



GOVT OF ARUNACHAL PRADESH

OFFICE OF THE SUPERINTENDING ENGINEER
PWD CIRCLE : RUPA-790 003

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No. SER/MISC/07-08/

Dated Rupa the 24th October, 2007.

To

The Executive Engineers,
PWD Division,
Tawang/Jang/Bomdila/Kalaktang/Seppa/Bameng.

Sub :- **Innovative Road Construction using RENOLITH.**

Renolith is polymer based chemical, which is environmentally friendly and which facilitates the bonding of soil particles (a phenomenon which is known as micro-rubber bonds). Soil-cement with Renolith has a high modulus of elasticity and can disperse the wheel loads very effectively. It is a semi-rigid material. A noteworthy feature of this technology is that it requires very little amount of aggregate, which is useful at places where the material haulage is more. The use of Renolith, when used in soil stabilization with cement, gives strong and durable base. This type of construction does not require surfacing for low volume roads, since the base course is stabilized. It is expected to give good performance with longevity and reduces maintenance costs in almost dust free environment. Limited research was carried out abroad, with soil cement Renolith Stabilization, but similar studies are yet to be carried out in India.

The noteworthy feature of soil-Cement-Renolith Stabilization that it requires very little amount of aggregate, performs with increased life and reduced maintenance cost, provides a good base for the field Engineers to experiment the construction of unsealed roads in rural areas and also in localities where aggregate are not available in normal leads.

The use of new materials and technologies is not becoming popular in our country mainly due to lack of awareness. Failure to instill confidence in the field engineers by addressing their problems can be another reason, the third being non-availability of suitable standard equipments.

In the light of the fact that efficacy of innovative technologies was established in several case studies taken under varied conditions, time is opportune to initiate the construction of "Technology Demonstration Projects." During the implementation of such Projects the field engineers are to be taken into confidence and need to be involved right from Project Preparation. All technical and implementational processes are to be meticulously documented which become handy in the dissemination process for exposing more field engineers to the technologies. This will instill confidence among them and large scale adoption of these technologies would become possible. The successful demo of these projects also brings out the cost effectiveness and conservation of natural resources that may lead to environmental preservation in the long run.

It is therefore, proposed to experiment the use of RENOLITH, on some of the centrally sponsored schemes, for an approximate road length of 1 km each, against the sanction coverage of pavement. Proper record, with necessary display boards, be maintained.

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The proposed schemes are as below:

- 1) Lumla township roads under CRF and Zimithang ring road under RIDF;
- 2) Dirangdzong-Namthung-Sangti road under CRF and Nafra-Nakhu road under NLCPR;
- 3) Lhou to Mukto road under NLCPR;
- 4) Shergaon-Doimara road ;
- 5) Road from PWD IB to Bali at Seijosa under RIDF.

It is requested to submit the following details with help from RWD counterparts, who have necessary laboratory set up for PMGSY works. To expedite the process, available details of nearby on-going PMGSY works could also be made available, so that the firm can give necessary costing for 1 km road length.

- a) Soil density;
- b) Type of soil;
- c) Liquid limit;
- d) Plastic limit;
- e) CBR;
- f) OMC of soil.

Please take an urgent action & fax the details on or before 30/10/2007 positively.



(Kenjom Ete)
Superintending Engineer

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Copy to:-

- 1) The Chief Engineer, Western Zone, PWD, AP, Itanagar for information please.
- 2) The Chief Engineer, Eastern Zone, PWD, AP, Itanagar for information please.



(Kenjom Ete)
Superintending Engineer