



NATIONAL SOLID WASTE ASSOCIATION OF INDIA
(REGISTERED UNDER THE SOCIETIES REGISTRATION ACT, 1860) BOM 137/1996 GBBS
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Please provide the information requested in the following questionnaire so that NSWAI (National Solid Waste Association of India) can provide you a preliminary estimate of the potential for developing a landfill gas project under the rules of the Clean Development Mechanism. The questionnaire is designed so that you can provide the information in a simple and straightforward way. An additional (attached) worksheet provides diagrammatic illustrations to assist you in providing correct and accurate information.

Basic information

| | |
|---|---|
| Name of the Municipal Corporation/Council: | |
| Contact Person: | |
| Telephone: | |
| Fax: | |
| email: | - |
| Address: | |
| Postcode: | |
| Website: | |
| Date: | |
| Project reference No: | |
| Landfill Site Name: | |
| Site Address: | |
| Any other relevant information: | |

Please complete one questionnaire for the whole landfill. If the landfill is divided into different operations or stages, please complete a separate questionnaire for each.

| # | Question | Units | Data and Information |
|----------------------------------|--|----------------------|----------------------|
| A) Waste In Place To Date | | | |
| 1 | When was waste first landfilled at the site? | date OR year | 1988 |
| 2 | What is the amount of solid waste currently deposited on site? (See 'Explanations') | tones | |
| 3 | What is the current size of the area used for landfilling waste? (See 'Explanations') | ha | |
| 4 | What is a size of current tipping area? (i.e., what is the size of the area that is receiving lorries with waste?) | ha OR m ² | |
| 5 | What is the average depth of the landfill at the present moment? (See 'Explanations') | m | |
| 6 | What is the average depth of each of the platforms on the site? | m | |
| 7 | What is the density of the waste in place to date? Alternatively, what is the compaction rate? (Please state which) | t / m ³ | |
| 8 | How much waste is deposited on a daily basis (or weekly or monthly)? | tones per day | |
| 9 | How many lorries per day are depositing waste at the landfill? | | |
| 10 | What kind of waste is deposited at the site (please complete the appropriate %ages or volumes for the different types of waste presented below): | | |
| 11 | -- Domestic waste? | % weight OR volume | |
| 12 | -- Commercial / Industrial waste? | % weight OR volume | |
| 13 | -- Industrial waste? | % weight OR volume | |
| 14 | -- Inert waste? | % weight OR volume | |

| | | | |
|---|--|---|--|
| 15 | What is the biodegradable (putrescible) fraction in the total waste stream? | % of total waste input rate OR rate in m ³ or t [per day, week, month, year] | |
| 16 | What is the fraction of liquid waste in the total waste stream? | % OR (m ³ OR t) [per day, week, month, year] | |
| B) Waste To Be Deposited In Future | | | |
| 17 | What is the planned closure date of landfill? | date OR year | |
| 18 | What is the predicted amount of waste that will be in place when the landfill is completed? (See 'Explanations') | m ³ OR t | |
| 19 | What is the predicted area of the landfill after its completion? (See 'Explanations') | ha OR m ² | |
| 20 | What will be the predicted average depth of the landfill after its completion? (See 'Explanations') | m | |
| 21 | What will be the density of the waste at the site after the landfill is completed? | t / m ³ | |

| | | | |
|--------------------------------------|---|-----------|--|
| C) Information About the Site | | | |
| 21 | Please describe the geometry of the landfill. Is it a landfill or a land rise? (See 'Explanations') If available, please attach a plan or a map, and/or photographs of the site. | | |
| 22 | What are the geological conditions of the site and the surrounding strata? Please indicate the type of soil and substrata (e.g., sand, gravel, clay, rocks). (See 'Explanations') | | |
| 23 | What is the groundwater table level in the site area? Please state the reference point (I.e., is it below ground level, at sea level or at the bottom of the landfill?). (See 'Explanations') | m | |
| 24 | What is the annual rainfall in the area? | mm / year | |
| 25 | Please indicate any specific climatic conditions (e.g., arid, tropical, mild). | | |
| | | | |

| D) Management Of the Landfill | | | |
|--------------------------------------|--|----------|--|
| 26 | Is compacting equipment used on site? If so, please indicate what type of equipment is used (e.g., waste compactor, bulldozer). | | |
| 27 | What is the sequence of filling of the landfill? For example, are individual cells filled in first, or is the entire site/area filled in and then a subsequent platform is begun? If available, please attach documents describing the phasing plan. | | |
| 28 | Are filling procedures the same today as they have been in the past and will be in the future? If not, please explain the differences in filling procedures. | | |
| E) Lining / Capping | | | |
| 29 | Is there a bottom liner at the site? (See 'Explanations') | YES / NO | |
| | If so, does the liner cover the entire site or just part of it? In case the liner only covers part of the site, please indicate the approximate area or % of the site that has a bottom liner. | | |
| 30 | If so, what kind of liner is it (e.g., plastic membrane, compacted clay soil)? | | |
| 31 | Does the site have liners on the sides? (See 'Explanations') | YES / NO | |
| 32 | If so, what kind of side liners are they (e.g., plastic membrane, compacted clay soil)? | | |
| 33 | Does each platform or cell have a cap on it? | YES / NO | |
| 34 | If so, what kind of platform/cell caps are installed (e.g., regular soil)? | | |
| 35 | Will the site be capped (at the top) upon completion? (See 'Explanations') | YES / NO | |
| 36 | If so, what kind of cap will this be (e.g., plastic membrane, compacted clay soil)? | | |

| F) Leachate | | | |
|--------------------------|--|--------------------|--|
| 37 | Is there a leachate control system on site? | YES / NO | |
| 38 | If so, when was the leachate control system installed? | date OR year | |
| 39 | What type of leachate control system is in place (e.g., basal drainage, pumping from wells)? | | |
| | What is done with collected leachate (e.g., re-circulated, treated on site, pumped or taken away)? | | |
| 40 | What is the height of the leachate measured from the bottom of the landfill? (See 'Explanations') | m | |
| 41 | Has any analysis of the leachate been done? | YES / NO | |
| 42 | If so, please describe results of leachate analysis. If available, please attach a copy of the analysis. | | |
| G) Biogas Control | | | |
| 43 | Is there a biogas control system on site? If available, please attach the plan or map of the system; please provide maximum information available. | YES / NO | |
| 44 | If so, when was the biogas control system installed? | date OR year | |
| 45 | What is the number of gas wells on site? | | |
| 46 | Does site flare or utilise the biogas at the moment? | YES / NO | |
| 47 | Does the operator monitor the flow of biogas at the site? | | |
| 48 | If so, what is the flow rate of the biogas? | Nm ³ /h | |
| 49 | Has the biogas at the site ever been analysed? | YES / NO | |
| 50 | If so, please describe the results of the biogas analysis. If available, please attach a copy of the analysis. | | |

H) Information About the Project

| | | | |
|----|--|----------|--|
| 51 | Who is promoting the development of the project (e.g., landfill operator, municipality)? | | |
| 52 | Who has the licence (or rights) to utilise the biogas (e.g., developer, operator, municipality)? | | |
| 53 | Based on what authority does the entity with the rights to the biogas have these rights (e.g., letter, contract)? Who grants this authority? | | |
| 54 | What are the minimum environmental requirements on site? | | |
| 55 | Is there a history of environmental complaints - odour, fires, gas migration etc? If yes, please describe them. | | |
| 56 | Is there a legal requirement to utilise or burn the biogas? | | |
| 57 | Is there a customer in the vicinity, interested in electricity or heat purchase? | | |
| 58 | Are there any other parties interested in exploration of this site? | | |
| 59 | Are there scavengers on site? | YES / NO | |

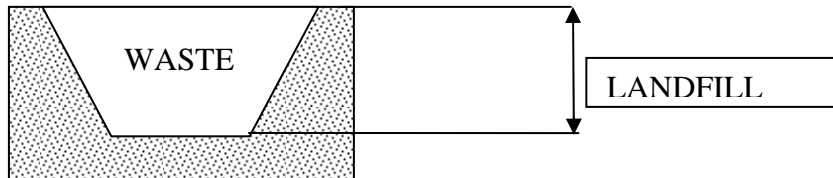
Date:

Signature
Municipal Commissioner
/Chief Officer/Health Officer

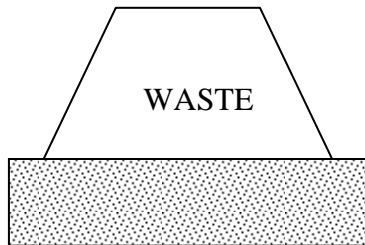
DIAGRAMATIC ILLUSTRATIONS

I. Geometry of Landfill

Landfill

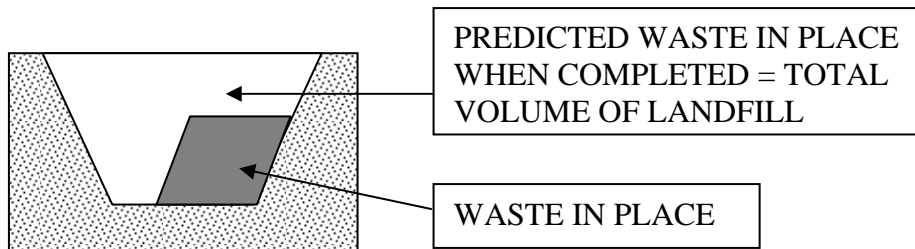


Land raise



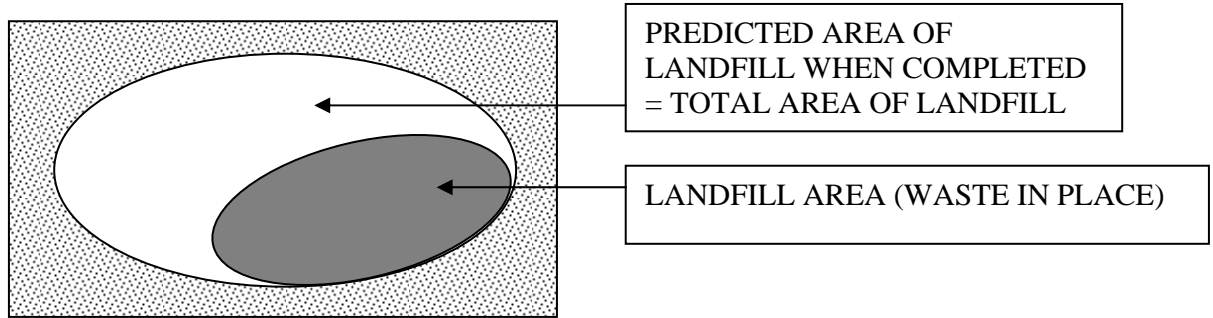
II. Waste in Place till date

Waste in Place (plain view)

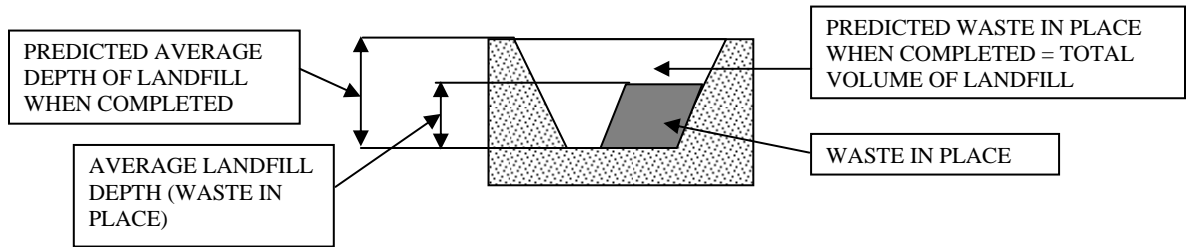


III. Approximate Landfill area (Waste in Place)

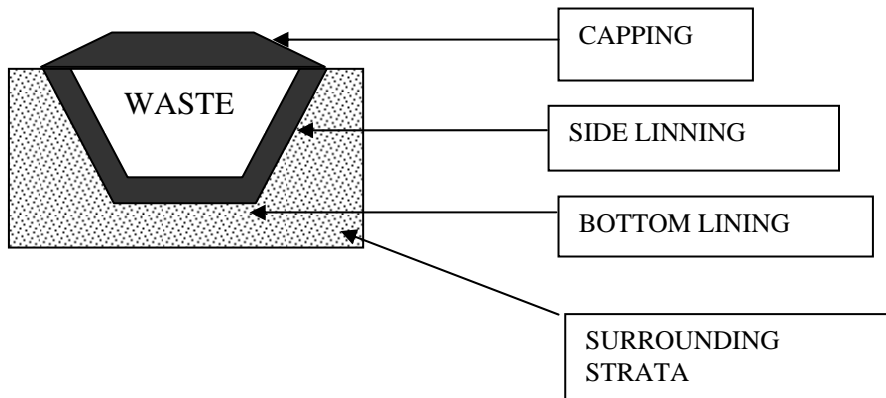
Waste in place (elevation view)



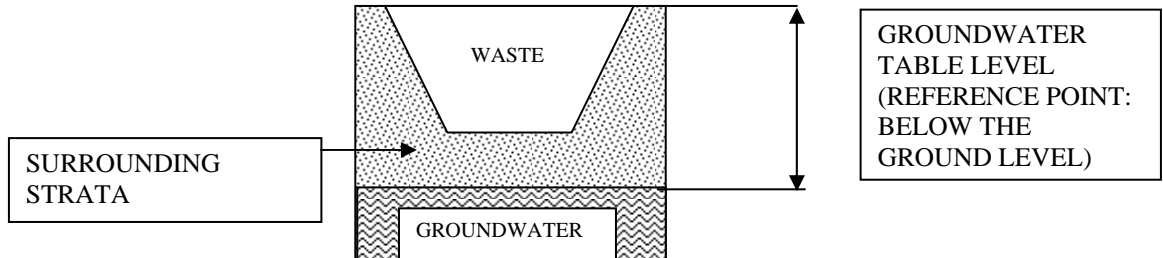
IV. Average Landfill Depth (Waste in Place)



V. Site Lining/Containment/Engineering



VI. Ground Water Table Level



VII. Height of Leachate level from the bottom of Landfill

