

SHELTER ADVISORY GROUP MEETING MINUTES HELD AT COLLECTORATE ON 22.12.2006

1. INTERNAL DISCUSSION

Mr. Shanmugasundram and Mr. Kandasamy, both the Special Deputy Collectors presided over the day's discussions held as a part of Shelter Advisory Group Meeting.

Mr. Shanmugasundaram initiated the discussions commenting on the current situation prevailing. There are a couple of sites which are being questioned by the community on the qualitative aspects like for eg. Arcottuthutai, Uzhavar Street, Chandrapadi. And all these are being solved by the district administration by having talks with their respective agencies.

The SDC (LA) said that the deadline for completion of construction is set as March 2007 for all the sites. He also said that the speed of the construction must be with out any compromise to the quality of construction. He then requested the officials of various departments to share their problems which is hindering the smooth functioning of their work.

Sanitation

The Executive Engineer (TWAD) presented the details with regard to Sanitation to quote that at 33 locations, where the number of houses are more than 200, have been chosen by the Government for construction of sanitation systems and those sites where it is less than 200 are under consideration. All the proposals have been sent to OSD's office pending approval.

SSG Report

Based on the findings from the sites, the following corrective measures were suggested by the SAG.

- For patching , if any, nonstick grout should be included as an ingredient.
- Column misalignments are quite serious since the gravity load will also suffer so additional reinforcement is definitely required. In a beam, misalignments can be adjusted but not so in the columns .
- In a case where 4.5" from the 9"brick beam was removed for electrification, Prof. Santhakumar stated that this would seriously weaken the strength of the Structure.
- Regarding structural differences where there have been deviations from the approved design, Prof. Santhakumar stated that these have to be checked and approved and, if not acceptable, it must be corrected.
- Cut lintels are not advisable . SDC advised to the SAG that this should be taken as an important aspect for discussions during the meeting with NGOs.
- When discussing about the poor quality of construction in Uzhavar Street, where Salvation Army is constructing, it was suggested that retrofitting is a possible solution to strengthen these houses. It was also suggested that one house could be demolished for a thorough check.

Procedure for handing over the houses

The SAG suggested to have set of procedures for handing over of the permanent houses and this should be fulfilled by the NGOs before handing over the houses. The checklist was suggested as follows:

- Complete set of drawings with detailing of foundation and reinforcement, so that the beneficiary will be able to know the possibilities of addition and alteration of the building in future,
- Insurance coverage for 10 years,
- The completion certificate- Certificate stating that the construction is as per the MOU and approved drawings. This should also include possibility of corrective measures during handing over.

Construction of TDUs in Nagapattinam.

The Special Deputy Collector Mr. Shanmugasundaram announced that a letter has been received from the OSD office to show sites for construction of 3 TDUs in Nagapattinam. For this Prof. Santhakumar explained that TDUs are done by UNDP through Auroville and Gandhi Gram Rural University. And currently the construction is on in 3 locations.

Technical Clinic

The following correctives measures were suggested by the SAG.

Mottandithopu by TMSSS

1. SSG noted that for electrification work 4.5” of the 9”brick column is removed. When a brick column is of 9” and 4.5 “is removed then it will weaken the strength of the structure . The SAG suggested to safeguard it through wrapping as specified in guidelines.If not wrapped, then should be provided with reinforcement which is the only option.
2. The concrete should not be laid on the ground since moisture will pass through and it leading to honey combs and in future it leads to corrosion of steel,
3. When casting a new grade beam it should have PCC first and above that RCC should be casted or alternatively, formwork should be used .
4. Patch up with 1:3 or 1:2 mortar is not permissible. It is better to use non shrink grout mixture since on setting it will expand. Hiding honeycombs with normal mortar is not a good solution.

Arcottuthurai by TMSSS

1. The SSG observed that the major issue here was a deviation from the plan, where all the internal walls were constructed as partition walls and not as solid internal walls. In this regard the SAG advised that if 9” walls were replaced by 4.5” walls, the slab design also should change accordingly. The SAG advised NGOs to strictly adhere to the approved design and drawings
2. The SAG observed that the proportion of weathering coarse was not clear to the personals in the the site. Engineer said the ratio is 1:2:4, while in actual implementation it is in a ratio of 1:3:6. Drawing did not specify anything but said it should be done with weld mesh .The SSG suggested that weathering course should be with 1:2:4 concrete with proper slope towards the rainwater spouts.

Naluedapathy by BITSUNAMI

1. The SSG observed that the approved plan and the implementation plan had variation. The SAG advised that a reconciliation of approved and implemented drawings to be done.
2. The SSG observed that the touching up of concrete was commonly visible at all locations on the site The SAG advised to finish up of all honey combs with grouting or epoxy with 1:2 ratio. He also said that it is advisable to remove or redo what has been touched up already.

Vanagiri by Word and Deed.

1. The SSG group observed that at one location where lintel reinforcement could be observed, the mistakes in detailing as pointed earlier.
2. The detailing of slab beam to take care of development length was done but dimension was not sufficient. (12 mm rod bends to maximum of 7" length).The SAG advised that Cut lintels are not acceptable for lateral force so they need to adopt retrofitting by introducing continuous lintels and connecting them through .

Chinnangudi by SIFFS

1. The SSG group observed that the Column reinforcement was found skewed at two locations (at slab level) in one structure. The SSG suggested if columns are skewed then it has to be corrected immediately . Also it was suggested to fix the cover block properly.

Uzhavar Street by The Salvation Army

1. The SSG observed that the Columns stirrups were in 6 mm instead of 8 mm as specified in drawings. The spacing remains same as specified for 8 mm.
2. Concrete quality is quite bad with the steel exposed at multiple locations in the two structures observed (since only two were incomplete).
3. Wall above lintel was found eccentric for around 1.5 inches. The SAG group suggested retrofitting as a better option to strengthen the houses.

Gandhi Mahan Street

1. The SAG observed that the column alignment was very shabbily done with certain places column shifted for more then 3 to 4 inches.
2. The beam reinforcement was exposed for electrification.
3. Column was cut for 4 to 6 inches for fixing Door/ Window.
4. The joint of the way slab of stair was found very poor with varying thickness.
5. The SAG strongly recommended against cutting the columns to insert holdfast

Kuttiyandiyur Manikapangu by EFFICOR

1. The SSG observed that in staircase, the cantilever portion had negative reinforcement in Design but in installation the same was not done properly. The mistake was pointed and explained on site. The SAG explained that the Staircase detailing should be done properly by inserting negative rods as per the structural drawings issued (i.e. structural drawings available for the site). If there is one layer and (not having negative reinforcement in the second layer) then there will be crack and more chances breaking since negative movement resisting steel not is there.

The Final question and answer session:

Q. One of the participants asked about the reinforcement detailing of column, beam, sun shade, and roof slab.

A. The Shelter Advisory Group answered saying that all the detailing with regard to the reinforcement is clearly given in Technical guidelines framed for the disaster resistant housing published by the Tamil Nadu government and are also available in the form of booklets published by the UNDP. Added that some components are important in foundation and columns,

if column has misalignment then rectification becomes a problem (i.e.) if there misalignment of more than 5mm in the foundations or columns then IS code says to demolish or retrofit. Also where the reinforcement is rhombus or parallelogram or skewed then it is problematic which definitely to be considered serious rectification measures to be adopted.

Q. One of the participants asked about the strength and durability between cement blocks and country bricks

A. The SSG says that both cement blocks and country bricks are good and bad. The quality depends on the region and way they are casted.

Common Issues

- Despite the assurances given by the Govt. on the time frame for sanitation works to be completed, the participants felt that it is bound to take more than a year and, in the mean time, some appropriate interim arrangements have to be provided which will safeguard the ground water.
- The Dy. Collector also stated that the findings of the SSG along with the corrective actions suggested should be adhered to by the NGOs and their “Action Taken Report” submitted to E.E. TDIU.
- Checklist system to be followed by the technical engineers, appointed by the District Administration, for the monitoring and evaluation of the on- going construction process.