



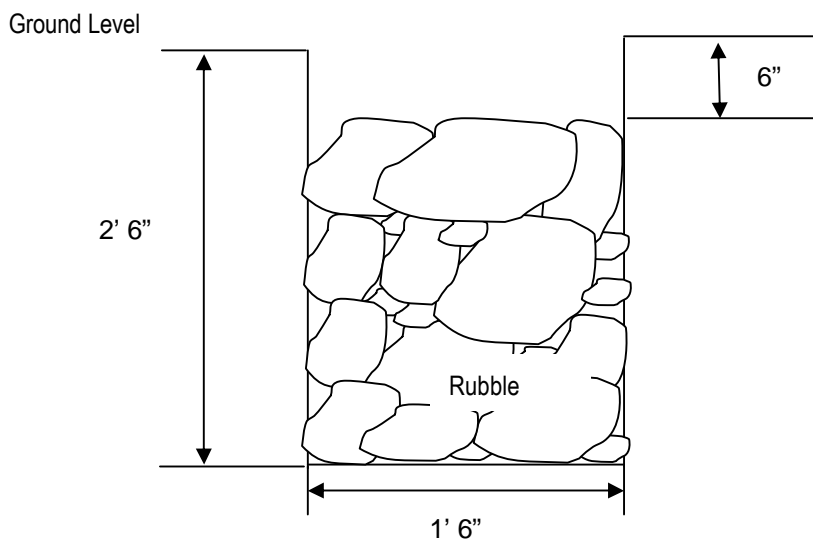
# Foundations using dry rubble packing technology

## Introduction

Dry rubble packing can be used for constructing foundations on good soil which has a high bearing capacity. The soil should ideally be red-laterite (kabook) soil. Alternatively, if this is not available, a dry rubble foundation can be built on stable soil comprising a mix of clay & sand. However, there needs to be a greater content of sand than clay. **Where the**

**red-laterite soil is not available this technology should be adopted for foundations only with approval by a structural engineer.**

This type of foundation is more suitable for single storey houses and should **not be used in unstable, sandy soil.**



## The technology

- The top of the packed stones should be 6" below the ground level. Construction above this should be using cement mortar.
- The sides of the trench should be vertical to prevent movement of the dry rubble (i.e. should not taper).

Who to contact: Project Manager – Integrated Housing Services or the Resource Desk at

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- Excavate the trench to the proposed width of the foundation. At a maximum depth of 2' 6", if you find gravel soil, then proceed with dry rubble packing or else the traditional step foundation would need to be used.
- The packing is made up of rubble of approx 6" x 9" in size, while all cavities should be filled with smaller stones.

- This technology has been tested at a pilot project site done by Practical Action South Asia in Nikeweratiya, Sri Lanka.

## **Cost saving**

- It costs approximately 25% less than a conventional rubble foundation and for a house of 550 sq. ft, the saving would amount to about 25 bags of cement.