



BIDHANNAGAR MUNICIPAL CORPORATION
POURA BHAVAN, FD-415A, Sector-III,
Kolkata - 700 106.

NOTICE INVITING e-QUOTATION

NIQ No. 620/PHE(C)/BMC

Dt. 22/11/2019

The Executive Engineer PHE, on behalf of Commissioner, Bidhannagar Municipal Corporation invites e-bid Tender from reliable and resourceful Companies/Firms/Contractors having experience and in similar nature of works as noted below:

Sl. No.	Name of work	Earnest Money (Rs.)	Total Project Completion Period
1.	RFP (Request for Proposal) for the work of Scientific Dumpsite Land Reclamation through Bio-mining resource recovery and Scientific Rejects Disposal at Mollar Bheri Bidhannagar Municipal corporation.	3,00,000.00	10 Months

1.	Location of Work:		Mollar Bheri Dumping Ground under Bidhannagar Municipal Corporation.
2.	Eligibility to participate in the Tender		Refer to Bidding Document
3.	Earnest Money and Cost of Bid Document	<u>a</u>	Initial Earnest money to be deposited online through e-tender portal only by Net Banking / NEFT / RTGS.(balance earnest money if any,@ 2% of the quoted amount to be paid later on) for all participant Bidder.
		<u>b</u>	<u><i>All documents in original to be produced in due course of time as & when asked by the Tender Inviting Authority</i></u>

4. Date and Time Schedule :-

Sl. No.	Particulars	Date and Time
a)	Date of uploading of N.I.T. and Tender Documents (online). (Publishing Date)	22/11/2019 after 19.00 Hrs.
b)	Documents download start date.	22/11/2019 after 19.00 Hrs.
c)	Date of Pre Bid Meeting with the intending tenderers in the office of the Executive Engineer, Bidhannagar Municipal Corporation.	06/12/2019 at 15.00 Hrs.
e)	Bid submission start date (online)	22/11/2019 after 19.00 Hrs.
f)	Bid Submission closing (online)	16/12/2019 up to 15.00 Hrs.
g)	Bid opening date for Technical Proposals (online)	18/12/2019 after 15.00 Hrs.
h)	Date of uploading list for Technically Qualified Tenderers (online)	To be notified later on

Executive Engineer
Bidhannagar Municipal Corporation.

Copy forwarded for necessary information to:-

1. P.A. to Hon'ble Mayor, Bidhannagar Municipal Corporation.
2. P.A. to Hon'ble Deputy Mayor, Bidhannagar Municipal Corporation.
3. P.A. to MMIC,Health, Bidhannagar Municipal Corporation.
4. P.A. to Commissioner, Bidhannagar Municipal Corporation.
5. P.A. to Joint Commissioner, Bidhannagar Municipal Corporation.
6. Finance Officer, Bidhannagar Municipal Corporation.
7. Office Notice Board.
8. Official Website.
9. Publication to the News Papers.

Executive Engineer
Bidhannagar Municipal Corporation.

Selection of Contractor for

The Work of “Scientific Dumpsite Land Reclamation through Bio-mining, Resource Recovery and

Scientific Rejects Disposal at Mollar Bheri”

DRAFT

Request for Proposal

Bidhannagar Municipal Corporation

Government of West Bengal

RFP for The Work of “Scientific Dumpsite Land Reclamation through Bio-mining, Resource Recovery and Scientific Rejects Disposal at Mollar Bheri”

VOLUME I: Request for Proposal (RFP) Document

DISCLAIMER

The information contained in this Request for Proposal (RFP) document or subsequently provided to Bidder, whether verbally or in documentary or any other form by or on behalf BMC, is provided to Bidder on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by BMC to the prospective Bidder or any other person. The purpose of this RFP is to provide interested firms with information that may be useful to them in the formulation of their Proposals pursuant to this RFP.

Information provided in this RFP to the Bidder is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. BMC accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

BMC also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

BMC may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

The issue of this RFP does not imply that BMC, is bound to select a Bidder or to appoint the Selected Bidder for the Consultancy and BMC, reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BMC, or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and BMC, shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

I. Key Dates

Purchase of Tender Start Date	As per NIT
Pre-Bid Meeting Date	As per NIT
Purchase of Tender End Date	As per NIT
Physical Technical Bid Submission End Date	As per NIT
Online Bid Submission End Date	As per NIT
Technical Proposal Open Date	As per NIT
Financial Bid Open Date	As per NIT

II. Bid Data

#	Particulars	Data
1.	Cost of Bid Document	INR 12,500/-
2.	EMD	INR 3,00,000/-
3.	Bid Validity Period	180 Days from the due date of Bidding
4.	Eligible Bidder for Bidding	Individual Bidder/ Consortium/Joint Venture (Maximum 2 Members in Consortium/Joint Venture)
5.	Method of Bid Submission	Online Submission - Technical & Financial Bid
6.	Security Deposit	As per prevailing norms
7.	Erection period (installation of machineries)	3 months
8.	Operation period (bioremediation activities)	7 months after erection
9.	Total project completion period	10 months from date of signing of agreement

- III. All the correspondence should be in written, the written correspondence may be sent through email, fax or letter.
All the communication and the bid submission should be addressed to the undersigned on the address below:

To,

Client Representative: Commissioner

Bidhannagar Municipal Corporation (BMC)

Address: Poura Bhawan, FD - 415A, Sector - III, Salt Lake City, Kolkata,
West Bengal, India, 700106

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1. Introduction

Background

Mollar Bheri is the current unscientific disposal site, where all unprocessed fresh wastes from all locations under BMC, NDITA, NKDA, are getting disposed off. The total land area of the disposal site is about 55 acres, out of which around 45% area is covered by accumulated garbage. Average height during the reconnaissance survey was observed visually as ~ 12 ft. Mostly compactors bring the waste to the disposal site, along with few numbers of open trucks etc. Two dedicated front-end loader are available at the site to spread and level the fresh incoming waste after the disposal.

Mollar bheri falls under two different Mouzas. Mouza – Dhapa Manpur Mouza and Mahisbathan Mouza. From verbal discussions with BC officials, it is understood that Dhapa Manpur mouza falls under wetland (Kulipara, Durgabhasan, Gorumera etc.). However, Mahoshbathan mouza does not fall under wet land and it is primarily a “Sali” land (Boro paresh, chhoto paresh etc.)

A number of water bodies surrounds the site. On the northern side, Mollar bheri is surrounded by a residential colony, slum area as well as high rises. IDL Aquaview residential complex is located within 1 km of vicinity. The other localities at Mollar Bheri periphery are Khasmahal and Sardarpara

The Bidhannagar Municipal Corporation (herein after referred to as “the Authority” in this Bid Document) is seeking proposals from eligible Bidders to undertake the works required for Scientific dumpsite reclamation through Bio-mining of legacy waste/un-processed municipal solid waste by excavation of complete mixed MSW from the dumpsite which underwent biological and physical degradation, resource recovery by using suitable mechanical sieving machine or any other suitable equipment/method, segregating, sorting, retrieving recoverable materials, storing, selling, diverting for recycling, dumpsite land reclamation, development of disposal facility and scientific residual Solid Waste disposal in disposal facility at Mollar Bheri dumpsite during contract period and hand back of reclaimed land and disposal facility to BMC at the end of contract period.

Objective of the Bid Document

This Bid Document is structured to provide prospective Bidders with sufficient information on which to prepare a Proposal and is organized in the following manner:

Volume I: Request for Proposal

- Document Introduction
- Instruction to Bidders
- Preparation of Bid
- Submission of Bid
- Bid Opening and Evaluation Scope of Project
- Payment Schedule
- Miscellaneous

Volume II: Draft Contract Agreement

Volume III: Conditions of Contract

2. Instruction to Bidder

Scope of Bid

The Authority invites bids for the execution of works (herein after referred to as "the works") detailed in this Bid Document.

The successful bidder will be expected to complete the works by the intended completion date specified in **Sl. No. 8-10** of the bid data sheet of this RFP document.

Eligible Bidder

A Bidder may be a natural person, private entity, government-owned entity or any combination of them with a formal intent to enter into an agreement or under an existing agreement to form a Consortium/Joint Venture. For an applicant/bidder can submit the Bid either individually or form a consortium. In case the Bidder is a Consortium/Joint Venture, it shall, comply with the following additional requirements:

- (i) The Members of the Consortium / Joint Venture shall nominate one member as the lead member (the "Lead Member"), the member other than the lead member shall be termed as the "the technical member".
- (ii) "The lead member" and "the technical member" are to be defined and detailed in the **Form-2** of the Technical Bid submission forms provided in this RFP document. It is clarified that the lead member of the consortium would be regarded as being responsible for the due implementation of this Project. In computing the Technical Capacity and Financial Capacity of the Bidder/Consortium Member/Joint Venture, the Technical Capacity and Financial Capacity of their respective Associates shall also be considered.
- (iii) Combined Technical capacity of all Consortium/Joint Venture members ("the Lead Member" and "the Technical Member") shall be considered towards qualifying and evaluation criteria, however the Financial strength of only the Lead member shall be considered towards qualifying and evaluation of Financial Capacity as prescribed in the **clause 2.3.2** of this RFP document.
- (iv) A consortium/Joint Venture agreement on stamp paper of appropriate value duly notarized should be submitted along with the Bid.
- (v) The Consortium/Joint Venture members shall nominate a person as the Authorize signatory from the Lead Member of the Consortium/Joint Venture who shall be authorized to sign their bid submission, the contract agreement or any correspondence with the Authority. A power of Attorney in the name of Authorized Signatory must be furnished by the Consortium/Joint Venture bidder along with their technical proposal. The Power of Attorney shall be as per the format provide in **Form 3** of this RFP document.

Pre-Qualification Criteria

Technical Capacity

For demonstrating technical capacity ("the technical capacity"), the bidder has to comply with both of the following conditions below:

- (i) Should have handled, during preceding five financial years prior to the due date of this bid submission, projects as mentioned in sub-clause (i) above, at least:
 - (a) One Project of Minimum 100,000 Metric Ton; Or,
 - (b) Multiple Projects (more than one) of aggregate 50,000 Metric Ton each, with at least one of eligible project of capacity 5000 Cubic Meter or 2,500 Metric Ton
- In case an eligible project for accessing "the technical capacity" has been jointly executed by the Bidder (as part of a consortium), then the entity claiming such eligibility should satisfy both of below conditions:

- (a) Have held minimum 51% share in the project for which the experience is being claimed the claiming entity shall produce proof of percentage shareholding in the project for which experience is being claimed.
 - (b) The project shall be qualified as ‘eligible project’ for “the technical capacity only if the percentage shareholding in the project multiplied with the total project capacity is satisfying the criteria laid down in pre-qualification criteria (Technical capacity *Sl.NO. (ii) a & b*)
- The eligible projects claiming “the Technical Capacity” should have been executed (and/or ongoing) for any Local Body/ any Government / Semi-Government Organizations / Public Sector Undertakings in India with direct contract with them. For completed projects, completion certificate from the ULB, signed by executive engineer shall be submitted along with the bid. For ongoing projects, the payment certificate or running bills (with mentioned of quantity), duly certified by an official not below the grade of executive engineer/ finance officer, should be furnished.

Financial Capacity

For demonstrating the financial capacity (“the Financial Capacity”), the bidder has to comply with each of the following conditions:

- (i) Minimum average turnover of INR 50,00,000 (INR Fifty Lakh) in the preceding five financial years from the due date of submission of this bid;
- (ii) Shall have a net worth of minimum INR 25,00,000 (INR Twenty-Five Lakh) in the preceding financial year from the due date of submission of this bid;
- (iii) Shall have availability of Liquid assets and/or availability of credit facilities of no less than INR 50,00,000 (INR Fifty Lakh) at the time of submission of this bid. The bidder shall furnish Certificate for availability of Liquid asset duly certified from its statutory auditor/ certificates from banks for meeting the fund requirement to this effect.

Note:

- For the purpose of this RFP, turnover (“the turnover”) shall mean the average of annual revenues from execution of the projects as listed in Clause 2.3.1 (i) during the preceding five financial years from the due date of submission of this bid. This shall not include capital grants/capital subsidies/donations/salaries/dividend/bonus/commission and interest income.
- For the purposes of this RFP, net worth (the "Net Worth") shall mean:
 - (a) In case of Private Limited/Limited Companies incorporated under the Companies 1956 (or the Companies Act 2013) (or equivalent Act in case of Foreign bidder) shall mean the sum of subscribed and paid up equity and all reserves created out of the profits and securities premium account after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write- back of depreciation and amalgamation (as prescribed in the Companies Act 2013).
 - (b) In case of Partnership Firms means partners’ capital plus reserve & surplus.
 - (c) In case of individuals, means sum of all assets less liabilities.

Other Pre-Qualification Criteria

- (i) The bidder should be technically capable enough to ensure all environmental hazard mitigation measures and demonstrate expertise in EHS – Environment, health and safety aspects and impacts that need to be addressed at dumpsite while adopting the works. The bidder shall furnish a write up in the format as provided in the Form10 of this RFP document demonstrating their proposal to follow the measures for the Protection of Environment, Health and Safety while executing the Works.
- (ii) Should have the expertise in dealing with hazardous and infectious nature of waste

Essential Pre-Qualification Documents

Bidder to enclose all the following documents in support of his pre-qualification for bidding:

- (i) Incorporation certificate of the company/Proof of Company registration document/MoA;
- (ii) Copy of Agreement with the concerned client;
- (iii) Certificate(s) (completion or Currently operating, as the case may be) from its concerned client(s) in support of “the technical capacity” clearly stating the capacity of project (or, quantity processed till date in case of currently running project) including performance of the firm for the work completed during the contract period of the project in respect of the projects whose experience is claimed.
 - Performance certificate should be issued from the concerned client(s) (Certificate issued by the officer of rank below then Executive Engineer/Project Manager or equivalent) shall only be considered.
 - In case a particular work/contract has been jointly executed by the Bidder (as part of a Consortium/Joint Venture), it should further support its claim for the share in work done for that particular work/contract by producing a certificate from its client;
- (iv) Audited balance sheet of preceding five financial years from the due date of submission of this bid and Certificate(s) from its Statutory Auditors in support of “the Financial Capacity”
 - Certificate specifying the average Turnover of the Bidder (Individual bidder/Lead Member of Consortium/Joint Venture) in preceding five financial years from the due date of submission of this bid, and also specifying the methodology adopted for calculating such Turnover conforming to the provisions of this Clause.
 - Certificate(s) specifying the net worth of the Bidder (Individual bidder/Lead Member of Consortium/Joint Venture), at the close of the preceding financial year. from the due date of submission of this bid, and also specifying that the methodology adopted for calculating such net worth.
- (v) Certificates from bank(s) for the arrangement of credit/fund for Project development as per the format provided in **Form 7** of this RFP document.
- (vi) Copy of the latest Service Return filed/ Copy of PAN Card;
- (vii) GSTIN number.

One bid per Bidder

A Bidder is eligible to submit only one Bid for the Project in entire bidding process either individually or as a member of any one Consortium. Applicant/Bidder shall not be entitled to submit another bid either individually or as a member of any other Consortium, as the case may be.

Cost of Bidding

The Bidders shall be responsible for all the costs associated with the preparation of their Bids and their participation in the Bidding Process. The Authority will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

Site Visit and verification of Information

Prior to submitting the Proposal, the Bidders are advised to visit and examine the project site and its surroundings, obtain and ascertain for themselves all technical data, and other information necessary for preparing their Proposal (bid) including carrying out necessary technical surveys, field investigations, assets condition assessment etc. at its own cost and risk. Bidders are encouraged to submit their respective Bids after visiting the Project site/area to ascertain the ground situation, coverage, quality of assets or any other matter considered relevant by them. The Bidders shall be deemed to have full knowledge of the site conditions, whether physically inspected or not, if Bidder submits a Proposal for this project.

For the above purpose, the Bidders may approach the Authority for assistance during any site visit. The Bidders shall be responsible for all arrangements and shall release and indemnify the Authority and/or any of its agencies/consultants/advisors from and against all liability in respect hereof and shall be solely responsible for any personal injury, loss of or damage to property or any other loss, damage, costs or expenses, however caused, which, but for the exercise of such permission, would not have arisen due to this RFP.

It shall be deemed that by submitting a Bid, the Bidder has:

- (i) Made a complete and careful examination of the Bidding Documents;
- (ii) Received all relevant information;
- (iii) Acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Documents or furnished by the Authority and shall not be a basis for any claim for compensation, damages, extension of time of performance of its obligations, loss of profit etc. from the Authority, or a ground for termination of the Contract Agreement;
- (iv) satisfied itself about all matters, things and information necessary and required for submitting an informed Bid, execution of the Project in accordance with the Bidding Documents and performance of all of its obligations there under;

Pre-Bid Meeting

The bidders or their official representatives are invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage. The date, time and address of the Pre-bid meeting shall be as specified in the bid data sheet.

Bidders requiring any clarification on the bidding documents or questions on any matter that may be raised at that stage, may send their queries in written, addressed to contact person as mentioned in the Bid Data Sheet, latest by one day before the pre-bid meeting date mentioned in the bid data sheet. The responses of the Authority will be uploaded only on the Website <https://www.bmcwbgov.in> and shall not be communicated separately to the bidders.

The Authority shall endeavor to respond to the questions raised or clarifications sought by the Bidders. However, the Authority reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring the Authority to respond to any question or to provide any clarification which will have material adverse effect on the bidding outcome.

The Authority may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by the Authority shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by Authority or its employees or representatives shall not in any way or manner be binding on the Authority.

Amendment in the Bidding Document

At any time prior to the deadline for submission of proposals, the Authority may amend the RFP documents, including any contractual document, by issuing an Addendum.

Any Addendum thus issued shall be part of the RFP documents and shall be published on the website <https://www.bmcwb.gov.in>. The Authority may communicate in writing by mail or by fax to all short-listed Bidders to whom the RFP documents are issued. The Authority bears no obligation for any bidder not receiving the information of the addendum issued to this RFP for any reason whatsoever.

Conflict of Interest

A Bidder shall not have the conflict of interest (the “Conflict of Interest”) that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the AUTHORITY shall forfeit and appropriate the Bid Security or Performance Security the 5% of contract value will be the value of performance security – Refer to Form -12 of the RfP), as the case may be. Without limiting the generality of the above, a Bidder shall be considered to have a ‘conflict of interest’ that affects the ‘Bidding Process’, if:

- (i) Such Bidder (or any constituent thereof) and any other Bidder (or any constituent thereof) have common controlling shareholders or other ownership interest;
Or
- (ii) A constituent of such Bidder is also a constituent of another Bidder;
Or,
- (iii) Such Bidder receives or has received any direct or indirect subsidy from any other Bidder, or has provided any such subsidy to any other Bidder;
Or
- (iv) Such Bidder has the same legal representative for purposes of this Bid as any other Bidder;
Or
- (v) Such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other’s information about, or to influence the Bid of either or each of the other Bidder.

A Bidder shall be liable for disqualification and forfeiture of Bid Security or Performance Security and termination of contract as the case may be, if a conflict of interest on part of Bidder is discovered by the Authority during the Bidding Process or subsequent to the (i) during the bidding process, or (ii) issue of letter of award (LoA) (To be awarded within 10 days of opening of the Financial Bid) or (iii) execution of the Contract Agreement.

3. Preparation of Bids

Procedure for Participation in e-Tendering

Registration of Bidders on e-Tendering System

All the bidders must register on the website <https://www.bmcwb.gov.in> User- id/contractor- id and password will be provided to the bidders on their registered e-mail id after completing the registration process. After signing-in through the user-id/contractor-id the bidder can download the bidding document and participate in further bidding process. For more details on the e-tendering procedure the bidders may refer the information provide on the website <https://www.bmcwb.gov.in>

Digital Certificate

The bids submitted online should be signed electronically with Digital Certificate to establish the identity of the bidder submitting the bid online. For more details on the process of getting digital certificate and signing the bid document through digital certificate the bidders are advised to refer the information provided on the website <https://www.bmcwb.gov.in>

Key Dates

The bidders are strictly advised to follow the time schedule (Key dates) of the bid of their side for tasks and responsibilities to participate in the bid, as all the stages of each bid are locked before the start time and date and after the end time and date for the relevant stage if the bid as set by the Authority

Preparation and Submission of Bids

The bidders have to prepare their bid online, encrypt their bid data in the Bid forms and submit Bid of all the envelopes and documents related to the Bid required to be uploaded as per the time schedule mentioned in the key dates provided in this RFP document dafter singing of the same by the Digital Signature of their authorized representatives.

Note:

- (i) *Bidders are requested to visit our e-tendering website regularly for any clarifications and/or due date extension or corrigendum.*
- (ii) *Bidder must positively complete online e-tendering procedure*
- (iii) *The Authority shall not be responsible in any way for delay/difficulties/ inaccessibility of the downloading facility from the website for any reason whatsoever.*
- (iv) *In case, due date for submission & opening of tender happens to be a holiday, the due date shall be shifted to the next working day for which no prior intimation will be given.*
- (v) *The Authority reserves the right for extension of due date of opening of technical bid.*

Bid Validity Period

The bids shall remain valid for a period specified in Bid Data Sheet from the due date of bidding as prescribed by the Authority. The validity of the bid can be extended by mutual consent in writing.

Bid Document Fees

The Bid Document shall be available for download to concerned eligible bidders immediately after online release of the bids and up to scheduled time and date as set in the key dates. The bid document can be downloaded free of cost; however, the bidders have to pay Bid document fees, of the amount as mentioned in the bid data sheet, at the time of their online bid submission. The payment for the cost of bid document shall be made online through Debit/Credit card, Net banking or NEFT Challan as per the instruction provided on the website.

Earnest Money Deposit

The Bidder shall furnish, as part of his Bid, an Earnest Money Deposit (EMD) of the amount as mentioned in bid data sheet of this RFP document. The EMD must be submitted online through Debit/Credit card, Net banking or NEFT Challan as per the instructions provided on the website <https://www.bmcwb.gov.in>

No interest shall be payable on the EMD. The Bidder shall bear the cost relating to providing its EMD.

Any Bid not accompanied by the EMD shall be rejected by the Authority as being a non- responsive Bid.

The EMD of unsuccessful Bidders will be returned within 30 days of the date of finalization of successful Bidder or signing of the contract agreement with the successful bidder whichever is later. If the Bid is cancelled for any reason whatsoever, the EMD shall be returned to all the bidders within 30 days from the date of such cancellation.

The EMD of the successful Bidder will be retained by the Authority and returned after 15 days of signing of contract agreement and furnishing the performance guarantee by the successful bidder. The successful bidder shall ensure that its EMD remains valid during such period.

The EMD will be forfeited if:

- (i) Any bidder withdraws its bid during the validity period of the Bid;
- (ii) The successful Bidder fails to sign contract agreement or submit performance guarantee, as the case maybe.
- (iii) The Authority finds out that the bidder has involved in corrupt and fraudulent practice or has given any material misrepresentation in its bid knowingly or unknowingly
- (iv) Any other reason thereof mentioned in this biddocument.
- (v) The Bidders fails to comply with the Bid process

Technical Proposal

The Technical Proposal shall comprise of the following documents:

- (i) Essential pre-Qualification Documents as specified in the **Section 3**
- (ii) Technical Bid
 - a) Form 1: Letter Comprising the Bid cum undertaking
 - b) Form 2: Format for Description of Bidder
 - c) Form 3: Power of Attorney for Signing of Bid
 - d) Form 4: Power of Attorney for Lead Member of Consortium
 - e) Form 5: Format for Consortium/Joint Venture Agreement
 - f) Form 6: Form for Financial Pre-Qualification
 - g) Form 7: Format for Banker’s Certificate
 - h) Form 8: Format for summary of Technical Pre-Qualification
 - i) Form 8(A): Details of Projects eligible for Technical Pre-Qualification
 - j) Form 9 (A): Format for Providing Details of Machinery to be Deployed for the Project
 - k) Form 9 (B): Details of Key Personnel to be deployed for the Project
 - l) Form 10: Format for Providing Environment, Health and Safety Management Plan

All the documents/ information enclosed with the technical proposals should be self- attested and certified by the Bidder. The Bidder shall be liable for forfeiture of his EMD, if any document/ information is found false/fake/untrue before acceptance of Bid. If it is found after acceptance of the Bid, the authority may at his discretion forfeit his performance security/guarantee and security deposit and take any other suitable action.

Financial Proposal

The bidder shall have to quote rates in format of Financial Bid submission provided on the e-tender website. A format of the financial bid has been provided in this RFP document.

The price quoted by the bidder shall be entirely in Indian currency (INR).

The Amount in the Financial Proposal shall be quoted in figures as well as in words. If any difference in figures and words found, lower of the two shall be taken as valid and correct.

The bidder shall have to quote rates inclusive of GST, all duties, taxes and other levies.

The rates and prices quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to any adjustments on any account.

Documents Comprising the Bid

The Bid submitted by the bidder shall comprise of the following parts:

- A. Bid Document Fees and EMD as per the details and instructions provided in Sl.No. 1 & 2 respectively in bid data sheet.
- B. Technical Proposal as per the details and instructions provided in Section 3 of the RfP.
- C. Financial Proposal as per the details and instructions provided in Section 3 of the RfP.

Language of Bid

The bid and all related correspondence and documents shall be written in the English language. Supporting documents and printed literature furnished by the Eligible Bidder with the Proposal may be in any other language if they are accompanied by an appropriate translation into English. Supporting materials that are not translated into English shall not be considered. For the purpose of interpretation and evaluation of the Proposal, the English language translation shall prevail.

4. Submission of Bids

Online submission of Bids

The bidders must submit their respective bids online, as per the instructions provided on the website <https://www.bmcwb.gov.in> for online submission of bids. The bidders shall submit their Bids dully completed in all respect on or before the due date of bid submission after signing of the same by the Digital Signature of their authorized representatives. The Bid submitted online by the Bidder shall be in the following part:

Part 1: This shall be known as “Envelop-A- Bid Document Fees & Earnest Money Deposit” and shall contain the documents as mentioned in clause 3.7 (A)

Part 2: This shall be Known as “Envelop B- the Technical Proposal” and shall contain the documents as specified in clause 3.7 (B)

Part 3: This shall be Known as “Envelop C- the Financial Proposal” and shall contain the Price Offer of the Bidder as mentioned in clause 3.7 (C).

Physical Submission of Bids

The bidders have to submit the documents (“the Original Documents”), mentioned Part 2 of the clause 4.1 above in physical form (“the physical bid submission”) within the date and time for Physical Bid Submission as mentioned in the Bid data sheet.

The physically submitted Bid, “The Technical Proposal”, shall be typed or written in indelible ink and signed by the authorized signatory of the Bidder (Photocopy/ Scanned Copy of the signature will not be accepted). The pages in Proposal should be numbered.

Each page shall be initialed by an authorized signatory of the Bidder. All alterations, omissions, additions, or any other amendments made to the Proposal shall also be initialed by the person(s) signing the Proposal.

The physically submitted bid shall be enclosed in a sealed envelope, and superscripted as “PHYSICAL SUBMISSION OF TECHNICAL PROPOSAL FOR THE WORK (NAME OF THE WORK)_____”.

The envelop shall bear the due date of physical bid submission, name and address of the authorized signatory of the bidder and shall be addressed as mentioned in the Bid data sheet.

The Authority expects Bidders to adhere to the sealing and marking instructions given above and assumes no responsibility for the misplacement or premature opening of the contents of the Proposal submitted.

Bid Due Date

The due date and time of the bid submission is as mentioned as follows:

16th December 2019, at 3:00 PM

Prebid conference: 30th November 2019 at 3:00 pm at BMC Conference room

The Online Bid and the physical bid should be submitted on or before the due date of bid submission.

The Authority may, in its sole discretion, extend the Bid Due Date by issuing an Addendum **"while extending the Bid Due Date on account of an addendum, the Authority shall have due regard for the time required by Bidders to address the amendments specified therein. In the case of significant amendments, at least 15 (fifteen) days shall be provided between the date of amendment and the Bid Due Date, and in the case of minor amendments, at least 7 (seven) days shall be provided."**

BMC will publish the Addendum on the website of <https://www.bmcwb.gov.in>

Withdrawal, Substitution and Modification of Bids

Bidders can withdraw and modify their respective online submitted bids till the end of the due date of bid submission. The Bidder will not be able to modify a Bid after the due date of submission of this Bids. The bid for which withdrawal request has been received by the Authority after the due date of bidding shall be declined from the bidding process. In the event of withdrawal of a Bid by the Bidder, after the due date of its submission, the Authority reserves the right to forfeit the EMD of the bidder at its sole discretion.

5. Bid Opening and Evaluation

Procedure for Bid opening and Evaluation

The Authority designated officer/consultant/advisor will open the Bids online on the Bid Opening Date and Time as specified in the Bid Data Sheet.

The Authority designated officer/consultant/advisor will subsequently examine and evaluate the Bids in accordance with the provisions set out in this section.

Proposals shall first be checked for responsiveness with the requirements of the RFP and only those Proposals which are found to be responsive would be further evaluated for qualification in accordance with the criteria set out in this RFP.

The Technical proposal shall be evaluated next based on the criteria set out in this RFP documents. The Financial bids of only those bidders who qualifies the technical qualification shall be opened.

All technically qualified bidders will be notified for opening of the Financial Bids.

Clarifications

To facilitate evaluation of Proposals the Authority may, at its sole discretion, seek clarifications from any Bidder during the evaluation period. Such clarification(s) shall be provided within the time specified by the Authority for this purpose. Any request for clarification(s) and all clarification(s) shall be in writing. If a Bidder does not provide clarifications sought within the prescribed time, its Proposal shall be liable to be rejected. In case the Proposal is not rejected, the Authority may proceed to evaluate the Proposal by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of the Authority.

Bidders are advised that the evaluation of Proposals will be entirely at the discretion of the Authority. Bidders will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.

Any information contained in the Proposal shall not in any way be construed as binding on the Authority, its agents, successors or assigns, but shall be binding against the Bidder if any Project is subsequently awarded to it under the Bidding Process based on such information.

The Authority reserves the right not to proceed with the Bidding Process at any time without notice or liability and to reject any Proposal without assigning any reasons.

Confidentiality

The Authority shall ensure that the rules for the bidding proceedings for the Project are applied in a non-discriminatory, transparent and objective manner. The Authority shall not provide to any Bidder information with regard to the Project or the bidding proceedings, which may have the effect of restricting competition.

Information relating to the examination, clarification, evaluation, and recommendation for the short-listed pre-qualified Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising the Authority in relation to or matters arising out of or concerning the Bidding Process. The Authority will treat all information, submitted as part of Proposal, in confidence and will require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or the Authority.

Any effort by a Bidder to influence Authority's evaluation of Bids or award decisions will result in the rejection of the Bidder's Bid.

Proposal Evaluation

Envelope 'A' shall be opened first online at the time and date notified and its contents shall be checked. In cases where Envelope 'A' does not contain all requisite documents, such bid shall be treated as non-responsive, and **Envelope "B" and "C"** of such bid shall not be opened.

In the next step of evaluation, the Envelope 'B' shall be opened online at the time and date notified. The bidder shall have freedom to witness opening of the Envelope 'B' of the Bid

A detailed Technical Evaluation of the responsive bids shall be carried out and the bidder shall be considered technically qualified if:

- (i) The online bid has been submitted in the manner as specified in clause 4.1.
- (ii) The technical proposal contains all the documents as specified in clause 3.7 (B).
- (iii) Physical bid had been received by the Authority within the specified time and it contains all the documents in original and has been submitted in the manner as specified in clause 4.2.
- (iv) It is fulfilling the pre- Qualification Criteria as specified in clause 2.3 and furnished all the necessary support documents in support of such qualification.
- (v) It has provided all the other information and documents as directed in this RFP document corresponding to the technical qualification of the bidder.

Envelope 'C' (Financial Proposal) of bidders who are not qualified in Technical Bid (**Envelope 'B'**) shall not be opened.

Envelope 'C' (Financial Proposal) of the technically qualified bidders shall be opened online at the date time & notified. The bidder shall have freedom to witness opening of the **Envelope 'C'**.

After opening **Envelope 'C'** the Financial proposal shall be checked for responsiveness. A Financial Proposal shall be responsive if it has been submitted in the manner as specified in clause 3.6. If the financial proposal of a bidder is non-responsive, it shall be declined from the bidding process.

All the responsive Financial Bids would then be ranked in ascending order of the quoted financial offer, with the Bidder quoting the lowest financial offer shall be ranked First as "L1" and the Bidder quoting the second lowest Financial offer shall be ranked Second as "L2" and so on.

Successful Bidder

The Bidder ranked first (the “L1”) in accordance with the above procedure would be declared as the successful Bidder.

If two or more Bidder’s Financial Bids are exactly the same, then the Authority reserves the right either to:

- (i) The L-1 bidder shall be decided either by obtaining spontaneous online bid from all the bidder who have quoted the same L-1 rate, which of course must be lower than their original quoted rates

Or;

- (ii) Take any such measure as may be deemed fit in its sole discretion, including annulment of the bidding process.

The Authority will notify other Bidders that their Proposals have not been accepted and their EMD will be returned as promptly as possible as per provision set out in clause 3.4 of this RFP document

Award of Contract

The Authority shall notify the successful bidder (the “L1”) as determined in clause 5.5 above, by issuing a 'Letter of Acceptance' (LOA) that his bid has been accepted.

The successful Bidder shall acknowledge his acceptance of the LoA issued by the Authority within 7 (seven) days as evidenced by signing and sending a copy of the LoA issued. In the event the duplicate copy of the LoA duly signed by the Authorized signatory of the Selected Bidder is not received within the stipulated date, the Authority may, unless it consents to extension of time for submission thereof, appropriate the EMD of such Bidder on account of failure of the Selected Bidder to acknowledge the LoA.

Performance Security

Prior to the signing of the contract agreement, the successful Bidder shall have to furnish Performance Security to the Authority in the form of bank guarantee (“the Performance Bank Guarantee” (PBG)) issued by a nationalized / scheduled bank located in India or a reputable bank located abroad having corresponding bank in India, in the format given in Form12, for an amount equivalent to 5% of the Contract value. The performance security of a joint venture shall be in the name of the joint venture.

Failure of the successful bidder to comply with the requirements of clause 5.7.1 above, shall constitute a breach of contract, cause for annulment of the award, forfeiture of the EMD, and any such other remedy the Authority may take under the contract, and the Authority may resort to awarding the contract to the next ranked bidder.

Signing of Contract Agreement

The successful bidder shall have to furnish the Performance security as directed in clause

5.7 above and sign the contract agreement within 21 days of issue of LoA.

The signing of contract agreement shall be reckoned as intimation to commencement of work. No separate work order shall be issued by the Authority to the contractor for commencement of work.

In the event of failure of the successful bidder to submit Performance Security and or sign the Contract Agreement, his EMD shall stand forfeited without prejudice to the right of the Authority for taking action against the bidder.

Fraud and Corrupt Practices

The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the LoA and during the subsistence of the Contract Agreement. Notwithstanding anything to the contrary contained herein, or in the LoA or the Contract Agreement, the Authority shall reject a Bid, withdraw the LoA, or terminate the Contract Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder or Contractor, as the case may be, if it determines that the Bidder or Contractor, as the case may be, has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, the Authority shall forfeit and appropriate the EMD or Performance Security if found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices.

For the purposes of Clause 5.9.1, the following terms shall have the meaning hereinafter respectively assigned to them:

- (i) **Corrupt Practice** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Bidding Process or the LoA or has dealt with matters concerning the Contract Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LoA or after the execution of the Contract Agreement, as the case maybe, any person in respect of any matter relating to the Project or the LoA or the Contract Agreement, who at any time has been or is a legal, financial or technical adviser of the Authority in relation to any matter concerning the Project;
- (ii) **Fraudulent practice** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
- (iii) **Coercive practice** means impairing or harming or threatening to impair or harm, directly or indirectly any person or property to influence any person’s participation or action in the Bidding Process;
- (iv) **Undesirable Practice** means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest;
And;
- (v) **Restrictive practice** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

6. Scope of Work

The current project intends to undertake the works required for Dumpsite Land Reclamation through Bio-mining of old Dumped Municipal Solid Waste/Legacy Waste, resource recovery and Scientific disposal of residual solid waste from Mollar Bheri disposal site. The contract shall be awarded to the successful bidder (“the contractor”) for a period of 11 months reckoned from the date of signing of contract agreement or the date of issue of Consent to Establish (CTE) to the project, whichever is later. The Authority shall appoint an Engineer (the “Engineer-in charge”) for overall supervision, monitoring and certification of the works executed by the contractor. The brief scope of work to be carried out by the selected contractor during the execution of the intended project includes, but not limited to, the following component:

- (i) The project information and Site details has been provided in Appendix 1 of this RFP document.
- (ii) The works shall be carried out by the contractor as per the specifications provided in Appendix-2 to Appendix-5 and scope of works provided in this section.
- (iii) The contractor shall carry out Total Station Survey of complete project site including area earmarked in which Bio-mining is to be done. Total Station Survey shall be certified by the Engineer-in-charge. The survey shall be done at the time of possession of the site as well as at the completion of each milestone of physical progress of land reclamation at the site. The survey report shall be submitted along with each running bill. The area earmarked by Authority for Reclamation through Bio-mining shall be considered as 100% area for the scope of work.
- (iv) Minimum 25-acre land shall be undergone the Biomining process, which is presently covered by old/ legacy MSW waste.
- (v) Around 16.25 acre shall be reclaimed, 2.5-acre area shall be kept for disposal of inert (subject to ULB’s discretion), and 6.25 acre area shall be designated for active disposal of further future waste after booming.
- (vi) The Contractor shall conduct its own due diligence for site investigation, analyzing the characteristics, composition and quantum of the waste at the Project site.

- (vii) Dumpsite reclamation will be done by dividing the site into suitable sectors/loops in consultation of the Engineer-in-charge based on the priority of land reclamation.
- (viii) Usually the top layer has fresh waste, dust and may have several materials in the active biological state. This layer is to be stabilized through application of Bio-Culture, herbal/biological sanitizers, inoculant or through any suitable scientific method as proposed by the contractor and accepted by the Engineer-in-charge. Odour shall be controlled and minimized through application of deodorant or scientific method.
- (ix) Excavating the existing mixed compacted MSW in the land portion allocated/earmarked by the Authority and sieving them by Mechanical sieving machine or any other suitable technology proposed and accepted by the Engineer-in-charge.
- (x) The contractor shall deploy enough machinery, manpower and required resources to execute the project scope within the project duration.
- (xi) Provision, installation, operation and maintenance of plant, machineries, infrastructure facilities and amenities for excavation, sieving of the excavated MSW, storing the segregated materials, reuse, marketing, selling, and transporting them from the project site.
- (xii) Construction of temporary shed, platform and creation of facilities for handling, separating, segregating, storing and quantifying of the excavated MSW and processing material.
- (xiii) Excavating the soil which lost its stability due to MSW dumping with necessary dewatering works in the portion of the land earmarked at the cost of the Contractor.
- (xiv) MSW waste brought for segregation and processing from the earmarked land portion shall be quantified (in Cubic meter, based on number of vehicles trips and capacity) after excavation and record of the same shall be maintained by the Contractor and Authority jointly.
- (xv) Segregate the excavated MSW in the land portion earmarked into as many kinds and categories as possible of Useful Material such as compost, soil conditioner, recyclables, raw RDF, filler material (Soil, C&D) and Un-useful material such as residual Solid Waste.
- (xvi) Packing, storing, stacking, selling, diverting for recycling, marketing and recycling of all Useful Material within thirty days of segregation at the cost of the Contractor, without accumulation in the storage facility at the project site beyond thirty days.
- (xvii) Baling, packing, stacking, storing and sale of non-recyclable fraction of high calorific as raw material to RDF producer/ user or sale to waste to energy or co-processing in cement plants or to thermal power plants.
- (xviii) Stacking, transporting, spreading and compacting the segregated C&D, Soil and Inert as filler material in low level and depression area within the site and prepare well compacted and clear ground for proposed development at site or disposing such material in the low level area or quarry area designated by the Authority with statutory approval within 30 km distance from the project site at the cost of the Contractor with proper compliance to the statutory requirements.
- (xix) The revenue or the income from the sale of the segregated Useful Material such as reusable and recyclable, Compost, soil conditioner, raw RDF, C&D, Soil or any other by-product materials shall go to the contractors account. However, before selling the recovered material the Contractor, at its own cost, will conduct a lab testing of such materials from an NABL accredited lab, for the parameters as recommended by the Engineer-in-charge or applicable rules/guidelines, and submit the report of the same to the Engineer-in-charge. The contractor shall initiate the sale or disposal process such material by-products only after the acceptance/approval of the engineer-in-charge. The revenue from selling of material should be adjusted with the cost of operation & maintenance (i.e. Biomining & disposal of inert), and the payment rate should be accordingly adjusted to the successful bidder against per metric running bill.
- (xx) The Contractor shall hand over reclaimed land and scientific residual solid waste disposal site to the Authority in a good and acceptable condition as per SWM Rules 2016.
- (xxi) Record of the residual solid waste disposal in Cubic Meters and Metric Tones along with its density.

- (xxii) Carrying out the entire project work in accordance with the Detailed Plan of Action and schedule proposed by Bidder and approved by the Authority at the cost of the Contractor.
- (xxiii) Using only covered body vehicles for the transportation of materials at the cost of the Contractor.
- (xxiv) Apply method, process, equipment and resources which would reduce the impact of dumpsite reclamation activity in the adjacent areas.
- (xxv) Create facilities and decide for controlling/ mitigating the emission, pollution and contamination (Environment impact) including air, water and soil including mitigation for of dust, odor and noise pollution at the cost of the Contractor.
- (xxvi) Construction of temporary site office, water, power, sanitation facilities and accommodation facilities of workers for the Project as per statutory standards at the cost of the Contractor.
- (i) Providing security arrangement for the project site, machineries, equipment etc. at its own cost.
- (ii) Completing the work within the Contract Period.

7. Payment Schedule

Payment Mechanism

The Authority will be releasing payment for the work based on the percentage of proposed land (80% of the earmarked land by the Authority) to be reclaimed as per the achievement of the milestone mentioned in the table below:

Milestone	Physical Progress (W _P)	Time of Completion	Broad Parameters of Physical Progress	% release of Contract Value
First Milestone	40% of the proposed land to bereclaimed	3 Months after machine installation	• 40% of the proposed land to be reclaimed	40%
Second Milestone	30% of the proposed land to be reclaimed	4 Months after first milestone	• Cumulative 70% of the proposed land to be reclaimed	30%
Third Milestone	30% of the proposed land to be reclaimed	3 Months after second milestone	• Cumulative 100% of the proposed land to be reclaimed	30%

Calculation of Payment of running Bill

Payment for the work on achievement of each milestone shall be calculated by the Authority based on the following formula:

$$\text{Payment for Work (P}_w\text{)} = (\text{WXR}) - (\text{Revenue per metric Ton of bio mined material})$$

Where,

W= Weight of Waste bio mined

R = Quoted rate per m3 of waste

The Contractor shall, on completion of the particular Milestone of the work, before the 20th (twentieth) day of the Month or in case the 20th (twentieth) day of a Month is a holiday then on the following working day of such Month, submit to the Authority a statement (“the Running Bill”) providing the following details:

- (i) Items of Work Completed at site including photographic evidence of the same
- (ii) Certificate from the Engineer-in-charge certifying the work done and milestone achieved.
- (iii) Details of the employment of Man-hours, Machinery and equipment utilized to achieve the physical progress of that Milestone.

The Authority shall not pay interest on the bill amount, if delay occurs in the release of the payment, for any reason whatsoever.

Liquidated Damage

In case the work is not completed within the stipulated period of completion of whole or part of work (achievement of milestones specified by authority) along with all such extensions which are granted to the Contractor for either Authority's default or Force Majeure, the compensation shall be levied on the contractor at the rate of 0.05% of the contract amount per day of delay limited to maximum of 10% of contract amount.

The Authority will deduct the liquidated damages from payments due to the Contractor.

If the liquidated damage attains to a maximum of 10% of the contract amount the authority may:

- (i) Terminate the contract agreement and forfeit the EMD and the Performance Security.
- (ii) Retain the contractor on depositing the amount equivalent to the such liquidity damage of 10% of the contract amount. However, the retention of the contractor on such ground shall not free him from his liabilities for completion of the work or any future imposition of liquidity damages.

The decision of the Authority in this regard shall be final and binding upon both the parties.

Penalty for Non-Compliance

Sr. No.	Penalty Description	Penalty Amount
1.	Non-Compliance to , SWM Rules 2016 and other Environmental Standards notified by regulatory authorities or as specified in the Contract.	Rs. 20000/- per Incidence per day till the compliance of the failure in addition to the Penalties/ Actions imposed by various authorities.
2.	Non-provision of 1. Site Facilities as per specifications	Rs. 10000/- per item per day
3.	Non-compliance of Safety Standards, use of Personal Protective Equipment by the workers	Rs.10000/- per Incidence per day till the compliance of the failure in addition to the Penalties/ Actions imposed by various authorities.

8. Miscellaneous

The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at Kolkata shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process. The AUTHORITY, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to:

- (i) Suspend and/or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
- (ii) Consult with any Bidder in order to receive clarification or further information including justification of financial bid submitted;
- (iii) Retain any information and/ or evidence submitted to the AUTHORITY by, on behalf of, and/or in relation to any Bidder; and/ or
- (iv) Independently verify, disqualify, reject and/ or accept any and all submissions or other information and/ or evidence submitted by or on behalf of any Bidder.
- (v) It shall be deemed that by submitting the Bid, the Bidder agrees and releases the Authority, its employees, agents and advisers, irrevocably, unconditionally, fully and finally for many and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection herewith and waives any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or future.

Forms for Technical Bid Submission

Form 1: Letter Comprising the Bid cum undertaking

(On Non-Judicial Stamp of Rs.100)

Date:

To,

The Executive Engineer,

Dear Sir,

Sub: RFP Reference No._____Dated_____for Selection of Contractor to execute the work of Bio-mining of old dump site at_____

With reference to your RFP document dated....., I/we, have examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid Project "**Selection of Contractor for execute the work of Bio-mining of old dump site at Mollar Bheri**" and state as under:

1. The Bid is unconditional and unqualified.
2. All information provided in the Bid and in the Appendices is true and correct.
3. This statement is made for the express purpose of qualifying as a Bidder for the Project as explained in this RFP document.
4. I/We shall make available to the Authority for any additional information it may find necessary or require supplementing or authenticate the Bid.
5. I/We acknowledge the right of the Authority to reject our Bid without assigning any reason or otherwise and here by waive our right to challenge the same on any account whatsoever.
6. We certify that in the last three years, we/any of the Consortium Members have neither failed to perform on any contract, as evidenced by judicial pronouncement or arbitration award, nor been expelled from any project or contract nor have had any contract terminated for breach on our part.
7. I/We declare that:
 - a. I/We have examined and have no reservations to the Bidding Documents, including any Addendum issued by the Authority.
 - b. I/We do not have any conflict of interest in accordance with Clauses 2.10 of the RFP document.

- c. I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in the RFP document, in respect of any tender or request for proposal issued by or any agreement entered in to with the Authority or any other public sector enterprise or any government, Centre or State; and
 - d. I/We hereby certify that we have taken steps to ensure that in conformity with the provisions of Clause 5.9 of the RFP, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.
8. I/We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Bid that you may receive nor to invite the Bidders to Bid for the Project, without incurring any liability to Bidders.
9. I/We believe that we/our consortium/proposed consortium satisfies(ies) the pre- qualify in g criteria and meet(s) the requirements as specified in the RFP document and am/are qualified to submit this Bid.
10. I/We declare that we/any Member of the Consortium am/are not a Member of any other Consortium submitting a Bid for the Project.
11. I/We certify that we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the Project which relates to a grave offence that outrages the moral sense of the community.
12. I/We further certify that in regard to matters relating to security and integrity of the country, we have not been charge- sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.
13. I/We undertake that in case due to any change in facts or circumstances during the Bidding Process, we are attracted by the provisions of disqualification in terms of the guidelines referred to above, we shall intimate the Authority of the same immediately.
14. We acknowledge that our Consortium/proposed Consortium shall bear the following composition:

A. Lead Member: M/s.....

B. Technical Member: M/s.....

And we further undertake that above consortium composition shall be maintained till the end of this contract period or extension thereof. We further acknowledge that the lead member takes the full responsibility towards execution of the project and the terms and condition laid down in the contract agreement. *(Individual Bidder to strike out this point).*

15. I/We hereby irrevocably waive any right, which we may have at any stage at law or howsoever otherwise arising to challenge, or question any decision taken by the Authority in connection with the selection of the Bidder, or in connection with
16. In the event of my/our being declared as the Selected Bidder, I/We agree to enter into a Contract Agreement in accordance with the draft that has been provided to me/us prior to the Bid Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.
17. I/We have studied all the Bidding Documents carefully and also surveyed the project area. We understand that except to the extent as expressly set forth in the Contract Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by the Authority or in respect of any matter arising out of or concerning or relating to the Bidding Process including the award of Contract.

18. The Financial Bid has been quoted by me/us after taking into consideration all the terms and conditions stated in the RFP and draft Contract Agreement, our own estimates of costs and careful assessment of the site and all the prevailing and expected conditions that may affect the Bid.
19. I/We offer to the Authority a Bid Document Fees of INR 12,500 (INR Twelve Thousand Five Hundred) and EMD of INR 3,00,000 (INR Three Lakh) submitted online through the website “https://XXXXXXXXXX” as specified in this RFP document.
20. I/We agree and understand that the Bid is subject to the provisions of the Bidding Documents. In no case, I/We shall have any claim or right of whatsoever nature if the Project/ Contract is not awarded to me/us or our Bid is not opened.
21. I/We hereby submit our Bid in the form as specified in the RFP document for undertaking the aforesaid Project in accordance with the Bidding Documents and the Contract Agreement.
22. I/We agree to keep this offer valid for 180 (One Hundred Eighty) days from the Due Date of online Bid submission as specified in the RFP document or any other such duration as directed by the Authority.
23. I/We agree and undertake to abide by all the terms and conditions of the RFP document. In witness thereof, I/we submit this Bid under and in accordance with the terms of the RFP document.
24. I/we have received all the clarifications issued by the Authority.
25. I/we will abide by the terms and condition set forth in the RFP document, condition of contract and draft Contract agreement and a copy of the same bearing initial of the undersign on every page is attached herewith.
26. Notwithstanding any qualification 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.

Yours faithfully,

Date:

(Signature of the Authorized Signatory)

Place:

**(Name and designation of the
Authorized Signatory)**

Name and Seal of Bidder/Lead Firm

Form 2: Format for Description of Bidder

S.No.	Particulars	Details		
		Individual Bidder Company (1)	Lead Member of Consortium (2)	Technical Member of Consortium (3)
1.	Name of the Bidding company			
2.	Date of incorporation and /or Commencement of Business			
3.	Brief description of the Bidder's main line of business			
4.	Details of individual (s) who will serve as the point of contact/ communication for Authority with the Bidder:			
a.	Name			
b.	Designation			
c.	Company/Firm			
d.	Address:			
e.	Mobile Number			
f.	Email Address			
g.	Fax Number			
5.	Details of Authorized Signatory of Bidder			
a.	Name			
b.	Designation			
c.	Company/Firm			
d.	Address:			
e.	Mobile Number			
f.	Email Address			
g.	Fax Number			

Note:

Column '1' to be filled by the Individual Bidder and Column '2' & '3' to be filled by the respective members of the consortium

Form 3: Power of Attorney for Signing of Bid

Know all men by these presents, We, _____ (name of Firm and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr. / Ms.

_____ Son / daughter / wife and presently residing at _____ who is presently employed with / retained by us and holding the

position of _____ as our true and lawful attorney (hereinafter referred to as the "Authorized Representative") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our (Project), proposals and other documents and writings, participating in pre-bid and other conference and providing information / responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with the Authority in all matters in connection with or relating to or arising out of us Proposal for the said consultancy job and/or upon award thereof to us till the entering of the Agreement with the Authority.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, _____ THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS

POWER OF ATTORNEY ON THIS DAY OF _____, 2019.

For (Signature, Name, Designation and Address)

Witnesses:

1) _____

2) _____

Notarized

Accepted (Signature, name designation and address of the Attorney)

Notes:

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 executants (s) and when it is so required the same should be under common seal affixed in accordance with the required procedure. Wherever required, the Applicant should submit for verification the extract of the charter documents and other documents such as a resolution / power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

Form 4: Form for Financial Pre-Qualification

A. Turnover

Financial Year	Annual Turnover (in INR)
Year1	
Year2	
Year3	
Year4	
Year5	
Average Turnover	

B. Net Worth as on Year1 (Financial Year preceding to Due date of Bidding): INR

Note:

- 1. The financial year shall mean the period commencing from April1 of any given year to March31 of the succeeding year.*
- 2. The Bidder shall provide the Audited Annual Financial Statements of the corresponding years. Failure to do so would result in the Proposal being considered as non-responsive. In case the annual accounts for the latest financial year are not audited and therefore cannot make it available, the applicant shall give an undertaking, to this effect and the statutory auditor shall certify the same. In such case, the applicant shall provide the audited annual reports for five years preceding the year for which audited annual report is not being provided.*
- 3. A certificate from Statutory Auditor should be provided as supporting document certifying the Financial Pre-Qualification.*

(Signature of the Authorized signatory)

Form 5: Format for Banker's Certificate

To,
Chief Officer,

Dear Sir/Madam,

Ref: Request for Proposal issued by the _____ **dated** _____

Sub: **RFP Reference No.** _____ **Dated** _____ **for Selection of Contractor**
to *(Name of Work)*

This is to certify that M/s. _____ * is a reputed company with a good financial standing. If the contract for this work _____ *(Name of Work)*, is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet the working capital requirements for executing the above contract.

Sd./ Senior Bank Manager
Name of Bank
Address
Contact No.

***Change the text as follows for Joint venture:**

This is to certify that M/s *(Name of Lead Member)* who has formed a Consortium/Joint Venture with M/s _____ *(Name of Techn*
(Name of Work), is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet the working capital requirements for executing the above contract.

Sd./ Senior Bank Manager
Name of Bank
Address
Contact No.

Form 6: Format for summary of Technical Pre-Qualification

(List only those works, which are similar to the proposed works for which the Qualification Information is submitted)

A. Summary Table

Name of Applicant/Member of Consortium (in case of consortium) Claiming the Project Experience:							
S. No.	Brief Project Description	Project Award Date <i>(Only those Project(s) awarded in preceding 5 FY from due date of bidding shall be considered)</i>	Project Completion Date/ expected completion date	Project Cost in INR (Cr)	Project Capacity (M ³ / MT) (A)	Claiming Entity's Share in the Project (%) (B)	Effective Handled Capacity Ax B (c) (M ³ / MT)

B. Average Project Capacity (As per column 'C') of eligible projects handled (as mentioned in summary table above is (m³/ MT)

- 1. The details of each of the works mentioned in the above table must be provided separately in Form 8 (A).*
- 2. Use a separate sheet for each member in case of a consortium.*
- 3. Provide attested copies of Work Orders and /or Completion Certificates for each project. Work orders/ testimonials will be verified if required.*
- 4. Each certificate of experience will be duly signed/confirmed by a representative of the client (to be of at least Executive Engineer Rank)*

Form 6(A): Details of Projects eligible for Technical Pre-Qualification

(Provide Details for Only those Projects listed in Form 8, use separate sheet for each project)

Name of Applicant/Member of Consortium (In case of Consortium) Claiming the Project Experience: _____	
1.	Name of Project
2.	Location of Project
3.	Name of the Client
4.	Client's Address & Telephone Number, Fax Number and e mail ID of contact person
5.	Project Cost (in INR Cr)
6.	Nature of works and special features relevant to this project. (Details pertinent to the Technical Criteria of this RFP shall be submitted)
7.	Contract role (check one) <input type="checkbox"/> Sole Contractor <input type="checkbox"/> Consortium/Joint Venture <input type="checkbox"/> Sub-Contractor
8.	a) Project Capacity: b) Your Company's share in the Project (%):
9.	Date of Award
10.	Contract duration_____years_____Months
11.	Date of Completion
12.	Whether Completed in specified duration, If No, reason for delay
13.	Specified requirements
14.	Name and professional qualifications of applicant's Engineer-in-Charge of the work:
15.	Were there any penalties/fines/stop-notice/compensation/liquidated damages imposed? (Yes or No). If yes, give amount and explanation.

Form 7: Format for Submitting Dumpsite Reclamation and Gas/ Leachate Management Plan

The Bidder will submit a Dumpsite Reclamation, Gas and Leachate Management Plan covering the following topic:

1. Dumpsite land reclamation: Present the proposed Site layout development, land reclamation sequence on layout drawing, general arrangement of machineries, screening, sorting, storing, packing areas.
2. Excavation, Screening & Resource Recovery: Indicate number, type and capacity of equipment's/machinery to be deployed for the purpose of excavation, segregating, sorting, retrieving recoverable materials, storing, baling, packing, selling, provide the basis for deciding the number and justify the time period estimated for the activity and operation and maintenance details.
3. Bio-mining of un-processed municipal solid waste: Specify the proposed method in detailed, quantity of resources required, provide the basis for deciding the quantity of resources, number and justify the time period estimated for the activity and operation and maintenance details.
4. Development of facility for Scientific disposal of residual Solid Waste: Detail the proposed method and quality control protocol for laying various landfill liner layers, quantities of materials, equipment/ machinery proposed to be deployed and justification of the proposed to facility and scientific rejects disposal/ backfill in facility operation and maintenance details.
5. Leachate collection, treatment system and surface water drainage work: Present leachate collection system and surface water drainage system including the alignment, treatment, disposal locations and invert levels

All the above should be suitably supported with the engineering drawings, man-power requirement, fuel/power requirement and explanation of estimated time schedule.

Based on the above work requirement, the Bidder will provide details of plant, machinery and equipment proposed to be deployed in the works in the format 9(A)

The Bidder shall also provide a list of key personnel proposed to be deployed for the work with their curriculum vitae in the Format Provided in Form 9 (B).

Form 7 (A): Format for Providing Details of Machinery to be Deployed for the Project

Name of the bidding company/Consortium members' company owning the Machinery/Equipment_____					
Item of Equipment Including Make	Number and Capacity	Ownership Status		Age and Condition	Remarks Regarding Condition/Source/ Availability
		Owned/ Leased / to be Procured	Number & Capacity		

Note:

- 1. List only the key equipment for construction, standby power, material handling and vehicles for site, etc., which the Company proposes to use for the proposed works at the site.*
- 2. The applicant should clearly demonstrate that he has access to all key equipment which will be required for the successful completion of the works.*

Form 7 (B): Details of Key Personnel to be deployed for the Project

(Use separate Sheet for each key personnel)

Name of Bidder Company/Consortium members' company <i>(in case of consortium)</i> :			
Proposed Position			
Key Personnel Information	1. Name 2. Date of Birth 3. Contact Number 4. Professional Qualification 5. Current Designation 6. Years With Present Employer		
Experience Summary Relevant to this Project			
Professional Experience over the last 10 Years <i>(in chronological order)</i>	From	To	Company/Project/Position/Relevant Technical and Management experience

Form 8: Format for Providing Environment, Health and Safety Management Plan

The Bidder shall furnish a brief write-up of the following points:

1. Plan for Mitigation of Pollution during Project Execution work
2. Measures to manage hazardous waste if any during the project execution
3. Plan for Health and safety in and around the workplace to be followed during project execution
4. Emergency preparedness plan
5. Measures for Fire safety.
6. Measures for Health and safety of workers.

Form 9: Format for Letter of Acceptance (LoA)

LETTER OF ACCEPTANCE (LOA)

(On the Letter Head of the Authority)

Date:

M/s. _____

(Name and address of the contractor)

Subject: _____

(Name of the work as appearing in the bid for the work)

Dear Sir (s)/ Madam(s),

Your bid for the work mentioned above has been accepted on behalf of the *(Name of Authority)*, at your bided offer as per scope of work given therein. You are requested to submit within 21 (Twenty-One) days from the date of issue of this letter:

- (i) The performance security/performance guarantee of Rs. _____ (in figures) Rupees _____ (in words _____ only). The performance security shall be in the form of bank guarantee of any nationalized / schedule commercial bank.
- (ii) Sign the Contract Agreement.

Please note that the time allowed for carrying out the work as entered in the bid is 6 months including rainy season, shall be reckoned from the date of signing the contract agreement or issuance of Consent to Establish to the project whichever is later.

Signing the contract agreement shall be reckoned as intimation to commencement of work and no separate letter for commencement of work is required. Therefore, after signing of the agreement, you are directed to contact Authority/Engineer-in-charge for taking the possession of site and necessary instructions to start the work.

Yours faithfully,

Form 10: Format for Performance Bank Guarantee

To:

_____ *[the Authority]* _____

[Address of the Authority] WHEREAS _____ *[name and address of*

Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No.

_____ Dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract; AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf
Of the Contractor, up to a total of _____ *[amount of guarantee]*

_____ *[In words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[Amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein. We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand. We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification. This guarantee shall be valid until *(date of Validity as per the Bid Document)*

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Form 11: Format for Retention Security Deposit Bank Guarantee (SBG)

To:

_____ [The Authority] _____ [Address of the Authority]
WHEREAS _____ [name and address of Contractor] (herein after called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [Name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract Clause No. 7.2 that the Contractor shall furnish you with a Security Bank Guarantee (SBG) by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [amount of guarantee] _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification. This guarantee shall be valid until _____ Days. (*Validity Period as per sub-Clause 7.2.4*)

Signature and seal of the guarantor _____
Name of Bank _____
Address _____
Date _____

Form 12: Format of Financial Bid

Name of Work: _____

I/We do hereby BID to execution of the above work within the time specified at the rate Mentioned below in all respects and in accordance with the specifications, designs, drawings and instructions in writing in all respects in accordance with such conditions so far as applicable. I/We have visited the site of work and am/are fully aware of all the difficulties and conditions likely to affect carrying out the work. I/We have fully acquainted myself/ourselves about the conditions regarding accessibility of site and quarries/kilns, nature and the extent of ground, working conditions including stacking of materials, installation of tools and plant conditions effecting accommodation and movement of labor etc. required for the satisfactory execution of contract.

SN	Head	Rate (Rs/ ton)	Quantity (Ton)	Total (INR lakh)
1	Biomining of legacy waste			
2	Disposal of inert			
3	Total			

Should this bid be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract so far as applicable, or in default thereof to forfeit and pay to the Chief executive officer, _____ or his successors in office the sums of money mentioned in the said conditions.

Signature of Bidder

Name of Bidder

Appendix

Volume II- Draft Contract Agreement Format

Draft Contract Agreement Format

This agreement made the _____ day of 20_____, between Bidhannagar Municipal Corporation (Hereinafter called as "the Authority") of the one-part M/S_____ and [name and address of contractor] (hereinafter called "the Contractor") of the second part.

Whereas the Authority is desirous that the Contractor execute _____ [name and identification number of Contract] (hereinafter called "the Works") and the Authority has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein at a contract price of INR _____.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Authority to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Authority to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Authority hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - i. Letter of Acceptance;
 - ii. Notice Inviting Bid;
 - iii. Bid Document issued by the Bidhannagar Municipal Council and its subsequent amendments and corrigendum
 - iv. Contractor's Bid;
 - v. Conditions of contract (including Special Conditions of Contract);
 - vi. Specifications;
 - vii. Drawings and Site Map;
 - viii. Any other document listed in the Condition of Contract forming part of the contract.

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

The Common Seal of _____ was here unto affixed in the presence of:

Signed, Sealed and Delivered by the said

In the presence of:

Binding Signature of Authority

Binding Signature of Contractor (To be signed by the Authorized Signatory of the Bidder)

*****END OF DRAFT CONTRACT AGREEMENT*****

Volume III- Conditions of Contract

Conditions of Contract

A. General Conditions of Contract (GCC)

1. Definitions

"Authority" means the Commissioner, Bidhannagar Municipal Corporation who will execute the contract agreement with the Contractor to carry out the work. The Authority may delegate any or all functions to a person or body nominated by him for specified functions. The word Authority/Government/Department wherever used denotes the Authority.

"Completion" means completion of the work, as certified by the Engineer-in-Charge, in accordance with provisions of agreement.

"Contract" means the Contract between the Authority and the Contractor to execute, complete and/or maintain the work. Agreement is synonym of Contract and carries the same meaning wherever used.

"Contractor" means a person, or a legal entity whose bid to carry out the work has been accepted by the Authority.

"Contractor's bid" means the completed bid document submitted by the Contractor to the Authority.

"Contract amount" means the amount of contract worked out on the basis of accepted bid.

"Completion of work" means completion of the entire contracted work. Exhaustion of quantity of any item mentioned in the bid document shall not imply completion of work or any component thereof.

"Day" means the calendar day.

"Defect" means any part of the work not completed in accordance with the specifications included in the contract.

"Drawings" means drawings including calculations and other information provided or approved by the Engineer-in-Charge.

"Engineer in charge" means the person nominated by the Authority for overall supervision and coordination of the work, provide approval to work plan and work schedules submitted by the contractor for commencement of the work, approval of drawings and specification, certification of the work executed by the contractor and invoice raised by the contractor. The Word "Engineer" wherever used, other than mentioned or specified, means the Engineer-in—charge

"Equipment" means the Contractor's machinery and vehicles brought temporarily to the Site for execution of work at his own cost.

"Government" means the Government of West Bengal or the Government of India as the case may be.

"In Writing" means communicated in written form and delivered against receipt.

"Material" means all supplies including consumables used by the Contractor for incorporation in the work.

"Stipulated date of completion" means the date on which the Contractor is required to complete the work. The stipulated date is specified in the Contract Data.

"Specification" means the specification of the work included in the Contract and any modification or addition made or approved by the Engineer-in-Charge.

"Start Date" means the date 14 days after the signing of agreement for the work. However, the Authority may extend this time limit by another 14 days, as and when required.

"Sub-Contractor" means a person or corporate body who has a Contract (duly authorized by the Authority) with the Contractor to carry out a part of the work under the Contract.

"Temporary Work" means work designed, constructed, installed, and removed by the Contractor that are needed for the work.

"Tender/Bid/Bid Document/Request for Proposal (RFP), Tenderer/Bidder" are the synonyms and carry the same meaning where ever used.

"Variation" means any change in the work which is instructed or approved as variation under this contract.

"Work" the expression **"work"** or **"works"** or **"Project"** where used in these conditions shall unless there be something either in the subject or context repugnant to such work, be construed and taken to mean the work by virtue of contract, contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.

"Work Plan" means the implementation plan, including phasing of works, physical completion milestones and other such details that the Authority shall seek from time to time with respect to tracking progress of the works.

2. Interpretations

In the contract, except where the context requires otherwise-

- Words indicating one gender include all genders;
- Words indicating the singular also include the plural and viceversa;
- Provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing;
- Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record; Words have their normal meaning under the language of the Contract unless specifically defined.
- The Engineer will provide instructions clarifying queries about the Conditions of Contract.

3. Documents Forming Part of Contract:

Notice Inviting Bid with all amendments. Tender Document (Tender Notice No. – 16/2017-18) with all amendments and corrigendum Contract Agreement

Conditions of Contract:

- Part A: General Conditions of Contract and Contract Data with all Annexures;
- Part B: Special Conditions of Contract.

Specifications;

- Drawings and site map
- Technical and Financial Bid submitted by the Contractor
- Any other document (s), as specified or important to execute thiscontract.

4. Language and Law

The language of the Contract and the law governing the Contract are stated in this condition of contract.

5. Communications

All certificates notice or instruction to be given to the Contractor by Authority/Engineer shall be sent on the address or contact details given by the Contractor in Form 2 of his submitted Bid. The address and contract details for communication with the Authority/Engineer shall be as per the details given in bid data sheet of the RFP Document or as specified in written from time to time. Communication between parties that are referred to in the conditions shall be in writing. The notice sent by facsimile (fax) or other electronic means (email) shall also be effective on confirmation of the transmission. The notice sent by registered post or speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service. In case of any change in address for communication, the same shall be immediately notified to Engineer-in-Charge.

6. Engineer's Decisions

- Except where otherwise specifically stated, the Engineer will decide contractual matters between the Authority and the Contractor in the role representing the Authority.
- The Engineer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

7. Subcontracting

The Contractor may subcontract with the approval of the Engineer but may not assign the Contract without the approval of the Authority in writing. Subcontracting does not alter the Contractor's obligations.

8. Personnel

The Contractor shall employ the key personnel named in the Schedule of Key Personnel in the Form 9 (B) of his submitted technical bid to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force or sub-contractor, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9. Force Majeure

The term "Force Majeure" means an exceptional event or circumstance:

- Which is beyond a party's control;
- Which such party could not reasonably have provided against before entering into the contract;
- Which, having arisen, such party could not reasonably have avoided or overcome, and;
- Which is not substantially attributed to the other Party

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) in the sub-clause 9.1 above, are satisfied:

- War, hostilities (whether war be declared or not), invasion, act of foreign enemies);
- Rebellion, terrorism, sabotage by persons other than the contractor's Personnel, revolution, insurrection, military or usurped power, or civil war;
- Riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;
- Munitions of war, explosive materials, ionizing radiation or contamination by radio activity, except as may be attributed to the Contractor's use of such munitions, explosives, radiation or radio activity, and;
- Natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

In the event of either party being rendered unable by force majeure to perform any duty or discharge any responsibility arising out of the contract, the relative obligation of the party affected by such force majeure shall upon notification to the other party be suspended for the period during which force majeure event lasts. The cost and loss sustained by either party shall be borne by respective parties.

For the period of extension granted to the Contractor due to Force Majeure the penalty clause shall not apply. It is clarified that the clause '9' shall not give eligibility for any adjustment or escalation in contract amount.

The time for performance of the relative obligation suspended by the force majeure shall stand extended by the period for which such cause lasts. Should the delay caused by force majeure exceed six months, the parties to the contract shall be at liberty to foreclose the contract after holding mutual discussions.

10. Contractor's Risks

- All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract are the responsibility of the Contractor.
- All risks and consequences arising from the inaccuracies or falseness of the documents and/or information submitted by the contractor shall be the responsibility of the Contractor alone, notwithstanding the fact that designs/drawings or other documents have been approved by the department.

11. Safety

The Contractor shall be responsible for the safety of all activities on the Site. The contractor shall comply to the safety guidelines and best industrial practice to implement safety at work place.

12. Liability for Accidents to Person

The contractor shall be deemed to have indemnified and saved harmless the Government and/or the Authority, against all action, suits, claims, demands, costs etc. arising in connection with injuries suffered by any persons employed by the contractor or his subcontractor for the works whether under the General law or under workman's compensation Act, or any other statute in force at the time of dealing with the question of the liability of employees for the injuries suffered by employees and to have taken steps properly to ensure against any claim there under.

13. Contractor to Complete the Works

- The Contractor shall execute the Works in accordance with the Milestone, Work plan, work schedule, Specifications, Drawings and site map as specified in the Bid Document. In the case of any class of work for which there is no such specification as is mentioned in the Tender Document, such work shall be carried out in accordance with the instructions and requirement of the Engineer-in-charge.
- The contractor shall supply and take upon himself and at his cost the entire responsibility of the sufficiency of all the means and resources used for the fulfilment of this contract whether such means may or may not be specified in the scope of work, Bid Document, contract agreement or recommended by the Engineer-in-charge.

14. Discoveries

Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Authority/Government. The Contractor shall notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

15. Dispute Resolution System

- No dispute can be raised except before the Authority in writing giving full description and grounds of Dispute. It is clarified that merely recording protest while accepting measurement and/or payment shall not be taken as raising a dispute.
- No issue of dispute can be raised after 45 days of its occurrence. Any dispute raised after expiry of 45 days of its first occurrence shall not be entertained and the Authority shall not be liable for claims arising out of such disputes.
- The Authority shall decide the matter within 45 days.
- Appeal against the order of the Authority can be preferred within 30 days to the court of Pune.
- The contractor shall have to continue execution of the works with due diligence notwithstanding pendency of a dispute before any authority or forum.

16. Approval by the Engineer

- The Contractor shall submit the work plan, work schedule, Specifications and Drawings for the commencement of the proposed work/part of proposed work/milestone of proposed work, before the commencement of such works. The contractor shall proceed for the commencement of such work only after the approval of the Engineer-in-charge.
- The Contractor shall be responsible for design of the proposed Works.
- The Contractor shall obtain approval of third parties to the design of the Works where required.
- All Drawings, work plan and work schedule prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

17. Time Frame for completion of works

- The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the milestone achievement schedule set out in the Bid Document as updated time to time by the approval of the Engineer-in-Charge and complete them by the Intended Completion Date.
- The Engineer's approval of the work schedule shall not alter the Contractor's obligations

18. Extension of Time

- If the Contractor desires an extension of time for completion of the work on the ground of his having been unavoidably hindered in its execution or on any other grounds, he shall apply, in writing, to the Engineer-in-charge, on account of which he desires such extension. Engineer-in-charge shall forward the aforesaid application to the competent authority as prescribed.
- The Authority shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of grounds of having unavoidable hindrance in execution of work or on any other such grounds, and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

19. Liquidated Damages

- The Contractor shall pay liquidated damages to the Authority at the rate per day stated in the sub-clause 7.3 of the RFP document, for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data) after considering the extension of time as specified in clause 17 of this GCC. The total amount of liquidated damages shall not exceed the amount defined in the sub- clause 7.3 of the RFP document. The Authority will deduct the liquidated damages from payments due to the Contractor.
- If the Intended Completion Date is extended after liquidated damages have been paid, the Authority shall correct any overpayment of liquidated damages by the Contractor by adjusting such overpayment from the next payment due to the contractor or final settlement of payments with the contractor. The contractor shall not pay any interest on any such amount of overpayment of liquidity damages.
- Payment of liquidated damages does not affect the Contractor's liabilities.

20. Penalty for Non-Compliance

The Contractor shall pay penalty for Non-compliance to the SWM Rules 2016, Environmental standards, Safety Standards, Specifications as set out in the RFP document etc. as per the schedule mentioned in clause 7.4 of the RFP document.

21. Contract amount

- The contractor's quoted contract amount can't be changed.
- No interest shall be payable to the Contractor on any payment due or awarded by the authority.
- The rates quoted by the Contractor shall be deemed to be inclusive of GST and other levies, duties, cess, toll, taxes of Central and State Governments, local bodies and authorities.

22. Quality Control

Identifying Defects

- The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.
- The contractor shall permit the Authority's Technical auditor to check the contractor's work and notify the Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer's responsibility as defined in the Contract Agreement.

Correction of Defects

- The Engineer shall give notice to the Contractor of any Defects, in writing.
- Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time and satisfaction level of the Engineer as specified in the Engineer's notice.
- If the Contractor has not corrected a Defect, within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

23. Termination of Contract

The Authority or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) Abandons the works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the contract;
- (b) The Engineer-in-charge instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 60 days;
- (c) The Authority or the Contractor is made bankrupt or goes into liquidation other than for a

reconstruction or amalgamation;

- (d) The Contractor without reasonable excuse fails to comply with the notice to correct a particular defect within a reasonable period of time;
- (e) the Contractor does not maintain a valid instrument of financial Security, as prescribed;
- (f) the Contractor has delayed the completion of the Works by such duration for which the maximum amount of liquidated damages is recoverable;
- (g) if the Contractor, in judgment of the engineer in charge has engaged in corrupt or fraudulent practices in competing for or in executing the contract, the definition of corrupt and fraudulent practice shall be as defined in clause 5.9 of the RFP document;
- (h) the contractor fails to perform in the manner as specified in the Contract agreement, bid document, bid submitted by him or recommendation by the engineer-in charge;
- (i) The contractor (in case of Consortium/joint venture) has modified the composition of the Consortium/joint venture and/or the responsibility of each member of the Consortium/joint venture from what is stated in Consortium/joint venture agreement without prior approval of the Authority.

Notwithstanding the above, the Authority may terminate the Contract for convenience.

- If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.
- All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Authority, if the Contract is terminated because of a Contractor's default.

24. Payment upon Termination

- If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less adjusted advance payments (on pro-rated basis) received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as per the percentage of milestone achievement. Additional Liquidated Damages shall not apply. If the total amount due to the Authority exceeds any payment due to the Contractor, the difference shall be a debt payable to the Authority.
- If the Contract is terminated at the Authority's convenience or because of a fundamental breach of Contract by the Authority, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

25. Performance Security

The Contractor shall have to submit performance security as set out in the clause 5.7 of the tender document.

The contractor shall have to ensure that such performance security remains valid for the period as specified in the tender document.

26. Retention Security Deposit

Security deposit shall be deducted from each running bill at the rate as specified in the clause 7.2 of the Tender Document. The Security deposit shall be refunded on after 60 days from the issue of final completion certificate subject to the conditions of the contract agreement and the tender documents, whichever is applicable.

27. Payment of contract Amount

- Payment of the ‘contract amount’ shall be made to the contractor in accordance to the provision as set out in the clause 7 of the RFP document.
- No advance payment shall be made to the contractor in any case.
- The invoice for the payment shall be raised by the contractor, after the certification of the work completed by the contractor and the invoice by the Engineer-in-charge
- The payment shall be made through Demand Draft/Cheque/NEFT/RTGS. No payment shall be made in cash
- All payment shall be made in Indian currencies.

28. Completion Certificate

- A provisional completion certificate in the prescribed format as given in Annexure I of these conditions of contract shall be issued by the Engineer in charge after physical completion of the work.
- After final payment to the contractor, a final completion certificate in the prescribed format as given in Annexure II of this conditions of contract shall be issued by the Engineer in charge.
- The Authority shall take over the Site and the Works within seven days of the issue of the provisional Completion certificate.

*****END OF GCC*****

B. Special Conditions of Contract (SCC)

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

1. Role of Parties to the Contract

Role of the Authority

The Authority shall play the following role in this project-

- (i) The Authority shall handover the Project Site and the detailed information is mentioned in the Project information Memorandum (PIM) as mentioned in **Annexure - IV** on an as-is-where-is basis, free from encumbrances, for the execution of the Project. The Authority will not provide any equipment or vehicle for the project. All equipment and machinery required by the successful contractor shall be arranged by the contractor at his own cost.
- (ii) The Authority shall earmark the land (to be reclaimed and to be used for segregation and processing of excavated mixed MSW) and give possession to the Contractor within one week of the execution of the Contract Agreement.
- (iii) The Authority shall provide access to the land earmarked to the contractor for implementing the project.
- (iv) The Authority shall provide necessary clearances, permits, approvals, authorizations, and no objection certificates, at its own cost, which are required by the contractor to execute the project and obtain Water and Sewage Connection and Power Connection.
- (v) The Authority shall permit the contractor to carry out the project till the conclusion of the Contract Period of Six months or any extension thereof.

Role of the Contractor

- (i) The contractor shall execute and complete the project in accordance with the provisions set out in the tender document, the Conditions of contract and the contract agreement
- (ii) The contractor shall have no right or title or leasehold right on the land earmarked to them. The Land earmarked to the Bidder shall not be used for any other purpose other than for the project purpose.
- (iii) The contractor is entitled to switching over to the technologies according to the viability of the implementation of the project commercially subject to prior submission of proposal for such technology switch describing the details of such technology and advantage of using the technology and such proposal being approved by the engineer-in-charge.
- (iv) The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Authority at any point of time.

2. Compliance to Law, Rules and Regulations

The contractor shall abide with all the rules and regulations of the Government of India, Government of West Bengal, Local Governments or any other Government bodies that has direct or indirect incidence on the project, in addition to the rules and regulations mentioned below.

The Contractor shall keep the Authority indemnified in case any action is taken against the Authority by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Authority is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Authority shall have the right to deduct any money due to the Contractor including his amount of performance security. The Authority/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Authority.

The contractor shall perform his obligations for the completion of the works under the umbrella of the below given rules and regulations.:

Compliance with Labour Regulations

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority.

Protection of Environment

The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all the terms and conditions prescribed in the Environmental Clearance/ Consent to Establish/Consent to operate issued to the project, existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. The contractor shall commence the project activities as per the rules, regulations and guidelines as set forward by the Solid Waste Management, 2016 and its subsequent amendments thereof, Construction and Demolition Waste Management Rules 2016 and its subsequent amendment thereof, Plastic Waste Management Rules 2016 and its subsequent amendment thereof, Bio- Medical Waste management rules 2016 and its subsequent amendment thereof, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and its subsequent amendment thereof, E-waste management rules 2016 and its subsequent amendment thereof, Environment Protection Act 1986 and its subsequent amendment thereof. Contractors to note that this is the minimum criteria required for the commencement of this work and the contractor will practice the best possible method to protect the Environment.

*****END OF SCC*****

Annexure I: Provisional Completion Certificate

Name of Work:

Agreement No. _____ Date _____ Amount of Contract Rs. _____

Quantity of Waste Processed _____ m³.

Certified that the above-mentioned work was provisionally completed on (Date) and taken over on(Date) and that I have satisfied myself to best of my ability that the work has been done properly.

Date of issue

Engineer-in-Charge

Annexure II: Final Completion Certificate

Name of Work:

Agreement No. _____ Date: _____

Name of Agency: _____ Certified that the
above-mentioned work was physically completed on _____ (date) and taken over
on _____ (date).

Agreement amount Rs. _____

Final amount paid to contractor Rs. _____.

Quantity of Waste Processed _____ m³

Project Information Memorandum

MOLLAR BHERI BIOREMEDIATION

The Site Details

Mollar Bheri is the current unscientific disposal site, where all unprocessed fresh wastes from all locations under this study area (except KMC), are getting disposed off. The total land area of the disposal site is about 55 acres, out of which around 45% area is covered by accumulated garbage. Average height during the reconnaissance survey was observed visually as ~ 12 ft. Mostly compactors bring the waste to the disposal site, along with few numbers of open trucks etc. Two dedicated front-end loaders are available at the site to spread and level the fresh incoming waste after the disposal.

Mollar bheri falls under two different Mouzas. Mouza – Dhapa Manpur Mouza and Mahisbathan Mouza. From verbal discussions with BC officials, it is understood that Dhapa Manpur mouza falls under wetland (Kulipara, Durgabhasan, Gorumera etc.). However, Mahoshbathan mouza does not fall under wet land and it is primarily a “Sal” land (Boro paresh, chhoto paresh etc.)

A number of water bodies surrounds the site. On the northern side, Mollar bheri is surrounded by a residential colony, slum area as well as high rises. IDL Aqua-view residential complex is located within 1 km of vicinity. The other localities at Mollar Bheri periphery are Khasmahal and Sardarpara.

Figure 1 - Satellite Imagery of the Disposal Site at Mollar Bheri



Site Vulnerability

Mollar Bheri site is extremely vulnerable to the environmental impacts due to this continuous dumping of untreated municipal solid waste and with the generated leachate eventually flowing into the adjacent wetland, thereby contaminating the ground water table below.

Source – Google Earth Based on reconnaissance survey by PwC

The uncontrolled disposal at this site poses a potential threat due to release of leachate, landfill gas and suspended particulate matter. In addition to this, uncollected waste, which falls on the road during transportation, causes blockage in the drains adjacent to the disposal site. A number of water bodies and wet lands surround this site. There is also a high potential for real estate development and high-rise buildings, very close to the site (within 500 m distance).

The site area falls under East Kolkata Wetland, which has been declared as one of the Ramsar sites. The satellite image of the location of disposal site is presented in the following figure.

The specific situations associated with Mollar Bheri disposal site are being discussed in the following sections.

Groundwater Contamination

In absence of any liner at the bottom, the leachate percolated through the base of the dumpsite meets the groundwater making it contaminated. Besides this, there are a large number of wetlands adjacent to the dumping ground. The leachate from the site also contaminates both the groundwater and surface water.

Soil Contamination

The current dumpsite is un-lined; the contaminant from waste and leachate is absorbed onto the underlying soil. Since it is an uncontrolled disposal site, the mixed waste contains different types of pollutants, which eventually have an impact on the soil.

Ambient Air Quality

The issue of ambient air quality of the Mollar Bheri dumpsite is twofold and are discussed below:

Greenhouse Gases

Since the dumpsite receives fresh untreated waste, anaerobic decomposition of the organic matter is a rampant phenomenon, which leads to release of methane gas, which is a potential greenhouse gas. It has many times more global warming potential than carbon dioxide. At the local level, due to release of methane gas, the adjoining settlements, and residential areas etc. experience obnoxious smell throughout the day and the surrounding area turns unhealthy.

Open Burning

In this dumpsite, open burning of waste has become a common practice. It releases toxic components such as furans, dioxins in the adjoining area, which has critical health impact for children and adults. However, we have found that the AQI levels for NO₂, PM₁₀, SO₂ in Salt-lake was under 50 signifying the impact of the same has minimal health impacts for the residing population; however, this does not signify promoting the existing practice of open burning at the dumpsite.

Social Impact and Health Hazard

Since the disposal site receives untreated unorganized mixed waste stream, there are biomedical, hazardous items within the accumulated waste in the dumping ground. Items like broken glass, blades, needles, explosive container, batteries, CRT, ULAB etc. pose risk of injury or chronic illness to the children and adult rag pickers who are associated with the garbage disposal site for their livelihood.

Rag Pickers Profile at Mollar Bheri

From the discussions with the local stakeholders and informal waste recycling sector at site, it was understood that more than 100 nos. of trips are made from different ULBs to Mollar bheri. More than 100 rag pickers work in this disposal site. Around 150 kg of recyclable items are segregated by each of them per week and sold to the recycling markets. Revenue generation per kg is approximately Rs 17-18/-However, the monthly income by rag pickers is limited to Rs 6000/- to 7000/-, comprising of 4-5 members of family. The rag pickers age profile is mixed They pick waste primarily from the vehicles containing fresh waste. Rag pickers are active at the disposal site between 9 am and 5 pm.

Linking of informal recycling sector to an organized waste collection taskforce system, could be considered as one of

Figure 2 Pictures of the disposal facility in Mollar Bheri



Entrance to disposalsite



Waste lying at Mollar Bheri



Access through waste dump



Refuge compactor at disposalsite



Rag picker consultation



Animals at disposalsite

Key Issues with Mollar Bheri Disposal Site

Key Environmental Issues

Based on the stakeholder consultations done by PwC, some of the key issues can be effectively summarized below-

- Uncontrolled waste dumping. The nature of waste being dumped is untreated fresh waste
- The waste stream is of mixed type.
- No Compaction done, No Liner, or bund which shall contain the landfill, no leachate collection drains etc. Disposal is being done unscientifically.
- Contamination of soil, groundwater, ambient air quality
- Potential risk from hazardous and biomedical items within the garbage
- Fire at site due to uncontrolled open burning.
- Sliding of garbage heap due to instability
- Aesthetics and health impact to the neighborhood settlement due to odor and fumes from bio-degradation and open-burning.

Key Social Issues

Since the disposal site receives untreated unorganized mixed waste stream, there are biomedical, hazardous items within the accumulated waste in the dumping ground. Items like broken glass, blades, needles, etc. pose risk of injury or chronic illness to the children & adults rag pickers who are associated with the garbage disposal site for their livelihood.

During site visit and focus group discussions with the rag pickers, local people and site in-charge of Mollar Bheri disposal site, the following were the main observations:

- Death of animals due to accidental consumption of polythene spread all over is a common problem
- People face sleepless nights due to bad odor and smoke
- Individuals have bought residential flats near the disposal site due to urban growth in this area. However, they have voiced strong concerns with all concerned authorities and NGT for its scientific closure.
- It is further assumed that, the land value might increase in future after scientific closure of dumping ground which might lead to further urbanization

Intervention Areas

As discussed earlier, Mollar Bheri is an unscientific disposal site where the mixed municipal solid waste is being dumped since last couple of decades. The total area of the said site is about 55 acre out of which, active dumping has happened in more than 45% area. As of now, the waste confined area of the site is around 25 acre with a height of around 12-15 ft.

In order to comply the environmental norms and to mitigate the social & environmental hazard due to this dumpsite, a reclamation process of the site through Biomining process has been conceptualized/ initiated. Under this process, major part of the accumulated portion of area (say A, about 65% of 25 acre) has been proposed to be reclaimed. The reclamation process will comprise segregation of combustible part and inert part from the mixed legacy waste and then to separate out them from the site. After reclamation, a portion small piece of area (say B, about 10% of 25 acre) within the same legacy site would be utilized for deposition of the rejects, generated through this Biomining process. And another part of the land (say C, about 25% of 25 acre) shall be utilized as a confined active area, which could be utilized (in controlled manner) for disposal of incoming fresh waste (till the time any alternative disposal site is identified)



The detail parameters of the same are furnished in the next section below:

SN	Head	%	Acre
1	Total Area (acre)	100%	25
2	Reclamation area	65%	16.25
3	Inert disposal	10%	2.5
4	Active disposal	25%	6.25

SN	Head	Unit	Details
1	Accumulated waste quantity as on June,2019 (topo survey 25 acre)	cum	155853
2	Additional waste during the project period @ 508 TPD	Ton	185420
3	Density of fresh waste, as per survey	t/m3	0.496
4	Compaction reduction during operational phase, achievable density	t/m3	0.7
5	Volume of incoming waste	m3	264885.7143
6	Total waste to be handled in biomining process	m3	420739

Surveys and Investigations Data

Surveys and Investigations Data

Baseline survey has been conducted for the purpose of the feasibility study. The survey included topographical survey, geotechnical survey, waste characterization survey and water quality analysis survey. The details of the surveys and investigations are being discussed in the below sections:

Waste characterization survey

- a. **Grinding or Pulverizing:** Before grinding, the segregation of various inert materials like

Results of Sampling:

Physical Parameters

Sl. No.	Particulars	Legacy waste
1.	Bulk Density (Ton/M ³)	0.9975
2.	Moisture content (%)	21.93

Chemical Parameters

Sl. No.	Particulars	Legacy waste
1.	Organic Content (%)	6.29
2.	Calorific Value (kcal/kg)	Nil
3.	C/N Ratio	20.0

Physical Composition

Sl.No.	Old legacy waste sample from the disposal site	Composition	Percentage (Individual)	Total Percentage
1.	Organic Waste	Food	Nil	29.64
i)		Food Waste	Nil	
ii)		Vegetable Waste	Nil	
iii)		Fruits	Nil	
iv)		Garden waste	Nil	
v)		Yard and Park waste	Nil	
vi)		Partially decomposed organic waste	29.64	
2.	Recyclable Broken Colour Glass			Nil
3.	Recyclable Plastic			Nil
4.	Polythenes			2.89
5.	Metals			Nil
6.	Papers			Nil
7.	Cardboard			Nil
8.	Thermocols			Nil
9.	E-Waste			Nil
10.	Stone			34.82
11.	Aggregate (Inert material)			32.65
12.	Rubber			Nil

Geotechnical survey

Figure 3 Bore lab data of Geotechnical Investigation at Mollar Bheri

Date (dd / mm)	Depth (m)		Length (m)	Nature of Sampling	SPT : No. of blows					Description
	From	To			0-15 cm	15-30 cm	30-45 cm	45-60 cm	N Value	
12.05.19	0.50			D						Top soil filled with soil roots, organic matter , plastic, brickbats, kankars etc.
	1.00			D						
	1.50	2.10	0.60	P	2	2	3	3	5	Firm greyish clayey silt with brown spot and sand mixed.
	3.00	3.45	0.45	U						
	4.50	5.10	0.60	P	8	12	17	20	29	.Medium dense to dense whitish grey silty fine to medium sand with mica.
	6.00	6.60	0.60	P	9	14	21	22	35	
	7.50	8.10	0.60	P	11	18	24	24	42	
	9.50	10.10	0.60	P	13	21	26	28	47	
10.10	(Termination Depth)									
Abbreviations: U-Undisturbed Sample D-Disturbed Sample P-Standard Penetration Test										

Figure 4 Geotechnical Investigation results at Mollar Bheri

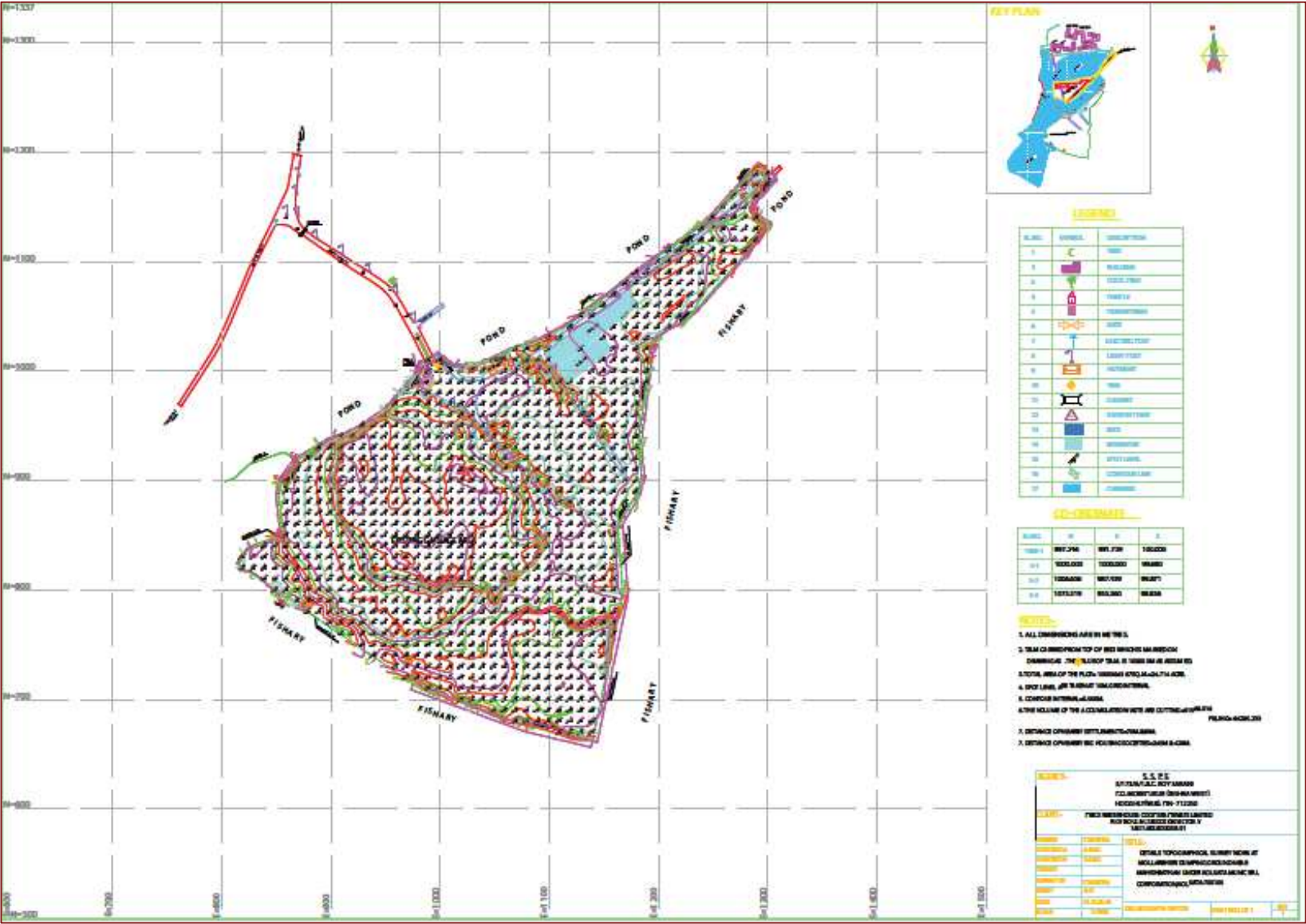
Layer Details				Average Field N-Value	Bulk Density (t/m3)	Liquid Limit (%)	Plasticity Index (%)	Shear strength Parameters
Stratum No.	Description	Depth below EGL (m)						
		From	To					
I	Top soil filled with soil roots, organic matter , plastic, brickbats, kankars etc.	0.00	1.20	-	-	-	-	-
II	Firm greyish clayey silt with brown spot and sand mixed.	1.20	3.80	5	1.89	45.4	21.3	C= 3.1 t/m ² , ϕ =0 deg
III	Medium dense to dense whitish grey silty fine to medium sand with mica.	3.80	10.10	29 to 47	1.90*	Non- Plastic		C= 0 t/m ² , ϕ =30 to 32*deg

* Suggested

Figure 5 Soil sampling for Geotechnical and Topographical Survey at Mollar Bheri



Topographical survey



Survey output – volume by grid method

Volume by GRID method (all dimensions are in meter)	
DTM From: DTM-1	Datum: 100.000
GRID INTERVAL: 5.000	
Origin X: 648546.529	Origin Y: 2495525.402
Right X: 649284.648	Top Y: 2496283.910
Total Cells: 22496	Boundary specified: YES
Total Cut Volume: 91568.016	Total Fill Volume: 64285.233
Total Area under Cut: 48620.830	Total Area under Fill: 51425.960
Total Inclusion Area: 100046.790	
Average Cut Depth: 1.883	Average Fill Depth: 1.250
Cut to Fill Ratio: 142.44%	
Elevation change to reach balance: -0.273	

Water quality analysis survey

Chemical Report (Ground Water)

Sl. NO.	Name of Parameters	Test Methods	Bore well
			Date of Collection 27.05.2019
1	Temperature °C	APHA 22nd EDN 2550	31.5
2	Turbidity (NTU)	IS 3025 (P-10), R.A. 2006	<1.0
3	Dissolved Oxygen, (mg/l)	APHA, 22nd EDN, 4500 O ₂ C	6
4	Colour, (Cobalt units)	APHA 2120 B, 22nd EDN	<1.0
5	Taste	IS 3025 (P-07), R.A. 1984	Agreeable
6	pH Value	IS 3025 (P-11), R.A. 2009	7.28
7	Alkalinity as CaCO ₃ mg/l	IS 3025 (P-23), R.A. 2014	378
8	Total Hardness as CaCO ₃ , mg/l	IS 3025 (P-21), R.A. 2006	604

9	Iron as Fe, mg/l	APHA 22 nd EDN 3111 B	0.432
10	Chloride as Cl mg/l	IS 3025 (P-32), R.A. 2009	326
11	Residual Free Chlorine, mg/l	IS 3025 (P-26), R.A. 2009	NIL
12	Total Dissolved Solids, mg/l	IS 3025 (P-16), R.A. 2006	910
13	Bio Chemical Oxygen Demand 3 Days at 27° C (mg/l)	IS 3025 Part 44,1993, RA 1999	<3.0
14	Chemical Oxygen Demand mg/l	APHA 22 nd EDN 5220 B	23
15	Calcium as Ca mg/l	APHA 22 nd EDN 3500 Ca B	152
16	Magnesium as Mg, mg/l	APHA 22 nd EDN 3500 Mg B	54.43
17	Sulphate as SO ₄ , mg/l	APHA 22 nd EDN 4500 SO ₄ E	13.872
18	Cadmium as Cd, mg/l	APHA 22 nd EDN 3111 B & C	<0.003
19	Arsenic as As,mg/l	APHA 22 nd EDN 3120 B	<0.01
20	Lead as Pb mg/l	APHA 22 nd EDN 3111 B & C	<0.01
21	Total Chromium as Cr+6, mg/l	APHA 22 nd EDN 3500 B	<0.05
22	Phenolic Compounds as C ₆ H ₅ OH, mg/l	APHA 22 nd EDN 5530 D	0.05
23	Oil & Grease mg/l	IS 3025 (P-39), R.A. 2009	0.54
24	Phosphate as PO ₄ -P mg/l	APHA 22 nd EDN 4500 P-C	0.268
25	Potassium as K, mg/l	APHA 22 nd EDN 3500 K,B	8
26	Sodium as Na, mg/l	APHA 22 nd EDN 3500 Na,B	168
27	Total Suspended Solids, mg/l	IS 3025 (P-17), 1984 R.A. 2012	5
28	Nitrate as NO ₃ mg/l	APHA 22 nd EDN 4500 NO ₃ - B	0.258

Chemical Report (Surface Water)

Sl. No.	Name of Parameters	Test Method	Surface Water (Pond Water)
			Date of Collection 27.05.2019
1	Temperature °C	APHA 22nd EDN 2550	32.7
2	Turbidity(NTU)	IS 3025 (P-10), R.A. 2006	
			30
3	Dissolved Oxygen,mg/l	APHA, 22 nd EDN,4500 O ₂ C	3.8
4	Colour , (Cobalt units)	APHA 2120 B, 22 nd EDN	63
5	Taste	IS 3025 (P-07), R.A. 1984	Bitter
6	pH Value	IS 3025 (P-11), R.A. 2009	8.9
7	Alkalinity as CaCO ₃ mg/l	IS 3025 (P-23), R.A. 2014	170
8	Total Hardness as CaCO ₃ ,mg/l	IS 3025 (P-21), R.A. 2006	240
9	Iron as Fe, mg/l	APHA 22 nd EDN 3111 B	0.52
10	Chloride as Cl, mg/l	IS 3025 (P-32), R.A. 2009	220
11	Residual Free Chlorine, mg/l	IS 3025 (P-26), R.A. 2009	NIL
12	Total Dissolved Solids, mg/l	IS 3025 (P-16), R.A. 2006	591
13	Bio Chemical Oxygen Demand 3 Days at 27° C (mg/l)	IS 3025 Part 44,1993, RA 1999	16
14	Chemical Oxygen Demand mg/l	APHA 22nd EDN 5220 B	94
15	Calcium as Ca mg/l	APHA 22nd EDN 3500 Ca B	43
16	Magnesium as Mg, mg/l	APHA 22nd EDN 3500 Mg B	32.07
17	Sulphate as SO ₄ , mg/l	APHA 22nd EDN 4500 SO ₄ E	56.362
18	Cadmium as Cd, mg/l	APHA 22nd EDN 3111 B & C	<0.003
19	Arsenic as As,mg/l	APHA 22nd EDN 3120 B	<0.01

20	Lead as Pb mg/l	APHA 22nd EDN 3111 B & C	<0.01
21	Total Chromium as Cr+6, mg/l	APHA 22nd EDN 3500 B	<0.05
22	Phenolic Compounds as C ₆ H ₅ OH, mg/l	APHA 22nd EDN 5530 D	0.08
23	Oil & Grease mg/l	IS 3025 (P-39), R.A. 2009	0.92
24	Phosphate as PO ₄ -P mg/l	APHA 22nd EDN 4500 P-C	4.32
25	Potassium as K, mg/l	APHA 22nd EDN 3500 K,B	58
26	Sodium as Na, mg/l	APHA 22nd EDN 3500 Na,B	117
27	Total Suspended Solids, mg/l	IS 3025 (P-17), 1984 R.A. 2012	96
28	Nitrate as NO ₃ mg/l	APHA 22nd EDN 4500 NO ₃ - B	11.9

Bacteriological test result (Ground water)

Sl. NO.	Name of Parameters	Test Methods	Result
			Bore well Water
			Date of Collection 27.05.2019
	2	3	4
1	Coliform /100 ml	IS :1622-81	1000/100 ml
2	Faecal Coliform/100 ml	IS: 1622-81	200/100 ml

Bacteriological test result (Surface water)

Sl. NO.	Name of Parameters	Test Methods	Result
			Surface Water (Pond Water)
			Date of Collection 27.05.2019
	2	3	5
1	Coliform /100 ml	IS :1622-81	9000/100 ml
2	Faecal Coliform/100 ml	IS: 1622-81	3000/100 ml

Timeline

3 months for installation of machine and equipment and then 8 months for the cleaning and reclamation process.