**Additional notes to the drawings**

1. Foundation

400x800mm deep concrete-rubble foundations, 1:3 concrete to stone volume ratio. Stones to be embedded in concrete are 150mm max size, clear stones, clean from dirt, soil, organic materials and oil. Min specified compressive strength (SCS) for rubble is 50 MPa. The specified concrete compressive strength (SCCS) of the hardened foundation concrete is 25 MPa. Foundation concrete is 1:2 sand to gravel, max aggregate size 25 mm. Aggregates to be clear crushed stones. If the existing natural aggregates it shall not be contaminated with any other materials that weaken concrete such as salt, organic materials, sulfide, clay and other weak or non stable materials. Minimum SCS for gravel is 50MPa. Foundations shall be constructed on undisturbed stable soil.

S type mortar shall be used when big stones to be placed with mortar.

Portland cement type I shall be used in general. If the soil has sulfate in moderate quantity then type II shall be used in the foundation and floor slab.

2. Floor slab

The top of the floor shall be minimum 6” above the ground level or maximum flood level. The floor shall be filled with 100 mm thick well graded crushed stones compacted approximately to 90% standard proctor. The specified concrete compressive strength of the reinforced concrete slab shall not be less than 25 Mpa (3,625 psi).

3. Wall

Hollow cement block shall be used to construct the wall. The minimum specified compressive strength (SCS) of blocks shall not be less than 5 Mpa (700 psi) on total area to comply with ASTM C90.

The blocks shall be kept in the shade and thoroughly cured for seven days before transporting to the construction site. The concrete mixing machine shall be used to mix the concrete. The blocks shall be transported carefully, especially during loading and downloading, and broken or cracked blocks will be discarded

Every second block shall be filled with low shrinkage grout in all courses. The maximum aggregate size of the grout shall be 5mm. The SCCS of the grout shall not be less than 25 Mpa. Concrete blocks shall be closed on tops and bottoms but the units that have cavities to be reinforced and grouted shall be left open. The mortar used shall be S type and comply with ASTM C1329.

Cavities adjacent to doors and windows to be grouted in all courses from ring beam to the slab. Use 2600 mm long -16mm in the middle of the cavities. Grout with low shrinkage grout, 5mm max aggregate size. Grout SCCS is 25 MPa

4. Reinforced concrete columns and beams

The minimum SCCS of the 150mm x 150mm reinforced concrete ring beams shall not be less than 25 Mpa. The maximum size of aggregate shall not exceed 15 mm.

The reinforced concrete column, 150mm x 150mm, shall be grouted with maximum aggregate size of 7mm. Minimum SCCS shall not be less than 25 Mpa.

The concrete shall be well compacted and cured for a minimum period of 10 days. The formwork shall be kept in place for a minimum of 24 hours.

5. Roof

The timber roof structures must be tied with Simpson or USP hurricane tie or equivalent locally fabricated ties using 14 gauge (2mm) thick galvanized steel sheets or 13 gauge (2.4mm) standard steel prime and painted before installation.

The 2”x 4” top plate shall be fixed to the ring beam using Simpson strong tie, MASA 2x4.6” or USP 16 gauges FA3 rated for 780 lbs uplift pressure.

All jack rafters must be fixed on the top plate using H10A Simpson ties. Alternatively USP 2 RT5, one on the outside and one on the inside of the top plate for each jack rafter shall be used. The ties shall be fixed with 10 – 8d 1½” nails. The ties shall be fixed on alternate side @ 16” O.C.

The hip rafter shall be fixed on the top plate using 1-HCP4Z and 1-H7Z Simpson corner ties rated for 1,000 and 985 lbs uplift pressure or 2-USP # RT7 at inside of top plate and 2-RT5 at outside of top plate.

The jack rafters shall be fixed to the hip rafters using LS70 Simpson framing angles or one USP # MP3 connector at each connection and nail rafter through from opposite side with 2-4” nails.

The top of the hip rafters (8 rafters) shall be connected together using 4 x MSTA36 Simpson straps or USP equivalent.

30 gauge (0.40mm) Galvanized Corrugate Iron sheet shall be fixed to the purlins with capped 1 #10d 1½ ˝ nails @ 150mm O.C and to the rafters with 1 #10 d 2½ ˝ nails @ 150 mm O.C. The CGI sheet shall comply with ASTM-A653 SS grade 33, Z275 (G90) or ASTM-A792 SS grade 33, AZ 180.