

## Chapter B-4

### Private sector refuse collection in Rajkot

by Manus Coffey, D Mukhia,  
M. Patel and P. Roychowdhry

#### B-4.1 INTRODUCTION

Solid wastes from some wards of Rajkot were being collected by contractors. This arrangement was studied for two days in December 1995 in two wards - Wards 8 and 5 - and at the current dumping ground. The investigators interviewed several staff and officers of Rajkot Municipal Corporation (RMC), ward inspectors, and the contractors and their personnel.

The contractors were required to collect and transport solid waste from specified collection sites within the ward area as instructed by RMC supervisors by making a scheduled number of trips per day as specified in the contract agreement. Failure to complete the assigned work would result in a fine being imposed. In case of inability to complete the work, the Corporation would hand over the work to be done by some other agency at the contractor's cost.

This chapter reviews quantitative and qualitative aspects of the contractual arrangements, based on observations, interviews and measurements, and estimates the cost of collection of waste by this method. A cost comparison with the public sector service is presented. At the end of the chapter and in the appendix there are some more details about the contractual arrangements.

#### B-4.2 SUMMARY OF THE TRANSPORT CONTRACT:

Rajkot Municipal Corporation is divided into 20 wards out of which the collection of refuse from seven wards was being handled directly by the Corporation and the rest through private contracts. The private sector system was introduced in 1986. Amongst the reasons for contracting out some of the collection of refuse were

- ◇ the increase in the number of wards,
- ◇ the inability of the Corporation to employ more staff, and
- ◇ the desire to carry out the work in a more efficient and cost-effective manner.

At the time of the study there were eleven contractors who had been entrusted with the responsibility of removing solid waste, wet solids, rubbish etc., from the various wards. Each contract was for a period of one year beginning from 1st April to the end of the following March. At the end of each contract period, the contractor was normally required to continue with the work for another two months till he or another new contractor had been awarded the fresh contract.

At the time of bidding for the contract, the contractor was required to quote rates for loading, transporting and unloading, including labour charges etc., per day for each ward for which he was tendering, according to the number of trips cited in the tender documents. Once the contract had been signed and awarded, the contractor was solely responsible for collecting the refuse from the ward and disposing of it at the site specified in the contract.

According to the terms and conditions of the contract, the contractor was required:

- ◆ To provide the equipment, the labourers and the vehicles for transporting the garbage at his own cost from the places directed by the RMC supervisory staff of the respective wards.
- ◆ To collect the garbage and dispose of it at the dumping site by making two, three or four trips per ward as specified, within the prescribed time limit. The contractor was paid only for the number of trips specified in the contract and not for any other additional trips he might be required to make to finish his assignment. In some cases, especially during the rainy season and during festivals, he might also be required to make additional trips. Failure to complete the prescribed number of trips in a satisfactory manner would result in a penalty of Rs 100/- per trip as well as losing payment for the work not completed.
- ◆ In case of failure or breakdown of the truck, the contractor was required to arrange for another vehicle to complete the day's work.

- ◆ Each vehicle carrying the refuse was required to be covered while travelling to the disposal site.
- ◆ In case the contractor was unable to remove all of the refuse, the contractor would be liable to pay a penalty, and in addition to paying the penalty, the work might be entrusted to another agency at the risk and cost of the concerned contractor.

### B-4.3 QUESTIONNAIRE RESPONSES

<b>Question</b>	<b>Answer</b>
1 <i>Who are the contractors?</i>	Local transport contractors who are selected by RMC through tendering.
2 <i>How many are there?</i>	Eleven
3 <i>What are their hours of work?</i>	6.30 am to 2.30 pm in general, or until their daily assignment is completed.
4 <i>What workforce do the contractors provide?</i>	A driver/loader and three loaders.
5 <i>What are the wages</i>	Rs 50 per day for a driver and Rs 45-50 per day for a loader. [See note below]
6 <i>How old are the vehicles?</i>	Many are 20 - 25 years old, often with non-tipping, open bodies.
7 <i>What is the average time taken and what distance is covered per trip?</i>	90 - 140 minutes; 3 - 5 km.
8 <i>What is the average age of the workforce?</i>	23 - 40 years in general. (All workers are male)
9 <i>What is the average expenditure per truck for monthly maintenance?</i>	Approximately. Rs 2000/-
10 <i>Do vehicles undergo regular safety checks?</i>	No, there are no checks until a breakdown occurs
11 <i>Are there any standby vehicles?</i>	All of the contractors have more than the one vehicle required for the contract operation. The spare vehicles are generally used for road works.
12 <i>Are there standby workers?</i>	Contractors get replacement workers from reliable sub-contractors.
13 <i>What health and safety measures are taken for the benefit of the workforce?</i>	No gloves, boots or masks are given to them. No regular medical checks are carried out but they are compensated when sick and in general treatment expenditures are borne by the contractors.
14 <i>What equipment is used?</i>	Spades, spikes, rakes, shovels and kadai ( or bowls).
15 <i>Which days do they work?</i>	They work six days a week (Sunday is the rest day) and do extra work on Monday to catch up.
16 <i>To whom do they report at the start and end of the working day?</i>	To the Sanitary Inspector at the Ward Office.

Note:

[Question 5] When the driver of the truck only drives the vehicle he receives a daily wage of Rs 50/- per day. When the driver not only drives the truck, but also, at collection points, works as one of the loading crew, then besides his wage for driving (i.e. Rs 50/-) he gets a share from the payment made

for loading and unloading. In general this is a total of Rs 150/- + Rs 30/- (for snacks) , so if four men are loading the share for each is Rs 180/4 = Rs 45/head. Therefore Rs. (50 + 45) = Rs 95/- is received by the driver when he helps in loading.

#### B-4.4 OBSERVATIONS OF THE CONTRACTORS' WORK

While observing the working of a contractor, it was observed that :

- ◇ According to the terms and conditions laid down, the contractor was doing the required number of trips.
- ◇ Loaders were clearing the spots reasonably well.
- ◇ In most cases, the loading process was being done at the required rate.
- ◇ In some cases they passed by pick-up points where the amount of refuse was very small.
- ◇ Loading of the truck was being done either by the labourers alone, or, in some cases, the driver was also involved in the loading and unloading activities.
- ◇ In conversation a contractor mentioned that he had not so far met with any labour problems or any vehicle accident.

#### B-4.5 SUPERVISION

As far as the supervision from both sides is concerned, observations showed that usually contractors did not engage supervisors, but were themselves supervising the work. The RMC supervisors, sub-sanitary inspectors and sanitary inspectors were also supervising. The sub-sanitary inspector directed the contractor if he missed a scheduled station or occasionally pointed out an unscheduled pick-up point where solid waste had accumulated. One peon (lowest paid worker) of the particular ward followed the contractor's vehicle and recorded whether he was satisfied with the work carried out by the contractor and also if they were keeping good records as follows:

##### Information provided by the register maintained at the Ward

Contractor's name	Name of driver
Date	Number of trips
Day	Arrival time at dumping site
Place of dumping	Departure time from dumping site
Truck registration number	Number of the register maintained at the site

##### Information provided by the register maintained at the dumpsite

Truck number	Ward number
Arrival time	Number of trips
Departure time	Number of workers

This provides good cross-checking at both places and prevents undue manipulation of individual staff. The contractor is required to submit an invoice according to the contract and should enclose a certificate provided from the daily register as a checking document.

**Suggestion** It is useful to evaluate the requirements of registers at intervals to ensure that all the information that is collected is necessary. If some of the information is never used, it may be advisable to remove the requirement to collect it from the register. Managers should show the clerks that the information which they collect is important (perhaps by discussing it with the clerks from time to time so that the clerks understand that the information they record is useful and valued.) If clerks think that the information that they record is of no importance, they will not take care to record it accurately.

## **B-4.6 PERCEPTIONS OF THE CONTRACTOR, RMC AND PUBLIC REGARDING THE CONTRACT**

### **a) Contractor**

There were some complaints from contractors about the number of trips that were sometimes required. The contract stated how many trips should be made daily, but on some occasions (festivals, fairs etc.) they were expected to carry out more trips, for which they did not get any extra payment. If payment for extra trips were to be included as a condition in the contract, then they would not have to meet this additional - and sometimes unforeseen - expenditure. A contractor was also somewhat unhappy that, at the direction of the supervisor, the crew could be required to load waste from unscheduled points in addition to the scheduled stations. Otherwise the contractor was satisfied with the terms and conditions in the contract.

### **b) Rajkot Municipal Corporation**

Officials of the RMC were satisfied with the working of the contractors and they did not feel it necessary to make any alteration to the contract.

### **c) Public opinion**

The operation of the contractors was discussed with some bystanders and the following comments were received. (This does not claim to be a comprehensive survey of public opinion.)

In general the opinion of the contractors' service was satisfactory but they felt that the refuse should be collected later in the morning (rather than early in the morning) in order to avoid household refuse being left in heaps after the collection crew had cleared the area.

The location of the bins should be such that they would not obstruct the movement of traffic and pedestrians.

### **d) Suggestions:**

- ◇ Contractors were not paid for the extra trips which they occasionally did. The possibility of payment for such trips could be included in the conditions of the contract, provided that there was some way of ensuring that there was a real need for an extra trip.
- ◇ Contractors were not covering the loads with a tarpaulin during road travel, as specified in the contract. This should be enforced strictly.
- ◇ For better monitoring of the collection and transport of refuse, and also for future planning, the RMC should install a weighbridge at a convenient location and require that all loads be weighed. (Alternatively it may be possible to use an existing weighbridge, if this would not cause excessive delays and would not be much more expensive than to install a municipal facility.)

## **B-4.7 DAILY WORK SCHEDULE**

At 6.30 a.m. the contractor with his vehicle and workforce reported to the sanitary inspector at the ward office, where he was given the collection schedule for that day's work. The contractor then instructed his workforce to collect the wastes from different loading points. When the truck was fully loaded, it went to the dumping ground, was registered in RMC's register and unloaded according to the directions of the sub-inspector. The contractor received a certificate from the ward office if the trip was done properly. The Municipal Inspector checked the cleanliness of the storage points and issued certificates daily, based on which the invoices were prepared by the contractor on a monthly basis. If a vehicle and crew failed to report, Rs 100/- for each trip was deducted from their payment by RMC. Such incidents were rare.

## **B-4.8 SAMPLE WORK STUDY**

The time spent studying the system was only two days. On the first day the investigators followed two trucks as waste was collected and transported to the disposal site. Table B-4.1 presents some of the data from one of the trips that was studied.

**Table B-4.1 Work study investigation on 14th December 1995**

contractor's open truck, registration number GTX 4184

Location of storage point	Distance from last point (km)	Time of arrival	Time of departure	Loading time (minutes)	Remarks
Gopal Nagar	1.0	9.50	10.15	25	Open dump
Sran Jibi	0.3	10.20	10.32	12	Cow dung, straw and normal waste
School no. 65 (west)	0.15	10.35	10.40	5	Small dump
School no. 65 (north)	0.1	10.48	11.21	33	Normal waste with building debris

Other details for the trip described in table B-4.1:

Weighbridge results (kg)		Times (minutes)		Volume and density
Truck when loaded	7 910	Stationary, loading	75	Volume of waste 4.25 m <sup>3</sup>
Truck when empty	4 110	Travelling and unloading	76	
Weight of waste	3 800	Total trip time	151	Waste density = 3800/4.25 = 894 kg/ m <sup>3</sup>

Average weight of waste for two trips that were followed 3 920 kg

The measured data and estimated densities for the loads are shown in table B-4.2.

**Table B-4.2 Observations of loads in open contractor's trucks**

Registration number	Date	Weights (kg)			Estimated volume (m <sup>3</sup> )	Density (kg/m <sup>3</sup> )
		Loaded	Empty	Load		
GTX 4184	14-12-95	7910	4110	3800	4.25	894
GTG 262	14-12-95	9030	4990	4040	4.1	985
GTA 1811	15-12-95	7120	4260	2860	3.9	733
GTK 4887	15-12-95	6700	4180	2520	4.13	610
GTX 4184	15-12-95	6880	4110	2770	3.95	701
GTZ 5866	15-12-95	7160	4970	2190	4.21	520
GTY 2818	15-12-95	6900	4280	2620	3.32	789

The fact that the trucks were being followed seemed to have a noticeable effect on the performance of the crews. The two loads that were collected under the observation of the team were considerably denser than the loads collected the next day when the team only weighed the trucks, but did not follow them as they were being loaded. The results table B-4.3 show the contrast.

The first impression is that the weights were more when the trucks were being observed because the labourers were being more diligent, but the similarities in the estimated volumes suggest that the trucks were loaded to approximately the same extent on the two days. The densities may have been less on the second day because

- ◊ the waste was different, being composed of less dense material on the second day;

- ◇ the loaders were able load the waste into the truck in a more porous way to give a lower density when they were not being watched, so that they could fill the body with less work; or
- ◇ the loaders leave the most dense material (nearest the ground, having been there for a longer period and compacted into the ground) except when they are being closely observed.

Alternatively, it may be that this effect is simply the result of the random variation of waste parameters, since the numbers of samples are small. It is also worth noting the magnitudes of the densities - 520 to 985 kg/m<sup>3</sup> - because these values are very high and totally unsuitable for collection by compactor trucks.

**Table B-4.3 Comparison of loads in contractor's vehicles on the two days of the study**

Date	Average weight of loads (tons)	Average volume of loads (m <sup>3</sup> )	Average density of loads (kg/ m <sup>3</sup> )	Comments
14-12-95	3920	4.17	874	Loading under observation
15-12-95	2592	3.90	568	Loading without observation

**Note:** 14-12-95 was a Thursday so there were no effects from the weekend.

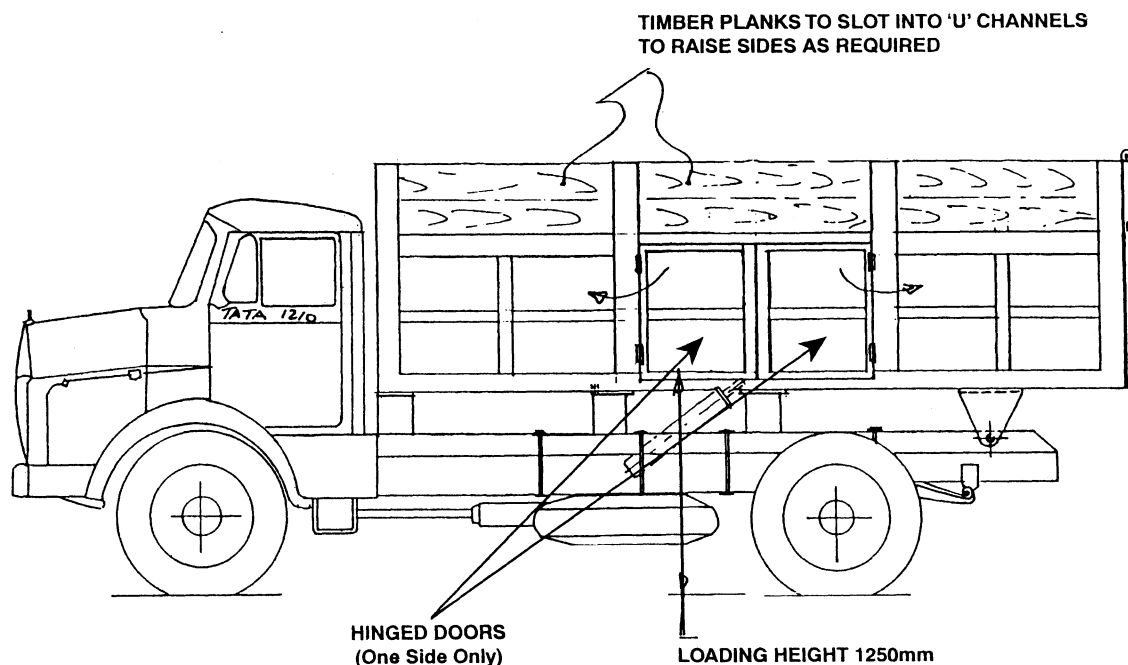
#### B-4.9 COMMENTS ON CONTRACTORS VEHICLES:

In general the contractors vehicles were about 20 to 25 years old and were Fargo & Dodge petrol-engined, general purpose trucks with diesel engines fitted more recently. These trucks (with one exception) were fitted with flat rigid (i.e. non-tipping) bodies with low sides giving them an average capacity of around 4.0m<sup>3</sup>.

Typically such a truck has a rated payload of 7000 kg, but observations showed that they were carrying an average of only 2,600 kg.

The contracts called for three or four loads to be collected by each truck. If these trucks were fitted with side extensions to increase their capacity by around 50% (typically 0.34m extensions) and the contract re-negotiated to allow for two loads per shift instead of three, the collection efficiency per truck might be increased and the working time reduced. Dropside top extensions could be used to maintain the present loading height for most of the loading operation but an additional labourer on the truck body would be required. Figure B-4.1 illustrates how the truck bodies could be modified. However the increase in efficiency could not be guaranteed, especially where the distances to the disposal site are short, because raising the sides of the body has the following negative effects:

- ◇ The waste must be lifted to a greater height, increasing the fatigue of the loaders and slowing their pace of work;
- ◇ Lifting the waste manually to a greater height makes the operation more hazardous to health since there is more chance for the waste - especially dust - to fall on the labourers' heads;
- ◇ An extra labourer may be needed to stand in the waste already in the truck, thereby increasing the wages bill (or reducing the numbers of loaders on the ground) and this labourer runs a high risk of injury and infection if he stands in the waste without satisfactory protective footwear;
- ◇ It is more difficult for an inspector to check that the body is full if the sides are so high that he cannot see into the body, so the trucks may not be loaded to their full potential;
- ◇ Old trucks may suffer more wear and tear (particularly to their transmissions) if they are required to operate on the uneven and soft ground of a disposal site at their full gross weight rather than at a lower weight.



**Figure B-4.1** Proposed modification to TATA 1210 tipper truck to increase load capacity and reduce loading height

#### B-4.10 ESTIMATION OF COST OF COLLECTING ONE TON OF WASTE

Since the contractor provides manpower, vehicles and equipment, the costs of the service can be computed simply from the contract rates. This is done in table B-4.4 and the following calculations.

**Table B-4.4** Rajkot Municipal Corporation Contract rates for lifting of garbage

Ward number	Number of trips each day	Rate of payment for one day's work Rs
3	3	640
4	3	600
5	3	600
8	3	625
9	4	855
11	4	875
13	4	800
14	3	700
16	2	440
17	4	736
18	3	700
19	3	650
20	4	797
Totals	43	9 018

$$\text{Average cost per trip} = 9018 / 43 = \text{Rs } 209.7$$

$$\text{Average cost per tonne} = 209.72 / 2.592 = \text{Rs } 80.91$$

According to the rates given above, the cost of collection and transport of wastes comes to almost Rs. 81 per tonne.

This figure does not include the cost of supervision and administration of the contracts by the RMC, so the total cost of solid waste management is a little higher than this. The labour-related overheads in section B-3.9, part (c) [for a municipal tipper truck, single shift operation] are Rs 17100 / 988 = Rs 17.3 per ton. Much of this would be costs related directly to hiring the labourers, such as benefits and holiday replacement, but if it assumed that the costs of supervision are Rs 14/- per ton, the total cost per ton for contract operation is increased to Rs 95/-.

#### B-4.11 COST COMPARISON BETWEEN PRIVATE SECTOR AND MUNICIPAL OPERATIONS

The unit cost calculated above may be compared with the costs of the municipal service that were presented in the previous chapter. Table B-3.2 is reprinted below.

**Table B-3.2 Summary of unit collection costs**

Vehicle type	shifts	cost per ton, Rs
Dumper placer	1	151
	2	120
Open tipper	1	228
	2	174

When compared with the unit cost of Rs 95 for private sector operation that was calculated in section B-4.10, it shows that private sector collection is at least 20% cheaper than any of the municipal options.

The costs do not tell the whole story. When evaluating alternatives the following factors should also be considered:

- ◇ The most economical municipal alternative includes the purchase of containers which keep the wastes off the streets and present a neater appearance, although they may increase the distance that residents are required to carry their wastes.
- ◇ The economy of the private sector is largely due to the lower wages paid by contractors - or alternatively, to the generous pay scales and benefits paid by the Municipality. The fact that contractors do not have problems in recruiting labour suggests that rates of pay are no worse than in other activities of the private sector. It was not confirmed in the study whether contractors' practices conformed to all relevant labour laws.
- ◇ The loaders working with open trucks are more exposed to health hazards and injury as they load and unload the trucks. The municipal dumper-placer system is much more satisfactory in terms of health risks.
- ◇ Air pollution from an old truck is likely to be more than from a newer municipal vehicle, but since the contractors' trucks make fewer journeys because they carry more on each trip, the private sector system causes less traffic congestion.

#### B-4.12 FURTHER COMMENTS ON CONTRACTUAL ASPECTS

by Mrs Jaiwanti Sheokand, J B  
Kagathara and P K Raveendran

- ◇ The terms and conditions of the contract are presented in appendix BB-4.
- ◇ Since the contractor provides the vehicle, the capital expenditure of the Corporation is reduced.
- ◇ The contractors engage only hard-working labourers, and can easily end the employment of any who do not work efficiently.
- ◇ There are several ways in which the labourers may be exploited:



- ⇒ The contractor may engage a smaller number of labourers (though the municipal supervisor should object to this) and oblige the remaining workers to do more for the same wages.
- ⇒ The contractor may pay the labourers less than the statutory minimum wage.
- ◇ The amount of waste to be transported is not objectively defined in the contract, so, if litigation were to arise, it might be difficult for the Corporation to win its case. In fact, the first contracts were written in terms of the weight of waste that should be collected, but this encouraged contractors to mix heavy debris with the lighter domestic wastes that they were supposed to collect in order to increase their income. So after four years the basis for the contract was changed to the daily clearance of all storage sites in a particular ward. Such storage sites can quickly be filled with waste after they are emptied, so it is important for clearance to be verified by a municipal employee.
- ◇ Clause 27, that states that the decision of the Municipal Commissioner is binding in any dispute, might be challenged in a court of law.

# **APPENDIX BB-4 TENDER DOCUMENTS FOR PRIVATE SECTOR REFUSE COLLECTION, RAJKOT**

RAJKOT MUNICIPAL CORPORATION

HEALTH DEPARTMENT

TENDER FOR THE YEAR 1995-6

Tender Fees Rs . . . . . /-

Tender for daily Lifting of Solid Waste, Wet Solid, Rubbish etc. collected by way of cleaning and thrown away by the City dwellers in Ward No. 3, 4, 5, 7, 8, 9, 11, 13, 14, 16, 17, 18, 19, and 20 of the Health Department of Rajkot Municipal Corporation.

Ward No.	Rate for Daily Lifting of Solid Waste	
	Rate For Total 3 trips daily	Rate For Total 4 trips Daily

Name of the Contractor :- .....

Office & Resi. Address:- .....

.....

.....

Rajkot

Date:- .....

Signature of the Contractor

Note:- The Contractor shall have to fill up the Wardwise Rates as per the approved trips.

On next page: Terms and Conditions

## RAJKOT MUNICIPAL CORPORATION

### HEALTH DEPARTMENT

Terms and Conditions for lifting of Solid Waste, Wet Solids, Rubbish, etc. collected by way of cleaning in general in the different wards under Health Department of R.M.C.

#### TERMS AND CONDITIONS

- 1) The Contractor shall have to quote the rates for Daily lifting up of Solid Waste, Garbage, Rubbish, Fillings etc.
- 2) The Contractor whose Tender will be accepted by the R.M.C. shall have to enter into an agreement on Stamp Paper with R.M.C. by affixing required stamp as per Stamp Duty Act.
- 3) The Time Limit for the said work will commence from the date of agreement up to .....1995/96. However till the new Contractor is not entrusted the said work, the First Contractor should be continued for further two months.
- 4) The Contractor shall have to pay the Wardwise Security deposit in favour of R.M.C. amounting to Rs. 20,000/- by Cash or F.D.R.
- 5) The Solid Waste, Garbage, Rubbish, Filling, and the Solid Waste from Vonkala, as well as filling shall be lifted as per the instructions and satisfaction of the Sanitary inspector or Sub-Inspector of The Ward, and shall be dumped at Sinduriakhan which is located near School No. 63 on Kothariya Road behind Indiranagar Public Toilet and the so lifted solids etc. shall be spread as per the instructions of the Supervisor-in-Charge at Sinduriyakhan.
- 6) The Contractor shall have to quote the rates per day including loading, unloading and Spreading Solid Waste etc. as per the instructions and labour Charges and lifting by Truck from the place as directed including Labour charges etc.
- 7) The Solid Waste etc. shall be lifted by making 4 Trips in Ward No. 9, 11,13,17, and 20.
- 8) The Solid Waste shall be lifted by making 3 Trips in Ward No. 3, 4, 5, 7, 8, 14, 18, 19, and the Solid Waste etc. shall be lifted by making 2 trips in Ward No. 16
- 9) After every Trip, the Contractor shall take the Signature of Supervisory staff of R.M.C., in prescribed form.
- 10) The Contractor will have to make his own arrangements for necessary equipment, labourers and Transporting the Solid Waste etc. at his own cost and as such the complete responsibility will be of the Contractor.
- 11) The Contractor shall have to complete the prescribed Trips without fail in every Ward. The Contractor shall have to keep informing in respective Ward without fail, the Trips carried out for the Work. The Contractor shall take the signature of the respective Supervisory staff for Spreading of Solid Waste, Wet Solid, Garbage, Rubbish, Filling, etc. at the place where spread.
- 12) The Dry Solid Waste, Solid Waste, Rubbish, Fillings, as well as The Rubbish from the Vonkala, shall be lifted as per the instructions of Supervisory Staff of respective Ward. The Driver shall get Daily Certified by the Supervisory Staff of The respective Ward, for the Solid Waste etc. lifted, as per the Instructions.
- 13) The prescribed Time Limit For Lifting of the Solid Waste etc. will be from morning 6.30 to 2.00 afternoon. The Vehicle should be brought at 6.30 in the morning at Ward Office. The Solid Waste etc. shall be lifted as per the prescribed trips, failing which, a Penalty of Rs. 100/- per Trip will be imposed.
- 14) In The respective Ward if it is observed that the Solid Waste etc. is not lifted or not lifted fully, the same will be lifted fully through other agency at the Risk & Cost of the Contractor and a penalty as per the Condition No. 10 will be imposed as well as the additional expenditure required to be incurred, if any, will be collected / deducted from the bill of the Contractor.
- 15) The Prescribed Trips of the Truck will have to be carried out by the Contractor and if required, the Contractor shall carry out more trips than the prescribed for lifting of Garbage, Solid Waste etc.

and cleaning of Ward, especially in Rainy Season and Festival like Janmashtami, Diwali, Makar-Sankranti, and other such occasions.

- 16) The Complete Details viz. from which Ward the Solid Waste etc. is to be lifted by making how many trips, etc. is given in this Tender. In the given limits of trips, the complete solid Waste etc. are required to be lifted. However if the complete Solid Waste etc. is not lifted by the Contractor within the prescribed trips, the Contractor shall lift the remaining Solid Waste etc. completely by making additional trips for which will not be paid extra amount.
- 17) Due To some or the other reason if the Truck doesn't come, the Contractor shall have to arrange for the another Truck immediately.
- 18) The truck loaded with Garbage or Solid Waste etc. shall be covered with Tadpatri. The floor of the Truck body shall be in level and without damages or holes, and shall be of sheet metal fixed at the bottom.
- 19) The Competent Authority or Employee of R.M.C. will carry out the Day to Day Supervision of the Work and by them, if the work carried out is not found Satisfactory, then the Rojkam will be prepared and competent officer will be at liberty to impose and deduct the penalty and will instruct for completion of necessary cleaning Work.
- 20) During the Day to Day Supervision by the Sanitary Inspector, Sanitary Sub-Inspector, competent officer or employee, if the work carried out by Contractor is not found as per the requirement or irregularities in the work, if any, on the basis of report from above staff of R.M.C., the Contractor will be issued a Notice through competent Officer, for declaring the Contract as terminated as well as forfeiting the deposit paid by the Contractor.
- 21) After entering into an agreement with R.M.C., if the Contractor fails to follow the same or if abandons the work uncompleted in that case the deposits paid by the Contractor will be forfeited and the remaining work will be carried out through other agency at the Risk and Cost of the Contractor and it will be sole responsibility of the Contractor for whatsoever expenditure. Also legal proceedings will be carried out against the Contractor.
- 22) During the Contract of work till completion of the same if any damage to any property, Lives of People or any accident or damages occurs due to the fault of the Contractor, his Truck Driver or his Labourers then the Contractor will have be solely responsible for the same and R.M.C. will not be responsible for the incidents, if any.
- 23) The Bill For The Work shall be submitted in the Health Department of the R.M.C., in the prescribed form of statement.
- 24) The Contractor those who are filling up this Tender should have their own vehicle and the capacity of the vehicle should be of minimum 4-5 cft, which is necessary. (See note below)
- 24) Alongwith the Submission of Rates for the work, The Contractor shall have to pay Earnest Money Deposit by a Demand Draft in favour of Rajkot Municipal Corporation, amounting to Rs. 2000/- wardwise. The Offer received without Demand Draft for Rs. 2000/- against E.M.D. will be rejected.
- 25) If the Work will not be carried out up to the mark of Satisfaction or if the work will not be carried out as per the written / oral instructions of the Competent Authority / Employee or if the Contractor is found breaching any condition/s of the Contract, in that case Security Deposit will be forfeited. Also the contract will be declared as terminated, for which no Notice will be required to be issued nor any reason thereof.
- 26) R.M.C. will be at its liberty entrust the work to another agency in case if it is found that the work carried out by the Contractor is not satisfactory and the same will be binding to Contractor.
- 27) If any dispute / legal / or litigation arises, the decision of the Municipal Commissioner will be final and binding to Contractor.
- 28) Upon acceptance of rate of the Contractor whose rate is found to be lowest if the Contractor fails to work, the Earnest Money Deposit will be forfeited.
- 29) R.M.C. will be at its liberty to terminate the Contract of any ward whenever it is felt that R.M.C. is in position to lift up the Solid Waste.

Statement showing the Details of Trips and Lifting of Solid Waste etc.

Ward No.	No. Of Trips	Ward No.	No. Of Trips
9	4	3	3
		4	3
11	4	5	3
		7	3
13	4	8	3
		10	3
17	4	14	3
		16	2
20	4	18	3
		19	3
Total =	20	Total =	29
Grand Total = 49			

Medical Officer of Health  
Rajkot Municipal Corporation

**Notes**

These Terms and Conditions are reproduced without making editorial changes

Clause 24. The authors of section A-4.12 thought that a contractor who has the capacity to hire a vehicle should also be permitted to tender. As it is only those who actually own a truck may be considered.

There seems to be an error in the required volume. The volumes of the loads in table B-4.3 were approximately 4 m<sup>3</sup>, which is equivalent to about 140 ft<sup>3</sup>, but the payload was too low with such a capacity. Perhaps the recommended minimum should be 6m<sup>3</sup>, or 200 ft<sup>3</sup>. It is likely that the error in clause 24 is in the units, in that the minimum should be 4 - 5 m<sup>3</sup>, not ft<sup>3</sup>. In a sense it is not necessary to prescribe a minimum since it is in the Contractor's interest to carry as much solid waste as possible each trip, in order to minimise the number of trips.

The original has two clauses marked "24", and this error has been reproduced here in order to maintain the same numbering system.