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TITLE OF PROJECT: "**Solution on Potholes - Using Granite Waste and Cold Mix Technology**"

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ABSTRACT:

In addressing the pervasive issue of potholes, our innovative approach leverages the abundant granite waste generated in granite shops, transforming it into a valuable resource for road maintenance. The prevalent practice of indiscriminate dumping of granite waste is replaced by a sustainable solution aimed at fostering a circular economy. The focus of our solution is particularly directed towards rural and remote areas where potholes often receive inadequate attention. Conventional hot mix technology, while effective, proves economically unfeasible for these regions characterized by moderate to low traffic areas. To circumvent this challenge, we propose the utilization of cold mix technology alongside the repurposing of granite waste sourced from nearby shops. A key aspect of our approach involves the complete replacement of traditional aggregate with crushed granite waste. By adopting cold mix technology, we not only address the economic constraints of remote locations but also contribute to minimizing environmental impact. The interlocking of the mixed material further enhances the durability and stability of the pothole-filling composition. Innovatively, we recommend cutting potholes at a 45° angle along their periphery, departing from the conventional straight-edge approach. This method ensures a more secure and lasting interlock of the materials, thereby enhancing the overall effectiveness of the repair. Comprehensive testing of the granite material has been conducted, adhering to the standards set by the Indian Road Congress: Special Provision: 100-2014 and IS 2386. The results affirm the suitability of the granite waste for road maintenance, with an aggregate impact value of 5.17%, flakiness and elongation index of 32.65%, water absorption value of 0.813%, and specific gravity of 2.9. Using this method, some potholes have been filled on an experimental basis.

KEYWORDS: **Potholes, Granite waste, Circular Economy, Cold Mix Technology.**

CATEGORY: Transportation Engineering