Bahawalpur Waste Management Company

REQUEST FOR PROPOSALS (RFP)

FOR

HIRING OF CONSULTANCY SERVICES FOR PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT FOR SOLID WASTE LANDFILL SITE AT BHINDAH DAKHIL, BAHAWALPUR

SINGLE STAGE-TWO ENVELOPES BIDDING PROCEDURE

(Quality & Cost Based Selection Method)

Amended RFP

BAHAWALPUR WASTE MANAGEMENT COMPANY
FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM

[Location, Date]

To: Bahawalpur Waste Management Company [BWMC]
5-D Model Town – A, Bahawalpur
Tel: 062-9255202

Dear Sir,

We, the undersigned, offer to provide the services for "HIRING OF CONSULTANCY SERVICES FOR PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT FOR SOLID WASTE LANDFILL SITE AT BHINDAH DAKHILI, BAHAWALPUR" in accordance with your Request for Proposal dated _________ we are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope.

We are submitting our Proposal in association with: [Insert a list with full name and address of each associated Consultancy Firm (if any, otherwise delete this line)]

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in Paragraph Reference 1.12 of the Data Sheet, we undertake to negotiate on the basis of the proposed staff/facilities. Our Proposal is binding upon us and subject to the modifications resulting from Agreement negotiations.

We undertake, if our Proposal is accepted, to initiate the Services not later than the date indicated in Paragraph Reference 7.2 of the Data Sheet.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: _______________________________
Name and Title of Signatory: ___________________________________________
Name of Firm: _________________________________________________________
Address: ____________________________________________________________
FORM TECH-2 CONSULTANCY FIRM’S ORGANIZATION AND EXPERIENCE

A - Consultancy Firm Organization

[Provide here a brief (two pages) description of the background and organization of your firm/entity (including organogram) and each associate for this assignment.]
B - Consultancy Firm/Firm Experience

[Using the format below, provide information on each assignment for which your firm, and each associate for this assignment, was legally contracted as a corporate entity or as one of the major companies within an association, for carrying out services similar to the ones requested under this Assignment. Use maximum 20 pages. Please provide Client's certification and/or evidence of the contract agreement.]

<table>
<thead>
<tr>
<th>Contract name:</th>
<th>Value of the agreement (in PKR):</th>
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<tbody>
<tr>
<td>Country:</td>
<td>Duration of contract (months):</td>
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<td>Location within country:</td>
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<td>Name of Client:</td>
<td></td>
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<tr>
<td>Start date (month/year):</td>
<td>Value of contracts/services provided by your firm under the agreement (in PKR):</td>
</tr>
<tr>
<td>Completion date (month/year):</td>
<td></td>
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<tr>
<td>Name of associated Consultancy Firms, if any:</td>
<td></td>
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<tr>
<td>Name of senior professional staff of your firm involved and functions performed in contract</td>
<td></td>
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</tbody>
</table>

Narrative description of contract:

Description of actual service provided by your firm:
TECH-3  Method of Performing Work
Section 4: Financial Proposal - Standard Forms

<table>
<thead>
<tr>
<th>FIN-1</th>
<th>Financial Proposal Submission Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN-2</td>
<td>Summary of Costs</td>
</tr>
</tbody>
</table>
FORM FIN-1 FINANCIAL PROPOSAL SUBMISSION FORM

[Location, Date]

To: Managing Director
Office: 5-D Model Town – A,
Bahawalpur

Dear Sir,

We, the undersigned, offer to provide the HIRING OF CONSULTANCY SERVICES FOR PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT FOR SOLID WASTE LANDFILL SITE AT BHINDAH DAKHLLI, BHAWA*L)

in accordance with your Request for Proposal dated ____________ and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amounts calculated for Individual vehicle basis) separately in words and figures]. This amount is inclusive of the taxes, which shall be levy on such services.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Agreement negotiations, up to expiration of the validity period of the Proposal, i.e. before the date indicated in Paragraph Reference 1.12 of the Data Sheet.

No commissions or gratuities have been or are to be paid by us to agents relating to this Proposal and Agreement execution.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: ________________________________
Name and Title of Signatory: ________________________________
Name of Firm: ________________________________
Address: ________________________________
### FORM FIN-2 SUMMARY OF COSTS

<table>
<thead>
<tr>
<th>Name of Consultancy</th>
<th>UOM</th>
<th>Total Proposal in PKR (including applicable taxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIRING OF CONSULTANCY SERVICES FOR PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT FOR SOLID WASTE LANDFILL SITE AT BHINDAH DAKHLI, BAHAWALPUR</strong></td>
<td>Job</td>
<td></td>
</tr>
</tbody>
</table>

Financial Proposal will consist of the following factors;

1. Remuneration of the Project Team
2. Applicable Income/Sales Tax as per Punjab/Federal Government rules

Consultancy Firm will provide Bid Security (refundable) equal to 2% of Financial Proposal in the form of CDR/Bank Guarantee.

**Bid Validity:**

Proposals will remain valid for 90 days from date of submission and validity period is extendable as per PPRA rules 2014 with mutual understanding.
TERMS OF REFERENCE (TORS)

BAHAWALPUR WASTE MANAGEMENT COMPANY

Title
BHINDA DAKHILI

Project Proponent
Bahawalpur Waste Management Company (BWMC)

Project Overview

BWMC has proposed a sanitary landfill at BHINDA DAKHILI in the District Bahawalpur for the disposal of Municipal Solid Waste (MSW). The project shall be implemented by the BWMC and hereafter be referred to as the BHINDA DAKHILI Sanitary Landfill Site Project.

The city of Bahawalpur generates approximately 280 tons of MSW every day. Currently there is not any properly designed sanitary landfill site for waste disposal. The only official site available for Waste disposal at Badar Sher is being operated without following basic principles of landfilling. This disposal site accepts only 200 tons of solid Waste every day. The Remaining chunk of MSW is being dumped in depressions, open plots and along roadside which result in serious health and environmental impacts.

BWMC envisions improvement in Solid Waste Management (SWM) and overall environment in Bahawalpur by providing scientifically designed sanitary landfill at BHINDA DAKHILI. The proposed facility shall comprise of waste reception facility, weigh bridge, fencing, internal roads, surface water drainage system, leachate & landfill gas collection and treatment systems, offices, parking areas, garage and service stations etc.

EIA Requirement

Under clause 12 of the Punjab Environmental Protection (Amendment) Act 2012 PEPA 2012, it is mandatory for the proponent of any project to arrange Initial Environmental Examination (EE) or Environment Impact Assessment (EIA) before the start of project.

Specific Objectives

The EIA shall be carried out with an objective of identifying environmental impacts of construction, operation, maintenance and post closure activities of the proposed landfill site.

The specific objectives will be as follow:
- Identification of impact on physical environment including land, water, and air and suggesting mitigation measures.
- Identification of impacts on biological environment including flora, fauna and natural habitat and suggesting mitigation measures.
• Identification of impacts on socio-economic environment in the vicinity of the proposed landfill site and suggesting mitigation measures.

The EIA shall cover following main areas (but not limited to the following):
- Objectives
- Complete description of the proposed landfill site
- Collection, analysis and presentation of baseline data
- Identification of significant environmental issues
- Assessment of direct, indirect and cumulative impacts on environment
- Mitigation measures to minimize predicted adverse impacts
- Assessment of public perception about proposed landfill site
- Review of the relevant Policies, Legislation and regulations
- Monitoring plan
- Conclusion

Task's to be done
The consultant shall be responsible for undertaking the following tasks in EIA study.
1. Conformation to EIA Guidelines

   The consultant shall be bound to conduct the study in conformation with prescribed EIA guidelines by the EPA. The abstract of guidelines is as follows:
   - Guidelines for public consultation
   - Guidelines for preparing and reviewing environmental reports
   - Guidelines for sensitive and critical areas
   - Guidelines for policy and procedures for the filling, review and approval of EIA
   - Pakistan Environmental legislation and NEQs

2. Description of Project Area

   The consultant shall describe the project area by using:
   a. Maps, site plans, and aerial photographs and other graphic aids and images, as appropriate.
   b. Information on location, general layout, depth of ground water table, wind direction, annual rainfall, natural slope of the land, subsurface hydrogeology, soil permeability, existence of any surface water resources etc. and other appropriate information.

3. Review and Evaluation of Legal Documents

   a. The consultant shall outline the existing polices, legislation, acts laws, rules, regulations and standards related to establishment of landfill sites at national, provincial and local levels with specific focus on:
      • Environmental quality
• Cultural heritage conservation
• Safety and health
• Protection of sensitive areas
• Protection of biological species
• Siting and land use control

b. The consultant shall also examine and consider appropriate international convention/protocol/treaty where applicable.

4. Baseline Data
   a. The consultant shall characterize the extent and quality of the available data.
   b. The gaps in the data that may affect predictions of impacts would be enlisted.
   c. Baseline data shall include:

i. Physical
   • A detailed description of the existing soil geology and hydrology.
   • Data regarding rain water run-off, drainage patterns, effects on groundwater and availability of potable water.
   • Water quality data of existing water supply system, wells and reservoirs in the vicinity of the project.
   • Data regarding climatic conditions and air quality in the area of influence.
   Data would include particulate emissions, NOx, SOx, wind speed and direction, precipitation, relative humidity and ambient temperatures etc.
   • Existing noise levels in the project area and ambient noise in the area of influence.
   • Data regarding existing sources of pollution and extent of contamination.
   • Existing MSW management facilities and their impacts.

ii. Biological

The consultant shall present a detailed description of the flora and fauna in the project area with focus on rare, endemic, protected or endangered species, if any.

iii. Socio-economic & cultural

The consultant shall collect data regarding:
• Socio-economic conditions in the project area
• Impact of noise, dust, exhausts emissions and odor on local businesses and on community.
• Impact of proposed landfill site on adjacent or nearby property value
• Loss of economic activities due to loss of agricultural land, orchards and access to natural resources that may result in social displacement for seeking alternative income
• Anticipated impacts of relocation of the community
• Impacts on employment and cultural values

5. Identification of Environmental Issues

The consultant shall identify:
- Impact of intense precipitation on steepness of slopes and soil nature.
- Impact of suspended solids and organics from construction site run-off, construction vehicles/equipment maintenance areas.
- Impact of construction, operational and maintenance activities on water quality. The consultant shall also identify impacts of heavy metals and leachate on surface and groundwater reservoirs.
- Impacts of dust emission on air quality from landfill development, operation and maintenance activities.
- Impacts of air pollutants such as CH, SO, CO, PM etc. and trace constituents such as hydrogen chloride and hydrogen fluoride from a flaring system that will have highly localized impacts.
- Impact of suspended particulates on off-site receptors and identify distance at which the particulates may settle down.
- Impacts of any accidental fires that can be expected at landfill site.
- Impacts of odor emissions from transportation, handling and disposal operations besides indicating expected odor emission levels that the receptor shall have to encounter.
- Impacts of increased number of vehicles on public roads due to operation waste transportation vehicles. The expected increase in traffic flow shall be of 300 vehicles per every day (approximately).
- Impacts of untreated leachate due to the failure of the Leachate Treatment Plant or resulting in prolonged discharge of untreated leachate into the adjacent water receiving bodies.
- The consultant shall also suggest control and mitigation measures for the above mentioned health and environmental issues.

6. Health Impacts

The consultant shall identify:
- Diseases which may affect construction and operational staff.
- The health impacts of non-communicable diseases propagated through unhygienic conditions and vectors.
- Physical injuries due to accidents, animal bites, etc. during construction, operation and maintenance of landfill site.
- Medium to long-term physical illnesses such as loss of hearing, cancer, etc.
- Psychological disorders in some workers due to depression and anxiety because of working and accommodation conditions, relationship with fellow workers.
7. Risk assessment

The consultant shall identify:
- Risks associated with leakage and lateral migration of landfill gas on the vicinity of landfill areas.
- Risks of landfill gas explosion and fires in around the landfill.
- Risks to off-site human receptors in terms of loss of life, injury, or illness or impact to the environment that may result under normal or abnormal events.

8. Environmental Management Plan

- The consultant shall develop an Environmental Management Plan (EMP) for construction, operation, maintenance and post closure stages.
- EMP should provide monitoring programs for: (1) air emission (2) landfill gas screening (3) surface water quality (4) site drainage discharge quality (5) treated leachate discharge quality (6) soil and sedimentation (7) groundwater (8) noise and (9) aquatic biology.
- EMP should also provide plans for soil and sedimentation control, traffic management, community relations and landscaping and re-vegetation.
- Environmental and safety audits may be included to check compliance with regulations and to provide reference material for review and update EMP to enhance its effectiveness.
- Mitigation measures to control soil erosion (if anticipated) during construction, operation and maintenance stages because of anthropogenic and non-anthropogenic sources.
- Mitigation measures to control impacts of suspended solids and organic from construction site run-off, construction vehicles/equipment maintenance areas and the risk of flooding of downstream areas.

AN EMP should also include minimum monitoring program and should include:
- The methodology, frequency and indicators of monitoring.
- Outline emergency response and contingency plans.
- Environmental training program.
- Waste disposal plan for construction material waste and other wastes.
- Restoration and Rehabilitation plan of area after completion of the project.
- Frequency of documentation communication and reporting to the client.
- Appendices of data and photographs.

AN EMP should also include mitigation measures to:
- Minimize impacts of dust emissions from landfill development, operation and maintenance activities on ambient air quality.
- Counter negative health and environmental impacts of air pollutants and combustion products resulting from flaring.
o Safeguard community against deposition of suspended particulates.
o Minimize impact of noise.
o Minimize threat from accidental fires at workplace.
o Control odor issue at landfill site.
o Minimize impact of untreated leachate resulting due to the failure of Leachate into the adjacent water receiving bodies.
o Minimize work place health impacts.
o Minimize major landscape impacts.

9. Stakeholder’s Consultation

o While conducting EIA, the consultants should hold extensive consultation with government officials, NGOs, private organization, trade unions, community organization of the area, nearby residents and other key stakeholders to obtain their opinion and concerns.
o Comments of local community regarding the possible impacts of the proposed project. The expected economic benefits generated by the project that may benefit local communities through the employment of local workers and contractor have to be assessed.
o The consultant shall participate in the public hearing arranged by EPA to answer queries raised by the other participants.
o The consultant shall address and incorporate the objections raised in the public hearing arranged by EPA.

10. Profile of the Consultancy Firm

The professional profile of the consultants needed to conduct EIA should be at least that of:
• Environmentalist as a team leader must have an extensive experience in EIA studies
• Social-economist must with sufficient experience in the socio-economic data collection and analysis, development of mitigation measure for adverse social impact.
• All key professional must have at least master degree in their relevant field from a reputed university and the Consultants must at least 15 year experience in the relevant field.

11. Deliverables

1. An inception report will be submitted to the BWMC in 5 Copies for review and comments within 14 days of mobilization of Consultants. The feedback of the client will enable the consultants to refine their methodology and future course of action.
2. 5 copies of an interim report within 60 days of start of work for review and comment of the BWMC.
3. After incorporation of the comments from BWMC, 5 hard copies and one soft copy of draft EIA report will be submitted to BWMC within 90 days of start of consultancy and the same will be shared with general public and key stakeholder as per Environmental Protection Agency's requirement of public consultation/disclosure of EIA.

4. After incorporating all public and key stakeholders concerns 10 hard copies and one soft copy of final EIA will be submitted within 30 days after public hearing to LWMC for Clearance.

The consultant shall be responsible to conduct the public hearing and incorporate the comments hereinafter and will also assist to get clearance from EPA.
AGREEMENT

THIS AGREEMENT, together with APPENDICES A to D which constitute an integral part thereof (hereinafter referred to as the Agreement), is entered into on this ___ Day of ___, 2015.

Between M/S Bahawalpur Waste Management Company (BWMC), a company registered under section 42 of the Companies Ordinance, 1984 (Hereinafter referred to as the “Client” or “BWMC”, which expression shall where the context permits include its successors-in-interest and permitted assigns) of the first part; and ________________ (Hereinafter referred to as the “Consultancy Firm”, which expression shall where the context permits include its successors-in-interest and permitted assigns), of the second part.

The Parties hereto agree as under:

ARTICLE 1: THE PROJECT

The Assignment for which Services are required to be performed under this Agreement is described in Appendix A.

ARTICLE 2: SCOPE OF SERVICES

2.1 The scope of required services (hereinafter referred to as “Services”) to be performed by the Service Firm for this Agreement are described in Appendix A.

ARTICLE 3: TIME SCHEDULE

3.1 Effective Date of Commencement

Effective Date of Commencement of Services shall be as defined in Appendix-B.

3.2 Time Schedule of Services

The time schedule of Services is given in the attached Appendix B.

3.3 Extension of Time

Extension of Time for providing of Services and the terms and conditions thereof shall be mutually agreed between the Client and the Service Firm as and when required.
ARTICLE 4: MODE OF OPERATION

4.1 Obligations of the Consultancy Firm

1) The Service Firm shall perform Services as an independent Service Provider in accordance with recognized professional standards, applicable laws and rules thereunder.

2) The Service Firm shall appoint a dedicated Team Leader named in Appendix D who shall represent the Service Firm for purposes of this Agreement and shall be responsible for the administration of the Agreement including performance of Services thereunder. He shall remain in contact with the representative of the Client to keep him fully informed on all matters relating to the provision of Services by the Service Firm.

3) The Service Firm shall carry out the Services with due diligence and efficiency and in conformity with standard professional practices.

4) The Service Firm shall ensure the adherence and full compliance to the Terms and Conditions of this Contract and Appendices attached.

5) The Service Firm shall act at all times so as to protect the interests of the Client and shall take all reasonable steps to keep all expenses to a minimum consistent with sound economic and professional practices.

6) The Service Firm shall furnish the Client such information relating to the Services as the Client may from time to time reasonably request.

7) Except with the prior written approval of the Client, the Service Firm shall not further assign or transfer or outsource the Agreement for Services or any part thereof nor engage any other independent Service Firm or sub-contractor to perform any part of the Services.

8) The Service Firm agrees that no proprietary and confidential information received by the Service Firm from the Client shall be disclosed to a third party unless the Service Firm receives a written permission from the Client to do so.

4.2 Obligations of the Client

The Client shall provide to the Service Firm:

- All necessary data/documents/reports, as listed in Appendix A, that may be required by the Service Firm for performing the Services within the Time Schedule given in Appendix B.

- The Client shall designate a person named in Appendix D to act as its representative on all matters pertaining to this Agreement and to fully cooperate with the Project Manager of the Service Firm.

- The Client shall take all necessary measures to make timely payments to the Service Firm as stipulated in Article 5, hereof.
ARTICLE 5: REMUNERATION FOR SERVICES AND SCHEDULE OF PAYMENT

The remuneration for Services rendered by the Service Firm and the mode of payment shall be as described in the attached Appendix-C.

ARTICLE 6: ADDITIONAL SERVICES

The Client may ask the Service Firm to perform Additional Services during the currency of this Agreement. Such Additional Services shall be performed with the prior concurrence of both the Parties. the Service Firm shall submit an estimate of the additional time (if any) and the additional remunerations for such Additional Services which shall be approved in writing by the Client before the commencement of the Additional Services.

ARTICLE 7: TERMINATION

7.1 End of Services

The Agreement shall terminate when, pursuant to the provisions hereof, the Services have been completed and the payment of remunerations have been made.

7.2 Termination by the Client

The Client may, by a written notice of thirty (30) days to the Service Firm, terminate this Agreement. All accounts between the Client and the Service Firm shall be settled not later than thirty (30) days of the date of such termination.

7.3 Termination by the Service Firm

The Service Firm may suspend the Agreement by a written notice of thirty (30) days only if the Service Firm does not receive payments due under this Agreement within 30 days of submission of its invoice. If the payment is still not made to the Service Firm after 30 days of notice of suspension, the Service Firm may terminate this Agreement in whole or in part by giving fifteen (15) days advance notice of intent to terminate. If the Agreement is terminated by the Service Firm under such circumstances, the Client shall pay, within a period of fifteen (15) days from the date of effect of such notice of intent to terminate as referred above, all payments due to the Service Firm.

ARTICLE 8: FORCE MAJEURE

The term "Force Majeure" as employed herein shall mean acts of God, strikes, lock-out or other industrial disturbances, acts of public enemy, wars, blockades, insurrection, riots, epidemics, landslides, earthquakes, storms, lightning, floods, washouts, civil disturbances, explosions and any other similar events, not within the control of either Party and which by the exercise of due diligence neither Party is able to overcome.

If either Party is temporarily unable by reason of Force Majeure or the Service Firms or regulations of Pakistan to meet any of its obligations under the Agreement, and if such Party gives to the other Party written notice, of the event within fifteen (15) days after its occurrence, such obligations of the Party, as it is unable to perform by reason of the event, shall be suspended for as long as the inability continues. Neither Party shall be liable to the other Party for loss or damage sustained by such other Party arising from any event referred to as Force Majeure or delays arising from such event. Force Majeure shall not include
inability to perform due to lack of skills, expertise, insufficiency of funds or failure to make any payment required under the Agreement.

ARTICLE 9: RESOLUTION OF DISPUTES

Any dispute or difference arising out of the Agreement which cannot be amicably settled between the Parties shall be finally settled under the provisions of the Arbitration Act, 1940 (Act No. X of 1940) and Rules made thereunder as amended from time to time. The venue of arbitration shall be in Pakistan as given in Appendix D, Special Conditions.

ARTICLE 10: APPLICABLE LAW

This Agreement shall, in all respects, be read and construed and shall operate in conformity with the Laws of Pakistan.

ARTICLE 11: CONTRACT AMENDMENT

No variation in or modifications to the terms of the Agreement shall be made, except by a written amendment signed by the Parties hereto.

ARTICLE 12: NOTICES

Any notice given by any of the Parties hereto shall be sufficient only if in writing and delivered in person or through registered mail as follows:

To: The Client
   Managing Director
   Office: 5-D Model Town – A,
   Bahawalpur

To: The Service Firm

or to such other address as either of these Parties shall designate by notice given as required herein. Notices shall be effective when delivered.

ARTICLE 13: VALIDITY CLAUSE

It is agreed among the Parties that in case, after the signing of this Agreement there is any provision which is found not valid, due to amendment in the relevant laws or is held to be so, by a court of competent jurisdiction, then the Parties shall join in and agree to amend and alter the said provision/clause to bring it in line with the applicable law. However, this shall not in any way at all affect the validity and/or enforceability of the rest of the Agreement between the Parties.

ARTICLE 14: INDEMNIFICATION

The Service Firm shall buy the insurance cover to fully indemnify the Client from any of the damages and accidental casualty taken place by the Project Team of the Service Firm during the performance of their duty.
IN WITNESS WHEREOF, the Parties have executed this Agreement, in two (2) identical counterparts, each of which shall be deemed as original, as of the day, month and year first above written.

FOR AND ON BEHALF OF

Name of Service Firm

Signed by: ____________________

Designation: ____________________

(Seal)

Date: ____________________

Witness:

Signed by: ____________________

Full Name: ____________________

FOR AND ON BEHALF OF

M/s Bahawalpur Waste Management Company

Signed by: ____________________

Designation: ____________________

(Seal)

Date: ____________________

Witness:

Signed by: ____________________

Full Name: ____________________
APPENDIX A: THE PROJECT & SCOPE OF SERVICES

BAHAWALPUR WASTE MANAGEMENT COMPANY

Title
BHINDA DAKHILI

Project Proponent
Bahawalpur Waste Management Company (BWMC)

Project Overview

BWMC has proposed a sanitary landfill at BHINDA DAKHILI in the District Bahawalpur for the disposal of Municipal Solid Waste (MSW). The project shall be implemented by the BWMC and hereafter be referred to as the BHINDA DAKHILI Sanitary Landfill Site Project.

The city of Bahawalpur generates approximately 290 tons of MSW every day. Currently there is not any properly designed sanitary landfill site for waste disposal. The only official site available for Waste disposal at Badar Sher is being operated without following basic principles of landflling. This disposal site accepts only 200 tons of solid Waste every day. The Remaining chunk of MSW is being dumped in depressions, open plots and along roadside which result in serious health and environmental impacts.

BWMC envisions improvement in Solid Waste Management (SWM) and overall environment in Bahawalpur by providing scientifically designed sanitary landfill at BHINDA DAKHILI. The proposed facility shall comprise of waste reception facility, weigh bridge, fencing, internal roads, surface water drainage system, leachate & landfill gas collection and treatment systems, offices, parking areas, garage and service stations etc.

EIA Requirement

Under clause 12 of the Punjab Environmental Protection (Amendment) Act 2012 PEPA 2012, it is mandatory for the proponent of any project to arrange Initial Environmental Examination (EE) or Environment Impact Assessment (EIA) before the start of project.

Specific Objectives

The EIA shall be carried out with an objective of identifying environmental impacts of construction, operation, maintenance and post closure activities of the proposed landfill site.

The specific objectives will be as follow:

- Identification of impact on physical environment including land, water, and air and suggesting mitigation measures.
o Identification of impacts on biological environment including flora, fauna and natural habitat and suggesting mitigation measures.

o Identification of impacts on socio-economic environment in the vicinity of the proposed landfill site and suggesting mitigation measures.

The EIA shall cover following main areas (but not limited to the following):
• Objectives
• Complete description of the proposed landfill site
• Collection, analysis and presentation of baseline data
• Identification of significant environmental issues
• Assessment of direct, indirect and cumulative impacts on environment
• Mitigation measures to minimize predicted adverse impacts
• Assessment of public perception about proposed landfill site
• Review of the relevant Policies, Legislation and regulations
• Monitoring plan
• Conclusion

Tasks to be done
The consultant shall be responsible for undertaking the following tasks in EIA study.

12. Conformity to EIA Guidelines

The consultant shall be bound to conduct the study in conformation with prescribed EIA guidelines by the EPA. The abstract of guidelines is as follows:
• Guidelines for public consultation
• Guidelines for preparing and reviewing environmental reports
• Guidelines for sensitive and critical areas
• Guidelines for policy and procedures for the filling, review and approval of EIA
• Pakistan Environmental legislation and NEQs

13. Description of Project Area

The consultant shall describe the project area by using:
• Maps, site plans, and aerial photographs and other graphic aids and images, as appropriate.
• Information on location, general layout, depth of ground water table, wind direction, annual rainfall, natural slope of the land, subsurface hydrogeology, soil permeability, existence of any surface water resources etc. and other appropriate information.

14. Review and Evaluation of Legal Documents
c. The consultant shall outline the existing polices, legislation, acts laws, rules, regulations and standards related to establishment of landfill sites at national, provincial and local levels with specific focus on:
   • Environmental quality
   • Cultural heritage conservation
   • Safety and health
   • Protection of sensitive areas
   • Protection of biological species
   • Siteing and land use control

d. The consultant shall also examine and consider appropriate international convention/protocol/treaty where applicable.

15. Baseline Data

d. The consultant shall characterize the extent and quality of the available data.

e. The gaps in the data that may affect predictions of impacts would be enlisted.

f. Baseline data shall include:

j. **Physical**
   • A detailed description of the existing soil geology and hydrology.
   • Data regarding rain water run-off, drainage patterns, effects on groundwater and availability of potable water.
   • Water quality data of existing water supply system, wells and reservoirs in the vicinity of the project.
   • Data regarding climatic conditions and air quality in the area of influence. Data would include particulate emissions, NOx, SOx, wind speed and direction, precipitation, relative humidity and ambient temperatures etc.
   • Existing noise levels in the project area and ambient noise in the area of influence.
   • Data regarding existing sources of pollution and extent of contamination.
   • Existing MSW management facilities and their impacts.

iv. **Biological**

The consultant shall present a detailed description of the flora and fauna in the project area with focus on rare, endemic, protected or endangered species, if any.

v. **Socio-economic & cultural**

The consultant shall collect data regarding:
   • Socio-economic conditions in the project area
   • Impact of noise, dust, exhausts emissions and odor on local businesses and on community.
   • Impact of proposed landfill site on adjacent or nearby property value
- Loss of economic activities due to loss of agricultural land, orchards and access to natural resources that may result in social displacement for seeking alternative income
- Anticipated impacts of relocation of the community
- Impacts on employment and cultural values

16. Identification of Environmental Issues

The consultant shall identify:
- Impact of intense precipitation on steepness of slopes and soil nature.
- Impact of suspended solids and organics from construction site run-off, construction vehicles/equipment maintenance areas.
- Impact of construction, operational and maintenance activities on water quality. The consultant shall also identify impacts of heavy metals and leachate on surface and groundwater reservoirs.
- Impacts of dust emission on air quality from landfill development, operation and maintenance activities.
- Impacts of air pollutants such as CH, SO, CO, PM etc. and trace constituents such as hydrogen chloride and hydrogen fluoride from a flaring system that will have highly localized impacts.
- Impact of suspended particulates on off-site receptors and identify distance at which the particulates may settle down.
- Impacts of any accidental fires that can be expected at landfill site.
- Impacts of odor emissions from transportation, handling and disposal operations besides indicating expected odor emission levels that the receptor shall have to encounter.
- Impacts of increased number of vehicles on public roads due to operation waste transportation vehicles. The expected increase in traffic flow shall be of 300 vehicles per every day (approximately).
- Impacts of untreated leachate due to the failure of the Leachate Treatment Plant or resulting in prolonged discharge of untreated leachate into the adjacent water receiving bodies.
- The consultant shall also suggest control and mitigation measures for the above mentioned health and environmental issues.

17. Health Impacts

The consultant shall identify:
- Diseases which may affect construction and operational staff.
- The health impacts of non-communicable diseases propagated through unhygienic conditions and vectors.
- Physical injuries due to accidents, animal bites, etc. during construction, operation and maintenance of landfill site.
- Medium to long-term physical illnesses such as loss of hearing, cancer, etc.
- Psychological disorders in some workers due to depression and anxiety because of working and accommodation conditions, relationship with fellow workers.

18. Risk assessment

The consultant shall identify:
- Risks associated with leakage and lateral migration of landfill Gas on the vicinity of landfill areas.
- Risks of landfill gas explosion and fires in around the landfill.
- Risks to off-site human receptors in terms of loss of life, injury, or illness or impact to the environment that may result under normal or abnormal events.

19. Environmental Management Plan

- The consultant shall develop an Environmental Management Plan (EMP) for construction, operation, maintenance and post closure stages.
- EMP should provide monitoring programs for: (1) air emission (2) landfill gas screening (3) surface water quality (4) site drainage discharge quality (5) treated leachate discharge quality (7) soil and sedimentation (8) groundwater (9) noise and (10) aquatic biology.
- EMP should also provide plans for soil and sedimentation control, traffic management, community relations and landscaping and re-vegetation.
- Environmental and safety audits may be included to check compliance with regulations and to provide reference material for review and update EMP to enhance its effectiveness.
- Mitigation measures to control soil erosion (if anticipated) during construction, operation and maintenance stages because of anthropogenic and non-anthropogenic sources.
- Mitigation measures to control impacts of suspended solids and organic from construction site run-off, construction vehicles/equipment maintenance areas and the risk of flooding of downstream areas.

AN EMP should also include minimum monitoring program and should include:
- The methodology, frequency and indicators of monitoring.
- Outline emergency response and contingency plans.
- Environmental training program.
- Waste disposal plan for construction material waste and other wastes.
- Restoration and Rehabilitation plan of area after completion of the project.
- Frequency of documentation communication and reporting to the client.
- Appendices of data and photographs.

AN EMP should also include mitigation measures to:
• Minimize impacts of dust emissions from landfill development, operation and maintenance activities on ambient air quality.
• Counter negative health and environmental impacts of air pollutants and combustion products resulting from flaring.
• Safeguard community against deposition of suspended particulates.
• Minimize impact of noise.
• Minimize threat from accidental fires at workplace.
• Control odor issue at landfill site.
• Minimize impact of untreated leachate resulting due to the failure of Leachate into the adjacent water receiving bodies.
• Minimize workplace health impacts.
• Minimize major landscape impacts.

20. Stakeholder's Consultation
• While conducting EIA, the consultants should hold extensive consultation with government officials, NGOs, private organization, trade unions, community organization of the area, nearby residents and other key stakeholders to obtain their opinion and concerns.
• Comments of local community regarding the possible impacts of the proposed project. The expected economic benefits generated by the project that may benefit local communities through the employment of local workers and contractor have to be assessed.
• The consultant shall participate in the public hearing arranged by EPA to answer queries raised by the other participants.
• The consultant shall address and incorporate the objections raised in the public hearing arranged by EPA.

21. Profile of the Consultancy Firm

The professional profile of the consultants needed to conduct EIA should be at least that of:
• Environmentalist as a team leader must have an extensive experience in EIA studies
• Social-economist must with sufficient experience in the socio-economic data collection and analysis, development of mitigation measure for adverse social impact.
• All key professional must have at least master degree in their relevant field from a reputed university and the Consultants must at least 15 year experience in the relevant field.

22. Deliverables
5. An inception report will be submitted to the BWMC in 5 Copies for review and comments within 14 days of mobilization of Consultants. The
feedback of the client will enable the consultants to refine their methodology and future course of action.

6. 5 copies of an interim report within 60 days of start of work for review and comment of the BWMC.

7. After incorporation of the comments from BWMC, 5 hard copies and one soft copy of draft EIA report will be submitted to BWMC within 90 days of start of consultancy and the same will be shared with general public and key stakeholder as per Environmental Protection Agency's requirement of public consultation/disclosure of EIA.

8. After incorporating all public and key stakeholders concerns 10 hard copies and one soft copy of final EIA will be submitted within 30 days after public hearing to LWMC for Clearance.

The consultant shall be responsible to conduct the public hearing and incorporate the comments hereinafter and will also assist to get clearance from EPA.

APPENDIX B: TIME SCHEDULE

B-1 EFFECTIVE DATE OF COMMENCEMENT OF SERVICES.

Effective Date shall be the March ____, 2015.

B-2 TIME SCHEDULE OF SERVICES

Time period for completion of service is one month which is renewable or extendable with mutual consent of the parties.

B-3 Consultancy firm shall be responsible for transportation of the project team.
APPENDIX C: REMUNERATION FOR SERVICES & SCHEDULE OF PAYMENT

(With reference to Article 5)

C-1 TOTAL REMUNERATION

Total Cost = Rs. _______ /- (including all applicable taxes)
APPENDIX D: SPECIAL CONDITIONS

D-1 PROJECT MANAGER (Refer Article 4.1)

D-2 REPRESENTATIVE OF THE CLIENT (Refer Article 4.2)

Managing Director/or any one nominated by him.

D-3 FACILITIES (Refer Article 4.2)

The Client shall provide the Service Firms with:

- Access to all data, documents and materials relevant to the study
- Entry pass for team and their vehicles
- Assistance to Consultancy Firms in other matters relating to engagement.

D-4 VENUE OF ARBITRATION (Refer Article 9)

Bahawalpur, Pakistan