

## **WORKING PAPER**

### **1. Title of the Project:**

Construction of Landfill Site at Lakhodair, Lahore

### **2. Introduction:**

Lahore is the provincial capital of Punjab having population of 11 Million. Lahore is also financial and industrial hub of the province. Solid Waste Management in any large urban city like Lahore requires specialized Solid Waste Management. In this regard, Lahore Waste Management Company (LWMC) has been established to improve Integrated Solid Waste Management (ISWM) system in Lahore. When LWMC took over from CDGL, there was only one disposal facility at Mehmood Booti which was established in 1996 and almost 6 million tons of waste was already dumped till 2010. The dumping site creates pollution and polluting underground water tables. The useful life of the dumping site was extended twice by constructing internal roads. After outsourcing of SWM services to international contractors, almost 4500 tons of waste is being transported to dumping sites which has made it necessary to establish a new landfill site. Therefore, LWMC is constructing a sanitary Landfill site at Lakhodair, Lahore for scientific disposal of municipal solid waste addressing all the environmental effects.

### **3. Project Duration:**

An international tender was floated and as a result of bid evaluation, a joint venture of Turkish and a Pakistan firm ( M/s CEVKA-CEA J.V) was awarded the contract being the lowest bidder. Contract was signed in Turkey during Prime Minister's Visit on Sep 18, 2013. Project will be completed in 8 months starting from Oct 12, 2013.

### **4. Total Cost of the Project**

PKR 1,298.7 Millions

### **5. Area of Land:**

53 ha land is available out of which 28 ha is being utilized for construction of landfill site and remaining land is available for possible future extension.

### **6. Design of the Project:**

Design, drawings and technical specifications of the project were prepared by M/s ISTAC, a Turkish consultancy firm. Design prepared by M/s ISTAC was reviewed by a domestic consultant M/s NESPAK. Due diligence of the design was done by M/s Team Engineers.

### **7. Construction Supervision:**

Construction supervision of the project is being done by M/s. NESPAK and also being monitored by in-house qualified civil engineers.

## 8. Major Components of the Project

Following are the major components of the project:

- Landfill Site Lot-1 and 2 using clay liners, geo membrane, geo textile and gravel.
- Gas Collection System
- Leachate Collection Pool
- Leachate recirculation system
- Monitoring Well
- Ring Road & Access Road
- Administration Block
- Wheel washing Area
- Social Area
- Workshop area
- Electrification, Sewerage system and water supply system
- Construction of Boundary Wall
- Landscaping

## 9. Present Progress (till 15 January 2014)

**Preface:** Regular meetings & visits are being held with all stakeholders of the project at site and head office in order to closely monitor and resolve day to day technicalities. Due to enormity of the project and Pakistan's first landfill site (design changes etc), new issues are encountered and subsequently amicably resolved with resolved with the help of project professionals. The details are tabulated below:

## 10. Physical Progress

Activity	Planned	Actual
Excavation	70%	72%
Earth fill	63%	60%
Admin Building	25%	3%
Workshop	28%	3%
Leachate Pool	22%	3%
Wheel washing	19%	0%

## 11. Financial Progress

Planned Value	Actual Value
16.9%	14.25%

## 12. Project Quality Control Measures

The Quality of project is being ensured by taking following steps;

- Employment of experienced Turkish project manager at site round the clock.
- Experience Resident Engineer Supervision

- Periodic visits by Turkish consultant M/s ISTAC.
- Periodic visits by design Engineer of M/s NESPAK.
- Visits by experienced Turkish contractor M/s CEVKA.
- Visits by different local and foreign experienced delegates at site.
- Visits by in house qualified engineers at all stages of construction.
- Prescribed tests being done in local/international laboratories.
- Testing at site at all stages of construction.

### 13. **Advantages of the Project:**

- Reduction in air pollution
- Reduction in ground water pollution

### 14. **Future Extensions:**

- Centralized facility for incinerators for disposal of hospital waste.
- Other projects related to waste treatment and disposal with special emphasizes to waste to energy project.
- Leachate Treatment Plant









