



## architectural + structural design questionnaire

### the big picture:

What is the primary mission + vision of this ministry and how do they see the physical manifestation of our team's work serving that end?

*(Get this stated up front, in as many different ways as possible, to continually allow cross-referencing of what is designed to what is desired by the ministry). This can be a combination of spiritual objectives and physical descriptions of facilities – the team and team leader can sort through it all.*

### MASTER PLAN

1. What facilities are to be designed for this particular eMi project?
2. What facilities would constitute the entire vision?
3. Are we planning for future growth or are we designing a single facility?
4. Can a single facility be designed for expansion with additional floors or additional land area?
5. If they will grow in the future, at what rate do they expect to grow?
6. How can this project be phased for future design teams to be involved in ongoing work?  
i.e.: [Given the limited funding, or manpower, or time, or...] which building do you need first?
7. As the ministry develops the site, would or could this building be used for a different function in the future?
8. Could some spaces be “dual purpose” when used on different days or times? (i.e.: school cafeteria/church sanctuary)
9. Will the site plan include on-site handling of waste water through septic systems and leach fields or are there municipal sewage services?
10. Are there existing buildings on the site? Get specifics of age, construction, condition, current uses, proposed uses, and other issues.
11. What are existing challenges or obstacles with regard to current facilities or other facilities of similar functions in this area?
12. Will there be any distinction between public/private/service areas of the site requiring specific site planning (relationships between buildings)?

### SITE

1. What is the existing site's size, topography, climate, major features, limitations, restrictions, boundaries, type of zoning, future development, neighbors (ie: urban, rural, open, .)
2. What are the major siting patterns to take advantage of prevailing winds for ventilation, sun angles as they relate to solar heat gain and natural light, and/or views?
3. Are roads and/or parking areas being constructed? Paved or dirt? (paved have associated drainage issues; dirt and gravel have associated dust, and erosion issues).



4. What is the main entrance to the site, existing gate/watchman? Any other secondary entrances needed?
5. Are there any setback, building height, or zoning requirements? (municipal development authority guidelines)
6. If parking areas are to be designed, what are the standards? Number of spaces, size of spaces, cultural norm vs. US norm. Is culture/standard of living growing or changing such that more parking may be required later?
7. Access for various kinds of vehicles:  
Private cars  
Buses - turn-arounds or full drive-through site circulation  
Trash pick-up (Is waste disposed of on-site or picked up?)

### **ARCHITECTURAL BUILDING PROGRAM**

1. How much land area is available for a particular building (i.e.: FAR – floor/area ratio)?
2. Is it to be single story or multi-story?
3. What is the structural system to be used? Will there be a structural grid? How will it drive the architectural planning? (bay width/depth, max. building width 25'0" (??))
4. Who are the occupants of the building?
5. How do they use the building? 24 hours a day (dormitories.) daily (offices, classrooms, ministry.)
6. How many occupants (users, students, staff, public,.) will there be?
7. What specific activities (any and all!) will take place in this building?
8. Are any activities specifically divided between male and female, such as dormitories, orphanage houses, etc?
9. Based on occupant load and activities, what size should spaces be?  
Are the standards for space requirements different due to cultural standards? (dorm room sizes, bathrooms, etc.) This is a combination of the ministry's experience and the architect's experience - we usually need to tailor US standards to realistically relate to cultural norms.
10. What furniture or equipment is contained in each and every space and how is it used? What are the processes?  
Examples:  
Kitchens: specific food prep equipment and areas. Is food prep inside or outside?  
Laundry: hand or machines? Inside or outside? Serviced or self?  
Storage: single large area? Small, localized areas?  
Mechanical/Electrical - separate rooms? Closets? Generator building?
11. What utilities issues may affect architectural design? i.e.:  
What kind of ventilation systems will be used - natural or mechanical?  
When is power/current available?  
How is water delivered, stored, and used within or outside the building?  
How is waste water evacuated - by gravity or flush?
12. Who is responsible for management or control of buildings, grounds, facilities, people.? Will there be round-the-clock supervision? Other security issues?



13. Do the functions of the building follow patterns that roughly equate to our practices, or are they significantly different because of this culture?

i.e.: lavatory/shower/toilet facilities

Are they within a building or without?

How is supply and waste water handled?

Are gang showers acceptable or individual stalls?

Are they flush toilets or manual bucket flushes (eastern/western)?

Is there a need for handwashing stations (i.e.: dining hall, dorms)

Septic systems? Leach fields or seepage pits?

14. Architectural finishes (i.e.: exterior treatments)?

**PLEASE NOTE:** Many questions must be asked to determine whether you're designing out of your own preconceptions or out of a real understanding of this culture.

## **STRUCTURAL**

### **CONSTRUCTION PRACTICES**

1. What is standard construction practice in the area?
2. Are there existing facilities of similar function/construction that the team can tour or study?
3. Besides RCC and brick, are there other construction methods used?
4. How do they construct foundations? What is the usual foundation system used? How deep and why?
5. What structural elements are used in the standard construction practice?
6. What are the usual spans for roof framing or slabs and beams over openings?
7. Who will be supervising/coordinating construction? Who will be building it?
8. Should the design be done in metric or English units?

### **MATERIALS**

1. Besides brick and RCC, are there other construction materials available? What materials are typically used (readily available)? Where do they come from? How are they used? What are standard sizes? (Bricks, CMU, .)
2. 4. What rebar sizes and grades are available? Where does rebar come from?
3. Is lumber used in construction typically? If so, what are the available species/sizes?
4. What are the costs of available materials and labor?

### **SOIL/FOUNDATIONS**

1. What are the existing soil conditions? What is the soil type?
2. What is the result of the simple soil type test?



3. Where is the groundwater?

#### DESIGN CRITERIA

1. Does the client recognize any vulnerability to seismic activity in the area?
2. What are the ideal seasons for construction?
3. Are there known risks (wind, flood, etc.) in the site locality?

#### **SPECIFIC BUILDING-TYPE PROGRAM QUESTIONS**

##### HOSPITALS

Circulation and Access for Patients/Staff/Public:

1. How do patients enter for Emergency, scheduled care, OPD (out-patient dept.) or surgery?
2. Where do patients wait?
3. How is reception handled? Separate for ER or in-patient or out-patient?
4. Site access for pedestrian, car, ambulance, service vehicle
5. Cashier/payment location?
6. Who are the patients? What kind of typical care is given? Records storage?
7. ER - Triage? Patient assessment? Number of beds. X-ray suite? Orthopedics? Lab? Storage? Maternity? Labor and Delivery?
8. Surgery - surgery prep, recovery, OT's (operation theatres), supplies and equipment storage/delivery/sterilization
9. Isolation, Intensive Care Unit
10. Pharmacy - out-patient care? In-patient only?
11. OPD – exam rooms, doctor offices, queue

In-Patient rooms/care

12. Patient rooms - number per room, lavatories, private or group?
13. Nursing stations? Control/security? Visitors?
14. Waiting areas? Play areas?
15. Supplies, medicines, admin storage
16. Clean/soiled equipment, linens, laundry.....?
17. Consider privacy issues between men & women?



18. Lavatories - patients? Staff? Public?
19. Food/Kitchen services - patients? Staff? Public?
20. Other support services spaces: offices, staff changing, over night rooms, meeting/lecture rooms, chapel.
21. Mechanical Systems  
Ventilation - natural vs. mechanical (natural often better than closed, mech. AC)

#### ORPHANAGES

1. What is the method of child-care (i.e.: dorms w/supervisors, cottages w/parent, etc.)? How old are the children being cared for? What supervision/control issues drive the design?
2. Male and female separated or in same house/building?
3. Is there any need for separate or secure areas?
4. Separate areas for activities? Study, play, social, dining, cooking, laundry....
5. How will the facility be supervised? Do house parents live within dorm or house? Are they to be within hearing distance? What is the ratio of parents to children?
6. Number of children (initial and future)?

#### SCHOOLS

1. What is the minimum number of classrooms immediately needed? How can classes be scheduled to maximize room use?
2. What are the ages and grades of children to be taught? Sizes of rooms relate to class size, children's ages, and physical equipment.
3. What are specific activities-based classrooms or facilities? .computer, vo-tec, PE, music,.
4. Is there to be a large meeting room/assembly hall/cafeteria?
5. Are meal services to be provided? Can this be out-sourced?
6. Boarding school? - overlaps orphanage design issues.
7. What is the projected future growth?
8. Do primary and secondary schools need separation (for accreditation requirements)?
9. Are there government accreditation requirements that will affect the design, (ie. athletic, computer, service, library, or auditorium facilities required to gain accreditation)?
10. Administration (principal, v.p., staff room, toilets, secretary)?

#### Actual classroom building design issues -

Natural ventilation is best accomplished through single-loaded corridor design.  
Open, naturally ventilated classrooms often create sound transmission/control problems.  
Usually, very little power is required for most general classroom buildings.