

CIRCULAR

To

1. The Secretary, Minister of Housing and Urban Affairs of India.
2. The Chief Secretaries of all the State Governments/ UTs.
3. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department/ Road Construction Department/ Highways Department (dealing with National Highways and other centrally sponsored schemes).
4. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
5. The Managing Director, NHIDCL, World Trade Centre, New Delhi-110029.
6. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
7. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs/ Road Construction Department/ Highways Departments (dealing with National Highways and other centrally sponsored schemes).
8. The Secretary General, Indian Roads Congress
9. The Director, IAHE, Noida, UP
10. The Director, CRRI.
11. All CE-ROs, ROs and ELOs of the Ministry.

Subject: Policy guidelines on use of inert material in construction of National Highways -reg.

Madam/Sir,

MoRTH has taken up large scale development of highways including green field projects across the country. The construction of embankment of highways requires huge amount of soil which at time is required to be procured from agriculture field. There is a need for sustainable construction of highways which have minimum impact on environment and ecology in procurement of materials. In this background, Ministry is in process of formulating policy for utilization of processed urban solid waste, plastic waste, steel slag and other industrial wastes. As a part of proposed policy, utilization of such materials would have to be necessarily explored and soil from borrow areas can be utilized only after such options/ quantity are exhausted. As a first step in this direction, policy guidelines for utilization of urban solid waste have been finalized.


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2. The disposal of solid waste generated on daily basis is a major environmental challenge being faced in urban areas across country. As per rough assessment, around 10000 Ha land is locked in dump sites. Due to limited land availability, these land fill sites are on verge to attain maximum capacity and pose serious environmental and Health Hazards.

3. In order to resolve the problem of disposal of urban solid waste and mounting requirement of earth for construction of embankment, MoRTH through NHAI has undertaken two pilot projects for utilization of Inert Material which is one of the major component of municipal solid waste. The first pilot project has been carried out in Delhi-NCR on Urban Extension road and DND Sohna spur of Delhi-Mumbai Expressway. In 2nd pilot project, Inert Solid Waste material has been used on Ahmedabad-Dholera Expressway. In both the cases, construction of embankment has been carried out as per laid down procedure with strict quality control.

4 In view of successful utilisation of Inert Material in construction of embankment MoRTH has decided to plan alternative use of this generated solid waste in highway/road projects in compliance to Solid Waste Management Rules vide Gazette Notification 1357(E) dated 08.04.2016, Hon'ble NGT order dated 17.07.2019 in OA no. 519/2019 & OA no. 386/2019 and other relevant order/guidelines/rules/amendments/ addendums by Hon'ble Court, Hon'ble NGT, MoEF&CC or any concerned department. The State Government may take appropriate steps to promote the use of Inert Materials in construction of State roads.

5. Ministry of Housing and Urban Affairs (MOHUA) under Swatch Bharat Mission Urban 2.0 (SBM2.0) has launched a scheme for providing funds to local bodies to take up processing of Urban solid waste. Under SBM 2.0, solid waste sites and availability of material has been mapped and is available at their website <https://sbmurban.org/swach-bharat-mission-progress> as per their assessment about 1700 lakh ton waste is accumulated across 2304 dump sites in the country. The inert material available from these processing sites can be potentially utilized in construction of embankment for NHs and state roads. Keeping in view principles of Gati Shakti, it has now been decided to dovetail Highways construction with SBM2.0.

6. The major component of solid waste is inert soil which is generated by bio-remediation and bio-mining of this legacy waste. Study has been conducted by MoRTH through CRRI and it established that the generated inert soil can be utilised in embankment of highway.

7. The brief methodology for laying of inert material in embankment is as under:


- a. Inert Material received at site shall be subjected to sampling and testing as per MoRTH Specifications (Section-305 refers). Required tests to be conducted at the Field QC Laboratory as well as Third Party Laboratory to ascertain its suitability for the usage in Embankment of the project highway.
- b. The material to be spread in layers of 250 mm each for the width available at site.
- c. The moisture content on receipt of the Inert Material to be checked. If moisture content found to be on higher side, then the material shall be first spread out and left exposed to surface dry under the sunlight for 5 to 7 days. Deleterious materials, if any, such as paper/polythene/glass etc. may be removed at site.

- d. Each layer shall be subsequently rolled and compacted to achieve the required field density/compaction of 95%. MoRTH Tables 300.1 & 300.2 has to be followed.
 - e. However, the Inert Material supplied may not be utilised in earthen shoulder/ verges/backfill.
8. In order to promote the use of inert soil, following is proposed:
- a. For the project which are under DPR stage: DPR Consultant would examine availability of land-fill site on Gati Shakti portal where a layer of such sites is available. In case, any site is located in the vicinity of top 25 dumpsites of the country (list attached at Annexure-II) or in the vicinity of 100 km of any dumpsite, Concerned RO/PIU shall inform the Municipal Corporation/other department regarding the upcoming Express/highway project and the amount of inert material potentially usable in the project. In case, Municipal Corporation/other department is ready to supply the inert material, a Tripartite MoU may be signed [Between 1. Urban localized Body (ULB)/Municipal Corporation/other department, 2. NHAI/MoRTH contractor and 3. Dumpsite remediation project contractor] with terms and conditions as provided in Annexure-I.
 - b. Enabling provision may be made in the Technical Schedule mandating use of inert soil in the construction of embankment of highway/roads whoever it is provided on site by local bodies. However, in case specified quantity of inert material (in cum) is not supplied, contractor should be allowed to use soil/ suitable material without any additional cost to Authority.
 - c. For the project which are under bidding stage & construction stage: The Contractor/Concessionaire appointed shall explore the availability of land-fill site in the vicinity of project stretch. In case any site is located in the nearby vicinity, concerned RO/PIU shall inform the Municipal Corporation/other department regarding the upcoming road/highway project and the amount of inert material required in the project. In case, Municipal Corporation/other department is ready to supply the inert material as per required quantum, a Tripartite MoU may be signed [Between 1. Urban localized Body (ULB)/Municipal Corporation/other department, 2. NHAI/MoRTH contractor and 3. Dumpsite remediation project contractor] with terms and conditions as provided in Annexure-I.
9. In cases where local bodies have not set up facilities for bio-remediation and bio-mining, Highway contractors may set up such facilities in consultation with Urban localized Body (ULB). The machines purchased for this purpose would also be considered for mobilisation advance within overall ceiling of mobilisation advance, at applicable rates, under respective contract documents.
10. It may be mentioned that for successful implementation of this scheme, Municipal Bodies need to expedite setting up facilities for bio-mining of Municipal solid waste. As local bodies are being given funds by Ministry of Housing and Urban Affairs, Director (SBM2.0), would be nodal officer for resolving issues relating to availability of material. The state Govt. are also requested to appoint nodal officer at the State level to expedite it's implementation.
11. It is requested that the contents of the circular may be brought into the notice of all concerned for immediate needful compliance.

Tulsi Ram

12. This has been issued with approval of Competent Authority on File No.: RW/NH-24036/66/2023-BP&SP (Com No.: 229787).

Yours sincerely,


(Tulsa Ram)

Asst. Executive Engineer, S&R Zone
For Director General (Road Development) & Special Secretary

Copy to:

1. All CEs in the Ministry of Road Transport & Highways
2. All ROs of the Ministry of Road Transport & Highways
3. The Secretary General, Indian Roads Congress
4. Technical circular file of S&R (P&B) Section
5. NIC-for uploading on Ministry's website under "What's new"

Copy for kind information to:

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2. PS to Hon'ble MOS (RT&H)
3. PSO to Secretary (RT&H)
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5. Sr. PPS/ PPS to AS&FA/Addl. Secretary (Road Safety)/
ADG(SC)/ADG(BKS)/ADG(RS)/ADG(OPS)
6. Sr. PPS/ PPS to JS(Highways)/JS(EAP)/JS(Logistics)/CE(BP&SP)

Terms and Conditions of MoU

1. Municipal Corporation shall carry out segregation, physical separation, loading & transportation of inert material in the covered Trucks, Dumpers as per the approved guidelines of concerned State/Central Pollution Control Board to the construction site of road/highway project to authorized Contractor/Concessionaire of NHAI/MoRTH in compliance of Solid waste Management Rules vide Gazette Notification 1357(E) dated 08.04.2016, Hon'ble NGT order dated 17.07.2019 in OA no. 519/2019 & OA no. 386/2019 and other relevant order/guidelines/rules/amendments/addendums by Hon'ble Court, Hon'ble NGT, MoEF&CC or any concerned department.
2. Municipal Corporation shall supply the material at the designated location to be decided in discussion with Contractor/Concessionaire of NHAI/MoRTH/construction agency.
3. Municipal Corporation shall carryout strict quality control at land-fill site through NABL accredited labs/government agencies such as CRRI, IIT's, NIT's etc. and testing certificate shall be shared with every lot for verification and record purpose of Authority/Independent Engineer engaged by NHAI/MoRTH. The frequency for testing of every lot shall be fixed based on quantum of Inert separated and stored at the site.
4. NHAI/MoRTH shall inform to Municipal Corporation for their (i) total requirement of inert material for the project (compacted volume which shall be with more than 95% MDD without any multiplication factor) (ii) schedule of construction plan along with location and (iii) monthly requirement of compacted quantity of inert material at that site so that necessary arrangements will be made by Municipal Corporation for supply of inert material.
5. **Method of Measurement of Quantity of inert material & Terms of Payment**

Payment towards reimbursement of cost shall be based on the compacted inert material volume measurement of embankment of the fill area by the contractor to Local Bodies/ supplying Inert Material. Further, this compacted inert material volume shall be as measured and duly certified by supervision consultant.

6. The rate for providing inert material will be 10% less than the rate of earth corresponding to component of compensation of earth taken from private land in Item 2.03 of MoRTH standard databook, prevailing at the time of payment. Municipal Corporation shall be fully responsible for loading/unloading of inert material at its own cost.
7. The role of NHAI/MoRTH shall be limited to bear the cost of inert material equivalent to replaced good earth. This would be directly paid by Contractor to local body.

8. The excavation, segregation, loading, transportation in an environment friendly manner to the construction site shall be the responsibility of Municipal Corporation.
9. "In order to ensure compliance of environment / safety norms while excavation, segregation, loading, transportation and unloading of inert material, suitable provisions will be made in the contract of authorized agency / contractor by Municipal Corporation for making him solely responsible for compliance".
10. Municipal Corporation shall be responsible for any supply of inert material as per quality/construction norms set by NHAI/MoRTH for embankment construction by their Road Contractor/Concessionaire. NHAI/MoRTH shall ensure that Govt. rules & regulation, local bye-laws, environment norms/ stipulations etc. for construction of road project are adhered to.
11. In case material is not supplied as per agreed schedule, contractor would be free to utilize borrow earth/other suitable material.



List of top 25 dumpsite cities

Sr. No.	City	Legacy Waste Quantum (Lakh MT)
1	Delhi Municipal Corporation	273.0
2	Greater Mumbai	260.0
3	Ahmedabad	141.2
4	Bruhat Bengaluru Mahanagara Palike	97.8
5	Chennai	91.0
6	Pune	53.7
7	Kolkata (M Corp.)	40.0
8	Thanagazi (M)	31.6
9	Gurgaon	30.0
10	Pimpri Chinchwad	23.0
11	Ludhiana	21.0
12	Bhubaneswar	19.4
13	Ranchi	18.0
14	Margao	16.2
15	Guwahati	15.0
16	Vasai Virar	15.0
17	Coimbatore	15.0
18	Patna	14.1
19	South Dumdum (M)	14.0
20	Nagpur	13.0
21	Aurangabad	12.0
22	Jaipur Greater (Mc)	11.9
23	Thane	11.5
24	Amritsar	10.0
25	Howrah (M Corp)	10.0