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(71)Name of Applicant :

1)Abdhesh Kumar Sinha
Address of Applicant :Associate Professor, Department of Civil Engineering, N.I.T. Jamshedpur, P.O. N.I.T. Jamshedpur, District - Saraikela Kharsawan, PIN -831014, Jharkhand Saraikela Kharsawan -----

2)Dr. B. Naga Kiran

3)Yogesh Pathak

4)Mohd Bilal Farooqui

5)Ujjval Jayantibhai Solanki

6)Dr. Abirbaran Handa

7)Dr. Heleena Sengupta

8)Mr. Swapnil Balkrishna Gorade

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Abdhesh Kumar Sinha

Address of Applicant :Associate Professor, Department of Civil Engineering, N.I.T. Jamshedpur, P.O. N.I.T. Jamshedpur, District - Saraikela Kharsawan, PIN -831014, Jharkhand Saraikela Kharsawan -----

2)Dr. B. Naga Kiran

Address of Applicant :Associate Professor, Department of Civil Engineering Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal District, Andhra Pradesh Nandyal -----

3)Yogesh Pathak

Address of Applicant :Assistant Professor, GCRG Group of Institution, Department of Civil Engineering, Chandrika Devi Road, Bakshi Ka Talab, Lucknow, Uttar Pradesh Lucknow -----

4)Mohd Bilal Farooqui

Address of Applicant :Assistant Professor, Department of Civil Engineering, Jahangirabad Institute of Technology, Barabanki, PIN-225203, Uttar Pradesh Barabanki -----

5)Ujjval Jayantibhai Solanki

Address of Applicant :Professor, Department of Civil Engineering, Darshan Institute of Engineering and Technology, Darshan University Rajkot Morbi Road, Post Hadala, PIN-363650, District Rajkot, Gujarat Rajkot -----

6)Dr. Abirbaran Handa

Address of Applicant :Senior Project Manager, Shapoorji Pallonji Construction Ltd. SP Centre, 41/44, Minoo Desai Marg, Colaba, Mumbai -400005, Maharashtra, India Mumbai -----

7)Dr. Heleena Sengupta

Address of Applicant :Professor & HOD, Department of Civil Engineering, Techno India University, EM4, Sector V, Saltlake, Kolkata - 700091, West Bengal Kolkata -----

8)Mr. Swapnil Balkrishna Gorade

Address of Applicant :Assistant professor, Department of Civil Engineering, Pimpri-Chinchwad College of Engineering, Nigdi, Pune, Maharashtra Pune -----

(57) Abstract :
SUSTAINABLE ROLLER COMPACTED CONCRETE TECHNOLOGY IN LOCAL ROAD CONSTRUCTION The present invention relates to sustainable roller compacted concrete technology in local road construction. Roller Compacted Concrete has renewed the interests of designers of sustainable pavements with its potential to reduce the cement content of the concrete mixture. RCC is produced with the same ingredients as in conventional concrete but with different blend proportions. RCCP construction procedure is similar to that of asphalt paving, where laying is performed using a modified asphalt paver, and steel drum rollers follow the paver to ensure the laid RCC mixture to be compacted to its desired density. The present invention aims to evaluate the applicability of deteriorated concrete pavement to reconstruct new pavement in an economical and sustainable approach. In this study, manually crushed concrete slabs were washed, sieved, and tested for aggregate strength to be used as a substitution for coarse aggregates (CA) in RCC. The soil compaction method is used for mix design, and the Vibratory Hammer Test (VHT) is used in place of the Modified Proctor Test (MPT) in determining the optimum moisture content (OMC) of RCC. The importance of incorporating the VHT in the mixture design process and the possibility of complete replacement of CA of RCC by Recycled Concrete Aggregate (RCA) is disclosed. Figure of abstract: FIG. 1

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