



**TOBAGO PLANTATIONS**  
Beach and Golf Resort

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# **VILLA CLUSTER**

**TOBAGO PLANTATIONS LTD**  
**LOWLANDS ESTATE**  
**TOBAGO, WEST INDIES**

## **Architectural** **OUTLINE SPECIFICATIONS**

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DESIGN COLLABORATIVE LTD  
LEVEL 1, WESTMALL  
WESTMOORINGS  
TRINIDAD, WEST INDIES

Telephone: 633-7033/44/45  
Fax: 633-7034  
email: [design@tsst.net.tt](mailto:design@tsst.net.tt)



### TOBAGO PLANTATIONS LTD

### SPECIFICATIONS FOR VILLA CLUSTER

The specifications on materials and workmanship will all be in accordance with the current British Standards & Codes of Practice.

#### 1.0 TERMITE TREATMENT

After excavation and before concreting and filling commences, the area of the buildings shall be treated against subterranean termites, carried out by a specialist firm, approved by the Architect. At completion of the contract, the Contractor shall provide the Architect with a guarantee certificate against infestation by subterranean termites for a five (5) year period from date of hand-over made out in the name of the Employer.

#### 2.0 STRUCTURE

The structure shall be in accordance with structural engineer's general arrangement and detail drawings.

i. **Substructure**

After excavation of the trenches and before casting of the foundations, a blinding layer of concrete shall be laid. The foundations shall be raft foundations with perimeter reinforced concrete strip footings. The 8" thick concrete foundations blocks, cores to be filled with concrete and reinforced in accordance with the structural engineer's drawings.

ii. **Superstructure**

a. **External Walls:**

6" thick loading bearing concrete block walls with cores filled with concrete and reinforced with horizontal block reinforcement every other course all in accordance with the structural engineer's drawings.

b. **Internal Walls:**

4" thick non load bearing concrete block wall in accordance with the structural engineer's drawings.



c. Floor Slabs

Ground: 225mm thick insitu RC slab cast on polythene HDPC on 50mm sand on well compacted hard core.

Suspended: 175mm thick insitu RC slab reinforced in accordance with the structural engineer's drawing.

d. Ring Beam

All load bearing block walls are to be capped with RC ring beam and reinforced in accordance with the structural engineer's drawings.

e. Roof Rafters

50mm x 200mm T.P.P. roof rafters at 600mm crs. fixed to 75 x 100 T.P.P. wall plates which in turn are fixed to the RC ring beam with stainless steel bolts at 600 crs. Every other rafter is also to be fixed to the wall plate with Simpson stainless steel hurricane straps.

e. Staircases

To be out of reinforced concrete for external stairs and landings. Allow for balusters and handrail system (timber). External stairs from balconies /porches to ground level to be reinforced concrete. All stairs to be tiled with the non skid ceramic tiles specified for the floors. Treader tiles to be used on the steps.

f. Structural Tests

The Contractor is to carry out all the appropriate periodic tests on concrete in accordance with BS 1881 and also test steel reinforcing bars and compacted fill where required and submit engineer's reports on these results to the structural engineer for approval of the results.



### 3.0 ROOFING

#### i. Roofing Shingles

Best quality western red cedar shingles laid on battens by specialist installers.

#### ii. Flat Timber Built-Up Roof

The built-up roof shall be 3-ply polymer bitumastic membrane on plywood decking to form a built-up roofing system.

#### iii. Rainwater Gutters & Downpipes

Six inch 6" (152mm) pvc Ogee profiled rainwater guttering system to all eaves with 6" diameter pvc rainwater downpipes to link (via. pvc underground pipe drains) into box or slipper drains.

All concealed clips, fasteners, fixings, pvc pipes, elbows and sealants, etc. required to complete the rainwater system are to be included as required by the specialists firm for completion of the work involved.

### 4.0 FIXINGS

All fixings whether they be nails screws, bolts, washers or fasteners to be stainless steel.

### 5.0 JOINERY AND CARPENTRY

#### 5.1. Windows

- i. French Style sash windows (pre glazed /reglazed (glazing bars) exterior grade cedar with water proof glue.

All windows shall be 1 3/4" thick and shall be constructed with ex. 2" x 4" styles, top rails, and bottom rails with French style re-glazed panels or panes separated in 'true dividing light' fashion, glazed panels are to be separated by ex. 2" x 2" (finished size 1 3/4" x 1 1/2") hardwood muntins or glazing bars rebated and moulded on inside, with moulded timber



glazing beads on the outside. Glazed panels of 1/4" thick float glass to be caulked with the appropriate sealant. .

Windows are to be set into ex. 2" x 4" cedar window frames rebated to receive windows. Frames are to be securely fixed to the masonry openings and caulked at the joints between the timber frame and masonry opening to provide weather proof joints.

ii. Demerara Style Windows

Hardwood fixed louvre Demerara type windows supported in place on 2 No. 25mm thick decorative plywood gusset brackets .

The frames of the windows are to be constructed out of ex. 2" x 3" hardwood. The louvred window panel in each window is to be centrally split with ex. 1" x 2" hardwood mullion.

Each louvre fin to be out of ex. 3/4" x 3" hardwood fixed centrally within a 2" x 3" side frame and set into side frame 5/8". The spacing of the louvres are to be at 2 3/8" centres. The frame is to be constructed using traditional shouldered stopped tennon joints glued with a proprietary water proof glue.

iii. Adjustable Jalousie Windows

To be constructed out of hardwood, to traditional details with sliding carriage and pins to keep shut.

## 5.2 Doors

i. Solid Paneled Doors (Pitch Pine Painted) or (Skin Door)

All doors throughout the Villa with the exception of the patio or balcony French doors (i.e. to all bedroom, bathrooms, entrance, kitchen, etc.) are to be raised panel type.



Paneled doors shall be 1 3/4" thick, constructed with 6" x 1 3/4" hardwood styles top rail, bottom rail, and intermediate rails. The rails shall be haunched tenoned into the styles. The styles and rails must be grooved to accept the edges of the raised panels which are also to be 1 3/4" thick.

All beveled edges to raised panels are to be pre-painted so that the material wood colour remains concealed in the event of shrinkage of the panel.

ii. Glazed Paneled Doors (French Styles)

Glazed paneled doors shall 1 3/4" thick and shall be constructed with 44mm x 150mm hardwood styles and top rail, 44mm x 150mm for bottom rail and 44mm x 50mm hardwood muntins or glazing bars (in true dividing light fashion). Muntins and rails shall be haunched tenoned to styles. Styles, rails and muntins are to be rebated on inside face of the door to accept 6mm thick glazing. Glazing beads shall be 12 x 20mm hardwood on outside of door and caulked with the appropriate sealant. The leading edge of the double window styles are to be rebated to provide protection from the weather.

All glass panes to be 1/4" thick.

iii. Door Frames

All door frames are to rebated and out of ex. 50mm x 150mm for 4" walls and cut of ex. 50mm x 200mm for 6" thick masonry walls with hardwood architraves (34mm wide x 10mm thick) to all door frames (both sides) Each door frame shall be fixed to the masonry walls with Anchor bolts (counter sink and pelleted) - or equal approved. Thickness of rendered walls to be same as width of door and window frames for ease of fit of architrave both masonry openings and thickness of rendered walls should be controlled with the use of templates to allow for exact fit of pre-fabricated and finished door and window frames.

iv. Skirtings



All skirting to be out of ex. 1" x 6" treated hardwood with a profiled moulded top edge, joints between skirtings to be chamfered at 45<sup>0</sup> and not butt jointed. Skirtings to be screw fixed to walls at 2' - 0" centres with all fixings to be counter sink and capped with hardwood pellets sanded and made good.

v. Timber Fascias

Vertical timber fascia closure pieces of treated softwood to conceal view of wall plate and seal interior space by closing off space between rafters and above wall plate. (approximately ex 1" x 10" TPP pieces).

### 5.3 Kitchen Cupboards

Kitchen cupboards to be supplied and installed by approved supplier.

i. Base & Wall Unit Carcasses and Frames

- Cupboards to be constructed on a 102mm (4") high cast insitu r.c. plinth or built up timber box base.
- All carcasses of cupboards to be constructed of 12mm (1/2" thick) termite treated plywood and Ex 25 x 50mm treated Southern Yellow Pine framing members (or equal approved hardwood such as apamat or cypre)
- All base units at internal corners are to be chamfered at 45<sup>0</sup>
- All exposed vertical gable ends to be either 12mm thick (1/2") plywood primed and painted with 1 undercoat primer and 2 finishing coats "Flectovarathane" solid white or pickled white, Diamond Range (all spray painted).

ii. Shelves

- All shelves to be constructed out of 12mm (1/2") thick treated plywood and laminated on all surfaces and edges
- Base Unit - one (1) shelf directly to insitu r.c. plinth or timber box base and one (1) intermediate shelf. Wall Unit - two (2) intermediate shelves to line off with glazing transoms of cabinet doors.

iii. Face Frames



- All face frames to be of ex. 25 x 50 (1" x 2") ( approved hardwood such as Apamat or Cypre)
- Face frames finish to be one (1) undercoat Primer and two (2) finishing coats white "Flectovarathane" (or equal approved) paint in either solid white or pickled white colour.

iv. Laminate

All laminate to be 1.2mm thick Wilsonart / Arborite (or equal approved)

v. Cabinet Doors

(a) **Base Units Cabinet Doors**

All cabinet doors to base units to be Ex. 30mm (1 1/4") thick Apamat/Cypre (or similar equal approved hardwood) solid raised panel doors

Finish to be either one (1) undercoat Primer and Two (2) finishing coats "Flectovarathane" (or equal approved) solid white or pickled white Colour.

(b) **Upper Wall Units Cabinet Doors**

All upper wall unit cupboards to be 30mm (1 1/4") thick dressed Apamat or Teak or Cypre (or equal hardwood).

Twenty percent (20% ) of doors is to be glazed with separating glazing bar (true dividing lights).

All glazing to be 6mm (1/4") thick glass with 10mm dressed treated hardwood beads and appropriate sealant as required.

(c) **Finishing of Cabinet Doors**

All cabinet doors to be finished in one (1) undercoat Primer and Two (2) finishing coats white "Flectovarathane" (or equal approved) paint in either solid white or pickled white colour, Diamond Range.



All bevelled edges of tongues of panels in raised panel cabinet doors are to be pre-painted with one (1) finishing coat so that in event of shrinkage of the panel the material wood colour remains concealed.

vi. Drawer Unit

One (1) bank of drawers with drawer face to be of 30mm (1 1/4") dressed apamat or cypre (or similar approved hardwood) with Flectovarathane finish as above. Drawers to have heavy duty side mounted slides.

vii. Mouldings

Allowance is to be made for (20mm thick x 75mm wide dressed) profiled treated hardwood architraves to perimeter run of upper wall units.

viii. Quality of Workmanship and Materials

- All timber to be exposed, to be Grade I, free of knots, pressure treated and kiln dried to a moisture content between 10% to 12% in accordance with BS 1186 Part I.
- All plywood to be surface treated with 'Five Star Cuprinol' preservative.
- All joinery work is to be in accordance with BS 1186 Part II

ix. Kitchen Countertops

Post formed laminated counter top 1.2mm thick laminate (Wilsonart/Arborite or equal approved) on 12mm (1/2") thick treated plywood or medium density fibre board (MDF) 30mm dia. half-round curved edge treatment to front counter edge and 4" (102mm) high post formed upstand where counter top meets rear wall.

Counter top to receive the following kitchen sink or similar approved by Architect.

x. Wall Treatment (Kitchen)



Three (3) no. rows of 6" (152 mm ) sq. glazed ceramic wall tiles between counter top and upper level cabinets.

xi. Hinges to Kitchen & Vanity Cabinets

All hinges to kitchen and vanity cabinets to be fully concealed, self closing, 125<sup>0</sup> opening hinges.

xiii. Knobs to Kitchen & Vanity Cabinets

All knobs to kitchen and vanity cabinets are to be out of ceramic (to Architect's later detail).

### 5.5 Clothes Closets

All clothes closets to have hanging space, and a vertical stack of open shelves and drawers (to Architects' detail).

Each drawer to have a pair of drawer slides /runners

All internal surfaces of closets to be painted with one (1) coat undercoat and two (2) finishing coats of Berger Satin Flat enamel (matte white colour)

### 5.6 Bathroom Vanities

To be similar in material make-up to kitchen base unit with the only exception being that vanity top is to be out of solid surfacing Gibraltar, 'Fountainhead' or similar approved by architect and the doors are to be fixed louvre (1 1/2" thick) with concealed hinges or solid panels..

### 5.7 Carpentry And Joinery (General Specification)

i. Timber Generally

All timber products shall be sound with reasonably straight grain and at least 85% heartwood, free from large shakes, waney edges splits, loose or dead knots, worm, rot, fungus, decay or infestation.



ii. Pitch Pine

Pitch pine shall be best imported quality of mature growth, free from gross defects, well seasoned and having a minimum density of 673 Kgs/m<sup>3</sup> and an average equilibrium moisture content of 10 per cent in accordance with BS 1186 Part I.

iii. Hardwood

Cedar, Mahogany, Apamat, Cypre and green heart shall be the best quality available and be pressure treated (see below) and must be free from gross defects. The Contractor must exercise care in selecting this timber and shall notify the Architect and obtain his written approval of the type and sources of the hardwoods he purposes to use.

iv. Treated Timber

Treat softwood against termite attack and decay damage by Wolmanising or similar pressure/vacuum impregnation with an approved preservative in order to obtain a minimum net chemical retention of 8.01Kgs/M<sup>3</sup> of timber in accordance with the manufacturer's instructions and thereafter either air dry or kiln dry all timber to the satisfaction of the Architect. Treat all hardwoods with surface applied preservative (Five Star Cuprinol preservative or equal approved by Architect) against wood borer attack and against decay by rot or fungus.

Where cross cutting or boring of treated timber is unavoidable, liberally swab or dip treat all exposed faces with an approved preservative. Where timber is described as having a natural oiled or varnished finish, an approved clear preservative shall be site applied to the approval of the Architect.

v. Plywood

Plywood shall conform to BS 6566 Class E and marine plywood shall conform to BS 1088.

Where plywood is to have a natural or varnished finish, Grade 1 shall be used.

Where plywood is to be painted, Grade 2 may be used



All plywood should be treated with surface application of 'Five Star Cuprinol' preservative or 'solignum' or equally approved.

vi. Tolerances

All structural timbers shall be sawn timbers to the section given on the drawings. Permissible tolerance on cross section dimensions will be + 6mm and -3mm with no allowance for wane.

vii. Exposed Faces

Timber which is to be exposed in the finished work shall be 'dressed' unless otherwise described.

NB: Where the term 'nominal size' is used in this document, it shall mean the sawn size and where timbers are to be wrought or dressed 3mm shall be allowed from the nominal size for each wrought face or edge.

viii. Plastic Laminate

Plastic laminate shall be 1.2mm thick by 'Wilsonart' or equal and approved and comply with the BS 3794 and be bonded to plywood or timber backing with synthetic resin adhesive to BS 1204 strictly in accordance with the manufacturer's printed instructions.

ix. Joinery Work

All joinery work shall be carried out in accordance with BS 1186, Part 1 & 2.

x. Carpentry Work

All carpentry work shall be carried out in accordance with CP 112

xi. Natural Finish



When natural finish or finish for staining, clear polish or varnishing is specified, the timber in adjacent pieces shall be selected and matched to be uniform and symmetrical in colour and grain.

## 6.0 MECHANICAL AND ELECTRICAL SERVICES

### 6.1 Electrical

#### i. Internal

The Circuit Breaker and Panel System for each villa must be sized to allow for the following electrical appliances which should require at least a 200 amp sized circuit breaker panel.

- Mini split A/C units in each bedroom served by condensers located externally.
- Electric Hot Water Heater
- Electric Cook Top and Hood (electric cooker with oven).
- Microwave Oven
- Dishwasher
- Washing Machine
- Dryer
- Fridge
- Jacuzzi
- Pool Pumps
- Duplex and socket outlets per room (serving Bedside Lamps, TV's, Irons, etc.)
- Kitchen Counter Top outlets (to serve toasters, toaster oven, electric kettles, blenders, etc.)
- Fans in Dining Room, Living Room and Master Bedroom.  
and other standards lighting and socket outlet requirements.

### 6.2. Telephone

Provide for wiring and telephone jacks in all Bedrooms, Kitchen and Living Room.

### 6.3 Cable TV

Provide for cable TV Conduits to all Bedrooms and Living Room.

### 6.5 Plumbing (Including Fixtures)



- a. All plumbing pipework to be out of pvc, Grade 'E' for cold water supply and 'C' pvc for hot water piping (the latter requiring 'C' pvc solvent welding cement). Allow for connections to main sewer and water mains to each villa. Allowance must be made for a water meter and stop cock (in a concrete catch pit).
- b. All pipes shall be designed for use with working pressure of 120psi minimum and must withstand a test pressure.
- c. Bathroom and Kitchen Fixtures

Bathroom fixtures are to be by Crane and faucets by Delta (or equal approved by architect).

Soap dishes and toilet roll holders, towel rails, shower and curtain rods together with a full width vanity mirror and light fixture in each bathroom.

### 6.6 Air Conditioning

The system to be provided should be a mini split system with the compressors/condensers to be located externally with internal wall mounted Air Handlers. Drainage pipes to carry condensate from Air Handler to the exterior must be allowed for.

### 7.0 **IRONMONGERY**

All locksets to be by 'Falcon' or similar approved and hinges, flush bolts, door stops, door viewers and cabin hooks to be stainless steel.

### 8.0 **FINISHES**

#### 8.1 Walls:

##### i. External Walls:

1/2" thick coat cement /sand smooth rendered finished and painted.



ii. Internal Walls:

1/2" thick sand cement render. Primer coat and two (2) finishing coats of latex emulsion.

iii. Bathrooms

Ceramic tiles, walls to bathroom and shower enclosures.

iv. Kitchens

Tiles to be allowed for by the Contractor above kitchen counter top.

### 8.2 Ceilings

i. Soffit of Concrete Flooring: 1/2" thick sand cement render and textured System (to underside of R.C slabs).

ii. Bedrooms (Single Unit, Upper Units in Duplex & Two Storey Units)

- Open ceilings with grooved plywood exposed (i.e sloping ceilings). The underside of the 5/8" treated ply (with grooves spaced 4" apart) and the rafters to be primed one(1) coat and painted with 2No. finishing coats of 'Flectovarathane' solid white or pickled white stain) to be decided by Architect at a later date or similar approved by Architect.

### 8.3 Floors

i. All internal floor areas including staircase:

Staircase to have treader 12" x 12" ceramic & porcelain tiles (all tiles are to be modestly non skid to the satisfaction of the architect. Tiles to be laid on thinset with propriety tile grouting to match

ii. Bathrooms

Ceramic tiled floors as above.

### 8.4 Skirtings



### Tile skirting:

Kitchen, utility room and bathrooms to have a matching tiled skirting (i.e. matching floor tiles) including skirting areas of the base unit kitchen cupboards.

## 9.0 PAINTING AND DECORATION

All painting to be carried out in accordance with BS 6150

| Location   | Type   | Colour   |
|--|--|--|
| - Internal Rendered Walls  | Flat Emulsion  | White  |
| - External Rendered Walls  | External Quality Emulsion (Weatherguard or similar)    | White  |
| - All exposed Metalwork or Steelwork (Wrought Iron Handrails, etc.)  | epoxy primer and two (2) coats Varathane               | Black  |
| - All timber doors<br>Doors Frames, Architraves,<br>Skirtings, Kitchen Cupboards,<br>Clothes closet bifold doors,<br>vanities, windows & window frames | 'Flectovarathane' or<br>equal approved by<br>Architect | White or<br>pickled white<br>stain or wood<br>wood stain |
| - Timber rafters and underside of<br>grooved ply ceiling, fascia boards<br>(i.e all timber roof elements)  | Painted or pickled<br>finish                           | White or<br>Beige<br>White or<br>Beige                   |
| - Gypsum Board Ceiling and<br>Bulkhead   | 'Satin' Emulsion                                       | White  |

(Primer and two (2) finishing coats required where not specified, with the appropriate surface preparation as required under British Standard Specifications and Codes of Practice).