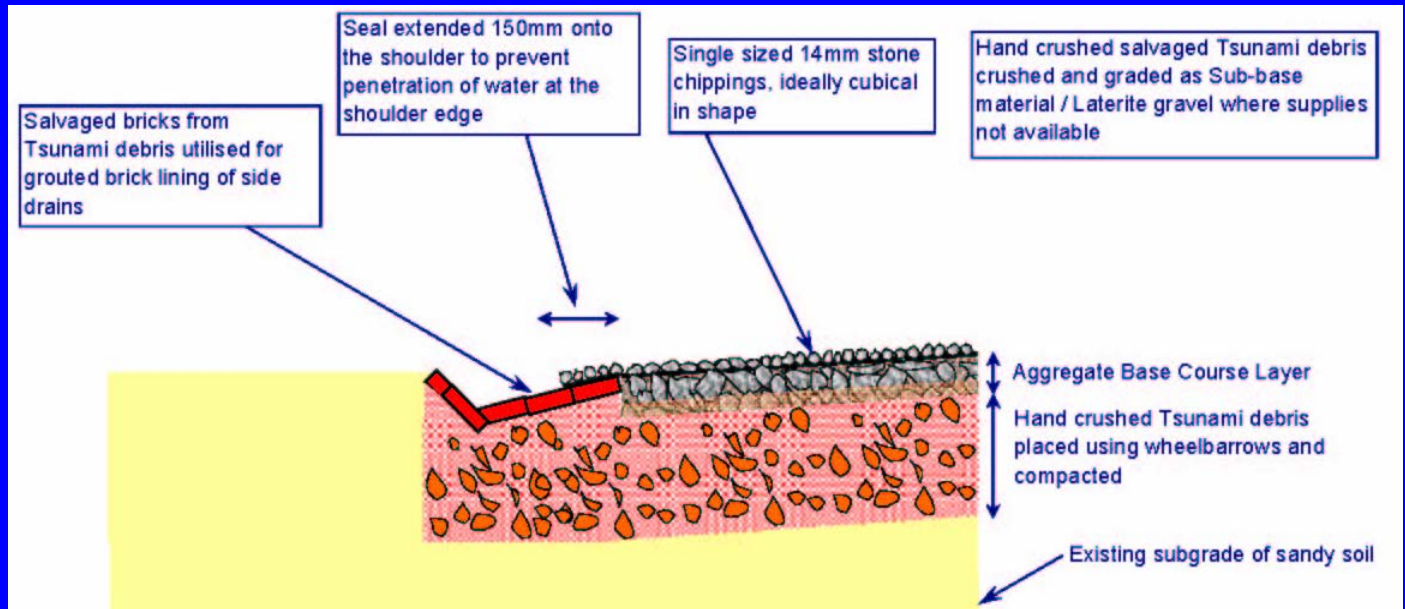


KALIKOVIL ROAD, OONTHCHCHIMADAM VILLAGE, MANMUNAI SOUTH DIVISION, BATTICALOA DISTRICT

- Crushed Tsunami Debris Sub-base
- Aggregate Base Coarse
- Single Bituminous Surface Treatment
- Salvaged brick lined side drains
- Design life of 8 years
- 30% cost saving through community contracting
- Class E road located in a resettlement area
- Project generates 10,758 work days of employment for men and women
- Only compaction equipment is required to be provided to community
- Strong participation of the Pradesha Sabha



Prioritisation, Survey & Design:

Prioritisation of the project was carried out with the assistance of the Pradesha Sabha and the Divisional Secretary. A detailed survey of the road was carried out using Road Condition Inventory Survey (RCIS) forms and an Autolevel to determine cross and long sections. A 7 day 12 hour traffic count was carried out to determine the design traffic. *The Pradesha Sabha and Grama Niladhara assisted with all activities.*

The central Colombo office carried out a *design using the Overseas Road Notes Series (ORNS)*. Detailed design drawings, specifications & tender documents were prepared and tendered to M7 category Contractors and higher. An invitation to bid was advertised in the PS & DS offices as well as the local media.



Taking of levels for compilation of design



On site training for Engineers, Pradesha Sabha Technical Officers and Works Supervisors

Award of Contract to Community:

One M7 Contractor submitted a bid of 7,600,000 SLR per Km for the works. The tender was cancelled and the works were awarded to the local Community Based Organisation through a community contract at market rates. The works cost 550,000 SLR – *a saving of almost 30%*. Community contracts were issued for:

- Gathering and crushing Tsunami debris by hand
- Cleaning bricks from Tsunami debris
- Box cutting & construction of sub-base from Tsunami Debris
- Labour based construction of road base and chip seal

Training was carried out before start of and throughout the works for the community. **SEE ALSO FACT SHEET ON UNOPS PROCEDURES MANUAL**

KALIKOVIL ROAD, OONTHCHCHIMADAM VILLAGE, MANMUNAI SOUTH DIVISION, BATTICALOA DISTRICT**Training of Engineers, Technical Officers, Works Supervisors & Pradesha Sabha Staff:**

In order to guarantee quality of the works strict site organisation and control is required. This is ensured through organisation of each site to have one project Engineer, a minimum of two site technical officers and one works supervisor per 20 unskilled workers. This creates strong reporting lines and control on site.

Strong participation of the PS Technical Officers assists with quality control and dispute resolution. All staff are provided with rigorous training throughout the subproject cycle from survey to completion of works. Training is staggered to ensure uptake of the material by the participants. Training consists of formal classroom training and on site practical training.

The subproject Engineer receives additional training such that s/he will be able to instruct the Technical Officers and Works Supervisors on site. Technical Officers are obtained from the Pradesha Sabha where possible and all TOs and Works Supervisors are recruited from as close to the site as possible such that they are members of and therefore answerable to the beneficiary community.

Strong participation of the Grama Niladhara Secretary for recruitment of workers and supervisors ensured ease of implementation of the works.

SEE ALSO FACT SHEET ON THE UNOPS TRAINING UNIT AND TRAINING METHODOLOGY.



Excavation of Subgrade for sub-base placement



Placement of crushed Tsunami debris as sub-base by labour with hand tools



Completed section of compacted sub-base



Use of 1Tonne roller for base course compaction; note use of strings and pegs for layer control



Sealing works using bitumen emulsion

Application of Labour Based Appropriate Technology for Construction through Community Contracts:

The works were divided into a number of community contracts for different activities. Labour productivity norms were used to determine payment rather than attendance. This ensured the workers produced results as well as receiving much needed cash.

Appropriate hand tools and safety equipment were procured under the contract to be used by the communities. These would become property of the community upon completion of the project to assist them in their primary form of income generation. **A strong participation of women was possible due to the use of the community contract.** 2.5 lb hammers and gloves were provided to workers to crush debris, Manatees, shovels and wheelbarrows were provided for sub-base and road base placement. Simple strings, pegs, line levels and profile boards were used to control layer thickness for compaction. Compaction equipment was rented by the Engineer for the works. **Compaction equipment was the only equipment sourced outside of the village.**

Simple water cans, brooms, a weighing scale, sieves and pans were used to carry out the construction of a single chip seal (SBST) using bitumen emulsion. Bitumen emulsion was procured in Colombo and provided to the community. **Emulsion was the only material not procured locally.**