CASE FOR CAMBODIA

COMMON BUILDING:

Roof:
- Clay tile roof
- Steel Framing designed with LRFD and using Staad.Pro8 and Ram Structural Systems

Concrete
- First and second floor columns
- Second floor slab and beams
- Wall and column foundations
- Second floor designed as several modules that can be applied anywhere in the design
- Columns all 0.25 m x 0.25 m and approximately 3 m tall

SANITARY FACILITIES:

Requirements:
- Water demand: 1692 Liters per day.
- Percolation test: showed suitable soils
- Demand: assumed maximum of 30 users
- Gravity fed system requires slope prior to drainage field where slope of zero is required

Design:
- Two 5678 L septic tanks were sized
- Drainage field: 88 square meters
- Septic system: safe, efficient, and proven waste removal method with long design life with proper maintenance

Module Design of Second Floor Beams and First Floor Columns (isometric view)

<table>
<thead>
<tr>
<th>Floor Modules</th>
<th>Slab Thickness</th>
<th>Beam Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3m x 3m Section</td>
<td>0.15m</td>
<td>0.25m x 0.25m x 3m</td>
</tr>
<tr>
<td>4m x 3m Section</td>
<td>0.2m</td>
<td>0.25m x 0.35m x 4m</td>
</tr>
<tr>
<td>6m x 3m Section</td>
<td>0.3m</td>
<td>0.25m x 0.6m x 6m</td>
</tr>
</tbody>
</table>

First Floor Layout
Second Floor Layout

Roof Design
- Clay Tiles
  - Local tiles used
  - Size no smaller than 0.36m long

- Steel Framing
  - Steel angles 3' x 3' spaced at 0.369m O.C.
- Support Beams
  - W8x10
  - Spaced at 3m O.C.
- Support Truss
  - WT4x5 used as outer shape
  - L30305 is used as bracing

Bathroom and Piping Layout

Birds Eye View

Elevation View

Drainage Field

Two Septic Tanks in Series

Important Note: Drain field slope must be level (if necessary)