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SOIL STABILIZERS MADE OUT OF DIFFERENT PLASTIC WASTES

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ABSTRACT

The procedure known as soil stabilization for improving the physical characteristics of soil, through controlled compaction, the addition of appropriate admixtures, such as geo textiles, geo synthetics, and other materials, and other techniques. The modern soil stabilization strategy can be used to help address societal problems, such as reducing waste and extracting usable various types and other items were rapidly increasing, due to environmental concerns, using a cost-effective method to reduce the issue of plastic disposal while simultaneously boosting California Bearing Ratio (CBR). The current research is aimed at addressing problems in Amaravathi, the contemporary capital of the ancient state of Andhra Pradesh. The management of plastic trash without generating environmental risks is getting increasingly complex. As a consequence, utilizing plastic strips is cost-effective and efficient. There has been a positive impact on soil characteristics since adding plastic into the mix. Soil stabilizers may be manufactured out of plastic. An experimental programme was carried out for the Black Cotton Soils stabilization in Amaravathi, employing percentages of plastic strips (varying from 0 percent to 8 percent by weight) determined using the California Bearing Ratio Test.

KEYWORDS: *Bearing, Moisture Content, Plastic Waste, Properties, Shear Strength, Soil Stabilization, Water.*

REFERENCES

1. P. Singh and S. Malhotra, "Review on improvement of engineering properties of soil using waste plastic bottles strips (Polyethylene terephthalate)," *International Journal on Emerging Technologies*. 2018.
2. V. Kumar Patidar and S. Kaur, "A Review Literature on the Use of Waste Plastic to Improve Geotechnical Properties of Soil," *Int. Res. J. Eng. Technol.*, 2016.

3. A. Kumar and V. H.P, "Effect of Discarded Plastic Waste as Stabilizer on Engineering Properties of Effect of Discarded Plastic Waste as Stabilizer on Engineering Properties of Cohesive Soil," *Int. J. Eng. Technol. Sci. Res.*, 2017.
4. A. Patil, G. Waghare, N. Inamdar, P. Gavali, R. Dhore, and S. Shah, "Experimental Review for Utilisation of Waste Plastic Bottles in Soil Improvement Techniques," *Int. J. Eng. Res.*, 2016.
5. M. Sai and V. Srinivas, "Soil Stabilization by Using Plastic Waste Granules Materials," *IOSR J. Comput. Eng.*, 2017.
6. S. V Biradar and M. K. Moniuddin, "Soil Stabilization using Waste Pet Fiber Material," *IJSRD -International J. Sci. Res. Dev.*, 2015.
7. C. Harish and H. . Ashwini, "Stabilization of Soil By Using Plastic Bottle Strips As a Stabilizer," *Int. Res. J. Eng. Technol.*, 2016.
8. A. Modarres and Y. M. Nosoudy, "Clay stabilization using coal waste and lime - Technical and environmental impacts," *Appl. Clay Sci.*, 2015, doi: 10.1016/j.clay.2015.03.026.
9. S. V. Singh and M. Dixit, "Stabilization of Soil by Using Waste Plastic Material: A Review," *Int. J. Innov. Res. Sci.*, 2017.
10. S. Saravanan and B. J. Ravindraraj, "Soil stabilisation using raw plastic bottles," *Int. J. Civ. Eng. Technol.*, 2018.