of his appointment.

“**Residual Inert Matter**” shall mean the material left as residue after Processing of Municipal Solid Waste and segregation and removal of the organic matter, compost or organic manure therefrom, either wholly or in part, and includes pre-processing rejects.

“**Rupees**” or “**Rs.**” refers to the lawful currency of the Republic of India.

“**Scheduled Project Completion Date**” shall mean __ (in wards) months from the Effective Date.

“**Substitution Agreement**” means the agreement substantially in the form set out at Schedule 11, to be entered into between the XXX, Lenders and the Concessionaire.

“**Tax**” shall mean and includes all taxes, fees, cesses, levies that may be payable by the Concessionaire under Applicable Law.

“**Termination**” shall mean early termination of this Agreement pursuant to Termination Notice or otherwise in accordance with the provisions of this Agreement but shall not, unless the context otherwise requires, include expiry of this Agreement due to efflux of time in the normal course.

“**Termination Date**” shall mean the date specified in the Termination Notice as the date on which Termination occurs.

“**Termination Notice**” shall mean the notice of Termination by either Party to the other Party, in accordance with the applicable provisions of this Agreement.

“**Tests**” shall mean the tests to be carried out in accordance with the Construction Requirements or the O&M Requirements.

“**Tipping Fee**” shall mean the amounts payable by the XXX to Concessionaire and vice-versa in accordance with Article 7.

“**Tipping Fee Statement**” shall have the meaning as ascribed thereto in Article 7.1(b).

“**Tipping Fee Rate**” shall mean the amounts payable per tonne of Landfill Waste as set out in

Schedule 7.

"Waste Processing Facilities" shall mean the facilities for Processing Municipal Solid Waste to be designed, engineered and constructed, within the area earmarked on the Proposed Site, by the Concessionaire in accordance with the provisions of Schedule 2.

"Waste Processing Facility Construction Requirements" shall mean the requirements as to design and construction of the Waste Processing Facilities set forth in Schedule 2.

"Waste Supply Stoppage Date" shall have the meaning as ascribed thereto in Article 5.15.

"Waste Non-acceptance Penalty" shall have the meaning as ascribed thereto in Article 5.12(b).

"SPCB" shall mean State Pollution Control Board.

Interpretation

In this Agreement, unless the context otherwise requires,

- (a) any reference to a statutory provision shall include such provision as is from time to time modified or re-enacted or consolidated so far as such modification or re-enactment or consolidation applies to, or is capable of being applied to any transactions entered into hereunder;
- (b) references to Applicable Law shall include the laws, acts, ordinances, rules, regulations, notifications, guidelines or bylaws which have the force of law;
- (c) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organisations or other entities (whether or not having a separate legal entity);
- (d) the headings are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) the words "include" and "including" are to be construed without limitation;
- (f) any reference to day, month or year shall mean a reference to a calendar day, calendar month or calendar year respectively;
- (g) the Schedules to this Agreement form an integral part of this Agreement as though they were expressly set out in the body of this Agreement;
- (h) any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference;

- (i) references to recitals, Articles, sub-articles, clauses, or Schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to recitals, Articles, sub-articles, clauses and Schedules of or to this Agreement;
- (j) any agreement, consent, approval, authorisation, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or by Project Engineer shall be valid and effectual only if it is in writing under the hands of duly authorised representative of such Party or Project Engineer in this behalf and not otherwise;
- (k) the damages payable by either Party to the other of them as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty
- (l) any reference to any period commencing “from” a specified day or date and “till” or “until” a specified day or date shall include both such days or dates;

ARTICLE 2
CONCESSION

2.1 Grant of Concession

Subject to and in accordance with the terms and conditions set forth in this Agreement, XXX hereby grant and authorise the Concessionaire to investigate, study, design, engineer, procure, finance, construct, operate and maintain the Project Facilities and to exercise and / or enjoy the rights, powers, benefits, privileges, authorisations and entitlements as set forth in this Agreement (“the Concession”).

2.2 Concession Period

The Concession hereby granted is for the period commencing from the Appointed Date and ending on the Expiry Date ("the Concession Period") during which the Concessionaire is authorised to design, finance, construct, operate and maintain the Project Facilities in accordance with the provisions hereof.

Provided that in the event of Termination, the Concession Period shall mean and be limited to the period commencing from the Appointed Date and ending with the Termination Date.

2.3 Acceptance of Concession

In consideration of the rights, privileges and benefits conferred upon the Concessionaire, and other good and valuable consideration expressed herein, the Concessionaire hereby accepts the Concession and agrees and undertakes to perform / discharge all of its obligations in accordance with the provisions hereof.

ARTICLE 3

PROJECT SITES

3.1 Handover of Sites

- (a) XXX shall, within ---- days from the Appointed Date ("Effective Date"), handover to the Concessionaire on as-is-where-is basis, vacant and peaceful physical possession of the Sites free from Encumbrance, for the purpose of implementing the Project.
- (b) Upon the Sites being handed over pursuant to the preceding sub-article (a), the Concessionaire shall, subject to the provisions of Article 5, have the right to enter upon, occupy and use the same and to make at its costs, charges and expenses such investigation, development and improvements in the Sites as may be necessary or appropriate to implement the Project and provide the Project Facilities in accordance with the provisions of this Agreement.

3.2 Rights, Title and Use of the Sites

- (a) The Concessionaire shall have the right to the use of the Sites in accordance with the provisions of this Agreement and for this purpose, it may regulate the entry into and use of the same by third parties.
- (b) The Project Facilities shall be and continue to be the property of the XXX.
- (c) The Concessionaire shall not part with or create any Encumbrance on the whole or any part of the Project Facilities, including the Sites save and except as set forth and permitted under this Agreement.
- (d) The Concessionaire shall not, without the prior written approval of the XXX, use the Project Facilities for any purpose other than for the purpose of the Project and purposes incidental or ancillary thereto.
- (e) The Concessionaire shall allow access to and use of the Sites for laying / installing / maintaining telegraph lines, electric lines or for such other public purposes as the XXX may specify.

Provided that such access or use shall not result in a Material Adverse Effect and that XXX shall, in the event of any physical damage to the Project Facilities on account thereof, ensure that the Project Facilities are promptly restored at its cost and expenses.

Provided further, that to the extent such access and use allowed by the Concessionaire affects the performance of any of its obligations hereunder, the Concessionaire shall not be deemed or construed to be in breach of its obligations nor shall it incur / suffer any liability on account thereof.

3.3 Peaceful Possession

The XXX hereby warrants that:

- (a) The Sites together with the necessary right of way/way-leaves
 - (i) has been acquired through the due process of law
 - (ii) belongs to, or has been leased to the XXX and is vested in the XXX

and that the XXX have full powers to hold, dispose of and deal with the same consistent, interalia, with the provisions of this Agreement and that the Concessionaire shall, in respect of the Sites, have no liability regarding any compensation payment on account of land acquisition or rehabilitation / resettlement of any Persons affected thereby.

- (b) The Concessionaire shall, subject to complying with the terms and conditions of this Agreement, remain in peaceful possession and enjoyment of
 - the whole of the Sites during the Active Operations Period, and
 - the area on which the Landfill Facility has been created during the Post Closure Period.

In the event the Concessionaire is obstructed by any Person claiming any right, title or interest in or over the Sites or any part thereof or in the event of any enforcement action including any attachment, distraint, appointment of receiver or liquidator being initiated by any Person claiming to have any interest in/charge on the Sites or any part thereof, the XXX shall, if called upon by the Concessionaire, defend such claims and proceedings and also keep the Concessionaire indemnified against any consequential loss or damages which the Concessionaire may suffer, on account of any such right, title, interest or charge.

3.4 Applicable Permits

The Concessionaire shall obtain and maintain the Applicable Permits in such sequence as is consistent with the requirements of the Project. The Concessionaire shall be responsible and shall be in compliance with the terms and conditions subject to which Applicable Permits have been issued.

ARTICLE 4

PROJECT ENGINEER

4.1 Procedure for Appointment

- (a) XXX shall, prior to the execution of this Agreement, call for financial bids from at least five (5) Persons, requiring them to quote the annual fee payable to them and thereafter select and take necessary steps to appoint the Person quoting the lowest annual fee to act as Project Engineer for the Project. XXX shall endeavour to complete the process of appointment of the Project Engineer within --- days hereof. The scope of work of the Project Engineer is set out in Schedule 6.
- (b) The initial term of the Project Engineer shall be for -- years, which may be reviewed / renewed / extended for a further period not exceeding -- years at a time.

4.2 Payments to Project Engineer

- (a) All fees, costs, charges and expenses payable to the Project Engineer in accordance with the terms of its appointment (collectively "the Remuneration") shall be borne by the Concessionaire. The Concessionaire shall pay the Project Engineer, the Remuneration within 10 days of receiving an invoice from Project Engineer.

4.3 Replacement of the Project Engineer

- (a) The Parties may replace the Project Engineer for the time being in any of the following circumstances by giving a 30 day written notice:
 - (i) If XXX or the Concessionaire has reason to believe that the Project Engineer has not discharged its duties in a fair, appropriate and diligent manner;
 - (ii) if the Parties decide not to renew the term of the Project Engineer;
 - (iii) if, in accordance with the terms of its appointment the Project Engineer resigns or notifies its intention not to continue as the Project Engineer;
 - (iv) any other circumstance which in the opinion of the Parties warrants replacement of the Project Engineer.
- (b) Subject to the attendant circumstances and unless the Parties otherwise agree, the procedure laid down in Article 4.3 shall, as far as possible, be adhered to for replacement of the Project Engineer, and the replacement shall be so effected as to maintain continuity in the supervision and monitoring of the Construction Requirements and O&M Requirements.

ARTICLE 5

CONCESSIONAIRE'S OBLIGATIONS

In addition to and not in derogation or substitution of any of its other obligations under this Agreement, the Concessionaire shall have the following obligations:

5.1 Performance Security

- (a) The Concessionaire shall, for due and punctual performance of its obligations hereunder relating to the Project, deliver to XXX, simultaneously with the execution of this Agreement, a bank guarantee from a scheduled bank acceptable to XXX, in favour of --- -----, in the form as set out in Schedule 8, ("Performance Security") for a sum of Rs. ----- (Rupees ----- Only).
- (b) The Performance Security shall be kept valid for a period of ---- months from the Appointed Date.

Provided that if the Agreement is terminated due to any event other than a Concessionaire Event of Default, the Performance Security if subsisting as of the Termination Date shall, subject to the XXX's right to receive amounts, if any, due from the Concessionaire under this Agreement, be duly discharged and released to the Concessionaire.

5.3 Financing Arrangement

- (a) The Concessionaire shall at its cost, expenses and risk make such financing arrangements as would be necessary to implement the Project and to meet all of its obligations under this Agreement, in a timely manner.
- (b) The Concessionaire shall endeavour to obtain the carbon credits for the Project by adopting the greenhouse gas mitigation measures conforming with the specifications set out in Schedules 2,3,4 and 5. The benefits of such carbon credits, if and when available, would be shared by XXX and Concessionaire in the ratio of 50:50.

5.4 Drawings

(a) Preparation of Drawings

- (i) The Concessionaire may, subject to the Construction Requirements, adopt with or without modifications the Drawings made available by XXX, if any, or adopt its own Drawings. Provided that, the Concessionaire shall in any event be solely responsible for the adequacy of the Drawings.
- (ii) If the Concessionaire proposes any modifications to the Drawings made available by XXX, if any, or submits alternate Drawings or Drawings in respect of any item for which no Drawings are made available by XXX, the same shall be subject to review by the Project Engineer as hereinafter provided in clause

(b).

(b) Review of Drawings

- (i) The Concessionaire shall promptly and in such sequence as is consistent with the Construction Requirements, submit a copy of each of the Drawings to the Project Engineer and XXX.
- (ii) By forwarding the Drawings to the Project Engineer and XXX pursuant to the preceding clause (i), the Concessionaire shall be deemed to have represented that it has verified and determined that the Drawings forwarded are in conformity with the Construction Requirements.
- (iii) Within --- days of receipt of the Drawings, Project Engineer shall review the same taking into account, interalia, comments of XXX, if any, thereon, and convey its comments / observations to the Concessionaire on the conformity of Drawings with Construction Requirements. If the comments / observations of the Project Engineer indicate that the Drawings are not in conformity with the Construction Requirements, such Drawings shall be revised by the Concessionaire to the extent necessary and resubmitted to Project Engineer for further review. The Project Engineer shall give its observations and comments, if any, within -- (*in word*) days of receipt of such revised Drawings, which shall be taken into account by the Concessionaire while finalising the Drawings.
- (iv) If, within the period stipulated in the preceding clause (iii), the Project Engineer does not respond to the Drawings submitted to it by the Concessionaire the Concessionaire shall be entitled to proceed with the Project on the basis of such Drawings submitted by it to the Project Engineer, and intimate the same to the XXX. The same should be highlighted in the periodic reporting by the Concessionaire.
- (v) Notwithstanding any review or failure to review by or the comments / observations of the Project Engineer or XXX, the Concessionaire shall be solely responsible for the adequacy of the Drawings and their conformity with

the Construction Requirements, and shall not be relieved or absolved in any manner whatsoever of any of its obligations hereunder.
- (vi) The Concessionaire shall be responsible for delays in meeting the Construction Requirements caused by reason of any Drawings not being in conformity with the Construction Requirements, and shall not be entitled to seek any relief in that regard from XXX.
- (vii) The Concessionaire shall in consultation with the Project Engineer finalise an implementation schedule for the Project in accordance with the Construction

Requirements.

- (viii) Within ---- (*in word*) days of issue of Readiness Certificate or Provisional Readiness Certificate, as the case may be, the Concessionaire shall furnish to XXX three copies of "as built" Drawings of the Construction Works which have been completed as on COD, in a manner as set out in Construction Requirements.

5.5 Project Implementation: Construction Works

- (a) Unless otherwise permitted by XXX, no Construction Works shall begin until the Project Engineer is in place and has assumed charge.
- (b) The Concessionaire shall adhere to the Construction Requirements and achieve COD on or before the Scheduled Project Completion Date.
- (c) The Concessionaire may undertake Construction Works by itself or through a Contractor possessing requisite technical, financial and managerial expertise / capability; but in either case, the Concessionaire shall remain solely responsible to meet the Construction Requirements.
- (d) The Concessionaire shall, before commencement of Construction Works;
 - (i) have requisite organisation and designate and appoint suitable officers/ representatives as it may deem appropriate to supervise the Project, to deal with the Project Engineer / XXX and to be responsible for all necessary exchange of information required pursuant to this Agreement;
 - (ii) construct, provide and maintain a reasonably furnished site office accommodation for the Project Engineer, at the Proposed Site.
- (e) For the purposes of determining that Construction Works are being undertaken in accordance with the Construction Requirements and O&M Requirements, the Concessionaire shall with due diligence carry out all necessary and periodical Tests in accordance with the instructions and under the supervision of the Project Engineer and the Construction Requirements and O&M Requirements. The Concessionaire shall maintain proper record of such Tests and the remedial measures taken to cure the defects or deficiencies, if any, indicated by the Test results.
- (f) All Tests shall be conducted in accordance with Construction Requirements. If the Tests are successful and the Project Facilities can be safely and reliably opened for operation, the Project Engineer shall issue Readiness Certificate.

Provided, notwithstanding that certain works or things forming part of Construction Works are not complete, if following Tests, the Project Engineer determines that the Project Facilities can be safely and reliably opened for operations, the Project Engineer may issue Provisional Readiness Certificate to the Concessionaire. The Provisional Readiness Certificate shall have appended thereto a list of outstanding items signed jointly by the Project Engineer and the Concessionaire ("Punch List"). All Punch List items shall be completed by the Concessionaire within such time as may be determined by the Project Engineer, not exceeding 90 (ninety) days of the date of issue of the Provisional Readiness Certificate. Upon satisfactory completion of all Punch List items, the Project Engineer shall promptly and in any case within 15 days thereof, issue Readiness Certificate.

- (g) If the Concessionaire fails to complete the Punch List items within the said period of 90 days, XXX may, without prejudice to any other rights or remedy available to it under this Agreement, have such items completed at the risk and costs of the Concessionaire. The cost incurred by XXX in completing the Punch List items, as certified by the Project Engineer, shall be reimbursed by the Concessionaire to XXX within 7 days from the date of receipt of a claim in respect thereof from XXX. Thereupon, Project Engineer may issue Readiness Certificate.
- (h) The Project Engineer, may, by written notice, require the Concessionaire to suspend forthwith the whole or any part of the Construction Works, if in its reasonable opinion the same is being carried on in a manner that is not in conformity with the Construction Requirements.
- (i) The Project shall be deemed to be complete and ready to receive Municipal Solid Waste only when the Provisional Readiness Certificate or the Readiness Certificate is issued by the Project Engineer in accordance with the provisions hereof.
Provided if COD is delayed beyond 90 days of the Scheduled Project Completion Date, XXX shall, subject to the provisions of Article 9, be entitled to terminate this Agreement and to appropriate the Performance Security.

5.6 Project Implementation: Operation and Maintenance

- (a) The Concessionaire shall operate and maintain the Project Facilities in accordance with the O&M Requirements.
- (b) The Concessionaire may undertake operations and maintenance of the Project Facilities by itself or through a Contractor possessing requisite technical, financial and managerial expertise / capability; but in either case, the Concessionaire shall remain solely responsible to meet the O&M Requirements.

- (c) The Concessionaire shall, during the Active Operations Period;
- (i) have requisite organisation and designate and appoint suitable officers / representatives as it may deem appropriate to supervise the Project, to deal with the Project Engineer / XXX and to be responsible for all necessary exchange of information required pursuant to this Agreement;
 - (ii) construct, provide and maintain a reasonably furnished site office accommodation for the Project Engineer, at the Proposed Site;
 - (iii) for the purposes of determining that the Construction Works and Project Facilities are being maintained in accordance with the Construction Requirements and O&M Requirements, the Concessionaire shall with due diligence carry out all necessary and periodical Tests in accordance with the instructions and under the supervision of the Project Engineer. The Concessionaire shall maintain proper record of such Tests and the remedial measures taken to cure the defects or deficiencies, if any, indicated by the Test results.
 - (iv) conduct all Tests to ascertain compliance with Construction Requirements and O&M Requirements.
 - (v) suspend forthwith the whole or any part of the Construction Works upon receiving a written notice from the Project Engineer, who may require the Concessionaire to suspend the activities in whole or part if in the reasonable opinion of the Project Engineer, the operations are being carried on in a manner that is not in conformity with the O&M Requirements.
- (d) In the event the Concessionaire has failed to operate and maintain the Project in accordance with the O&M Requirements, and such failure has not been remedied despite a notice to that effect issued by the Project Engineer / XXX (“Notice to Remedy”), XXX may, without prejudice to any of its other rights / remedies under this Agreement, be entitled to operate and maintain the Project or cause to repair and maintain the Project Facilities at the risk and cost of the Concessionaire. The Concessionaire shall reimburse all costs incurred by XXX on account of such operation and maintenance or repair and maintenance within 7 days of receipt of XXX claim therefor.
- (e) The Concessionaire shall be deemed to be in material breach of O&M Requirements if the Project Engineer acting reasonably and in accordance with the provisions of this Agreement, has determined that due to breach of its obligations by the Concessionaire :
- (i) there has been failure / undue delay in carrying out scheduled / planned maintenance or the scheduled / planned maintenance has not been carried out in accordance with the O&M Requirements;

- (ii) the maintenance of the Project Facilities or any part thereof has deteriorated to a level which is below the acceptance level prescribed by the O&M Requirements;
- (iii) there has been a serious or persistent let up in adhering to the O&M Requirements and thereby the Project Facilities or any part thereof is not safe for operations;
- (iv) there has been persistent breach of O&M Requirements. For avoidance of doubt, persistent breach shall mean :
 - a. any breach of O&M Requirements by the Concessionaire which has not been remedied by the Concessionaire despite a Notice to Remedy in respect thereof issued by the Project Engineer / XXX;
 - b. recurrence of a breach by the Concessionaire, during the pendency of Notice to Remedy by the Project Engineer /XXX requiring the Concessionaire to remedy a breach, and
 - c. repeated occurrence of a breach notwithstanding that earlier breaches have been remedied pursuant to Notice to Remedy or otherwise.

Upon occurrence of a material breach of O&M Requirements, XXX shall, without prejudice to and notwithstanding any other consequences provided therefor under this Agreement, be entitled to terminate this Agreement.

5.7 Insurance

The Concessionaire shall at its cost and expense, purchase and maintain by due reinstatement or otherwise, during the Concession Period all insurances in respect of the Project Facilities in accordance with the Good Industry Practice. The Concessionaire shall maintain a register of entry in order of premiums paid towards the Project Facilities and proof of payments made shall be submitted to XXX whenever requested for.

5.8 Application of Insurance Proceeds

Subject to the provisions of the Financing Documents and unless otherwise provided herein, the proceeds of all insurance policies received shall be promptly applied by the Concessionaire towards repair, renovation, restoration or re-instatement of the Project Facilities or any part thereof which may have been damaged or destroyed. The Concessionaire may designate the Lenders as the loss payees under the insurance policies or assign the insurance policies in their favour as security for the financial assistance provided by them to the Project. The Concessionaire shall carry out such repair, renovation, restoration or re-instatement to the extent possible in such manner that the Project Facilities after such repair, renovation, restoration or re-instatement be as far as possible in the same condition as it were prior to such damage or destruction, normal wear and tear excepted.

5.9 Un-insurable Risks

If during the Concession Period, any risk which has been previously insured becomes un-insurable due to the fact that the insurers have ceased to insure such a risk and therefore insurance cannot be maintained / re-instated in respect of such risk, the Concessionaire shall not be deemed to be in breach of its obligations regarding insurance under this Agreement.

5.10 Environmental Compliance

The Concessionaire shall, at all times, ensure that all aspects of the Project Facilities and processes employed in the construction, operation and maintenance thereof shall conform with the laws pertaining to environment, health and safety aspects including rules such as MSW Rules, policies and guidelines related thereto. The Concessionaire shall obtain and maintain from time to time all necessary clearances from the SPCB or any other similarly empowered Government Agency and for this purpose shall carry out the necessary environmental impact assessment studies and implement appropriate environment management plans in respect of the Project Facilities.

5.11 Land Use

The Concessionaire shall ensure optimum utilisation of the Proposed Site and shall not use the same for any purpose unconnected or which is not incidental to the Project or related activities.

5.12 Weighment, Acceptance and Rejection of Municipal Solid Waste

(a) The Concessionaire shall weigh the Mixed Municipal Solid Waste at the entry gate to the Waste Processing Facilities and weigh the Landfill Waste prior to disposal of the same in the Landfill Facility in the manner as set out in the O&M Requirements.

(b) The Concessionaire hereby undertakes to accept all Mixed Municipal Solid Waste supplied by XXX, except as provided under clauses (d) and (e) below.

Where the Concessionaire has failed to accept Mixed Municipal Solid Waste supplied by XXX either wholly or partially, except as provided under succeeding clauses (d) and (e), the Concessionaire shall pay to XXX a penalty (“Waste Non-acceptance Penalty”) calculated in the following manner:

$$P = W_U * T_R * 0.5$$

Where,

P, is the Waste Non-acceptance Penalty in Rupees

W_U , is the quantity of Mixed Municipal Solid Waste the Concessionaire has failed to accept which shall be calculated in the manner as set out in the O&M Requirements, and

T_R , is the Tipping Fee Rate in Rupees applicable for the particular period.

(c) The Concessionaire also undertakes not to accept Mixed Municipal Solid Waste which is not supplied by XXX or any Person appointed by it. The Concessionaire and

XXX shall, within --- months from the Effective Date, jointly agree upon a methodology for delivery of Mixed Municipal Solid Waste by XXX and its acceptance by the Concessionaire.

- (d) The Concessionaire may decline to accept Mixed Municipal Solid Waste in excess of 25% more than the daily Assured Waste Quantity on any given day at the Waste Processing Facilities.
- (e) In case the Mixed Municipal Solid Waste supplied by XXX contains Hazardous Waste and / or Bio-medical Waste, the Concessionaire upon becoming aware of the same shall decline to accept such Municipal Solid Waste, and cause the same to be unloaded in a separate area for inspection by the Project Engineer, whereupon the Project Engineer shall inspect and certify whether the particular lot of Municipal Solid Waste is fit for being accepted by the Concessionaire. In case the Project Engineer certifies that Municipal Solid Waste is not fit for acceptance by the Concessionaire, XXX shall remove the same within 48 hours from the time of issue of such certificate, at XXX's cost and risk.

5.13 Sale / Distribution of Compost, RDF Products and Other Recyclables

- (a) The Concessionaire may adopt such processes and methods as it considers necessary or expedient for Processing of Municipal Solid Waste and Landfilling at the Project Facilities, subject to meeting the Construction Requirements and O&M Requirements.
- (b) The Concessionaire shall be free to sell or otherwise dispose of the recyclables, compost or organic manure and/ or other material produced/ recovered after Processing the Municipal Solid Waste, at the Project Facilities at such price and to such Persons and using such marketing and selling arrangements and strategies as it may deem appropriate subject to meeting the O&M Requirements.

5.14 Landfilling

The Concessionaire shall carry out Landfilling, including carrying out of relevant Tests, maintenance of records and ensure certification by Project Engineer, in accordance with O&M Requirements. The Concessionaire shall weigh the Landfillable Waste prior to disposal of the same in the Landfill Facility.

5.15 Supply Stoppage

The Concessionaire shall, not less than 120 days prior to the expected expiry of Landfill Life intimate the Project Engineer and XXX of the same, whereupon the Parties along with the Project Engineer shall mutually agree upon a date on which supply of Municipal Solid Waste by XXX to the Project Facilities shall be stopped ("Waste Supply Stoppage Date").

5.16 General Obligations

The Concessionaire shall at its own cost and expense:

- (a) investigate, study, design, construct / renovate, operate and maintain the Project Facilities in accordance with the provisions hereof;
- (b) obtain all Applicable Permits as required by or under the Applicable Law and be in compliance thereof at all times during the Concession Period;
- (c) comply with Applicable Law governing the operations of Municipal Solid Waste processing units and engineered sanitary landfills at all times during the Concession Period;
- (d) ensure and procure that any contract relating to the Project, entered into by the Concessionaire for implementing the Project in accordance with this Agreement contains provisions that would entitle Lenders or a nominee of XXX to step into such contract/s at XXX discretion, in place and substitution of the Concessionaire, pursuant to the provisions of this Agreement or the Substitution Agreement
- (e) endeavour to sell or otherwise dispose off, without Landfilling, all recyclables in a manner which is not detrimental to the environment;
- (f) endeavour to improve the ancillary conditions and infrastructure related to the Project including assistance to informal recycling workers,
- (g) procure and maintain in full force and effect, as necessary, appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used in or incorporated into the Project;
- (h) make efforts to maintain harmony and good industrial relations among the personnel employed in connection with the performance of its obligations under this Agreement and shall be solely responsible for compliance with all labour laws and solely liable for all possible claims and employment related liabilities of its staff employed in relation with the Project and hereby indemnifies XXX against any claims, damages, expenses or losses in this regard and that in no case and shall for no purpose shall XXX be treated as employer in this regard;
- (i) make its own arrangements for construction materials and observe and fulfill the environmental and other requirements under the Applicable Law and Applicable Permits;
- (j) be responsible for all the health, security, environment and safety aspects of the Project at all times during the Concession Period.
- (k) ensure that the Project Facilities remain free from all encroachments and take all steps

necessary to remove encroachments, if any;

- (l) upon receipt of a request thereof, afford access to the Project Facilities to the authorised representatives of XXX for the purpose of ascertaining compliance with the terms, covenants and conditions of this Agreement.
- (m) pay all Taxes, duties and outgoings, including utility charges relating to the Project Facilities.

5.17 No Breach of Obligations

The Concessionaire shall not be considered to be in breach of its obligations under this Agreement nor shall it incur or suffer any liability if and to the extent performance of any of its obligations under this Agreement is affected by or on account of any of the following:

- (a) Force Majeure Event, subject to Article 8.4;
- (b) XXX Event of Default;
- (c) Compliance with the instructions of the Project Engineer / XXX or the directions of any Government Agency other than instructions issued as a consequence of a breach by the Concessionaire of any of its obligations hereunder;
- (d) Closure of the Project Facilities or part thereof with the approval of the Project Engineer / XXX.

5.18 Maintenance of Records

The Concessionaire shall maintain records of the quantum (measured in tonnes) of biodegradable substance, non-biodegradable substance, Landfill Waste, duly countersigned by the Project Engineer and provide monthly, quarterly and annual reports of the same to the Project Engineer/XXX.

ARTICLE 6

XXX's OBLIGATIONS

In addition to and not in derogation or substitution of any of its other obligations under this Agreement, the XXX shall have the following obligations :

6.1 Specific Obligations

- (a) XXX shall at their cost, risk and expense, supply to any of the Waste Processing Facilities in any given Month after COD till the Waste Supply Stoppage Date, an aggregate quantity of Municipal Solid Waste, calculated as follows,

$$W = \text{----} * D \text{ tonnes}$$

Where W is the aggregate quantity of Municipal Solid Waste to be supplied by XXX to the Waste Processing Facilities during any given Month ("Assured Waste Quantity") and D is the number of days in such Month, excluding the number of days in such Month wherein XXX are exempted from meeting its obligation herein in accordance with the provisions of this Agreement.

- (b) In case the aggregate quantity of Municipal Solid Waste supplied by XXX in any given Month, after excluding Municipal Solid Waste rejected by the Concessionaire under Clause 5.12, falls short beyond 85% of the Assured Waste Quantity calculated in accordance with clause (a) above, XXX shall compensate the Concessionaire at the rate of 20% of Tipping Fee Rate prevailing on that date for each tonne of shortfall, such payment being made by XXX in accordance with the provisions of Clause 7.2.
- (c) XXX shall declare and maintain, or cause to declare and maintain, a no-development zone around the Proposed Site in accordance with Applicable Laws.
- (d) XXX shall subscribe to the Substitution Agreement within --- days of the intimation regarding financial close given by the Concessionaire.
- (e) XXX shall endeavour not to supply construction debris, Bio-medical Waste and Hazardous Waste.
- (f) XXX shall grant in a timely manner all such approvals, permissions and authorisations which the Concessionaire may require or is obliged to seek from XXX under this Agreement, in connection with implementation of the Project and the performance of its obligations. Provided where authorisation for availing of utilities such as power, water, sewerage, telecommunications or any other incidental services / utilities is required, the same shall be provided by the XXX in the form as set out in Schedule 10, within fifteen days (15) days from receipt of request from the Concessionaire to make available such authorisation.

6.2 Additional Waste

- (a) XXX may, on every fifth year after COD during the Landfill Life, increase the Assured Waste Quantity with mutual acceptance from the Concessionaire. The Concessionaire shall accept the additional MSW for Processing and Landfilling.
- (b) In the event, such increase in Assured Waste Quantity necessitates an increase in the capacity in the Waste Processing Facilities, the Concessionaire shall, at its cost and expense, design, finance, procure, construct, operate, maintain and transfer such Waste Processing Facilities of suitable capacities either at the Proposed Site or such suitable sites provided by XXX to the Concessionaire.
- (c) Such sites and additional Waste Processing Facilities shall and continue to remain the properties of XXX.
- (d) The development, construction, operation, maintenance and transfer of such sites and additional Waste Processing Facilities shall be as per the Construction Requirements and O&M Requirements with suitable modifications, approved by the Project Engineer and XXX.
- (e) There shall be no revision the prevailing Tipping Fee Rate.

6.3 General Obligations

The ULBs shall :

- (a) where appropriate provide necessary assistance to the Concessionaire in securing Applicable Permits;
- (b) Observe and comply with all its obligations set forth in this Agreement.

ARTICLE 7

TIPPING FEE AND POST CLOSURE PAYMENTS

7.1 Tipping Fee

- (a) Subject to the provisions of this Agreement and in consideration of the Concessionaire accepting the Concession and undertaking to perform and discharge its obligations in accordance with the terms, conditions and covenants set forth in this Agreement, ----- agree and undertake to pay to -----, the Tipping Fee calculated in accordance with **Schedule 7**.
- (b) The Concessionaire shall weigh the Landfill Waste and get it duly certified by the Project Engineer in the manner as set out in the O&M Requirements. The Concessionaire shall, on the 5th day of every Month or in case the 5th day of a Month is a holiday then on the following working day of such Month, submit to ----- a statement (“Tipping Fee Statement”) providing the following details, in the manner as set out in the O&M Requirements:
- (i) Total quantity of Municipal Solid Waste supplied by XXX in the previous Month calculated in accordance with **Clause 5.12**;
 - (ii) Amount payable, if any, to----- by ----- in accordance with **Clause 6.1(a) and 6.1(b)**;
 - (iv) Quantity of Landfill Waste on each day of the previous Month along with proof of certification of the same by the Project Engineer;
 - (v) Aggregate quantity of Landfill Waste for the previous Month, and
 - (vi) Amount of Tipping Fee for the previous Month calculated in accordance with **Schedule 7**.

7.2 Mechanism of Payment

- (a) ----- shall, within 90 days from the date of receipt of the Tipping Fee Statement,
- (i) Pay to -----, an amount equal to 90% of the total amounts payable to ---- as stated in such Tipping Fee Statement,
 - (ii) Pay into a special account designated as “Post Closure Performance Account”, an amount equal to 10% of the total amounts payable to as stated in such Tipping Fee Statement.
- (b) The amounts in the Post Closure Performance Account would be payable to the Concessionaire during the Post Closure Period in ----- installments upon cheques on the Post Closure Performance Account duly signed by XXX and the Concessionaire.
- (c) Any delay in making any payment in accordance with the Tipping Fee Statement shall,

without prejudice to any other consequences under this Agreement, entail payment of interest on the amount in default at prevailing medium term prime lending rate of State Bank of India calculated for the duration of delay.

- (d) All payments shall be made by way of cheque and or Demand Draft.

7.3 Post Closure Performance Account

- (a) Within ----- days from the Appointed Date, the Parties shall open a special account designated as Post Closure Performance Account for making the payments as set out in **Article 7.2 (a)**.
- (b) Subject to the Concessionaire meeting his obligations in respect to the Post Closure Period in accordance with the O&M Requirements, payments from the Post Closure Performance Account shall be made to the Concessionaire in accordance with **Schedule 9**.
- (c) XXX and the Concessionaire would set out a mechanism, within --- days of COD, for investing the amounts in Post Closure Performance Account in Permitted Investments. XXX agrees to pay to the Concessionaire interest accrued / received from Permitted Investments. XXX and the Concessionaire shall suitably structure the operation of Post Closure Performance Account.

ARTICLE 8

FORCE MAJEURE AND CHANGE IN LAW

8.1 Special Conditions

The word "Party" and "Parties" in this Clause shall refer to either the Concessionaire or XXX.

In the event of the occurrence of a Force Majeure Event which results in the inability of XXX to continue to perform the obligations under this Agreement, and in the reasonable opinion of the Project Engineer, the Concessionaire and XXX, the obligations under this Agreement of the Concessionaire and XXX can be continued to be met, XXX shall cease to be a Party to the Agreement. The process of termination shall be in accordance with the provisions of this Article.

8.2 Force Majeure Event

Any of the following events which is beyond the control of the Party claiming to be affected thereby ("Affected Party") and which the Affected Party has been unable to overcome or prevent despite exercise of due care and diligence, and results in Material Adverse Effect shall constitute Force Majeure Event:

- (a) earthquake, flood, inundation and landslide
- (b) storm, tempest, hurricane, cyclone, lightning, thunder or other extreme atmospheric disturbances
- (c) fire caused by reasons not attributable to the Concessionaire or any of the employees, Contractors or agents appointed by the Concessionaire for purposes of the Project;
- (d) acts of terrorism;
- (e) strikes, labour disruptions or any other industrial disturbances not arising on account of the acts or omissions of the Concessionaire or the Contractor
- (f) action of a Government Agency having Material Adverse Effect including but not limited to
 - (i) acts of expropriation, compulsory acquisition or takeover by any Government Agency of the Project / Project Facilities or any part thereof or of the Concessionaire's or the Contractor's rights in relation to the Project,
 - (ii) any judgment or order of a court of competent jurisdiction or statutory authority in India made against the Concessionaire or the Contractor in any proceedings which is non-collusive and duly prosecuted by the Concessionaire, and

- (iii) any unlawful, unauthorised or without jurisdiction refusal to issue or to renew or the revocation of any Applicable Permits, in each case, for reasons other than Concessionaire's or the Contractor's breach or failure in complying with the Project Requirements, Applicable Laws, Applicable Permits, any judgement or order of a Governmental Agency or of any contract by which the Concessionaire or the Contractor as the case may be is bound.
- (g) early determination of this Agreement by XXX for reasons of national emergency or national security.
- (h) any failure or delay of a Contractor caused by any of the sub-clauses (f) and (g) hereinabove, for which no offsetting compensation is payable to the Concessionaire by or on behalf of the Contractor.
- (i) War, hostilities (whether declared or not), invasion, act of foreign enemy, rebellion, riots, weapon conflict or military actions, civil war, ionising radiation, contamination by radioactivity from nuclear fuel, any nuclear waste, radioactive toxic explosion, volcanic eruptions, any failure or delay of a Contractor caused by the events mentioned in this sub clause for which no offsetting compensation is payable to the Concessionaire by or on behalf of the Contractor

8.3 Notice of Force Majeure Event

- (a) As soon as practicable and in any case within 7 days of the date of occurrence of a Force Majeure Event or the date of knowledge thereof, the Affected Party shall notify Project Engineer and the other Party of the same setting out, inter alia, the following in reasonable detail:
 - (i) the nature and extent of the Force Majeure Event;
 - (ii) the estimated Force Majeure Period;
 - (iii) the nature of and the extent to which, performance of any of its obligations under this Agreement is affected by the Force Majeure Event;
 - (iv) the measures which the Affected Party has taken or proposes to take to alleviate/mitigate the impact of the Force Majeure Event and to resume performance of such of its obligations affected thereby; and
 - (v) any other relevant information concerning the Force Majeure Event, and /or the rights and obligations of the Parties under this Agreement.
- (b) As soon as practicable and in any case within 5 days of notification by the Affected Party in accordance with the preceding clause (a), the Parties shall alongwith the Project Engineer, meet, hold discussions in good faith and where necessary conduct physical inspection/survey of the Project Facilities in order to:

- (i) assess the impact of the underlying Force Majeure Event,
 - (ii) to determine the likely duration of Force Majeure Period and,
 - (iii) to formulate damage mitigation measures and steps to be undertaken by the Parties for resumption of obligations, the performance of which shall have been affected by the underlying Force Majeure Event.
- (c) The Affected Party shall during the Force Majeure Period provide to the other Party and the Project Engineer regular (not less than weekly) reports concerning the matters set out in the preceding clause (b) as also any information, details or document, which the other Party may reasonably require.

8.4 Performance of Obligations

If the Affected Party is rendered wholly or partially unable to perform any of its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such obligations to the extent it is unable to perform the same on account of such Force Majeure Event provided that:

- (a) due notice of the Force Majeure Event has been given as required by the preceding **Clause 8.2**;
- (b) the excuse from performance shall be of no greater scope and of no longer duration than is necessitated by the Force Majeure Event;
- (c) the Affected Party has taken all reasonable efforts to avoid, prevent, mitigate and limit damage, if any, caused or is likely to be caused to the Project Facilities as a result of the Force Majeure Event and to restore the Project Facilities, in accordance with the Good Industry Practice and its relative obligations under this Agreement;
- (d) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party and the Project Engineer written notice to that effect and shall promptly resume performance of its obligations hereunder, the non issue of such notice being no excuse for any delay for resuming such performance;
- (e) the Affected Party shall continue to perform such of its obligations which are not affected by the Force Majeure Event and which are capable of being performed in accordance with this Agreement; and
- (f) any insurance proceeds received shall be, subject to the provisions of Financing Documents, entirely applied to repair, replace or restore the assets damaged on account of the Force Majeure Event, or in accordance with Good Industry Practice.

8.5 Termination due to Force Majeure Event

(a) Termination

- (i) If a Force Majeure Event, excluding events described under Clauses 8.2(f),

8.2(g) and 8.2(h), continues or is in the reasonable judgement of the Parties likely to continue beyond a period of 120 days, the Parties may mutually decide to terminate this Agreement or continue this Agreement on mutually agreed revised terms. If the Parties are unable to reach an agreement in this regard, the Affected Party shall after the expiry of the said period of 120 days, be entitled to terminate this Agreement.

Notwithstanding anything inconsistent contained in this Agreement, if a Force Majeure Event is an event described under Clauses 8.2(f), or 8.2(h), and the same subsists for a period exceeding 365 days, then either Party shall be entitled to terminate this Agreement.

Provided that XXX may at their sole discretion have the option to terminate this Agreement any time after the occurrence of any event described under Clauses 8.2(f) or 8.2(h).

(b) Termination Notice

If any Party, having become entitled to do so, decides to terminate this Agreement pursuant to the preceding clause (a), it shall issue Termination Notice setting out ;

- (i) in sufficient detail the underlying Force Majeure Event;
- (ii) the Termination Date which shall be a date occurring not earlier than 60 days from the date of Termination Notice;
- (iii) the estimated Termination Payment including the details of computation thereof and;
- (iv) any other relevant information.

(c) Obligation of Parties

Following issue of Termination Notice by either Party, the Parties shall promptly take all such steps as may be necessary or required to ensure that;

- (i) the Termination Payment, if any, payable by the ULB/s in accordance with the following **clause (d)** is paid to the Concessionaire on the Termination Date and
- (ii) the Project Facilities are handed back to the ULB by the Concessionaire on the Termination Date free from all Encumbrance.

(d) Termination Payment

Upon Termination of this Agreement due to a Force Majeure Event, Termination Payment shall be made to the Concessionaire by XXX in accordance with the following:

- (i) If Termination is due to a Force Majeure Event, described under Clauses 8.2(a) to 8.2(e), no Termination Payment shall be made by XXX to the Concessionaire but, the Concessionaire shall be entitled to receive and appropriate
 - (a) the proceeds of any amounts under insurance policies and

- (b) the proportionate amounts in the Post Closure Performance Account calculated as below:

Amounts in Post Closure Performance Account payable = Total MSW supplied at such Waste Processing Facilities from COD till Date of Termination / Total MSW supplied at all Waste Processing Facilities from COD till Date of Termination

- (ii) If Termination is due to the occurrence of any event described under Clauses 8.2(f), 8.2(g) or 8.2(h), the ULB/s shall pay to the Concessionaire Termination Payment as calculated in the following clause (e). The Concessionaire would also be allowed to appropriate the proportionate amounts in the Post Closure Performance Account as computed in sub – clause (i).
- (iii) If Termination is due to the occurrence of any event described under Clause 8.2(i), ULB/s shall subject to the certification of Project Engineer, pay to the Concessionaire, Termination payment as calculated in the following clause (e). The Concessionaire would also be allowed to appropriate the proportional amounts in the Post Closure Performance Account as computed in sub – clause (i).

Provided ULB/s shall be entitled to deduct from the Termination Payment any amount due and recoverable by ULB/s from the Concessionaire as on the Termination Date.

(e) Calculation of Termination Payment

Termination Payment for each ULB shall be calculated as set out below:

- (i) If Termination is due to the occurrence of any event described under **Clauses 8.2(f), 8.2(g) or 8.2(h)**:

Termination Payment = 170% of Book Value as on the Date of Termination Notice X (Total waste supplied by such ULB / s in the previous year ending on the Date of Termination Notice) / Total waste received by the Concessionaire at the Waste Processing facilities in the previous year ending on the Date of Termination Notice

- (ii) If Termination is due to the occurrence of any event described under **Clause 8.2(i)**:

Termination Payment = 100% of Book Value as on the Date of Termination Notice X (Total waste supplied by such ULB / s in the previous year ending on the Date of Termination Notice) / Total waste received by the Concessionaire at the Waste Processing facilities in the previous year ending on the Date of Termination Notice

8.6 Liability for other losses, damages etc.

Save and except as expressly provided in this **Article 8**, neither Party hereto shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event.

8.7 Changes in Law

- (a) Change in Law shall mean the occurrence or coming into force of any of the following, after the Appointed Date:
- (i) The enactment of any new Indian law including laws related to environment;
 - (ii) The repeal, modification or re-enactment of any existing Indian law
 - (iii) A change in the interpretation or application of any Indian law by a court of record.

Provided that Change in Law shall not include:

- (i) Coming into effect, after the Appointed Date, of any provision or statute which is already in place as of the Appointed Date,
 - (ii) Any new law or any change in the existing law under the active consideration of or in the contemplation of any government as of the Appointed Date which is a matter of public knowledge,
 - (iii) Any change in the rates of the Taxes.
- (b) Subject to Change in Law resulting in Material Adverse Effect and subject to the Concessionaire taking necessary measures to mitigate the impact or likely impact of Change in Law on the Project, if as a direct consequence of a Change in Law, the Concessionaire is obliged to incur Additional Costs, and XXX shall subsequently reimburse to the Concessionaire 50% of such Additional Costs, provided such additional cost is not less than Rupees -----.
- (c) Upon occurrence of a Change in Law, the Concessionaire may, notify XXX and the Project Engineer of the following:
- (i) The nature and the impact of Change in Law on the Project
 - (ii) In sufficient detail, the estimate of the Additional Cost likely to be incurred by the Concessionaire on account of Change in Law
 - (iii) The measures, which the Concessionaire has taken or proposes to take to mitigate the impact of Change in Law, including in particular, minimising the Additional Cost
 - (iv) The relief sought by the Concessionaire
- (d) Upon receipt of the notice of Change in Law issued by the Concessionaire pursuant to preceding sub-clause, XXX and the Concessionaire shall along with the Project Engineer hold discussions and take all such steps as may be necessary including determination / certification by the Project Engineer of the quantum of the Additional

Cost to be borne and paid by XXX.

- (e) XXX shall within 30 days from the date of determination of quantum of Additional Cost, provide relief to the Concessionaire in the manner as mutually agreed upon by the Parties.

ARTICLE 9

EVENTS OF DEFAULT AND TERMINATION

9.1 Events of Default

Event of Default shall mean either Concessionaire Event of Default or XXX Event of Default or both as the context may admit or require.

(a) Concessionaire Event of Default

Any of the following events shall constitute an Event of Default by the Concessionaire ("Concessionaire Event of Default") unless such event has occurred as a result of one or more reasons set out in **Article 5.17**:

- (i) The Concessionaire has failed to adhere to the Construction Requirements and such failure, in the reasonable estimation of the Project Engineer, is likely to delay achievement of COD beyond ----- days of the Scheduled Project Completion Date;
- (ii) The Concessionaire has failed to achieve COD within ---- days of the Scheduled Project Completion Date for any reason whatsoever;
- (iii) The Concessionaire has failed to accept the Municipal Solid Waste supplied by XXX at the proposed site in accordance with **Article 5.12** for a continuous period of three days or an aggregate period of seven days in any Month;
- (iv) At any time during the Concession Period, the Concessionaire fails to adhere to the Construction Requirements or O&M Requirements and has failed to remedy the same within ---- days;
- (v) The Concessionaire has failed to make any payments due to XXX and more than 90 days have elapsed since such payment default;
- (vi) The Concessionaire is in Material Breach of any of its obligations under this Agreement and the same has not been remedied for more than 60 days;
- (vii) Any representation made or warranty given by the Concessionaire under this Agreement is found to be false or misleading;
- (viii) A resolution for voluntary winding up has been passed by the shareholders of the Concessionaire;
- (ix) Any petition for winding up of the Concessionaire has been admitted and

liquidator or provisional liquidator has been appointed or the Concessionaire has been ordered to be wound up by Court of competent jurisdiction, except for the purpose of amalgamation or reconstruction with the prior consent of XXX, provided that, as part of such amalgamation or reconstruction and the amalgamated or reconstructed entity has unconditionally assumed all surviving obligations of the Concessionaire under this Agreement.

- (x) A default has occurred under any of the Financing Documents and any of the Lenders has recalled its financial assistance and demanded payment of the amounts outstanding under the Financing Documents or any of them as applicable;
- (xi) The Concessionaire has abandoned the Project Facilities;
- (xii) The Concessionaire has unlawfully repudiated this Agreement or has otherwise expressed an intention not to be bound by this Agreement;
- (xiii) The Concessionaire has suffered an attachment levied on any of its assets which has caused or is likely to cause a Material Adverse Affect on the Project and such attachment has continued for a period exceeding 90 days.

(b) XXX Event of Default

Any of the following events shall constitute an event of default by XXX ("XXX Event of Default"), when not caused by a Concessionaire Event of Default or Force Majeure Event:

- (i) The Sites has not been handed over to the Concessionaire within ---- days of Appointed Date;
- (ii) The XXX has jointly failed to supply at least 50% of the Assured Waste Quantity for three successive months;
- (iii) Any XXX has failed to make any payments due to the Concessionaire and more than 180 days have elapsed since such default;
- (iv) XXX is in Material Breach of any of its obligations under this Agreement and has failed to cure such breach within 60 (sixty) days of receipt of notice thereof issued by the Concessionaire;
- (v) XXX has unlawfully repudiated this Agreement or otherwise expressed its intention not to be bound by this Agreement;
- (vi) XXX has unreasonably withheld or delayed grant of any approval or permission which the Concessionaire is obliged to seek under this Agreement, and thereby caused or likely to cause Material Adverse Effect.

- (vii) Any representation made or warranties given by XXX under this Agreement has been found to be false or misleading.

9.2 Termination due to Event of Default

(a) Termination for Concessionaire Event of Default

- (i) Without prejudice to any other right or remedy which XXX may have in respect thereof under this Agreement, upon the occurrence of a Concessionaire Event of Default, XXX shall, subject to the provisions of the Substitution Agreement, be entitled to terminate this Agreement in the manner as set out under **Clause 9.2(a)(ii) and Clause 9.2(a)(iii)**.

Provided however that upon the occurrence of a Concessionaire Event of Default as specified under **Clause 9.1(a)(iii)**, XXX may terminate this Agreement by issue of Termination Notice in the manner set out under **Clause 9.2(c)**.

- (ii) If XXX decides to terminate this Agreement pursuant to preceding **clause (i)**, it shall in the first instance issue Preliminary Notice to the Concessionaire. Within thirty (30) days of receipt of the Preliminary Notice, the Concessionaire shall submit to XXX in sufficient detail, the manner in which it proposes to cure the underlying Event of Default (the “Concessionaire's Proposal to Rectify”). In case of non-submission of the Concessionaire's Proposal to Rectify within the said period of 30 days, XXX shall be entitled to terminate this Agreement by issuing Termination Notice, and to appropriate the Performance Security, if subsisting and the amounts in the Post Closure Performance Account.

If the Concessionaire's Proposal to Rectify is submitted within the period stipulated therefor, the Concessionaire shall have further period of 30 days to remedy/ cure the underlying Event of Default. If, however the Concessionaire fails to remedy/cure the underlying Event of Default within such further period allowed, XXX shall be entitled to terminate this Agreement, by issue of Termination Notice and to appropriate the Performance Security, if subsisting and the amounts in the Post Closure Performance Account.

(b) Termination for XXX Event of Default

- (i) Without prejudice to any other right or remedy which the Concessionaire may have in respect thereof under this Agreement, upon the occurrence of XXX Event of Default, the Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice.
- (ii) If the Concessionaire decides to terminate this Agreement pursuant to preceding clause (i) it shall in the first instance issue Preliminary Notice to XXX. Within

30 days of receipt of Preliminary Notice, XXX shall forward to the Concessionaire its proposal to remedy/ cure the underlying Event of Default (the "XXX Proposal to Rectify"). In case of non submission of XXX Proposal to Rectify within the period stipulated therefor, Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice.

- (iii) If XXX Proposal to Rectify is forwarded to the Concessionaire within the period stipulated therefor, XXX shall have further period of 30 days to remedy/ cure the underlying Event of Default. If, however XXX fails to remedy/ cure the underlying Event of Default within such further period allowed, the Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice.

(c) Termination Notice

If a Party having become entitled to do so decides to terminate this Agreement pursuant to the preceding sub article (a) or (b), it shall issue Termination Notice setting out:

- (i) in sufficient detail the underlying Event of Default;
- (ii) the Termination Date which shall be a date occurring not earlier than 60 days from the date of Termination Notice;
- (iii) the estimated termination payment including the details of computation thereof; and,
- (iv) any other relevant information.

(d) Obligation of Parties

Following issue of Termination Notice by either Party, the Parties shall promptly take all such steps as may be necessary or required to ensure that;

- (i) until Termination the Parties shall, to the fullest extent possible, discharge their respective obligations so as to maintain the continued operation of the Project Facilities;
- (ii) the termination payment, if any, payable by XXX in accordance with the following **sub - article (f)** is paid to the Concessionaire on the Termination Date; and
- (iii) the Project Facilities are handed back to XXX as instructed by XXX, by the Concessionaire on the Termination Date free from any Encumbrance along with any payment that may be due by the Concessionaire to XXX.

(e) Withdrawal of Termination Notice

Notwithstanding anything inconsistent contained in this Agreement, if the Party who has been served with the Termination Notice cures the underlying Event of Default to the satisfaction of the other Party at any time before the Termination occurs, the Termination Notice shall be withdrawn by the Party which had issued the same.

Provided that the Party in breach shall compensate the other Party for any direct costs / consequences occasioned by the Event of Default which caused the issue of Termination Notice.

(f) Termination Payments

Upon Termination of this Agreement on account of XXX Event of Default, the Concessionaire shall be entitled to withdraw the Performance Security, if subsisting, and receive from X X X , termination payment and amounts in Post Closure

Performance Account calculated as explained below:

Termination Payment = (170% of Book Value as on the Date of Termination Notice + Amounts in Post Closure Performance Account) X (Total waste supplied by XXX in the previous year ending on the Date of Termination Notice) / Total waste received by the Concessionaire at the Waste Processing facilities in the previous year ending on the Date of Termination Notice

9.3 Rights of XXX on Termination

- (a) Upon Termination of this Agreement for any reason whatsoever, XXX shall upon making the Termination Payment, if any, to the Concessionaire, have the power and authority to:
- (i) enter upon and take possession and control of the Project Facilities forthwith;
 - (ii) prohibit the Concessionaire and any person claiming through or under the Concessionaire from entering upon/ dealing with the Project Facilities;
- (b) Notwithstanding anything contained in this Agreement, XXX shall not, as a consequence of Termination or otherwise, have any obligation whatsoever including but not limited to obligations as to compensation for loss of employment, continuance or regularisation of employment, absorption or re-employment on any ground, in relation to any person in the employment of or engaged by the Concessionaire in connection with the Project, and the handback of the Project Facilities by the Concessionaire to XXX shall be free from any such obligation.

9.4 Accrued Rights of Parties

Notwithstanding anything to the contrary contained in this Agreement, Termination pursuant to any of the provisions of this Agreement shall be without prejudice to accrued rights of either Party including its right to claim and recover money damages and other rights and remedies which it may have in law or contract. The rights and obligations of either Party under this Agreement, including without limitation those relating to the Termination Payment, shall survive the Termination but only to the extent such survival is necessary for giving effect to such rights and obligations.

ARTICLE 10

HANDBACK OF PROJECT FACILITIES

10.1 Ownership

Without prejudice and subject to the Concession, the ownership of the Project Facilities, including all improvements made therein by the Concessionaire, shall at all times remain that of XXX.

10.2 Concessionaire's Obligations

(a) Waste Processing Facilities

- (i) The Concessionaire shall on the date of expiry of Landfill Life, hand back vacant and peaceful possession of the Waste Processing Facility to XXX free of cost and in good operable condition.
- (ii) Atleast 12 months before the expected expiry of the Landfill Life a joint inspection of the Project Facilities shall be undertaken by XXX, Project Engineer and the Concessionaire. XXX / Project Engineer shall, within 45 days of such inspection prepare and furnish to the Concessionaire a list of works/ jobs ("Handback Requirements"), if any, to be carried out so as to conform to the Construction Requirements and O&M Requirements. The Concessionaire shall promptly undertake and complete such works / jobs at least three months prior to the expected expiry of Landfill Life and ensure that the Project Facilities continue to meet such requirements until the same are handed back to XXX.
- (iii) XXX / Project Engineer shall, within 45 days of the joint inspection undertaken under preceding clause (b) prepare and furnish to the Concessionaire a list of items, if any, with corresponding distinctive descriptions, which are to be compulsorily handed back to XXX along with the Waste Processing Facilities.

(b) Landfill Facility

- (i) Atleast 12 months before the expected expiry of the Landfill Life, the Parties jointly with the Project Engineer shall, in accordance with Schedule 5, discuss and jointly prepare the Post Closure Operating Plan for maintenance of the Landfill Facility, under the provisions of the prevailing statutory regulations ("Post Closure Maintenance Plan").
- (ii) The Concessionaire shall after expiry of the Active Operations Period maintain the Landfill Facility in accordance with the Post Closure Maintenance Plan.
- (iii) Upon the expiry of the Concession Period, the Concessionaire shall hand back peaceful possession of the Landfill Facility to XXX free of cost and in good

condition.

- (c) The Concessionaire hereby acknowledges XXX's rights specified in Article 9.3 enforceable against it upon Termination and its corresponding obligations arising therefrom. The Concessionaire undertakes to comply with and discharge promptly all such obligations.

10.3 XXXs' Obligations

XXX shall, subject to XXX's right to deduct amounts from the Post Closure Performance Account towards;

- (i) carrying out works / jobs listed under **Article 10.2**, which have not been carried out by the Concessionaire,
- (ii) purchase of items, which have not been handed back to XXX along with the Project Facilities in terms of **Article 10.2**, and
- (iii) any outstanding dues, which may have accrued in respect of the Project during the Concession Period,

duly discharge and release to the Concessionaire the amounts in the Post Closure Performance Account in accordance with **Article 7.3**.

ARTICLE 11

DISPUTE RESOLUTION

11.1 Amicable Resolution

- (a) Save where expressly stated to the contrary in this Agreement, any dispute, difference or controversy of whatever nature between the Parties, howsoever arising under, out of or in relation to this Agreement, including those arising with regard to acts, decision or opinion of the Project Engineer (the "Dispute") shall in the first instance be attempted to be resolved amicably in accordance with the procedure set forth in **clause (b)** below.
- (b) The Parties may refer such Dispute to -----, XXX (or the Person holding charge) for the time being, for amicable settlement. Upon such reference, the Parties shall meet at the earliest mutual convenience and in any event within 15 days of such reference to discuss and attempt to amicably resolve the Dispute. If the Dispute is not amicably settled within 15 (fifteen) days of such meeting between the two, either Party may refer the Dispute to arbitration in accordance with the provisions of **Article 11.2** below.

11.2 Arbitration

(a) Procedure

Subject to the provisions of **Article 11.1**, any Dispute which is not resolved amicably shall be finally settled by binding arbitration under the Arbitration Act. The arbitration shall be by a single arbitrator, appointed by Parties upon mutual consent.

(b) Place of Arbitration

The place of arbitration shall ordinarily be ----- but by agreement of the Parties, the arbitration hearings, if required, may be held elsewhere.

(b) English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.

(d) Enforcement of Award

The Parties agree that the decision or award resulting from arbitration shall be final and binding upon the Parties and shall be enforceable in accordance with the provisions of the Arbitration Act subject to the rights of the aggrieved parties to secure relief from any higher forum.

11.3 Performance during Dispute

Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

ARTICLE 12

REPRESENTATIONS AND WARRANTIES

12.1 Representations and Warranties of the Concessionaire

The Concessionaire represents and warrants to XXX that:

- (a) it is duly organised, validly existing and in good standing under the laws of India;
- (b) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (c) it has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorise the execution, delivery and performance of this Agreement;
- (d) it has the financial standing and capacity to undertake the Project;
- (e) this Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of the Concessionaire's Memorandum and Articles of Association or any Applicable Laws or any covenant, agreement, understanding, decree or order to which it is a party or by which it or any of its properties or assets are bound or affected;
- (g) there are no actions, suits, proceedings or investigations pending or to the Concessionaire's knowledge threatened against it at law or in equity before any court or before any other judicial, quasi judicial or other authority, the outcome of which may constitute Concessionaire Event of Default or which individually or in the aggregate may result in Material Adverse Effect;
- (h) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Agency which may result in Material Adverse Effect;
- (i) it has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have Material Adverse Effect;
- (j) subject to receipt by the Concessionaire from XXX of any amount due under any of the provisions of this Agreement, in the manner and to the extent provided for under the applicable provisions of this Agreement all rights and interests of the Concessionaire in and to the Project Facilities shall pass to and vest in the XXX on the Termination Date free and clear of all Encumbrances without any further act or deed on the part of the Concessionaire or XXX;

- (k) no representation or warranty by the Concessionaire contained herein or in any other document furnished by it to XXX or to any Government Agency in relation to Applicable Permits contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- (l) no bribe or illegal gratification has been paid or will be paid in cash or kind by or on behalf of the Concessionaire to any person to procure the Concession.
- (m) Without prejudice to any express provision contained in this Agreement, the Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has after a complete and careful examination made an independent evaluation of the Project Facilities, and the information provided by XXX, and has determined to its satisfaction the nature and extent of risks and hazards as are likely to arise or may be faced by the Concessionaire in the course of performance of its obligations hereunder.
- (n) The Concessionaire also acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth above and hereby confirms that XXX shall not be liable for the same in any manner whatsoever to the Concessionaire.

12.2 Representations and Warranties of XXX

XXX represents and warrants to the Concessionaire that:

- (a) XXX has full power and authority to grant the Concession;
- (b) XXX has taken all necessary action to authorise the execution, delivery and performance of this Agreement;
- (c) There are no suits or other legal proceedings pending or threatened against XXX in respect of the Project Facilities or the Project.

12.3 Obligation to Notify Change

In the event that any of the representations or warranties made/given by a Party ceases to be true or stands changed, the Party who had made such representation or given such warranty shall promptly notify the other of the same.

ARTICLE 13

MISCELLANEOUS

13.1 Assignment and Charges

- (a) The Concessionaire shall not assign in favour of any person this Agreement or the rights, benefits and obligations hereunder save and except with prior consent of XXX.
- (b) The Concessionaire shall not create nor shall permit to subsist any Encumbrance over the Project Facilities except with prior consent in writing of XXX, which consent XXX be entitled to decline without assigning any reason whatsoever.
- (c) Restraint set forth in clauses (a) and (b) above shall not apply to:
 - (i) Liens / encumbrances arising by operation of law (or by an agreement evidencing the same) in the ordinary course of business of the Concessionaire:
 - (ii) Pledges / hypothecation of goods / moveable assets, revenue and receivables as security for indebtedness, in favour of the Lenders and working capital providers for the Project;
 - (iii) assignment of Concessionaire's rights and benefits under this Agreement to or in favour of the Lenders as security for financial assistance provided by them.

13.2 Interest and Right of Set Off

Any sum which becomes payable under any of the provisions of this Agreement by one Party to the other Party shall, if the same be not paid within the time allowed for payment thereof, shall be deemed to be a debt owed by the Party responsible for payment thereof to the Party entitled to receive the same. Such sum shall until payment thereof carry interest at prevailing medium term prime lending rate of ----- (*name of bank*) per annum from the due date for payment thereof until the same is paid to or otherwise realised by the Party entitled to the same. Without prejudice to any other right or remedy that may be available under this Agreement or otherwise under law, the Party entitled to receive such amount shall also have the right of set off.

Provided the stipulation regarding interest for delayed payments contained in this Article 13.2 shall neither be deemed or construed to authorise any delay in payment of any amount due by a Party nor be deemed or construed to be a waiver of the underlying breach of payment obligations.

13.3 Governing Law and Jurisdiction

This Agreement shall be governed by the laws of India. The Courts at ----- shall have jurisdiction over all matters arising out of or relating to this Agreement.

13.4 Waiver

- (a) Waiver by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:
 - (i) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions or obligations under this Agreement;
 - (ii) shall not be effective unless it is in writing and executed by a duly authorised representative of such Party; and
 - (iii) shall not affect the validity or enforceability of this Agreement in any manner.
- (b) Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation hereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver/breach of any terms, conditions or provisions of this Agreement.

13.5 Survival

Termination of this Agreement

- (a) shall not relieve the Concessionaire and XXX of any obligations already incurred hereunder which expressly or by implication survives Termination hereof, and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

13.6 Amendments

This Agreement and the Schedules together constitute a complete and exclusive understanding of the terms of the Agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless agreed to by all the Parties hereto and evidenced in writing.

13.7 Notices

Unless otherwise stated, notices to be given under this Agreement including but not limited to a notice of waiver of any term, breach of any term of this Agreement and termination of this Agreement, shall be in writing and shall be given by hand delivery, recognised international courier, mail, telex or facsimile transmission and delivered or transmitted to the Parties at their respective addresses set forth below:

If to XXX ULB

Name and Designation of
the Officer
Address of XXX

If to the Concessionaire:

The Managing Director,
Address of the office of the Concessionaire

Or such address, telex number, or facsimile number as may be duly notified by the
respective Parties from time to time, and shall be deemed to have been made or delivered

- (i) in the case of any communication made by letter, when delivered by hand, by
recognised international courier or by mail (registered, return receipt requested) at
that address, and
- (ii) in the case of any communication made by telex or facsimile, when transmitted
properly addressed to such telex number or facsimile number.

13.8 Severability

If for any reason whatsoever any provision of this Agreement is or becomes invalid,
illegal or unenforceable or is declared by any court of competent jurisdiction or any
other instrumentality to be invalid, illegal or unenforceable, the validity, legality or
enforceability of the remaining provisions shall not be affected in any manner, and the
Parties shall negotiate in good faith with a view to agreeing upon one or more provisions
which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as
is practicable. Provided failure to agree upon any such provisions shall not be subject to
dispute resolution under this Agreement or otherwise.

13.9 No Partnership

Nothing contained in this Agreement shall be construed or interpreted as constituting a
partnership between the Parties. Neither Party shall have any authority to bind the other in
any manner whatsoever.

13.10 Language

All notices required to be given under this Agreement and all communications,
documentation and proceedings which are in any way relevant to this Agreement shall be in
writing and in English language.

13.11 Exclusion of Implied Warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties and any representation by any Party not contained in a binding legal agreement executed by the Parties.

13.12 Counterparts

This Agreement may be executed in six counterparts, each of which when executed and delivered shall constitute an original of this Agreement but shall together constitute one and only the Agreement.

IN WITNESSETH WHEREOF THE, PARTIES HAVE EXECUTED AND DELIVERED
THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED SEALED AND DELIVERED

For and on behalf of XXX by:

(Signature)

(Name)

(Designation)

**For and on behalf of CONCESSIONAIRE
by:**

(Signature)

(Name)

(Designation)

In the presence of :

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)

SCHEDULE 1

DETAILS OF PROJECT SITES

1. Provide the following information pertaining to site detail;
2. Site Location: (as distance offset from major landmarks(like major roads/ highways etc), provide ward details in case the site is located inside the town periphery)
3. Site Area
4. Boundaries, and existing structures inside and outside the site periphery
5. Provide Geographical / Topographical detail
6. Provide Regional and Site Maps
7. Provide Geological/ Geotechnical detail of the site
8. Provide climatologically information
9. Provide sub surface flow regime

SCHEDULE 2

CONSTRUCTION REQUIREMENTS FOR WASTE PROCESSING FACILITIES

1. General

- 1.1 The minimum facilities to be provided in the Waste Processing Facilities which are to be implemented by the Concessionaire as part of the Project have been highlighted in this Schedule.
- 1.2 The Waste Processing Facilities shall conform to the minimum design requirements set out in this Schedule and to the MSW Rules.

2. Overall Design Parameters

2.1 Area

The area utilisation for development of the Project Facilities shall be as per the Applicable Laws, Good Industry Practices and in accordance with the Construction Requirements and O&M Requirements.

The location of the -----(name of site) Waste Processing Facility shall be such as to allow access from outside the Sites without transgressing the Landfill Facility.

2.2 Capacity

The Concessionaire shall design the Waste Processing Facilities so as to have the minimum capacities for Processing of Municipal Solid Waste throughout the proposed project life.

3. List of Mandatory Facilities

The Concessionaire shall provide the facilities in the manner as set out under this clause (“Mandatory Waste Processing Facilities”). The Concessionaire, subject to review and approval of the same by Project Engineer /XXX(ULB), may adopt alternate designs for the Mandatory Waste Processing Facilities.

3.1 Weigh Bridge

- (a) The Concessionaire shall provide one weigh bridge with two independent weighing platforms of rated capacity of ---- metric tonnes each at the entry gate to each of the Waste Processing Facilities. Each weighing platform shall have minimum dimensions of --m Length and --- m Width
- (b) The weigh bridge shall meet the minimum technical specifications set out in **Table x.x** of this Schedule.

3.2 Municipal Solid Waste Inspection Area

The Concessionaire shall, for the purpose of inspection of Municipal Solid Waste by the Project Engineer, as required under Article 5.12, provide a separate area (“Municipal Solid Waste Inspection Area”) in each of the Waste Processing Facilities, which shall meet the minimum technical specifications set out in Table x.x of this Schedule.

3.3 Windrow Platform

The Concessionaire shall, for the purpose of Processing of Municipal Solid Waste, provide windrow platforms (“Windrows”), which shall meet the minimum technical specifications set out in Table x.x of this Schedule.

3.4 Storm Water Drainage System

The Concessionaire shall design and implement the storm water drainage system within the Waste Processing Facilities in such a manner as to ensure that

- (a) it is independent from the Leachate System (as provided in **Clause 3.5** below); (b) the run-off rain water from the hinterland does not enter the Municipal Solid Waste storage and processing area;
- (c) there is no stagnation of rain water in the Sites.

The drainage system shall be constructed so as to meet the minimum technical specifications set out in **Table xx** of this Schedule.

3.5 Leachate System

- (a) The Concessionaire shall,
 - (i) construct leachate collection tank/s and provide a leachate collection network which shall meet the O&M Requirements;
 - (ii) ensure that the leachate from the Waste Processing Facilities is carried to the Leachate Collection Tank without any stagnation (except in storage/holding tanks)
- (b) The Concessionaire shall provide a leachate treatment plant (“Leachate Treatment Plant”) at each of the Waste Processing Facilities of appropriate capacity but with a minimum initial capacity of xx cum/hour with suitable technology to ensure treatment of leachate to Inland Surface Water Standards as per IS: 2490: Part I 1981. The Leachate Treatment Plant shall be designed as a modular unit and so as to allow for increase in capacity in line with the increase in leachate treatment requirement.
- (c) Overall design of the leachate system should be such as to ensure that there is no percolation of the leachate into the ground and it does not come into contact with any water body.

3.6 Water Supply System

The Concessionaire shall provide a water supply system adequate to meet the requirements for Processing of Municipal Solid Waste, drinking and washing purposes in accordance with Good Industry Practice.

3.7 Quality Control Laboratory

The Concessionaire shall provide a quality control laboratory with the equipment adequate to carry out the following tests:

- (a) Municipal Solid Waste analysis and characterization
- (b) Leachate quality as per Schedule IV of MSW Rules
- (c) Compost quality as per Schedule IV of MSW Rules
- (d) Air quality as per Schedule IV of MSW Rules.
- (e) Maturity Test for the Residual Inert Matter as set out in **Article 11 of Schedule 5**.

3.8 Worker Amenities

The Concessionaire shall provide workers amenities in the Project Facilities accordance with Good Industry Practice.

3.9 Internal Roads

The Concessionaire shall provide good quality motorable roads within the Sites which shall meet the minimum criteria as set out in **Table 2.5**.

3.10 Lighting

The Concessionaire shall provide, in the Project Facilities,

- (a) adequate lighting system to achieve a minimum lux level of 20 for the working area;
- (b) street lighting with permanent steel light posts for main internal roads and access roads;
- (c) movable heavy duty focus lamps depending on the operational requirement.

3.11 Other Electrical Works

The Concessionaire shall provide all electrical equipment and implement all electrical works in the Waste Processing Facilities in accordance with Good Industry Practices and as per the drawings approved by the Project Engineer. The Concessionaire shall provide power back-up to ensure operation of at least the following facilities:

- (a) Weigh bridge
- (b) Lighting of work area
- (c) Leachate treatment plant and circulation system
- (d) Water supply system

3.12 Boundary Wall and Fencing

- (a) The Concessionaire shall construct a boundary wall of minimum --- m height, including a barbed wire fencing of -- m height, along the perimeter of the Waste Processing Facilities
- (b) There shall be only one entrance into each of the Waste Processing Facilities from outside the Sites. The ----(*insert name of facility*) Waste Processing Facility shall also be separated from the Landfill Facility by means of a boundary wall and fencing in the manner specified in sub-clause (a) hereinabove.

3.13 Green Belt

The Concessionaire shall provide a vegetative cover in a strip of width --- m all along the boundary wall. The species of trees for providing vegetative cover shall be approved by the Project Engineer.

3.14 Name Board

The Concessionaire shall erect two signboards, one in local language and the other in English, of a size not less than 2 ft. by 4 ft each, adjacent to the main entrance to each of the Waste Processing Facilities 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 local language) in black upper case letters on a white/yellow background:

3.15 Piezometers for ground water monitoring

Piezometer shall be constructed to monitor the quality of groundwater. Four piezometers shall be constructed on the downstream side of the landfill. Two piezometers shall be constructed on the upstream side. The piezometer consists of a stand pipe made up of stainless steel which shall be screened along the entire aquifer depth. The screened interval shall be encased in a filter zone made up of gravel and sand layer. The function of the filter zone is to allow free flow of groundwater into and out of standpipe and prevent fines from entering the standpipe. Immediately above the screened interval, a clay and bentonite seal shall be placed. The thickness of clay seal shall be 0.5 m. above the clay and bentonite seal, a grout seal consisting of cement and bentonite shall be constructed which provides a barrier for preventing surface water and ground water from elsewhere from migrating into the screened interval. At the ground level, a steel casing embedded in concrete pad shall be employed. A cap shall be placed on the top of steel casing to prevent rainwater and surface water from entering into the standpipe. The piezometer shall be constructed at a distance of 7 m from outside edge of the embankment.

“This property belongs to the XXX and has been handed over to M/s (name of the concessionaire) for Developing, Operating and Maintaining an Integrated Waste Processing & Engineered Sanitary Landfill Facilities under a Build, Operate and Transfer Concession Agreement”.

The Concessionaire shall ensure that the signboard is maintained in good condition throughout the Landfill Life.

4. Codes and Standards

4.1 The following standards in order of preference shall be adopted in consultation with the Project Engineer, unless otherwise specified:

- (a) MSW Management and Handling Rules 2000
- (b) Bureau of Indian Standards (BIS)

- (c) Suitable specification/standard devised by the Project Engineer
- (d) Any other standards specified by statute and Applicable Laws

Any other standard proposed by the Concessionaire and approved by the Project Engineer

4.2 All items of building works shall conform to Central Public Works Department (CPWD) specifications for Class 1 building works and standards given in the National Building Code (NBC).

5. Procedure

5.1 Before Commencement of construction

5.1.1 Prior to commencement of any construction activity, the Concessionaire shall finalise an implementation plan for the Project (“Implementation Plan”) in consultation with the Project Engineer. The Implementation Plan shall, inter alia, include:

- (a) A detailed schedule of implementation for putting up and operationalising the Project Facilities, which shall specify at least four major milestones;
- (b) 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 Project Facilities including design and engineering, procurement of materials and equipment, installation, construction and testing;
- (c) Manpower deployment plan, including the designation of key personnel for the management and supervision of all Project-related activities. (This would include the designation of suitably qualified personnel for areas such as contract administration and supervision, construction management, safety, environmental management, plant and equipment maintenance, procurement, materials management and quality control);
- (d) A broad method statement for key items (including earth works, concrete works, structural concrete work, and road works) setting out the methodology of construction, materials and construction equipment mobilisation/ utilisation plans;
- (e) Details of the quality assurance and quality control procedures; and
- (f) Format of the Monthly Project Progress Report giving details of the physical progress in implementation of the Project Facilities and operations and maintenance activities undertaken (“Monthly Project Progress Report”).

5.1.2 Prior to commencement of any construction activity, the Concessionaire shall also finalise in consultation with the Project Engineer:

- (a) an operations and maintenance plan for the Project Facilities during the Implementation Period (O&M Plan – Implementation Period) and which shall, inter alia, include an Environmental Management Plan,

(b) Quality Assurance Plan

5.1.3 The Concessionaire shall, in consultation with the Project Engineer workout an appropriate schedule for submission of documents set out in **Clauses 5.1.1** and **5.1.2** above to the Project Engineer for review.

5.1.4 Prior to commencement of construction of any of the Project Facilities, the Concessionaire shall have:

- (a) Obtained all such Applicable Permits as are necessary to commence construction of such Project Facilities;
- (b) Finalised such Drawings as are necessary and the Implementation Schedule in consultation with the Project Engineer;
- (c) Mobilised the requisite resources, personnel and organisation necessary for the same and designated and appointed suitable officers/ representatives as it may deem appropriate with responsibility to supervise implementation of the Project and for exchange of information with the Project Engineer, XXX;
- (d) Finalised in consultation with the Project Engineer a method statement setting out details of the actual methods that would be adopted by the Concessionaire for the construction of such Project Facilities including details of equipment and machinery that would be used, their locations, and arrangements for conveying and handling materials;
- (e) Finalised in consultation with the Project Engineer quality assurance and quality control procedures to cover all aspects of the work so as to ensure the desired quality. This would include establishment of a well-equipped functional laboratory.

5.1.5 The Concessionaire shall immediately upon commencement of Construction Works notify XXX of the same.

5.2 During Construction

5.2.1 The Concessionaire shall:

- (a) Ensure that the construction/ rehabilitation of the Project Facilities is undertaken with minimal inconvenience to the traffic using the existing access road to the Sites.
- (b) Take precautions to avoid inconvenience to, damage to, destruction of or disturbance to any third party rights and properties;
- (c) ensure adequate safety of the personnel deployed at the Proposed Site which would include measures such as the provision and maintenance of barricades, and illumination during night in consultation with the Project Engineer;
- (d) be in compliance with the Applicable Laws and Applicable Permits obtained for the Project including the clearances obtained by XXX;
- (e) Adhere to the Implementation Plan and O&M Plan-Implementation Period;
- (f) deploy adequate number of qualified and competent personnel having relevant experience and skills for implementation of the Project and interaction with the Project Engineer/ XXX.

5.2.2 Positions and Levels

The Concessionaire shall be responsible for :

- (a) the accurate setting-out survey control points, lines and levels of reference;
 - (i) the correctness of the positions, levels, dimensions and alignment of all parts of the works;
 - (ii) the provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities;
 - (iii) If, at any time during execution of the works, any error is noticed in the position, levels, dimensions or alignment of any part of the Construction Works, the Concessionaire, on being asked to do so by the Project Engineer, shall at his own cost, rectify such errors to the satisfaction of the Project Engineer.

- (b) The checking of any setting-out or of any line or level by the Project Engineer shall not in any way relieve the Concessionaire of his responsibility for the accuracy thereof and the Concessionaire shall carefully protect and preserve all benchmarks, sight rails, pegs and other materials used in setting-out the works.

5.2.3 Tests

- (a) Various tests (“Tests”) would be undertaken for the Project as per the standards prescribed under MSW Rules and 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 respective Project Facilities/Construction Works or part thereof shall be agreed upon with the Project Engineer prior to construction.
- (b) Where material properties vary from or comply only marginally with the specifications contained in the Construction Requirements, the Project Engineer shall increase the frequency of Testing as appropriate at the cost of the Concessionaire.
- (c) The Tests would be carried out at a location (place of manufacture, fabrication or preparation, at site or any specialised testing laboratory) that the Project Engineer may reasonably require, at the cost and expense of the Concessionaire.
- (d) 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 Project Engineer to undertake Tests

5.2.4 No part of the Construction Works shall be covered up or put out of view before the same has been examined by the Project Engineer.

5.2.5 The Project Engineer may from time to time require:

- (a) removal from the sites, within such time as may be specified in its instructions, any material, equipment, machinery or plant which, in its opinion, do not meet the standards specified in the Construction Requirements;
- (b) Substitution/ replacement of such improper material, equipment, machinery or plant;

- (c) Re-execution, of any or part of the Construction Works which in the opinion of the Project Engineer do not meet the standards set out in the Construction Requirements;
 - (d) the Concessionaire to make boreholes or to carry out exploratory excavation for the Project.
- 5.2.6 The Concessionaire shall mobilise adequate numbers of equipment, plants and machinery to ensure adherence to the Implementation Plan.
- 5.2.7 The Concessionaire shall arrange for all the material requirements for the Project and disposal of all material wastes. The Applicable Permits in this regard would have to be obtained by the Concessionaire. All operations shall be carried out by the Concessionaire with minimum degradation of the environment. All excessive and unsuitable excavated materials shall be stacked at appropriate dumping places or otherwise disposed of by the Concessionaire in consultation with the Project Engineer.
- 5.2.8 Prior to making the request for the issue of Readiness Certificate or Provisional Readiness Certificate, the Concessionaire shall submit to the Project Engineer / XXX the following, duly finalised in consultation with the Project Engineer:
- (a) the Operations and Maintenance Manual for the Project (“O&M Manual”) setting out in detail the standards, schedules, procedures, type, periodicity and other details of the operation and maintenance activities to be carried out for the Project during the Active Operations Period so as to meet the O&M Requirements as well as details of the management information system to be incorporated, reports to be submitted and procedure for reviews, and
 - (b) the Operations & Maintenance Plan (“O&M Plan”) for the first year of operations.

5.3 After Completion of Construction

Upon completion of construction but prior to issue of the Readiness Certificate, the Sites shall be cleared of all construction equipment, surplus materials, debris and temporary installations and shall be left in tidy and clean manner and to the satisfaction of the Project Engineer.

5.4 Reporting Requirements and Documents to be provided

- 5.4.1 During the period of construction of the Project (“Implementation Period”), the Concessionaire shall submit to the Project Engineer, Monthly Project Progress Reports (for each calendar month or part thereof) within 5 working days of the last day of the month. The report shall review the progress made, identify slippages, if any, and project the future activities to be undertaken (including rectifications), operations and maintenance activities undertaken and would, inter alia, include the following:
- (a) Listing of working drawings/sketches submitted
 - (b) Comments of Project Engineer, if any on the working drawings/sketches submitted
 - (c) Concessionaire’s response to the comments on the Drawings/sketches
 - (d) Listing of the "As Built" drawings submitted

- (e) Progress of pre-construction activities - mobilization of plant and equipment, personnel, site office, utility relocation etc.
- (f) Concessionaire's compliance inspection report, if any required
- (g) Constraints in construction
- (h) Progress data with "S" curves
- (i) Project data with contract detail and sectional completion details
- (j) Tests carried out, if any, and results thereof
- (k) Remedial measures taken by the Concessionaire following such tests, where required
- (l) Review of milestones and reasons for delay, if any
- (m) Suspension of construction, if any, its reasons, duration and the steps undertaken to resume construction
- (n) All actual or potential deviations from the Implementation Plan
- (o) Disagreements/ Disputes, if any, and proposed measures to be taken
- (p) Maintenance activities carried out by the Concessionaire
- (q) Monthly weather report giving daily temperature maximum and minimum value, rainfall and any other significant event
- (r) Injury to any personnel, its severity, cause and remedial measure(s) taken to avoid recurrence
- (s) Brief report of any accident / incident within the Sites, injury/fatality, property damage, cause of accident and actions taken to avoid recurrence
- (t) Notes of meetings between the Concessionaire and the Project Engineer highlighting critical decisions taken or agreements reached.

5.4.2 Within 90 days of issue of Readiness Certificate or the Provisional Readiness Certificate, as the case may be, the Concessionaire shall submit to the XXX the following documents, free of cost:

- (a) three hardcopies and two copies in electronic form (two Compact Discs) of the "as-built" Drawings of the Construction Works which have been completed as on COD, duly verified by the Project Engineer, including, but without limitation, an "as-built" survey illustrating the layout of the Project and setback lines, if any, of the buildings and structures forming part of Project Facilities reflecting the Project as actually designed, engineered and constructed. Such "as-built" Drawings shall be detailed, accurately scaled and sequentially numbered, covering all relevant engineering features, which in relation to structures shall also include cross sections in each drawing;
- (b) copies of all geo-technical, meteorological reports, if any;
- (c) three hardcopies and two copies in electronic form (two Compact Discs) of the Operations and Maintenance Manual.

TECHNICAL SPECIFICATIONS TABLE

(a) Table 2.1 (Weigh Bridge)

Parameter	Spec
Type	Pit less Design, Fully Electronic Weighbridge
No. of Platforms	Two
Capacity	----- MT per platform
Resolution	--- kg (Display Increment)
Size	-- m x-- m
Weighing Electronics	Insert suppliers specifications
Printer	Insert suppliers specifications
Key Board	Insert suppliers specifications
Display	Insert suppliers specifications
Data Storage	Insert suppliers specifications
UPS	Insert suppliers specifications
Weighbridge Construction	Insert suppliers specifications
Load Cells	Insert suppliers specifications
Software	Insert suppliers specifications

(b) Table 2.2 (Municipal Solid Waste Inspection Area)

Parameter	Specifications
Platform	<ul style="list-style-type: none"> i. Open platform constructed using non-suspended reinforced cement concrete slabs ii. Minimum area: ---- sqm
Construction	<ul style="list-style-type: none"> i. Leveling of the ground shall be done with approved earth having permeability coefficient (to leachate) and measured in field not greater than 1.0×10^{-7} cm /sec and subsequently compacted at 90% modified Proctor Density ii. ----- mm thick PCC to be provided iii. ----- mm thick RCC flooring on top of the PCC. iv. 2% slope shall be provided for platform v. Lined drains shall be provided for collection of leachate and surface run-off

(c) **Table 2.3 (Windrow Platform)**

Parameter	Specificati
Platform	<ul style="list-style-type: none"> i. Open platform constructed using non-suspended reinforced cement concrete slabs ii. The area of the Windrow shall be adequate for Processing the quantity of Municipal Solid Waste as set out in Clause 2.2 of this Schedule 2.
Construction	<ul style="list-style-type: none"> i. Leveling of the ground shall be done with approved earth having permeability coefficient (to leachate) and measured in field not greater than 1.0×10^{-7} cm/sec and subsequently compacted at 90% modified Proctor Density ii. ---- mm thick PCC to be provided iii. ----- mm thick RCC flooring on top of the PCC. iv. Platform slabs shall be laid with adequate expansion and contraction joints to prevent leachate percolation to the ground v. 2% slope shall be provided for platform vi. Lined drains shall be provided for collection of leachate and surface run- off

(d) **Table 2.4 (Storm Water Drainage System)**

Parameter	Specifications
Design	<ul style="list-style-type: none"> i. Shall have(provide shape) cross section ii. Shall be neat cement plastered iii. Shall be as per the Drawings approved by the Project Engineer

(e) **Table 2.5 (Internal Roads)**

Parameter	Specifications
Carriageway width	<ul style="list-style-type: none"> i. --- m(as per DPR)

Parameter	Specifications
Pavement design	<ul style="list-style-type: none"> i. Flexible pavement with the following specifications (as per specifications for Road and Bridge Works III Revision by Ministry of Surface Transport published by Indian Roads Congress [IRC]1998) ii. Sub-grade: CBR value of --% iii. Sub-base: -- mm thick, sand-gravel mix of...: ...(insert ratio), iv. CBR value of ----% v. Base course: ---- mm thick WBM in --- layers of-- mm each or as per approved design in DPR vi. Asphalt base: ---- mm thick Bituminous Macadam laid with mechanical spreaders vii. Seal Coat: Semi dense bituminous concrete or mixed seal surface

(e) **Table 2.5 (Technical specification of the compost plant equipment)**

Description	Technical Specification
Feeder	(insert specification as per design or suppliers quotation as approved by the project engineer or in DPR)
Cage Drum	-do-
Set of Conveyor Systems	-do-
Conveyor Reject	-do-
Trommel	-do-
Elevators	-do-
Rotary Screen	-do-
Gravity Separator	-do-
Hydraulic System	-do-
Any other equipment and machinery as recommended in the design and DPR	-do-

CONSTRUCTION REQUIREMENT FOR LANDFILL FACILITY

1 General

- 1.1 The minimum facilities to be provided in the Landfill Facility which is to be implemented by the Concessionaire as part of the Project have been highlighted in this Schedule.
- 1.2 The Landfill Facilities shall conform to the minimum design requirements set out in this Schedule and to the MSW Rules.

2. Landfill Design and Construction

2.1 Area

The Concessionaire shall utilise the Site(insert name of site), excluding the Waste Processing Facilities area in(name of site), for the purpose of setting up the Landfill Facility in accordance with the Construction Requirements and O&M Requirements.

2.2 Survey and Excavation

- (a) The Concessionaire shall undertake detailed topographic survey within the proposed Engineered Sanitary Landfill area at 5m grids (such levels being designated as “Natural Ground Level”) and submit the same to the Project Engineer.
- (b) The Concessionaire shall excavate to a depth from the existing Natural Ground Level (“NGL”) based on the results of the detailed topographic survey.
- (c) The Concessionaire shall, except with the prior written approval of the Project Engineer, carry out excavation of area adequate for at least -- (insert time for which landfill is to be designed)months of Landfilling.

2.3 Composite Liner System

- 2.3.1 The Concessionaire shall provide a composite liner system at bottom of the landfill, which shall consist of the following:
 - (a) Drainage layer ofcm thick granular soil material of permeability value of cm/sec.
 - (b) Amm thick Grade I smooth/ textured HDPE liner as per IS: 10889-1984 Specification for High Density Polyethylene Films
 - (c) A ----- mm thick compacted soil amended with additives as per IS: 6186-1986 Specification for Bentonite to reach the required permeability coefficient, (to leachate) and measured in field, -----cm/sec.

2.4 Intermediate Liner System

The Concessionaire shall, in accordance with the O&M Requirements and instructions of the Project Engineer, provide an Intermediate Liner, which shall consist of a ---- mm thick compacted soil amended with additives as per IS: 6186-1986 to reach the required permeability value ----- cm/sec.

2.5 Daily Cell Cover

The Concessionaire shall, in accordance with the O&M Requirements and instructions of the Project Engineer, at its own cost and expense provide the Daily Cell Cover which shall consist of a 150 mm thick compacted soil amended with additives as per IS: 6186-1986 to reach the required permeability value not greater than 1×10^{-7} cm/sec.

2.6 Final Cover System

The Concessionaire shall, in accordance with the O&M Requirements and instructions of the Project Engineer, provide the Final Cover which shall consist of:

- (a) Gas Collection Layer: ----- mm thick granular soil material of permeability value of 1×10^{-2} cm/sec
- (b) Barrier Soil Layer of ----mm thick compacted soil amended with additives as per IS: 6186-1986 to achieve a permeability value not greater thancm/sec
- (c) Geo-membrane Layer ofmm thick HDPE liner as per IS: 10889-1984.
- (d) Drainage Layer of mm thick granular soil material of permeability value not lesser than 1×10^{-2} cm/sec
- (e) Vegetative Layer of mm thick with good clay soil as per MSW Rules and as approved by the Project Engineer.

2.7 Leachate Collection and Removal System (“LCRS”)

2.7.1 The Concessionaire shall provide the LCRS, which shall consist of :

- (a) a leachate drainage layer consisting of 300 mm thick granular soil material of permeability value of cm/sec with a slope of ...%.
- (b)mm dia HDPE feeder pipes (“Feeder Pipes”) with a maximum lateral spacing ofm (as per design).
- (c)mm dia HDPE header pipes (“Header Pipes”) with a maximum lateral spacing of m (as per design).
- (d) HDPE main header pipe (“Main Header Pipe”) of sizemm dia, which will collect leachate from the header pipes and discharge into a day sump.
- (e) leachate collection tank/s and a leachate collection network which shall meet the O&M Requirements.

2.7.2 The leachate from the Landfill Facility should be carried to the Leachate Collection Tank without any stagnation (except in storage/holding tanks)

2.7.3 Overall design of the leachate system should be such as to ensure that there is no percolation of the leachate into the ground and it does not come into contact with any water body.

2.8 Gas Recovery and Greenhouse Gas Mitigation System (“GRGS”)

2.8.1 The Concessionaire shall, in accordance with the O&M Requirements, provide the GRGS, which shall consist of a gas venting layer mm thick granular soil material of permeability value of cm/sec, and adheres to Applicable Law.

2.8.2 GRGS shall be as approved by the Project Engineer.

3. List of Other Mandatory Facilities

The Concessionaire shall also mandatorily provide the facilities in the manner as set out under this clause (“Mandatory Landfill Facilities”). The Concessionaire may, subject to review and approval of the same by Project Engineer, adopt alternate designs for the Mandatory Landfill Facilities.

3.1 Weigh Bridge

(a) The Concessionaire shall provide one weigh bridge with two independent weighing platforms of rated capacity of metric tonnes each at the entry gate to the Landfill Facility. Each weighing platform shall have minimum dimensions of m length and m width.

(b) The weigh bridge shall meet the minimum technical specifications set out in **Table 2.1** of **Schedule 2**.

3.2 Storm Water Drainage System

(a) The Concessionaire shall design and implement a storm water drainage system within the Landfill Facility in such a manner as to ensure that

- (i) it is independent from the Leachate System;
- (ii) the run-off rain water from the hinterland does not enter the Municipal Solid Waste storage and processing area;
- (iii) there is no stagnation of rain water in the Sites.

(b) The drainage system shall be constructed so as to meet the minimum technical specifications set out in **Table 2.4** of **Schedule 2**.

3.3 Water Supply System

The Concessionaire shall provide a water supply system adequate to meet the requirements for Landfilling, drinking and washing purposes in accordance with Good Industry Practise.

3.4 Quality Control

The Concessionaire shall ensure provision of equipment adequate to carry out the

following tests:

- (a) Air quality (SPM, RPM, CO, Methane, SO_x, NO_x)
- (b) Ground water quality
- (c) Leachate quality

3.5 Worker Amenities

The Concessionaire shall provide workers amenities in accordance with Good Industry Practice.

3.6 Internal Roads

The Concessionaire shall provide good quality motorable roads within the Landfill Facility which shall meet the minimum criteria as set out in Table 2.5 of **Schedule 2**.

3.7 Lighting

The Concessionaire shall provide,

- (a) adequate lighting system to achieve a minimum lux level of 20 for the working area;
- (b) street lighting with permanent steel light posts for main internal roads and access roads;
- (c) movable heavy duty focus lamps depending on the operational requirement.

3.8 Other Electrical Works

The Concessionaire shall provide all electrical equipment and implement all electrical works in accordance with Good Industry Practices and as per the Drawings approved by the Project Engineer. The Concessionaire shall provide power back-up to ensure operation of at least the following facilities:

- (a) Weigh bridge
- (b) Lighting of work area
- (c) Leachate collection system
- (d) Water supply system

3.9 Boundary Wall and Fencing

- (a) The Concessionaire shall construct a wire mesh fencing of minimum xx meters height along the perimeter of the Landfill Facility.

- (b) There shall be only one common entry-cum-exit point into the Landfill Facility

3.10 Green Belt

The Concessionaire shall provide a vegetative cover in a strip of width meters all along the fencing specified under **Clause 3.9** hereinabove. The species of trees for providing vegetative cover shall be approved by the Project Engineer. The Green belt development must comply applicable guideline under MSW manual 2000 published by CPHEEO-MouD.

4. Codes and Standards

4.1 The following standards in order of preference shall be adopted in consultation with the Project Engineer, unless otherwise specified:

- (a) MSW Rules 2000
- (b) Any other standards specified by statute and Applicable Laws
- (c) Bureau of Indian Standards (BIS)
- (d) Suitable specification/standard devised by the Project Engineer
- (e) Any other standard proposed by the Concessionaire and approved by the Project Engineer

4.2 All items of building works shall conform to Central Public Works Department (CPWD) specifications for Class 1 building works and standards given in the National Building Code (NBC).

5 Procedure

The terms and conditions shall be as set out under **Clause 5 of Schedule 2**.

SCHEDULE 4

**OPERATIONS AND MAINTENANCE REQUIREMENTS
WASTE PROCESSING FACILITY**

1 General

- (a) The Concessionaire shall comply with the O&M Requirements set out in this Schedule. In doing so, the Concessionaire shall ensure that the Waste Processing Facilities are maintained to the standards and specifications as set out in the Construction Requirements and also meet the other requirements, if any, set out in the Agreement.
- (b) In the design, planning and implementation of all works and functions associated with the operation and maintenance of the Waste Processing Facilities, the Concessionaire shall take all such actions and do all such things (including without limitation, organising itself, adopting measures and standards, executing procedures including inspection procedures, and engaging contractors, if any, agents and employees) in such manner, as will :
 - (i) ensure the safety of personnel deployed on and users of the Waste Processing Facilities or part thereof;
 - (ii) keep the Waste Processing Facilities from undue deterioration and wear;
 - (iii) permit unimpaired performance of statutory duties and functions of any party in relation to the Project;
- (c) During the Active Operations Period and till the date of handback of the Waste Processing Facilities, the Concessionaire shall, in respect of the Waste Processing Facilities, ensure that :
 - (i) applicable and adequate safety measures are taken;
 - (ii) the Project Facilities are kept free from undue deterioration and undue wear;
 - (iii) adverse effects on the environment and to the owners and occupiers of property and/or land in the vicinity of the Waste Processing Facilities, due to any of its actions, is minimized;
 - (iv) any situation which has arisen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and its adverse effects controlled/minimized;
 - (v) disturbance or damage or destruction to property of third party by operations of the Waste Processing Facilities is controlled/minimized;
 - (vi) data relating to the operation and maintenance of the Waste Processing Facilities is collected;
 - (vii) all materials used in the maintenance, repair and replacement of any of the Waste Processing Facilities shall meet the Construction Requirements;
 - (viii) the personnel assigned by the Concessionaire have the requisite qualifications and experience and are given the training necessary to enable the Concessionaire meet the O&M Requirements.

2 Operations and Maintenance Manual and O&M Plans

- (a) As provided in Schedule 2, prior to making application for the Readiness Certificate for the Project the Concessionaire shall finalise in consultation with the Project Engineer:
 - (i) the O&M Manual (including the formats for the reports to be submitted during the Active Operations Period and the Post Closure Period)
 - (ii) the O&M Plan for the first year of operations.
- (b) Six weeks prior to the anniversary of COD each year, the Concessionaire shall submit to the Project Engineer, and the ULB an annual O&M Plan for the next year of operations.

3 Weighment, Acceptance and Rejection of Municipal Solid Waste

3.1 Weighment of Municipal Solid Waste

3.1.1 The Concessionaire shall provide for a weigh-bridge in accordance with the Construction Requirements for weighment of the Municipal Solid Waste supplied by the ULBs.

3.1.2 The Concessionaire shall record at least the following data:

- (a) Date of operation
- (b) Registration number of the truck supplying Municipal Solid Waste/ Lorry number
- (c) Total laden weight of the truck
- (d) Time of entry of the truck
- (e) Ward and ULB from the which Municipal Solid Waste has been collected
- (f) Total unladen weight of the truck
- (g) Net weight of Municipal Solid Waste
- (h) Time of exit of the truck
- (i) Origin ULB and ward number/s

3.1.3 The format for recording shall be finalised in consultation with the Project Engineer, and the same shall be documented as part of the O&M Manual.

3.1.4 In the event that the weigh-bridge provided in accordance with **sub-clause 3.1.1** above is not in operation, the following methodology shall, unless modified with mutual consent of the Parties, be adopted for computing the weight of Municipal Solid Waste supplied by the ULBs:

$$W_S = W_{AVG} * N_T$$

Where,

W_S , is the weight of Municipal Solid Waste supplied during the period for which the weigh-bridge was inoperable

W_{AVG} , is the average weight of Municipal Solid Waste carried per truck based on the data available for the ... Months prior to the Month in which the weigh-bridge was rendered inoperable.

N_T , is the number of truck-loads of Municipal Solid Waste accepted by the Concessionaire during the period for which the weigh-bridge was inoperable.

3.2 Acceptance and Rejection of Municipal Solid Waste

- 3.2.1 The ULBs shall be free to supply Municipal Solid Waste at any time during a day.
- 3.2.2 The Concessionaire shall not accept Municipal Solid Waste which is not supplied by the ULBs or any other Person appointed by it.
- 3.2.3 Unless modified with mutual consent of the Parties, the quantity of Municipal Solid Waste that the Concessionaire has declined to accept, as per **Article 5.12 (b)** of the Agreement, shall be calculated as follows:

$$W_U = W_{AVG} * N_{UT}$$

Where,

W_U , is the quantity of Municipal Solid Waste the Concessionaire has failed to accept

W_{AVG} , is the average weight of Municipal Solid Waste carried per truck calculated on the basis of the data available for the previous six Months

N_{UT} , is the number of truck-loads of Municipal Solid Waste not accepted by the Concessionaire

- 3.2.4 The procedure to be adopted by the Project Engineer for sampling and testing of Municipal Solid Waste supplied by the ULBs to ascertain whether it contains Hazardous and/or Bio-medical Waste shall be finalised by the Parties in consultation with the Project Engineer and the procedure documented as part of the O&M Manual.

4 Production of Compost

- 4.1 The Concessionaire may adopt any such process and/or methods as it considers necessary for the Processing of Municipal Solid Waste in order to ensure that the compost produced after such Processing is certified as being Fit for Sale (in the manner described under **sub-clause 4.2** below).

- 4.2** Unless modified with mutual consent by the Parties, the compost shall be sampled and tested in the manner as set out below:

The compost proposed to be sold or otherwise disposed off shall be placed in at least ten heaps of almost equivalent size. One random sample from each of these heaps shall be taken. Such random samples shall then be thoroughly mixed and a single random sample taken and tested. In case the composition of this single random sample satisfies the criteria set out in the **table 4.1**, it shall be certified as being “Fit for Sale”.

Table 4.1: (Compost Quality)

S. No.	Parameter	Standard (concentration not to exceed)
1	Arsenic	10 ppm
2	Cadmium	5 ppm
3	Chromium	50 ppm
4	Copper	300 ppm
5	Lead	100 ppm
6	Mercury	0.15 ppm
7	Nickel	50 ppm
8	Zinc	1000 ppm
9	pH	5.5 to 8.5
10	C:N ratio	20 to 40

- 4.3** The Concessionaire shall not sell or otherwise dispose off any compost produced after Processing without sieving using a wire mesh having a maximum mesh size of ... mm square or any such similar equipment.
- 4.4** The Concessionaire shall inspect the sieving equipment once every three months and carry out any maintenance necessary to minimize wear and tear and ensure that the mesh size is in accordance with the specifications laid down in the Agreement.

5 Mandatory Facilities

During the Active Operations Period and until the hand back of the Waste Processing Facilities, the Concessionaire shall, unless suitably modified with mutual consent and duly documented in the O&M Plan and/or O&M Manual, operate and maintain the Waste Processing Facilities as per **table 4.2**.

Table 4.2 (Description of treatment and disposal infrastructure)

S. No	Description of Mandatory Facility	Operation and Maintenance Standard
1	Weigh Bridge	<ul style="list-style-type: none"> i. Calibration certification from manufacturer/independent certification agency (approved by the Project Engineer) to be renewed every year ii. Maximum period of non-operation: ... days iii. Data recording and reporting format to be decided in consultation with the Project Engineer and to form part of the O&M Plan and/or O&M Manual.
2	Municipal Solid Waste Inspection Area	<ul style="list-style-type: none"> i. Leachate drain around the Municipal Solid Waste ii. Inspection Area is free from clogging and allows iii. unobstructed flow of leachate. Maintain shape & scope of the leachate drains in the designed manner during the lifetime iv. No cracks/ruptures in the top RCC layer
3	Windrow Platform	<ul style="list-style-type: none"> i. Leachate drain around the Municipal Solid Waste ii. Inspection Area is free from clogging and allows unobstructed flow of leachate. Maintain shape & scope of the leachate drains in the designed manner during the lifetime iii. No cracks in the top RCC layer
4	Storm Water Drainage System	<ul style="list-style-type: none"> i. All storm water drains are free from clogging and allows unobstructed flow of water ii. Maintain shape & scope in the designed manner during the lifetime iii. No stagnation of rain water on the Sites
5	Leachate Collection and Drainage System	<ul style="list-style-type: none"> i. No overflow of leachate from the Leachate Collection Tanks ii. Cracks or leaks in the leachate collection and drainage system to be sealed immediately iii. Should be free from clogging and allows unobstructed flow of leachate
6	Leachate Treatment Plant	<ul style="list-style-type: none"> i. Maximum period of shut-down:hrs. ii. Treated leachate to meet standards as specified in table 4.3 below iii. No untreated leachate to be let out from the Sites, unless it meets the standards as set out in the table 4.3 iv. of this Schedule
7	Water Supply System	<ul style="list-style-type: none"> i. Water for drinking purposes to meet IS :10500 ii. Water supply for gardening and flushing to meet Inland Surface Water standards as per Central Public Health and Environmental Engineering Organization (CPHEEO)
8	Quality Control Laboratory	<ul style="list-style-type: none"> i. Quality and calibration certification from manufacturer/independent certification agency

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S. No	Description of Mandatory Facility	Operation and Maintenance Standard
		<p>(approved by the Project Engineer) to be renewed every year</p> <p>ii. Maximum period of non-operation: days</p> <p>iii. Data recording and reporting format to be decided in consultation with the Project Engineer and to form part of the O&M Plan and/or O&M Manual.</p>
9	Internal Roads	i. The main roads shall be pot-hole free and in good motorable condition
10	Lighting and other electrical works	i. Minimum lux level of 20 in the area of operation (in case of 3 shift operations)
11	Boundary Wall and Fencing	<p>i. Any breach in the boundary wall and fencing to be brought to the notice of the Project Engineer immediately and to be sealed withinday</p> <p>ii. Boundary wall and fencing to be inspected at least once every week and rejects (paper, plastics etc.), if any, found trapped in the fencing to be removed promptly</p>
12	Green Belt	i. Maintained in accordance with O&M Plan and O&M Manual
13	Waste processing facility equipments: Cage Drums, Conveyors, Trommels, Elevators, Rotary Screen, Gravity Separators, Hydraulic equipment Any other equipment and machinery as recommended in the design and DPR	i. Maintained in accordance with O&M Plan and O&M Manual.
14	RDF unit comprising of metal separators, trommels, shredders, air classifiers, and pelletization unit, as per design	i. Maintained in accordance with O&M Plan and O&M Manual.
15	Necessary Civil Structures viz processing sheds, lifting mechanism (like grab crane) etc	i. Maintained in accordance with O&M Plan and O&M Manual.

Table 4.3 (Standard for Treated Leachate)

S.No.	Parameter	Standard (Maximum)	Units
1	PH	5.5 – 9.0	
2	Suspended Solids	100	Ppm
3	Dissolved Solids-inorganic	2100	Ppm
4	Arsenic (as As)	0.2	Ppm
5	Ammonical nitrogen (as N)	50	Ppm
6	Total Kjeldahl Nitrogen (as N)	100	Ppm
7	Cadmium (as Cd)	2	Ppm
8	Copper (as Cu)	3	Ppm
9	Total Chromium (as Cr)	2	Ppm
10	Lead (as Pb)	0.1	Ppm
11	Mercury (as Hg)	0.01	Ppm
12	Nickel (as Ni)	3	Ppm
13	Cyanide (as CN)	0.2	Ppm
14	Fluoride (as F)	2	Ppm
15	Zinc (as Zn)	5	Ppm
16	Chloride (as Cl)	1000	Ppm
17	Phenolic compounds (as C ₆ H ₅ OH)	1	Ppm
18	BOD (3 days at 27 ^o C)	30	Ppm
19	COD	250	Ppm

6 Routine Maintenance Standards

6.1 In order to ensure smooth and uninterrupted operations, routine maintenance of the Project Facilities shall include but not be limited to:

- (a) prompt repairs of the weigh-bridge, windrow platforms, leachate collection drainage and treatment system, electrical items, drains, internal roads, sieving machinery, lighting and fencing;
- (b) replacement of equipment/consumables, horticultural maintenance and repairs to equipment, structures and other civil works which are part of the Project Facilities;
- (c) maintaining the shape, scope, full cross-section of the storm water drainage system and leachate collection and drainage system;
- (d) keeping the Project Facilities in a clean, tidy and orderly condition and taking all practical measures to prevent damage to the Project Facilities or any other property on or near the Sites;
- (e) undertaking maintenance works in accordance with the O&M Plan and O&M Manual;
- (f) preventing, with the assistance of law enforcement agencies, where necessary, any unauthorised entry to and exit from and any encroachments including any encroachments on the Sites;
- (g) taking all reasonable measures for the safety of all the workmen, material, supplies and equipment brought to the Sites. Explosives, if any, shall be stored, transported and

disposed of by the Concessionaire in accordance with Applicable Laws/Applicable Permits.

- 6.2** The following standards in order of preference shall be adopted in consultation with the Project Engineer, unless otherwise specified:
- (a) MSW Rules
 - (b) Any other standards specified by statute and Applicable Laws
 - (c) Bureau of Indian Standards (BIS)
 - (d) Suitable specification/standard devised by the Project Engineer
 - (e) Any other standard proposed by the Concessionaire and approved by the Project Engineer
- 6.3** The Concessionaire, for the purpose of routine maintenance shall, in consultation with the Project Engineer, set forth such criteria as to conform to good international standards and Good Industry Practice for sound maintenance of the Project Facilities.

6.4 The Concessionaire shall regularly carry out the necessary preventive maintenance activities for the Project Facilities to ensure adherence to the Construction Requirements / specifications.

7 Emergency Maintenance

7.1 The Emergency Response Protocol (“ERP”) shall be developed by the Concessionaire in consultation with the Project Engineer. This shall be a part of the O&M Manual developed by the Concessionaire.

7.2 The ERP shall set out steps to be taken and measures to be adopted by the Concessionaire in responding to dealing with Emergency including those situations related to vehicle accidents involving personal injuries or fatalities, property damage and force majeure as follows:

- (a) In the event of an Emergency, the Concessionaire shall immediately carry out an inspection of the area affected by the Emergency. Where Emergency has necessitated closure of the Project Facilities or part thereof, the Concessionaire shall promptly carry out any repair works necessary to restore the Project Facilities to safe condition and in any event shall carry out such works before the affected area of the Project Facilities is re-opened to for normal operations.
- (b) The Concessionaire shall ensure that sufficient staff, plant, equipment and materials, including without limitation medical assistance are available to respond to Emergency within reasonable period at all times during the Active Operations Period.

7.3 In case of Emergency, the Concessionaire shall

- (a) carry out such emergency maintenance and repairs as may be required to repair the damages, if any, in consultation with the Project Engineer and where required under the supervision of the police in order to ensure that the Project Facilities are returned to normal operating standards as quickly as possible
- (b) take all necessary measures to minimise pollution in accordance with the procedure specified in the O&M Plan/ Environmental Management Plan.

8 Reporting

- (a) The Concessionaire shall ensure that the ULB and Project Engineer is provided with adequate information and forewarned of any event or any other matter affecting the Project Facilities to enable them to control/minimise any adverse consequences.
- (b) The frequency and formats for the reports to be submitted shall be finalised in consultation with the Project Engineer and form part of the O&M Plan and O&M Manual.

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- (c) The following data should form part of the reports submitted by the Concessionaire:
 - (i) Circle wise quantity of Municipal Solid Waste received
 - (ii) Municipal Solid Waste characterisation
 - (iii) Leachate generation
 - (iv) Rainfall
 - (v) Compost / Pellets quality test reports

- (d) The Concessionaire shall furnish to the ULB three copies of “as-built” Drawings of any construction undertaken after COD.

SCHEDULE 5

OPERATIONS AND MAINTENANCE REQUIREMENTS FOR LANDFILL FACILITY

1 General

- (a) The Concessionaire shall comply with the O&M Requirements set out in this Schedule. In doing so, the Concessionaire shall ensure that the Landfill Facilities are operated and maintained to the standards and specifications as set out in the Construction Requirements and also meet the other requirements, if any, set out in the Agreement.
- (b) In the design, planning and implementation of all works and functions associated with the operation and maintenance of the Landfill Facility, the Concessionaire shall take all such actions and do all such things (including without limitation, organising itself, adopting measures and standards, executing procedures including inspection procedures, and engaging contractors, if any, agents and employees) in such manner, as will :
- (i) ensure the safety of personnel deployed on and users of the Landfill Facility or part thereof;
 - (ii) keep the equipment and machinery employed at the Landfill Facility from undue deterioration and wear;
 - (iii) permit unimpaired performance of statutory duties and functions of any party in relation to the Project;
- (c) During the Concession Period, the Concessionaire shall, in respect of the Landfill Facility, ensure that:
- (i) applicable and adequate safety measures are taken;
 - (ii) adverse effects on the environment and to the owners and occupiers of property and/or land in the vicinity of the Landfill Facility, due to any of its actions, is minimised;
 - (iii) any situation which has arisen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and its adverse effects controlled/minimised;
 - (iv) disturbance or damage or destruction to property of third party by operations of the Landfill Facility is controlled/minimised;
 - (v) data relating to the operation and maintenance of the Landfill Facility is collected;
 - (vi) all materials used in the operation, maintenance of any of the Landfill Facility shall meet the Construction Requirements;
 - (vii) the personnel assigned by the Concessionaire have the requisite qualifications and experience and are given the training necessary to enable the Concessionaire meet the O&M Requirements.

2 Operations and Maintenance Manual and O&M Plans

The Concessionaire shall finalise the O&M Plan and the O&M Manual for the Landfill Facility in the manner as set out under Clause 2 of Schedule 4.

3 Sampling and Testing

- 3.1 Unless modified with mutual consent by the Parties, the Residual Inert Matter shall be sampled and tested in the manner as set out below:

The Residual Inert Matter proposed to be taken to the Landfill Facility shall be placed in at least ten heaps of almost equivalent size. The Project Engineer shall take ten random samples from each of these heaps. These random samples shall then be thoroughly mixed and a single random sample taken and tested as per the procedure set out in Appendix 1 of this Schedule. In case the composition of this single random sample satisfies the criteria set out in **Article 11** of this Schedule, it shall be certified as being “Fit for Landfilling”.

- 3.2 Any sample which fails to be certified as “Fit for Landfilling” shall be rejected and cause the rejection of the all the heaps from which it was sourced and the Concessionaire shall subsequently act in accordance with the direction of the Project Engineer with regard to such rejected heaps.

- 3.3 Notwithstanding any certification of the Project Engineer, the Concessionaire shall be solely responsible for the composition of the material disposed in the Landfill Facility.

4 Weighment

- 4.1 The Concessionaire shall provide for a weighbridge in accordance with the Construction Requirements.

- 4.2 The Concessionaire shall not take any Residual Inert Matter into the Landfill Facility without having obtained the “Fit for Landfilling” certificate from the Project Engineer. The Concessionaire shall plan his operations in a manner such that the Landfill Waste is taken into the Landfill Facility only between 9 AM and 6 PM or as mutually agreed upon between the ULB and the Concessionaire.

- 4.3 The Concessionaire shall record the following minimum data with regard to the Landfill Waste:

- (a) Date of operation
- (b) Total laden weight of the truck
- (c) Time of entry of the truck
- (d) Total unladen weight of the truck
- (e) Time of exit of the truck

- 4.4 In the event that the weigh-bridge provided in accordance with **sub-clause 4.1** hereinabove is not in operation, the Concessionaire shall use the weighbridge provided at the entry gate of the Waste Processing Facility for weighment of the Residual Inert Matter. Such weighment and transport of the Residual Inert Matter shall be done only under the direct supervision of the Project Engineer.

4.5 The procedure for weighing of the Landfill Waste and certification by the Project Engineer shall be as set out in the O&M Plan and the O&M Manual.

4.6 The detailed format for the Tipping Fee Statement, to be submitted in accordance with **Article 7.1** of the Agreement, shall be as per the O&M Plan and the O&M Manual.

5. Landfill Operation

5.1 Intermediate liner system

- (a) The Concessionaire shall provide a liner layer (“Intermediate Liner”) before the onset of monsoon leaving only a temporary unrestored sloping face.
- (b) The Intermediate Liner shall be as per the Construction Requirements.

5.2 Daily Cell Cover

On each day during the Active Operations Period, the Concessionaire shall compact the Landfill Waste and cover the same (“Daily Cell Cover”) in the manner as specified in the Construction Requirements.

5.3 Special Operational Conditions

Except with specific approval from the Project Engineer, the Concessionaire shall ensure the following:

- (a) Provide a benching (terrace) of xx m width for every xx m height of filling within the Engineered Sanitary Landfill.
- (b) The slope of the Engineered Sanitary Landfill face shall not exceed 1:4(or as per design requirements).

5.4 Landfill Closure and Final Cover

- (a) The Concessionaire shall demonstrate the actual stability by considering the strength parameters of compacted inert material for every xx m of benching.
- (b) Upon reaching a height of the Engineered Sanitary Landfill such that the area at the top of the Engineered Sanitary Landfill is xx% of the area of the base of the Engineered Sanitary Landfill, or before starting the final cover, whichever is earlier, the Concessionaire shall promptly intimate the Project Engineer, XXX and the ULBs providing the following details:
 - (i) The estimated quantity of Landfill Waste that can be Landfilled in future
 - (ii) The probable date till which Municipal Solid Waste can be accepted by the Waste Processing Facility
 - (iii) The plan for laying the final cover (“Final Cover”) for the Landfill Facility
- (c) The Concessionaire shall provide the Final Cover in accordance with the Construction Requirements.

5.5 Vegetative cover

- (a) The Concessionaire shall, in accordance with MSW Rules ensure the provision of a vegetative cover after laying of the Final Cover.
- (b) The selection of the varieties of plants and trees to be planted shall be decided in consultation with the Project Engineer and shall form part of the Post Closure Maintenance Plan.

5.6 Leachate Collection and Removal System (“LCRS”)

- (a) The Concessionaire shall ensure that there is no overflow of leachate from the LCRS.
- (b) The Concessionaire shall ensure that all leachate drains are free from clogging and allows unobstructed flow of leachate.
- (c) No untreated leachate to be let out from the Sites, unless it meets the standards as set out in **Table 4.4 of Schedule 4**.

5.7 Gas Recovery and Greenhouse Gas Mitigation System (“GRGS”)

5.7.1 The Concessionaire shall

- (a) ensure that the greenhouse gas emissions from the Landfill Facility conforms to the permissible limits as per Applicable Law;
- (b) collect information pertaining to the quantum of greenhouse gases produced from the Engineered Sanitary Landfill.

5.8 Post-Closure Maintenance Plan

5.8.1 The Concessionaire shall maintain the Landfill Facility during the Post Closure Period in accordance with the Post-Closure Maintenance Plan.

5.8.2 At leastmonths prior to the completion of any Financial Year during the Post Closure Period, the Concessionaire shall prepare and submit for review and approval by the Project Engineer, the Post Closure Maintenance Plan for the subsequent Financial Year.

5.8.3 Post-closure maintenance shall be in accordance with Applicable Laws and shall involve periodical inspections, of at least once every three months, of the Landfill Facility to monitor land surface care, leachate collection, and methane control by way of flaring and to maintain flaring equipment.

5.8.4 Post-closure maintenance shall also involve investigations for detection of adverse

environmental impacts, if any, and implementation of measures for mitigation of the same.

6. Environment Monitoring System

6.1.1 Monitoring shall be carried out in the following four zones:

- (a) On and within the Engineered Sanitary Landfill
- (b) In the unsaturated subsurface zone (vadose zone) around the Engineered Sanitary Landfill.
- (c) In the ground water (saturated) zone around the Engineered Sanitary Landfill.
- (d) In the atmosphere/local air above and around the Engineered Sanitary Landfill.

6.1.2 The quality of air (at the gas control facilities within the Sites, at buildings on or near the Engineered Sanitary Landfill and along any preferential migration paths) shall meet the standards (“Acceptable Levels”) as set out in **table 5.1**.

Table 5.1: Air Quality Parameters around landfill facility

Sl. No.	Description	Acceptable Levels
1	Sulphur dioxide	120 $\mu\text{g}/\text{m}^3$ (24 hours)
2	Suspended Particulate Matter	500 $\mu\text{g}/\text{m}^3$ (24 hours)
3	Methane	Not to exceed 25% of Lower Explosive Limit (equivalent to 650 mg/m^3)
4	Ammonia daily average	0.4 mg/m^3 (24 hours)
5	Carbon monoxide	2 mg/m^3 (1 hour average) 1 mg/m^3 (8 hour average)

6.1.3 The quality of ground water (one source in the upstream of Engineered Sanitary Landfill and three sources on the down stream of Engineered Sanitary Landfill, within ----- m from the Sites and to a depth of ---- m from NGL) in the saturated zones shall meet the standards (“Acceptable Levels”) as set out in **table 5.2**.

Table 5.2: Limiting Ground Water Quality at Monitoring Wells

S.No.	Parameter	Standard	Units
1	Arsenic	0.02	mg/l
2	Cadmium	0.01	mg/l
3	Chromium	0.05	mg/l
4	Copper	0.005	mg/l
5	Cyanide	0.05	mg/l
6	Lead	0.05	mg/l
7	Mercury	0.001	mg/l
8	Nickel	-	
9	Nitrate as NO ₃	10.0	mg/l
10	pH	6.5-8.5	
11	Iron	0.3	
12	Dissolved solids	500	mg/l
13	Chlorides	250	mg/l
14	Sulphate (as CO ₃)	200	mg/l
15	Zinc	5.0	
16	Phenolic Compounds (as C ₆ H ₅ OH)	0.001	mg/l
17	Total hardness (as CaCO ₃)	250 or lower	mg/l

6.1.4 The frequency of monitoring shall be as per the **table 5.3**.

Table 5.3: Frequency of Monitoring

Sl. No.	Description	Frequency
During Active Operations Period		
1	Leachate quantity	Daily
2	Leachate quality	Weekly
3	Ground water quality – within the Sites	Once in 3 months
4	Ground water quality – outside the Sites	Once in 6 months
5	Air Quality	Once every 2 months
During Post Closure Period		
1	Movement of the Engineered Sanitary Landfill Cover	Yearly
2	Leachate quantity	Quarterly
3	Leachate quality	Quarterly

Sl. No.	Description	Frequency
4	Ground water quality – within the Sites	Once in 6 months
5	Ground water quality – outside the Sites	Once in 6 months
6	Air Quality	Once in 6 months
7	Gas quality	Once in 6 months

6.1.5 The Concessionaire shall provide the instruments/equipment required for carrying out the environmental monitoring tests set out hereinabove.

7. Mandatory Facilities

The Concessionaire shall, unless suitably modified in the O&M Plan and/or the O&M Manual, operate and maintain the mandatory facilities in accordance with the standards set out in the **table 5.4**.

Table 5.4: List of Mandatory Facilities

S. No.	Description of Mandatory Facility	Operation and Maintenance Standard
1	Weigh Bridge	<ul style="list-style-type: none"> • Calibration certification from manufacturer/ independent certification agency (approved by the Project Engineer) to be renewed every year • Maximum period of non-operation: days • Data recording and reporting format to be decided in consultation with the Project Engineer and to form part of the O&M Plan and/or O&M Manual.
2	Storm Water Drainage System	<ul style="list-style-type: none"> • All storm water drains are free from clogging and allows unobstructed flow of water • Maintain shape & scope in the designed manner during the lifetime • No stagnation of rain water on the Landfill
3	Leachate Collection and Drainage System	<ul style="list-style-type: none"> • No overflow of leachate from the Leachate Collection Tanks • Cracks or leaks in the leachate collection and drainage system to be sealed immediately • Should be free from clogging and allows unobstructed flow of leachate • No untreated leachate shall be let out from the Sites unless it meets the standards as set out in Table 4.4 of Schedule 4

S. No.	Description of Mandatory Facility	Operation and Maintenance Standard
4	Water Supply System	<ul style="list-style-type: none"> Water for drinking purposes to meet IS 10500 Water supply for gardening and flushing to meet Inland Surface Water standards as per Central Public Health and Environmental Engineering Organisation (CPHEEO)
5	Quality Control Laboratory	<ul style="list-style-type: none"> Quality and calibration certification from manufacturer/independent certification agency (approved by the Project Engineer) to be renewed every year Maximum period of non-operation : days Data recording and reporting format to be decided
6	Internal Roads	<ul style="list-style-type: none"> The main roads shall be pot-hole free and in good motorable condition
7	Lighting and other electrical works	<ul style="list-style-type: none"> Minimum lux level of 20 in the area of operation (in case of 2 shift operations)
8	Boundary Fencing	<ul style="list-style-type: none"> Any breach in the boundary fencing to be brought to the notice of the Project Engineer immediately and to be sealed within 1 day Boundary fencing to be inspected at least once every week and rejects (paper, plastics etc.), if any, found trapped in the fencing to be removed promptly
9	Green Belt	<ul style="list-style-type: none"> Maintained in accordance with O&M Plan and O&M Manual

8. Routine Maintenance Standards

The terms and conditions shall be as set out under **Clause 7 of Schedule 4.**

9. Emergency Maintenance

The terms and conditions shall be as set out under **Clause 8 of Schedule 4.**

10. Reporting

- The Concessionaire shall ensure that the ULB and Project Engineer is provided with adequate information and forewarned of any event or any other matter affecting the Project Facilities to enable them to control / minimise any adverse consequences.
- The frequency and formats for the reports to be submitted shall be finalised in consultation with the Project Engineer and form part of the O&M Plan and O&M Manual.
- The following data should form part of the reports submitted by the Concessionaire:

- (i) Residual Inert Matter quality test reports (including moisture content)
 - (ii) Leachate generation
 - (iii) Emission of greenhouse gases
 - (iv) Ground Water quality (both within and outside the Sites)
- (d) The Concessionaire shall also maintain a system for tracking the location of Landfilling operations within the Engineered Sanitary Landfill on a daily basis.
- (e) The Concessionaire shall furnish to the ULB three copies of “as-built” Drawings of any construction undertaken after COD.

11. Maturity Test (Starch Iodine Test)

The Concessionaire shall carry out Maturity Test as per procedure set out below to ascertain whether the Residual Inert Matter is Fit for Landfilling. Only the Residual Inert Matter which is completely degraded is termed as Fit for Landfilling.

Objective	To determine the maturity of the composting sample
Reagents & Chemicals	<ol style="list-style-type: none"> 1. 35% perchloric acid (v/v) 2. 2% Iodine solution 3. Dissolve 4 gms of iodine (AR grade) and 8 gms of Potassium iodide in 500 ml distilled water
Method	<ol style="list-style-type: none"> 1. Weigh 1 gm of air dried sample in a 100 ml beaker 2. Add 20ml of 35% perchloric acid beaker, keep the mixture to react for 20 minutes 3. Filter the slurry through Whatman No. 542 filter paper in a 250 ml conical flask 4. Add 2 ml of iodine solution to the filtrate and observe the colour change
Results Golden Yellow Colour Reddish Brown Colour Greenish Blue to Blue Colour	Indicates complete degradation Indicates incomplete degradation Indicates no degradation

SCHEDULE 6

SCOPE OF WORK OF PROJECT ENGINEER

1. Role of the Project Engineer

The Project Engineer ("PE") is expected to play a positive and independent role in discharging its functions, thereby facilitating the smooth implementation and operation of the Project Facilities. Broadly, the role of the Project Engineer is to:

- (a) independently review, monitor and where required by the Agreement, to approve activities associated with the Design, Construction, Operation and Maintenance of the Project Facilities to ensure compliance by the Concessionaire with the Construction Requirements and O&M Requirements;
- (b) report to the Parties on the various physical, technical and financial aspects of the Project based on inspections, site visits and Tests;
- (c) assist the Parties in arriving at an amicable settlement of disputes, should the need arise; and
- (d) review matters related to safety and environment management measures adopted by the Concessionaire for the Project.

2. Scope of Services

The services to be provided by the Project Engineer are listed below. In addition, the scope of services would also include such other functions as are required to be undertaken pursuant to specific provisions of the Agreement.

2.1 Implementation Period - Design and Planning

- (a) Ensure that all design work fully complies with all Applicable Laws and, in particular, MSW Rules governing the requirements of Municipal Solid Waste disposal.
- (b) Review all the drawings submitted by the Concessionaire and ensure conformity of the same with the Construction Requirements.
- (c) Review of the following submitted by the Concessionaire :
 - (i) Quality Assurance Plan;
 - (ii) Implementation Plan;
 - (iii) O&M Plan – Implementation Period.

2.2 Implementation Period - Construction Inspection and General Services

- 2.2.1 The Project Engineer would monitor, in accordance with Good Industry Practice, the progress in implementation of the Waste Processing Facilities and the Landfill Facility

and ensure compliance with the Construction Requirements. For this purpose the Project Engineer shall undertake, inter alia, the following activities and where appropriate make suitable suggestions:

- (a) Provide administration of the contract in full and in complete accordance with applicable laws;
- (b) Act on the ULBs' behalf as the ULBs' representative regarding all contact with the Concessionaire unless expressly indicated otherwise;
- (c) Designate tests on materials and/or equipment;
- (d) Review and approve test results and materials and/or equipment used in the Construction Works;
- (e) Interpret the requirements of the contract and make decisions regarding performance of the Concessionaire. The PE shall inform and advise the ULB, in a timely manner all matters relating to the execution, progress, and completeness of the Construction Works;
- (f) Reject work which fails to comply with the specifications and requirements of the Agreement. Whenever considered necessary or advisable to ensure correction of defective work, the PE may require inspection or testing of such work, whether or not such work be then fabricated, installed, or completed;
- (g) Review, approve or disapprove drawings, samples, and other submissions of the Concessionaire to determine compliance and conformance with the requirements of the Agreement;
- (h) Provide the services of a full time resident project representative during the period commencing from 7 (seven) days from the date of appointment of the PE until the expiry of the PE's appointment;
- (i) Provide the services of experts to check the quality of materials and the workmanship during the installation/construction of the Waste Processing Facility, including the following:
 - (i) weigh bridge at the Project Facilities entry gate;
 - (ii) windrow platforms;
 - (iii) drainage system;
 - (iv) leachate collection and treatment system;
 - (v) water supply system;
 - (vi) seiving mechanism for the Residual Inert Matter;
 - (vii) quality control laboratory and associated equipments;
 - (viii) electrical systems.
- (j) Provide the services of experts to check the quality of materials and the workmanship during the installation/construction of the Landfill Facility, including the following:
 - (i) weigh bridge at the Landfill Facility gate;
 - (ii) drainage system;
 - (iii) leachate collection system;

- (iv) leachate treatment plant
 - (v) composite liner system of the Engineered Sanitary Landfill
 - (vi) stability of the Engineered Landfill upto Final Cover
 - (vii) testing laboratory and associated equipments
- (k) Address issues relating to specific site conditions, design modifications, or Concessionaire disputes.

2.2.2 The PE shall attend regular meetings (“Project Review Meetings” or “PRMs”) with the ULB and the Concessionaire, to be held at least once in every two week during the Implementation Period to report on progress and quality of work performed by the Concessionaire and to discuss problems or other pertinent matters relating to the work. The PE shall take notes at the meetings and provide a copy of the PRM minutes to each person who attended the meeting.

2.2.3 The PE shall prepare and submit to the ULB, Fortnightly Progress Reports including the following:

- (a) Daily progress of works;
- (b) Slippages, if any, in the construction vis-à-vis planned construction schedule and the reasons thereof;
- (c) Construction schedule for the succeeding week;
 - (i) Report on Tests
 - (ii) Report on notices issued
- (d) Issues, if any, with regard to the works along with the details of the action taken for the resolution of the same;
- (e) Photographic record of progress of works over the previous week.

2.3 Active Operations Period

2.3.1 During this period the Project Engineer would monitor, in accordance with Good Industry Practice, the operations and maintenance activities undertaken by the Concessionaire so as to ensure compliance with the O&M Requirements. The specific activities to be undertaken would include the following:

- (a) Provide administration of the contract in full and in complete accordance with applicable laws;
- (b) Act on the ULBs' behalf as the ULBs' representative regarding all contact with the Concessionaire unless expressly indicated otherwise;
- (c) Designate tests on materials and/or equipment;
- (d) Review and approve test results and materials and/or equipment used;
- (e) Interpret the requirements of the contract and make decisions regarding performance of the Concessionaire. The PE shall inform and advise the ULB, in a timely manner all matters relating to the execution, progress, and

completeness of works;

- (f) Reject work which fails to comply with the specifications and requirements of the Agreement. Whenever considered necessary or advisable to ensure correction of defective work, the PE may require inspection or testing of such work, whether or not such work be then fabricated, installed, or completed;
- (g) Review, approve or disapprove drawings, samples, and other submissions of the Concessionaire to determine compliance and conformance with the requirements of the Agreement;
- (h) Provide the services of a full time resident project representative during the period commencing from 7 seven days from the date of appointment of the PE until the expiry of the PE's appointment;
- (i) In addition to the daily responsibilities, conduct a general inspection of the Project Facilities at least once a month and as and when exigencies require to ascertain conformity with Construction Requirements and O&M Requirements;
- (j) Provide the services of experts to check the quality of materials and the workmanship during the construction of the Landfill Facility, including that of the following:
 - (i) leachate collection system;
 - (ii) intermediate liner system of the Engineered Sanitary Landfill;
 - (iii) daily cell cover;
 - (iv) gas venting and flaring system;
 - (v) slope stability of the Engineered Sanitary Landfill;
 - (vi) final cover system.
- (k) Inspect and certify the quality of Municipal Solid Waste supplied by the ULBs, when required
- (l) Inspect and certify the quality of compost being sold or otherwise disposed outside the Sites
- (m) Inspect and certify composition of the Residual Inert Matter
- (n) Address issues relating to specific site conditions, design modifications, or Concessionaire disputes.
- (o) Review the O&M Plans submitted by the Concessionaire from time to time and assist the Concessionaire in finalising the same. The Project Engineer shall also consult the ULBs prior to finalisation of the O&M Plans;
- (p) Periodically review the O&M Manual for adequacy;
- (q) Monitor Operation and Maintenance activities (including maintenance of Project Facilities and equipment, standards of service, safety and environmental issues) and the overall quality of O&M activities so as to ensure compliance by the Concessionaire with the O&M Requirements, O&M Plan and O&M Manual;
- (r) Review and ascertain the cost variation arising as a result of Change in Law and determine the Additional Cost;
- (s) Undertake a quarterly review of the various records and registers to be maintained by the Concessionaire and suggest suitable remedial measures/ procedures, where necessary.

2.3.2 The PE shall attend regular meetings (“Project Review Meetings” or “PRMs”) with the ULBs, and the Concessionaire, to be held at least once in every month during the Active Operations Period to report on progress and quality of work performed by the Concessionaire and to discuss problems or other pertinent matters relating to the work. The PE shall take notes at the meetings and provide a copy of the PRM minutes to each person who attended the meeting.

2.3.3 The PE shall prepare and submit to the ULBs, Monthly Project Reports including the following:

- (a) Report on Tests
- (b) Report on notices issued
- (c) Issues, if any, with regard to the works along with the details of the action taken for the resolution of the same;
- (f) Photographic record of progress of works over the previous week.

2.4 Handback of Waste Processing Facilities to the ULBs

2.4.1 At the time of handing back the Waste Processing Facilities at the end of Active Operations Period, the PE shall:

- (a) monitor and certify compliance with the Handback Requirements,
- (b) issue a Certificate of Compliance with Handback Requirements to the Concessionaire,
- (c) assist in preparation of the Post Closure Maintenance Plan

2.5 Post Closure Period

2.5.1 During the Post Closure Period, the PE shall monitor and certify compliance with the Post Closure Maintenance Plan.

2.5.2 Attend meetings with the ULBs, and the Concessionaire, to be held at intervals as mutually decided upon by the Parties, to discuss problems or other pertinent matters relating to the Project. The PE shall take notes at the meetings and provide a copy of the minutes of such meetings to each person who attended the meeting.

2.6 Meetings, Records and Reporting

2.6.1 In addition to attending the meetings hereinabove mentioned, the PE shall also participate in emergency or extra-ordinary meetings of the Parties held to deal with any Force Majeure Event or other exigencies.

2.6.2 The Project Engineer shall, in the ordinary course, maintain record of the activities undertaken by it in discharge of its functions and responsibilities. This would include records in respect of the following:

- (a) Manpower deployed and other organisational arrangements of the Project

- Engineer;
- (b) Reviews of documents submitted to it by the Concessionaire to meet Construction Requirements and O&M Requirements, such as manuals, Drawings, As Built drawings, schedules, plans and reports;
 - (c) Inspections undertaken and notices/ instructions issued to the Concessionaire;
 - (d) Review of compliance with Construction Requirements and O&M Requirements;
 - (e) Tests;
 - (f) Concession Payments / Tipping Fees certified;
 - (g) Change in Law;
 - (h) Force Majeure Events;
 - (i) Breaches and defaults by the Parties; and
 - (j) Handback Requirements

2.6.3 The Project Engineer would be required to submit the following reports to the Parties during the Concession Period:

- (a) Implementation Period
 - (i) Fortnightly Progress Report (in accordance with Article 2.2.3 above)
 - (ii) Readiness Certificate (including Provisional Readiness Certificate)
 - (iii) Any supplemental or special report that may be considered necessary by the Project Engineer (including Force Majeure, and breach of obligations).
- (b) Active Operations Period
 - (i) Monthly Project Report (in accordance with **Article 2.3.3** above)
 - (ii) Any supplemental or special report that may be considered necessary by the Project Engineer (including Force Majeure, and breach of obligations) (iii)
Annual Review of O&M Manual
- (c) Report on Handback Requirements.
- (d) Any other report as may be reasonably required by the ULBs or as may be necessary to give effect to the provisions of the Agreement.

TIPPING FEE

(Amount in Rupees)

Year	Tipping Fee Rate per tonne (in figures)	Tipping Fee Rate per tonne (in words)

$$\text{Tipping Fee} = \text{TX} * \text{W}_{\text{LF}}$$

Where,

W_{LF} is the quantity of Landfill Waste in tonnes

TX is the Tipping Fee Rate per tonne

PERFORMANCE SECURITY (PROFORMA OF BANK GUARANTEE)²

THIS DEED OF GUARANTEE executed on this the _____ day of _____ at _____ by _____ (*Name of the Bank*) having its Registered office at _____ hereinafter referred to as “the Guarantor” which expression shall unless it be repugnant to the subject or context thereof include successors and assigns;

In favour of

----- (name of ULB), constituted under the _____ Act, (hereinafter referred to as “XXX”) which expression shall, unless repugnant to the context or meaning thereof include its administrators, successors or assigns.

WHEREAS

By the Concession Agreement (“the Concession Agreement”) being entered into between XXX and _____, a company incorporated under the Companies Act, 1956, having its registered office at _____, (“the Concessionaire”), the Concessionaire has been granted the Concession to implement the project envisaging design, financing, construction, operations, maintenance and transfer of Integrated Municipal Solid Waste Processing Facilities and Engineered Sanitary Landfill Facility for the ----- (name of town) (hereinafter referred to as “the Project”).

- A. In terms of Article 5.1 of the Concession Agreement, the Concessionaire is required to furnish to XXX, an unconditional and irrevocable bank guarantee for an amount of Rs. ----- (Rupees in words) as security for due and punctual performance / discharge of its obligations under the Concession Agreement.
- B. At the request of the Concessionaire, the Guarantor has agreed to provide bank guarantee, being these presents guaranteeing the due and punctual performance / discharge by the Concessionaire of its obligations relating to the Project.

NOW THEREFORE THIS DEED WITNESSETH AS FOLLOWS :

Capitalised terms used herein but not defined shall have the meaning assigned to them respectively in the Concession Agreement.

² To be issued by a Scheduled Bank in India

1. The Guarantor hereby irrevocably guarantees the due and punctual performance by M/s _____ (hereinafter called “the Concessionaire”) of all its obligations relating to the Project by the Concessionaire in accordance with the Concession Agreement.
2. The Guarantor shall, without demur, pay to XXX sums not exceeding in aggregate Rs. ----- (Rupees in words), within five (5) calendar days of receipt of a written demand therefor from XXX stating that the Company has failed to meet its obligations under the Concession Agreement. The Guarantor shall not go into the veracity of any breach or failure on the part of the Concessionaire or validity of demand so made by XXX and shall pay the amount specified in the demand notwithstanding any direction to the contrary given or any dispute whatsoever raised by the Concessionaire or any other Person. The Guarantor’s obligations hereunder shall subsist until all such demands are duly met and discharged in accordance with the provisions hereof.
3. In order to give effect to this Guarantee, XXX shall be entitled to treat the Guarantor as the principal debtor. The obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Concession Agreement or other documents or by the extension of time for performance granted to the Concessionaire or postponement/non exercise/ delayed exercise of any of its rights by XXX or any indulgence shown by XXX to the Concessionaire and the Guarantor shall not be relieved from its obligations under this Guarantee on account of any such variation, extension, postponement, non exercise, delayed exercise of any of its rights by XXX or any indulgence shown by XXX, provided nothing contained herein shall enlarge the Guarantor’s obligation hereunder.
4. This Guarantee shall be irrevocable and shall remain in full force and effect until _____³ unless discharged/released earlier by XXX in accordance with the provisions of the Concession Agreement. The Guarantor’s liability in aggregate be limited to a sum of Rs. ----- (Rupees in words).
5. This Guarantee shall not be affected by any change in the constitution or winding up of the Concessionaire / the Guarantor or any absorption, merger or amalgamation of the Concessionaire / the Guarantor with any other Person.
6. The Guarantor has power to issue this guarantee and discharge the obligations contemplated herein, and the undersigned is duly authorised to execute this Guarantee pursuant to the power granted under _____.

IN WITNESS WHEREOF THE GUARANTOR HAS SET ITS HANDS HEREUNTO ON THE DAY, MONTH AND YEAR FIRST HEREINABOVE WRITTEN.

SIGNED AND DELIVERED

by _____ Bank by the hand of Shri _____
its _____ and authorised official.

³ 60 months from the date of signing the Concession Agreement

**SCHEDULE OF PAYMENTS TO THE CONCESSIONAIRE FROM THE POST
CLOSURE PERFORMANCE ACCOUNT**

Time Period from Commencement of Post Closure Period	Amount Payable to Concessionaire
End of 1 st quarter	n th of account balance
End of 2 nd quarter	(n-1) th of account balance
End of 3 rd quarter	(n-2) th of account balance
End of 4 th quarter	(n-3) th of account balance
End of 5 th quarter and so on	(n-4) th of account balance and so on

Date: ____

LETTER OF AUTHORISATION

To whomsoever it may Concern

This is to confirm that to pursuant to the Concession Agreement dated _____ entered into between XXX and _____ (“the Concessionaire”), the Concessionaire has been authorized to construct, operate and maintain an Integrated Municipal Solid Waste Processing Facilities and Engineered Sanitary Landfill Facility at for the ----- (name of town) and for that purpose, to apply for and obtain all approvals, licenses and permits required therein and to avail the utilities such as power, water, telecommunication and any other incidental utilities or services required in connection therewith.

Yours faithfully,

Name and Designation of Officer of XXX

Address of office of XXX

SUBSTITUTION AGREEMENT

SCHEDULE 11

THIS SUBSTITUTION AGREEMENT is entered into on this the ----- day of -----
(Month) ---- (Year) at -----.

AMONGST,

----- (name of ULB), established under the provisions of the
----- (hereinafter referred to as “XXX” which expression shall unless excluded by or
repugnant to the context, be deemed to include its successors and assigns);

AND

-----, a company incorporated under provisions of the Companies Act, 1956, having its
registered office at -----, hereinafter referred to as “Concessionaire” which
expression shall unless repugnant to the context include its successors and permitted assigns, OF
THE OTHER PART.

AND

YYYY (Financial Institution/ Bank) having its Registered Office/Head Office at -----
----- hereinafter referred to as “**the Lender**”.

OR

ZZZZ (Financial Institution/Bank) having its Registered Office/Head Office at-----
----- acting for and on behalf of the Lenders listed in Schedule I hereto
(hereinafter referred as “**the Lenders’ Representative**” .

WHEREAS

XXX desires to establish an Integrated Municipal Solid Waste Processing and Engineered
Sanitary Landfill Facilities for the ----- (mane of town) through private participation on
Build, Operate and Transfer basis;

- A. By the Concession Agreement dated _____ entered into between XXX and the
Concessionaire (hereinafter referred to as “the Concession Agreement”) the Concessionaire
has been granted the Concession to implement the Project on BOT basis;
- B. With a view to facilitate financing of the Project by the Concessionaire, XXX and the
Concessionaire have agreed to enter into a Substitution Agreement being these presents with
the Lender/s / Lenders’ Representative.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH AS FOLLOWS :

ARTICLE 1
DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereafter respectively assigned to them.

“Agreement” means this agreement and includes any amendment or modification made to this agreement in accordance with the provisions hereof.

“Financial Assistance” means the financial assistance set forth in Schedule I hereto, agreed to be provided by the Lender(s) to the Concessionaire for financing the Project.

“Lender(s)” means the financial institutions/banks whose name(s) and addresses are set out in Schedule I hereto.

“Residual Concession Period” means the period which shall be the remainder of the Concession Period computed from the date of substitution of the Concessionaire by the Selectee.

“Selectee” means a Person proposed by the Lender/Lender’s Representative pursuant to this Agreement and approved by the XXX for substituting the Concessionaire for the Residual Concession Period, in accordance with the provisions of this Agreement.

“Suspension Period” means the period commencing from the expiry of the Date of Termination specified in the Preliminary Notice and ending on the date on which all formalities connected with substitution of the Concessionaire by the Selectee including handing over of Sites / Project Facilities, in accordance with this Agreement are completed and the substitution has become effective.

1.2 Capitalised terms used in this Agreement but not defined shall have the meaning assigned to them respectively in the Concession Agreement.

ARTICLE 2
SUBSTITUTION OF THE CONCESSIONAIRE BY THE SELECTEE

2.1 Lenders right to Substitute

XXX and the Concessionaire hereby irrevocably agree that upon Termination of the Concessionaire simultaneously by XXX, the Lender(s) shall, without prejudice to any other rights or remedies available to them under law/Financing Documents and without being required to exercise or exhaust such rights or remedies, have the right to seek substitution of the Concessionaire by Selectee for the Residual Concession Period under the Concession Agreement in accordance with the provisions of this Agreement.

2.2 Preliminary Notice of Termination

XXX shall as soon as possible but in any case not later than 15 days of its knowledge of the occurrence of such Termination issue Preliminary Notice of Termination to the Concessionaire in terms of **Article 9.2(a)** of the Concession Agreement, with a copy thereof simultaneously to the Lenders. Provided, if the Concessionaire Event of Default is the one set out in **Article 9.1(a)** of the Concession Agreement, XXX shall not be obliged to issue Preliminary Termination Notice until receipt by XXX of the recall notice issued by the Lender(s) to the Concessionaire.

2.3 Suspension of Concession and Takeover of the Project Facilities

The Concessionaire irrevocably agrees that if the Cure Period specified in the Preliminary Notice of Termination lapses without the Concessionaire Event of Default having been cured, the Concession shall effective from the expiry of such Cure Period stand suspended, without any further notice or other act of XXX being required, and that XXX shall have the right to enter upon and takeover the Sites / Project Facilities and to take all such steps as are necessary for the continued operation and maintenance of the Project Facilities, subject to servicing the payment obligations under the Financing Documents, and the substitution of the Concessionaire by the Selectee in accordance with this Agreement. The Concessionaire hereby irrevocably consents to the takeover of the Project Facilities / Sites by XXX forthwith upon suspension becoming effective.

2.4 Substitution Notice

XXX and the Concessionaire hereby irrevocably agree that in the event of the Concessionaire's failure to cure the Event of Default specified in the Preliminary Notice of Termination, the Lender/Lender's Representative may, within 30 (thirty) days of the expiry of the Cure Period specified therein, notify XXX and the Concessionaire about the intention of the Lender(s) to seek substitution of the Concessionaire by the Selectee for the Residual Concession Period (the "Substitution Notice").

2.5 Criteria for selection of the Selectee.

The Lender/ Lenders' Representative shall in addition to any other criteria that it may deem fit and necessary, apply the following criteria in the selection of the Selectee:

- (a) the Selectee shall possess the net worth, experience, technical capability and managerial ability to perform and discharge all the residual duties, obligations and liabilities of the Concessionaire in respect of the Concession, under the Concession Agreement;
- (b) the Selectee shall have the capability and shall unconditionally consent to assume the liability for the payment and discharge of dues, if any, of the Concessionaire to XXX under and in accordance with the Concession Agreement, and also payment of amounts due to the Lender(s) under the Financing Documents upon terms and conditions as agreed to between the Selectee and the Lenders.

ARTICLE 3
MODALITY FOR SUBSTITUTION

3.1 Modalities for Substitution.

The following modalities shall be followed for substitution of the Concessionaire by the Selectee pursuant to this Agreement:

- (a) The Lender(s)/Lenders' Representative shall be entitled, within a period of ---- (in word) days from the date of delivery of the Substitution Notice pursuant to the preceding **Article 2.2** to invite or procure offers either through private negotiations or public auction or process of tender or otherwise from the eligible Persons, for the substitution of the Concessionaire by the Selectee and propose to XXX for their approval, the Selectee (the "Proposal"). The Proposal of the Lender/Lender's Representative shall contain the particulars and information in respect of the Selectee, particulars of the amounts due to the Lenders under the Financing Documents, the terms of Substitution and such data and information as would be necessary and relevant for XXX to decide as to the acceptability of the Selectee. The Lender/ Lender's Representative shall provide to XXX additional information and clarification in respect of any data, particulars or information contained in the Proposal, as XXX may reasonably require.
- (b) The Proposal shall be accompanied by an unconditional undertaking of the Selectee to the effect that it shall upon acceptance by XXX of the Proposal observe, comply with, perform and fulfill the residual terms, conditions and covenants of the Concession Agreement as if the Selectee had been the Concessionaire under the Concession Agreement, and to assume, take over, discharge and pay the Concessionaire's obligations under the Financing Documents on the terms and conditions agreed to by the Selectee with the Lenders. The Selectee shall also undertake to enter into such documents and writings with XXX and the Lender(s) as may be necessary or required to give effect to the substitution of the Concessionaire by the Selectee.
- (c) XXX shall convey to the Lender / Lenders' Representative its acceptance or otherwise of the Selectee within 30(thirty) days of (a) the date of receipt of the Proposal by XXX, or (b) the date of receipt of the additional information and clarifications in respect of any data, particulars or information comprised in the Proposal, provided by the Lender / Lender's Representative to XXX, whichever is later.
- (d) At any time prior to the acceptance of the Selectee by XXX pursuant to this Agreement, XXX may require the Lender/Lenders' Representative to satisfy it as to the eligibility of the Selectee and the decision of XXX as to acceptance or rejection of any Selectee (which shall be reasonable), shall be final, conclusive and binding on the Lender(s), the Selectee and the Concessionaire. In the event

that XXX fails to communicate its acceptance or otherwise or the objections if any it has to the acceptance of the Proposal/ the Selectee within a period of 30 days prescribed in preceding sub-article (iii), XXX shall be deemed to have accepted the Proposal/ the Selectee

- (e) The rejection of the Selectee if made by XXX shall be reasoned and be made after hearing the Lender/Lenders' Representative. Following the rejection of the Proposal, the Lender/Lenders' Representative shall have the right to submit a fresh Proposal, proposing another Selectee, within 30 days of receipt of communication regarding rejection of the Selectee previously proposed. The provisions of preceding sub-article (iii) and (iv) shall apply mutatis mutandis to such fresh Proposal.
- (f) If XXX accepts the Proposal/fresh Proposal, XXX shall take all necessary steps to substitute the Concessionaire by the Selectee by amendment of the Concession Agreement or by execution of fresh agreement or such other writing as may be required or necessary to give effect to the Substitution of the Concessionaire by the Selectee for the Residual Concession Period.
- (g) The substitution of the Concessionaire by the Selectee shall be deemed to be complete upon the Selectee executing all necessary documents and writings with or in favour of XXX and the Lender(s) so as to give full effect to the terms and conditions of substitution, subject to which the Selectee has been accepted by the Lender(s) and XXX and upon the delivery by XXX of the Sites / Project Facilities to the Selectee. Upon the substitution becoming effective pursuant to this sub-article all the rights of the Concessionaire under the Concession Agreement shall cease to exist. Provided nothing contained in this sub-article shall prejudice any pending / subsisting claims of the Concessionaire against XXX or any claim of XXX against the Concessionaire and the Selectee shall incur no liability or consequence on account of any previous breach/default and shall subject to the terms and conditions of the substitution, have a period of 90 days to cure any breach/default subsisting on the date of substitution and required or agreed to be cured.
- (h) The decision of the Lenders and XXX in the selection of the Selectee shall be final and binding on the Concessionaire and shall be deemed to have been made with the concurrence of the Concessionaire. The Concessionaire hereby expressly waives all rights to object to or challenge such selection of the Selectee on any ground whatsoever.

3.2 Termination and Termination Payment.

- (a) Where the Lender / Lenders' Representative (on behalf of all the Lenders) communicates in writing that (i) the Lender/ Lender's Representative does not

intend to seek substitution of the Concessionaire, or (ii) that the Lender/Lenders' Representative has not been able to find suitable Selectee or (iii) that XXX has declined to accept the Selectee proposed by the Lender/Lenders' Representative, XXX shall proceed to terminate the Concession and to make Termination Payment, in accordance with the provisions of the Concession Agreement.

- (b) Nothing contained in these presents shall mean or be interpreted as provision of any guarantee or surety by XXX and it is expressly agreed that XXX has not provided any surety, guarantee or counter guarantee whether directly or indirectly for the recovery of amounts advanced by the Lenders to the Concessionaire.

ARTICLE 4
MODE OF TERMINATION PAYMENTS

4.1 Mode of Payment

XXX and Concessionaire hereby irrevocably agree, and confirm that so long as the liabilities of the Concessionaire under the Financing Documents are outstanding the Termination Payment and any other amounts due and payable by XXX to the Concessionaire under any of the provisions of the Concession Agreement shall be paid only by way of credit directly to a bank account designated therefor by the Lender(s) / Lenders' Representative and advised to XXX and the Concessionaire in writing. The Lender(s) shall be entitled to receive and appropriate the same without any further reference to or consent of the Concessionaire towards the satisfaction of the amounts outstanding, due and payable under the Financing Documents , subject to payment by the Lender(s) of the surplus amount, if any remaining after discharge of the liabilities of the Concessionaire under the Financing Documents, to the Concessionaire. Any payment so made shall to the extent of such payment constitute a valid discharge to XXX of its obligations with regard to the Termination Payment and of any other monies due to the Concessionaire under the Concession Agreement.

**ARTICLE 5
GENERAL**

5.1 General

- (a) The Parties hereto expressly represent and warrant that they are duly empowered to sign and execute this Agreement.
- (b) Notices under this Agreement shall be sent to the Addresses first hereinabove mentioned. Any change in the address of any Party shall be duly notified by a Registered post acknowledgement due and delivered to the other parties.
- (c) The expressions “XXX”, the “Concessionaire”, the “Lender” and the “Lenders’ Representative” herein used shall unless there be anything repugnant to the subject or context include the respective successors, legal representatives, administrators and permitted assigns.
- (d) This Agreement shall not be affected by reorganisation of any Lender, the Concessionaire or XXX and the successor in interest of the Lender or XXX shall have the benefit of this Agreement.
- (e) Any dispute, difference or claim arising out of or in connection with or in relation to this Agreement which is not resolved amicably shall be decided finally by arbitration by a Board of Arbitrators comprising of a nominee of each party to the dispute. Such arbitration shall be held in accordance to and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The arbitrators shall issue a reasoned award. The venue of such arbitration shall be -----, India. The Award shall be final and binding on the Parties. The Parties agree and undertake to carry out the award of the arbitrators (the “Award”) without delay.
- (f) This Agreement and rights and obligations of the Parties shall remain in full force and effect pending the Award in any arbitration proceeding hereunder. The Courts in XXX alone shall have jurisdiction over all matters arising out of or relating to the arbitration agreement contained herein or proceedings arising out of or relating to the arbitration proceedings thereunder.
- (g) The consultation, recommendation or approval of the Lenders’ Representative under this Agreement shall always be taken as consultation, recommendation or approval of every concerned Lender and each such Lender shall be bound by the same.
- (h) This Agreement shall be in addition to and shall not be in derogation of the terms of the Financing Documents.

- (i) It shall not be necessary for the Lender(s) or the Lenders' Representative to enforce or exhaust any other remedy available to them before invoking the provisions of this Agreement.
- (j) No amendment, variation or modification to this Agreement shall be valid and effectual unless made in writing and executed by the duly authorised representatives of all the Parties hereto.
- (k) All stamp duties or other imposts and charges as are applicable on this Agreement or on amendment of the Concession Agreement or execution of fresh Concession Agreement for the purpose of substitution as aforesaid, irrespective of the Lenders making such payment for the time being, shall be borne by and be to the account of the Concessionaire.
- (l) The Parties hereby expressly agree that for the purpose of giving full and proper effect to this Agreement, the Concession Agreement and this Agreement shall be read together and construed harmoniously. The terms of this Agreement shall prevail in the event of any inconsistency with the Concession Agreement.

SCHEDULE I
PARTICULARS OF FINANCIAL ASSISTANCE.

Name and Address of the Lender	Nature and Amount of Financing Assistance

IN WITNESS WHEREOF THE PARTIES HERETO HAVE SET THEIR HANDS
HEREUNTO ON THE DAY, MONTH AND YEAR HEREINABOVE MENTIONED.

SIGNED AND DELIVERED ON BEHALF OF
.....LIMITED

BY : _____
Name :
Title :

SIGNED AND DELIVERED ON BEHALF OF XXX

BY : _____
Name :
Title :

SIGNED AND DELIVERED ON BEHALF OF
----- ON BEHALF OF THE LENDERS SETFORTH IN
SCHEDULE I

BY : _____
Name :

PROJECT INFORMATION MEMORANDUM

Disclaimer

Project Information memorandum (“PIM”) is provided only for information to the Bidders to assist the formulation of their Proposals. XXX municipality would not in any way be responsible for the accuracy of the information provided. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this PIM document and where necessary obtain independent advice from appropriate sources.

1. Introduction

1. Provide a brief about the project area, an outline of municipal solid waste management system in the region;
2. Provide Regional Maps providing location of the area, and proposed site.
3. Provide demographic detail entailing population of the proposed municipal solid waste management facility and projections for ---- years
4. Provide detail about topographical, meteorological and sub surface soil information of the proposed site
5. Provide an overview of waste management of the Town.
6. The need for solid waste management project, its objectives and components included must be included.

2. Current Status and Practices of MSWM

- I. Provide current status of solid waste management in the area covering the following aspects;
- II. Waste Generation
- III. Overview of Current Solid Waste Management Practices:
 - a. Current MSW System
 - b. Primary Collection
 - c. Collection from Households
 - d. Collection from Market Areas
 - e. Drain Cleaning Waste
 - f. Waste Segregation
 - g. Secondary Storage
 - h. Waste Transportation
 - i. Waste Disposal Site
- IV. Infrastructure Availability
 - a. Primary Waste Collection
 - b. Secondary Waste Collection System

- c. Transfer Stations and Transportation of Waste
 - d. Manpower Availability
- V. Present System of Revenue Collection
- VI. Willingness to pay study extracts from the DPR
- VII. Waste Quantification and Characterization reports

Table1: (Format for waste characterization)

S. No	Waste Category	Avg. composition
1	Cloths (%)	
2	Vegetables (%)	
3	Paper (%)	
4	Plastics (%)	
5	Polyethylene (%)	
6	Rubber, Leather (%)	
7	Wood (%)	
8	Organic soil (%)	
9	Glass (%)	
10	Stones (%)	
11	Metals (%)	
12	Ceramics (%)	
13	Ash and Fine earth (%)	
14	Moisture content (%)	
15	Carbon (%)	
16	Nitrogen (%)	
17	Phosphorus (%)	
18	Potassium (%)	
19	C/N Ratio	
20	Calorific value (Kcal/kg)	

- VIII. Waste Projection report Quantity and Characteristics

3. Development of Treatment and Disposal Facilities

Provide detail of Proposed Treatment and Disposal Facility as per approved DPR

Provide detail of technology to be adopted

4. Indicative Scope of Work of Concessionaire

- a. Design the project facilities as per standards set out

- b. Engineer, procure, finance and construct the facilities
- c. Receive raw MSW at treatment facilities
- d. Inspect the supplied MSW and reject biomedical / hazardous waste
- e. Segregate recyclables, organic and inorganic waste
- f. Treat organic waste using windrow composting and recyclable waste using mechanical segregation and generation of refused derived fuel(RDF)
- g. Endeavour to sell compost, fuel pellets if produced
- h. Carry out relevant tests to ensure MSW is fully inertised
- i. Transport rejects to the landfill facility
- j. Landfill the rejects in accordance with MSW Rules
- k. Close the landfill with liners at the end of landfill life
- l. Treat the leachate to specified standards
- m. Capture and flare of gas emissions, if any
- n. Carry out post closure maintenance
- o. Monitor air and water quality as per specified procedures
- p. Upon request, provide training to ULB employees on the project aspects
- q. Undertake joint inspections with ULBs
- r. Handover the project facilities at the end of concession period
Provide indicative project structure in a structural form

(Insert Flow Diagram of the proposed treatment facility with Mass Balance Diagram indicating maximum landfill able waste)

5. Technical Design

A. Treatment and Disposal

5.1 The technical design would comprise the specifications for construction, operation and maintenance.

5.2 Construction requirements for treatment and landfill facility would include the following:

- a. Design standards
- b. Capacity specifications
- c. Weighbridge specifications
- d. MSW inspection area requirements
- e. Windrow platform
- f. Composting System
- g. Segregation and Pelletization systems
- g. Landfill Liner systems
- h. Daily cell covers
- i. Gas recovery and greenhouse gas mitigation
- j. Storm water drainage system

- k. Leachate system
- l. Water supply system
- m. Worker amenities
- n. Internal roads
- o. Lighting
- p. Boundary wall
- q. Green fence
- r. Lab facility

5.3 Operation and maintenance requirements for treatment and landfill facility would include the following:

- a. Operation and maintenance as per good industry practice and applicable laws
- b. Safety measures
- c. Emergency maintenance
- d. Weighment, acceptance and rejection of MSW
- e. Production of compost
- f. Production of RDF
- g. Compost standards
- h. RDF standards
- i. Sampling and testing
- j. MSW maturity tests
- k. Leachate treatment standards
- l. Reporting standards
- m. Landfill closure and cover
- n. Vegetative cover
- o. Gas recovery mechanism
- p. Post closure maintenance plan
- q. Environment monitoring system
- r. Air quality/ water quality monitoring

5.4 Scope of work of the project engineer would include the following:

- a. To review, monitor and to approve activities associated with the design, construction, operation and maintenance of the facilities to ensure compliance by the developer with the construction requirements and O&M requirements
- b. To carry out all required tests to monitor the adherence
- c. To report to the Parties on the various physical, technical and financial aspects of the project based on inspections, site visits and tests
- d. To assist the parties in arriving at an amicable settlement of disputes, should the need arise
- e. To review matters related to safety and environment management measures

- adopted by the developer for the Project
- f. To provide contract administration support
- g. To inspect and certify quality of compost sold and residual inert waste landfilled
- h. To assist in issuance of completion certificate
- i. To attend meetings to deal with normal operations and in case of force majeure events and emergencies

6. Compliances with JNNURM Requirements

6.1 Technical Feasibility

The design of the treatment and disposal facilities has been carried out by adhering to standard design guidelines and prevalent scientific practices employed for designing similar facilities, and in adherence and compliance to the MSW Rules. The technologies chosen for the treatment and disposal facilities have been recommended by the MSW Rules and have proven precedence in India and abroad.

6.2 Environmental Compatibility

The suitability of the sites and the technologies has been evaluated as per MSW Rules and are found to be environmentally suitable and compatible. Construction and operations of such facilities are guided by strict environmental rules which ensure the non - occurrence of adverse impacts on the environment.

6.3 Social and Political Acceptability

Numerous discussions have been held with various stakeholders including officials of the ULBs and elected representatives of the agencies. Details of the project have been presented to them and their feedback incorporated in the design and structuring of the same.

6.4 Service Delivery Reforms

Development of scientific treatment and disposal facilities is, by nature, an effort towards providing efficient and environmental friendly MSW services to the citizens. Open dump yards are known to cause the most pollution to the nature and by addressing the same by scientific means; the ULBs have demonstrated their commitment towards providing better services.

Annexure 3

**Toposheet of the Project Area Indicating the Location of Local Bodies and the
Proposed Treatment and Disposal
site
(include toposheet of the site)**

Annexure 4

Environmental Details of Landfill Site

This section presents the details on climate (rainfall), land use, soil and rock formation and hydrology of the region in which the ULBs and the landfill site are located.

- 1. Land Use**
- 2. Climate (Rainfall)**
- 3. Hydrology**
- 4. Topography & Rock formation**
- 5. Soil formation**

Socio Economic Detail defining the baseline condition of the site during ‘No Project’ must be supplemented

Annexure 5

Technical Design for Treatment and Landfill

A. Treatment Facilities

Windrow composting is proposed as the preferred technology for development of treatment facilities in XXX Town .

A compost plant of capacity --- TPD has been proposed along with resource recovery units for production of compost and RDF. The key areas of a compost plant include

1. Pre-processing area

- A preprocessing or staging area offers room to receive collected feedstock and sort or separate materials as needed. The size and design of the pre-processing area have been decided on the basis of amount of incoming materials and the way the materials are collected and sorted.
- Waste is treated with bio-cultures, enzymes and herbal extracts for de fouling and to induce accelerated bioconversion cycle.

Pre-processing area comprise of following facility

- Weighbridge facility
- Waste loading
- Waste segregation
- Waste shredding

2. Processing area

- The processing area comprises of Mass composting, Curing area and segregation and pelletization area.
- Residence time for compostable waste in mass windrow has been assumed to be --- days with material being turned every five days. Active composting is followed by a -----day curing period.
- In the mass windrow, fermentation starts within 48 hours and temperature of heap reaches 65 to 70 deg. C due to exothermic heat generated by aerobic microorganisms.
- This kills pathogens and ensures proper fermentation.
- Required moisture of 40% +5 is maintained throughout the fermentation cycle
- After mass windrow, waste is stacked in long windrows of approximately M width and M meter height.
- Shrinkage of materials through the composting process has been taken in to account in the design of mass windrow and curing pads.
- Ground compaction and leveling shall be provided in the area occupied by the composting bunkers, curing pad and roads.
- Water can be supplied to the piles to maintain the desired moisture content.

- Any leachate or runoff from the piles will be collected and treated or, added back to a batch of incoming MSW to increase its moisture content.
- Any leachate or runoff from the plant will be collected and treated or, added back to a batch of incoming MSW to increase its moisture content.
- Front-end loader shall be used for compost pile turning in order to keep operation costs low and for ease of operation.
- The mass composting pad surface and curing area is paved enough to prevent ponding around the windrows or erosion from runoff. Grading the surface of the pad to meet the optimal slope also will help prevent erosion by allowing for gentle drainage.
- As a further protection against erosion, windrows should be arranged parallel to the grade to allow runoff to flow between the piles instead of through them.
- Adequate drainage at composting facilities is proposed. Poor site drainage leads to ponding of water, saturated composting materials, muddy and unsightly site conditions, bad odors, and excessive runoff and leachate from the site.

Similarly, the key features of RDF facility having segregation and pelletization process;

- The RDF systems separate MSW into combustible and non-combustible fractions
- The processing generally entails separation of inert materials through source reduction, and pelletizing. The densified material can be easily transported, stored and combusted than raw MSW
- The sorted MSW is then fed to either of the processing lines having a primary and secondary trommel screens,
- The waste is further sent into stages of magnetic separation unit which renders them of any metal scraps.
- The waste is passed through Air classifiers where light separable waste material such as plastic, paper etc is separated. The waste is further passed into a glass recovery system for screening of any glass and ceramics.
- The screened waste is shredded, dried and mixed thoroughly and additives to be blended in order to improve the calorific value of waste as a fuel.
- The product may be pelletized for ease of consumption as fuel and storage. Thus based on design a pelletization unit must be installed.
- The process shall be provided with sets of conveyor belts, for carrying the waste from one system to another. Screened waste from each set of trommels shall be conveyed using conveyor belts. The screened / shredded homogenous waste obtained
- RDF fuels are more homogeneous and easier to burn than the MSW feedstock due to reduction in fuel particle size and reduction in non-combustible material.

The design criteria and area	Values
Compost plant capacity TPD

Design, Build, Operate and Transfer of Integrated Waste Processing and Engineered Sanitary Landfill
Facilities For Mixed Municipal Solid Waste in ----- Town

The design criteria and area	Values
Type of composting proposed	Windrow composting
Area requiredAcres
Pre-Treated Waste C:N Ratio	Waste: Between xx and xx
Moisture Content% to%
Total time required	Mass windrow for days, with waste being turned every five days Curing for days
Quantity of Waste received after preprocessing (organic content) TPD
Area required for Mass Windrow M ² (Plat form Size..... M xM). Assumed height ... M, Retention time of ... days, Density xx MT/ M ³ Area include ...% additional area for vehicular movement
Area required for curing M ² (Plat form Size (....M x.... M) Windrow Height: xx M
	Windrow Width : M Retention Time : days
Windrow Laying	- Description -
Windrow Turning	- Description -
Windrow TemperatureDeg. to Deg. Centigrade
Leachate and Runoff Control	The windrows shall be located on an impervious surface and any leachate shall be re-circulated into the compost/ treated with root zone method and disposed as per the guidelines of State Pollution Control Board.
Finished Compost quality	The final compost should have a C/N ratio of between and and pH between and
	The temperature of all of the compost should be maintained at-..... degrees Celsius for at least a week to destroy pathogens and parasites
RDF unit comprising of metal separators, trommels, shredders, air classifiers, glass separators and pelletization unit, as per design	As per suppliers specification or design guidelines

3. Post processing area

- A post processing area at composting facilities is used to conduct quality control testing of compost to perform screening, size reduction, and blending operations; to compost in preparation for market; and to store the compost.
- Quality control is done for physical, chemical and biological parameters.
- Finished product is packed in HDPE bags,
- Storage capacities of about 3 months have been incorporated into site designs for composting facilities. Backup storage and disposal capacity have been planned for seasonal markets.
- Remnants to the extent of -% are disposed of for sanitary landfills.

4. Buffer zone

- Buffer zone will be provided to minimize the transport of odour and bio aerosols downwind of the facility. The buffer zone of about m have been suggested for the current project

5. Access and onsite roads

- The type and amount of traffic into and out of a facility have been considered in the design process.
- On site road includes paved or gravel roads leading to the tipping and storage areas to handle large vehicles during adverse weather conditions. Roads shall be designed to provide adequate turning and dumping areas to accommodate delivery by all types of vehicles.

6. Site facilities and security

- Composting operations require one or more buildings to house various site functions, from maintenance (workshops and storage rooms) and administrative work to personnel facilities.
- Site buildings will also have provision for electricity, drinking water and toilets
- All facilities should have a telephone or radio in case of emergencies..
- Access to the site must be controlled to prevent vandalism, especially arson, and illegal dumping. Access to site shall be secured with a fence and locked gate.

7. Equipments and Machinery for Compost and RDF Plant

The machinery comprises mobile (handling) equipment, process equipment and inoculation system

- Mobile (Handling) Equipment

Under this category front end loader and Grab Mounted attachment shall be acquired. It is proposed to acquire totally. numbers of front-end loader. Front end loader will move garbage from the preprocessing area to the mass windrow,

turn the waste in mass windrow every five days, transfer to waste curing area and finally to post processing and preparatory section. One front-end loader will be deployed for each activity. One additional Front-end loader shall be provided as a back up mechanism in case of breakdowns.

- Process equipment

Conveyors

Conveyors are mechanical systems with belts that slowly pass over rotating wheels. Conveyor belts are used in the sorting/separation phase of composting to allow a constant stream of feedstock to pass by workers who manually remove non-compostable and other contaminants. The conveyor belt must be narrow enough for the workers to reach its center. Conveyors are needed primarily at MSW composting facilities.

Trommel screens

These are long, cylindrical screens that are placed on an angle so that materials flow through them. Materials that are smaller than the grate fall through. As trommel screens rotate, a brush is passed over the top of the screen to remove lodged materials and prevent clogging of the screen. Trommel screens can separate items of different sizes by having a mesh gradient that increases away from the in feed end of the screen.

8. Inoculation System

The function of the system is to spray inoculums on to the garbage after receiving at the site. The equipment under the system is sprinkler system with pump, underground rigid PVC pipe line, risers, sprinklers, etc. Further necessary instruments shall be provided for air quality monitoring for checking odour nuisance at down wind direction on the boundary of processing plant.

B. RDF Facilities

The key parameters involved in refused derived fuel design include (*Detail out each heading as per project design*)

1. Waste Volume for preparation of pellets
2. Design Life
3. Plant Layout
4. Design/Capacity of Pre-Segregation unit
5. Design/Capacity of drying unit
6. Design/Capacity of Grinding and Mixing Unit
7. Design/Capacity of Blending Unit
8. Design/Capacity of Pelletization Unit

9. RDF collection and storage unit
10. Design of sheds/ roof and truss structures
11. Design of foundation of the above units
12. Civil structures as necessary

C. Landfill Facilities

The key parameters involved in landfill design include (*Detail out each heading as per project design*)

1. Waste Volume And Landfill Capacity
2. Design Life
3. Landfill Layout
4. Landfill Section & Soil Properties
5. Phased Operation
6. Leachate Quality And Quantity
7. Liner System
8. Daily Cover
9. Leachate Drainage, Collection And Removal System
10. Leachate Management
11. Landfill Gas
12. Final Cover System
13. Surface Water Drainage System
14. Slope Stability
15. Site Infrastructure
16. Landfill Equipment and
17. Environment monitoring system
18. Closure and post-closure maintenance plan
19. Landfill Section & Soil Properties
20. Phased Operation
21. Leachate Quality And Quantity
22. Liner System
23. Daily Cover
24. Leachate Drainage, Collection And Removal System
25. Leachate Management
26. Landfill Gas
27. Final Cover System
28. Surface Water Drainage System
29. Slope Stability
30. Site Infrastructure
31. Landfill Equipment and
32. Environment monitoring system
33. Closure and post-closure maintenance plan