

GHEKIO Tuberculosis Hospital
Port Au Prince, Haiti



SQ FT
14,000 BGSF



OWNER/AFFILIATION
Les Centres GHEKIO



ARCHITECT(S)
MASS DESIGN GROUP



COMPLETION DATE
2015



MAIN ENTRANCE



CORRIDOR



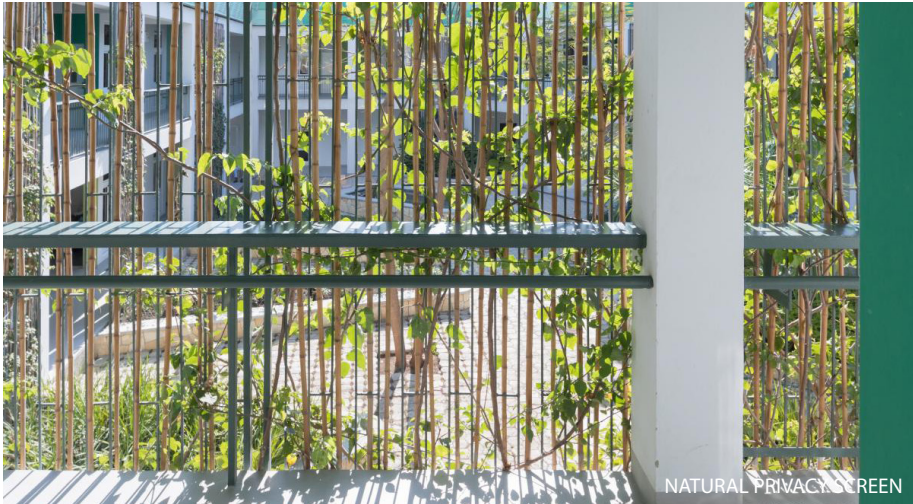
COURTYARD



AERIAL VIEW

Designed as a serene place for healing, the new GHEKIO Tuberculosis Hospital is a replacement for the previous facility that was destroyed when Port-au-Prince was hit by an earthquake in 2010. This natural disaster exacerbated the region's already fragile health infrastructure and number of patients.

Such a highly infectious disease needed strategic design decisions that would consider **infection control** and **patient trauma** as driving factors for successful patient recovery. From **passive ventilation**, to having a **central courtyard** flanked with gardens and greenery, these are simple, yet effective ways that prevent contagion and promote a **sustainable environment**.



NATURAL PRIVACY SCREEN



SKY VIEW

GHESKIO Tuberculosis Hospital

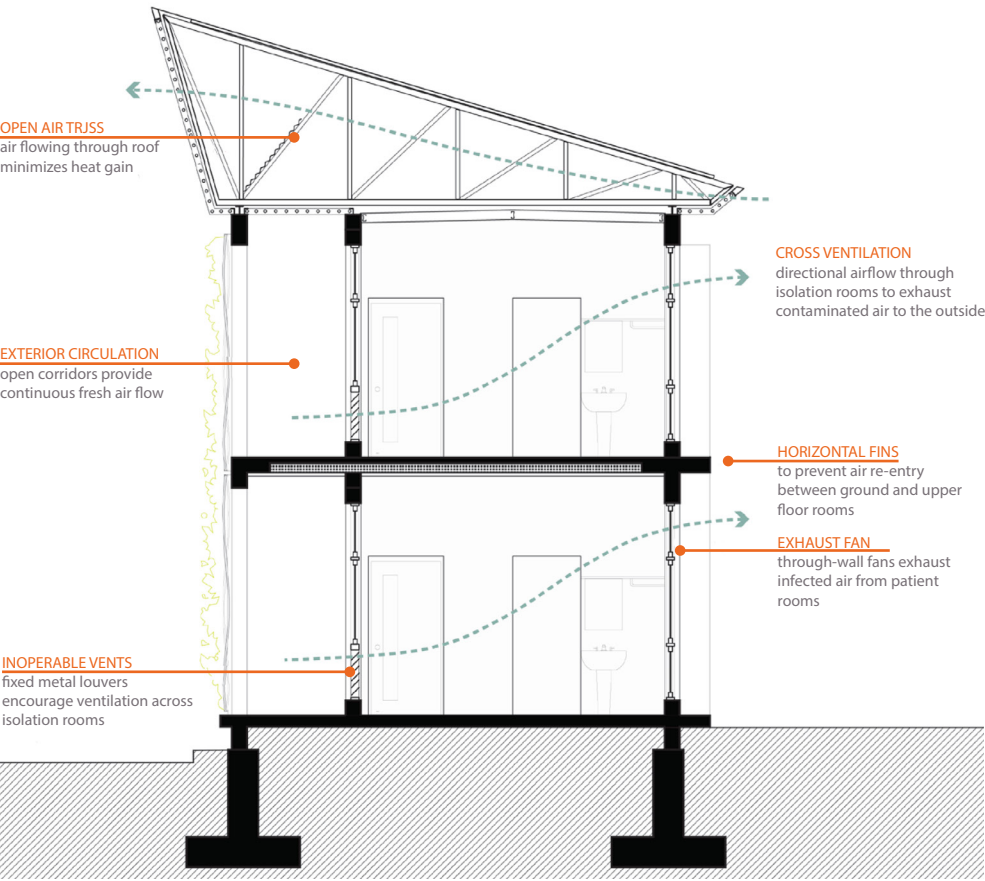
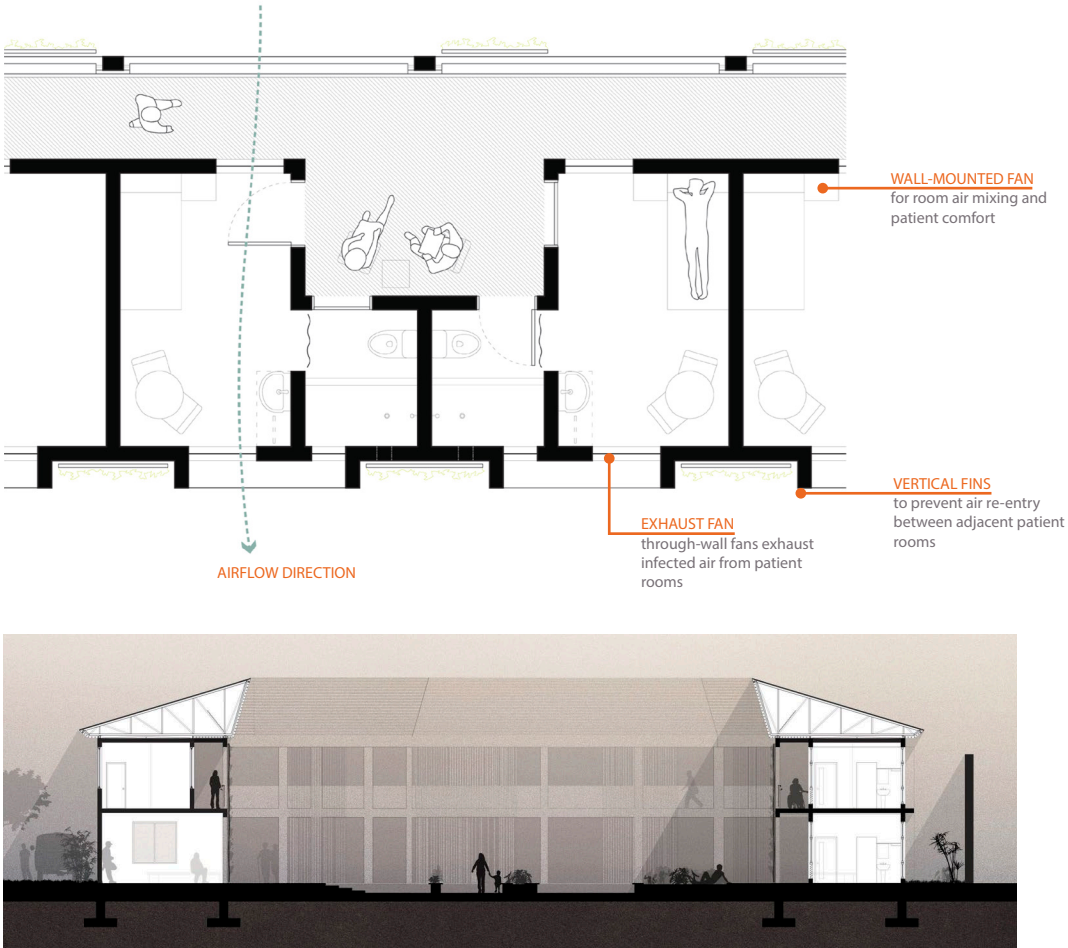
Port Au Prince, Haiti

Ventilation Strategies

Given the climatic context and surrounding physical built environment, it was important to consider ways of keeping energy costs down, while diminishing risk for healthcare workers and patients.

Exposed corridors promote open-air circulation and reduce risk of contagion. Permeable soffits and metal louvers distribute fresh air throughout patient units. Patient room bathrooms can also be accessed from the outside so cleaning staff can avoid entering the room and thus prevent infection.

In addition to having an attractive green slanted roof for shading, the metal panels surrounding the courtyard are woven so that heat gain can escape at the top and be able to cool the rooms below.



Healing Courtyard

The programmatic elements wrap around a central courtyard in an asymmetric pentagonal shape that enlarges the central space, while still maintaining privacy and shade from the sun.

Flowers, shrubbery, and fish swimming in ponds bring a sense of tranquility and color to the place. Covered common spaces at the corners of the floor plan are used for group and leisure activities.



GHESKIO Tuberculosis Hospital

Port Au Prince, Haiti

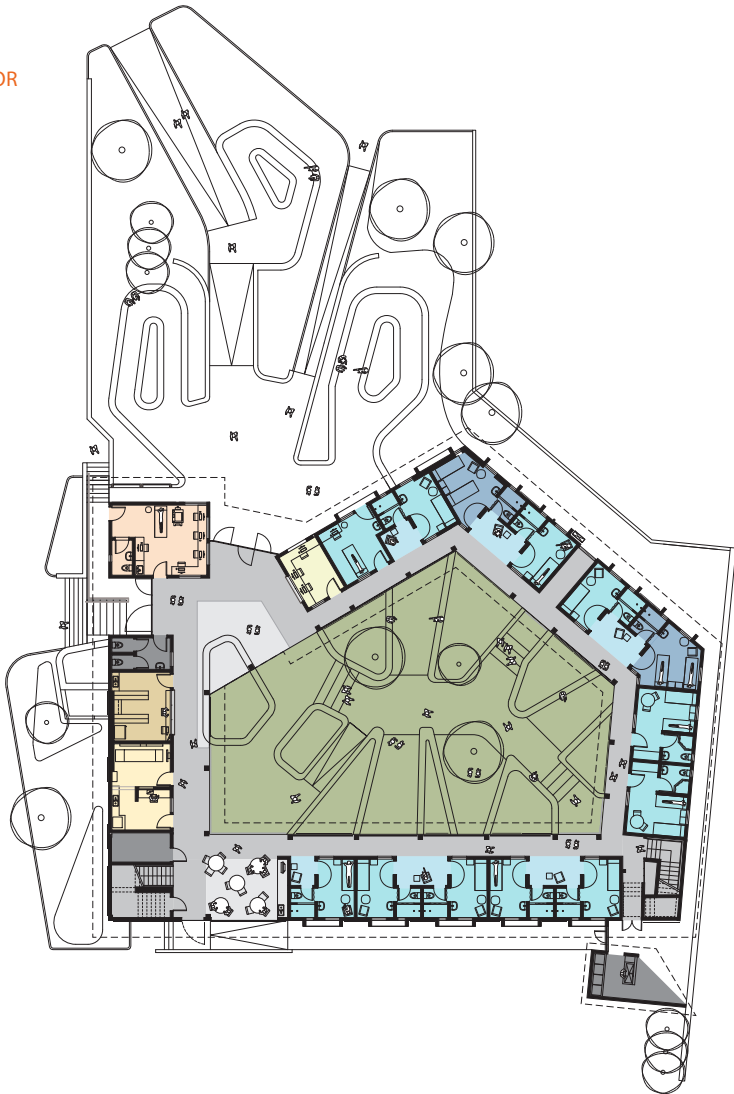
Key Spaces and Travel Analysis

The hospital is a very **simple, yet functional structure** that incorporates several exam rooms and 35 naturally ventilated patient rooms across two floors, all encompassing a central courtyard

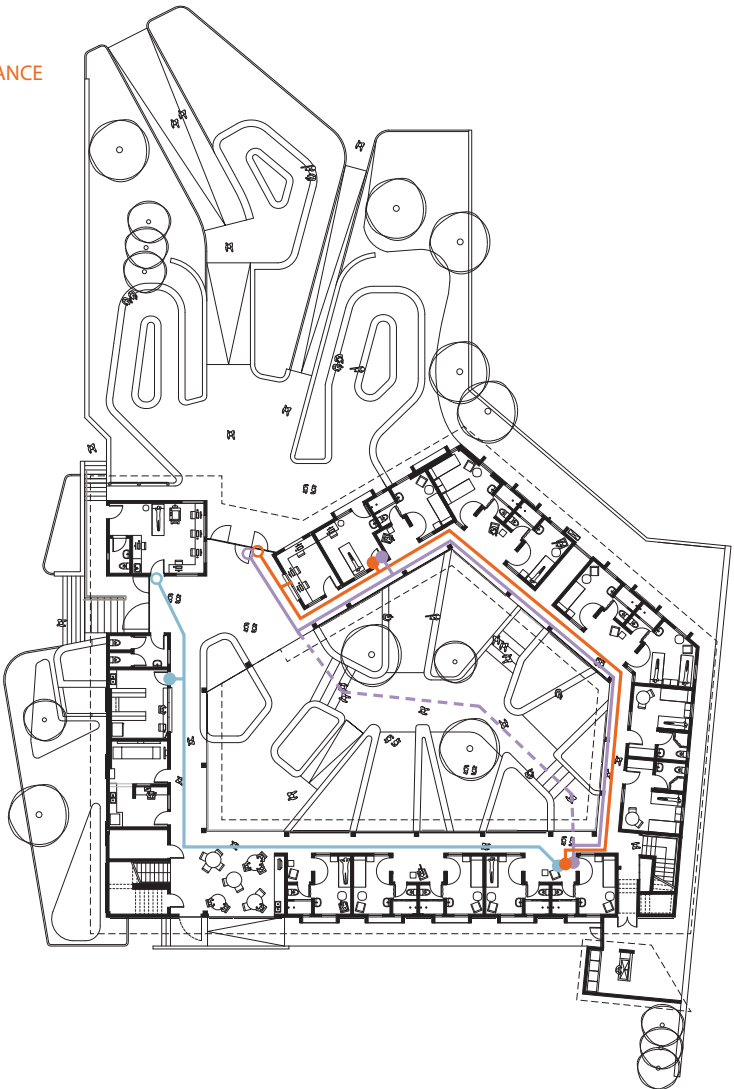
DEPARTMENTAL KEY PLAN

- Nurse Station
- Outpatient Consultation
- Pharmacy
- Xray
- Courtyard
- Communal Room
- Isolation Room
- Family Isolation Room
- Consultation Area
- Core/Support Services
- Corridor

GROUND FLOOR



TRAVEL DISTANCE ANALYSIS



Circulation Strategies

The design around a central courtyard means there are **multiple paths of circulation** that one can take to get to a patient or staff member, while not getting lost within the space.

KEY SPACES:

- 1 Nurse Station (296 SF)
- 11 Isolation Rooms (148-206 SF)
- 2 Family Isolation Rooms (187 SF)
- 6 Consultation Areas (36-77 SF)
- 1 Outpatient Consultation (125 SF)
- 1 Pharmacy (200 SF)
- 1 Xray (248 SF)
- 1 Courtyard (4377 SF)

DEPARTMENTAL GROSS SQUARE FOOT TAKE-OFFS

	Net
Patient Care	2528 SF
Public Space	543 SF
Staff Work Area	908 SF
+Corridors	
+Stairs	
+Walls	
Total GSF	6945 SF
N/G Factor	1.75

TRAVEL DISTANCE ANALYSIS

- Patient 55 ft ~174 ft
- Family 50 ft ~169 ft
- Staff 29 ft ~155 ft

GHESKIO Tuberculosis Hospital

Port Au Prince, Haiti

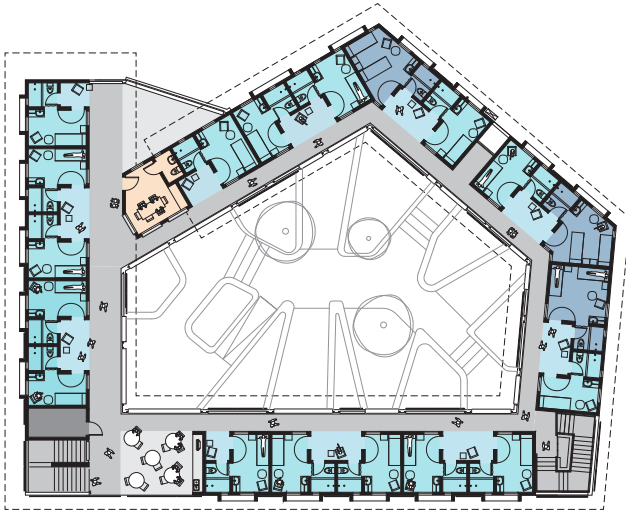
Key Spaces and Travel Analysis

The **second floor** follows the **ground floor layout**, with the main difference being that there are more patient rooms and only one staff area that can act as both nurse station and meeting room

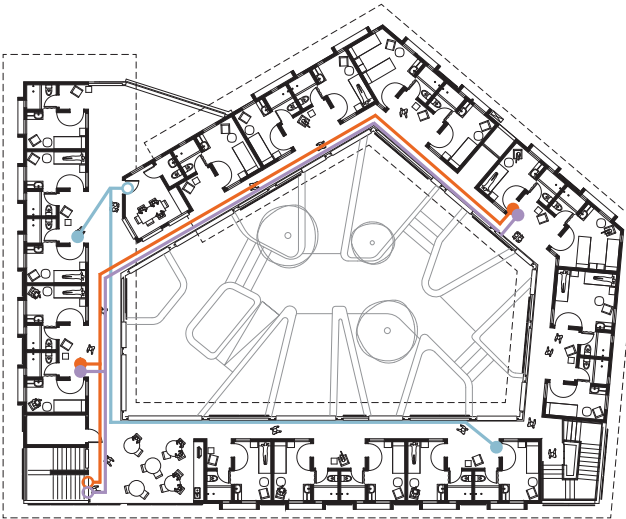
DEPARTMENTAL KEY PLAN

- Nurse Station / Staff Meeting Room
- Communal Room
- Isolation Room
- Family Isolation Room
- Consultation Area
- Core/Support Services
- Corridor

SECOND FLOOR



TRAVEL DISTANCE ANALYSIS



KEY SPACES:

- 1 Nurse Station / Staff Meeting Room (180 SF)
- 16 Isolation Rooms (140-153 SF)
- 3 Family Isolation Rooms (187-213 SF)
- 11 Consultation Areas (36-77 SF)

DEPARTMENTAL GROSS SQUARE FOOT TAKE-OFFS

	Net
Patient Care	3739 SF
Public Space	478 SF
Staff Work Area	180 SF
+Corridors	
+Stairs	
+Walls	
Total GSF	7248 SF
N/G Factor	1.65

TRAVEL DISTANCE ANALYSIS

- Patient 36 ft ~ 170 ft
- Family 36 ft ~ 170 ft
- Staff 17 ft ~ 147 ft

GHEKIO Tuberculosis Hospital

Port Au Prince, Haiti

Commentary from ARCHITECT magazine's interview with Dr. Jean William Pape:

During the design process, how did MASS engage with you as a client, and with the broader community?

"MASS was incredible. They fulfilled all my requests. They studied every single detail and responded promptly to all inquiries. They met with all of us, listened carefully, took notes, and provided a perfectly finished product. MASS are architects of beauty, but at the same time they are practical. They met with local artisans and used their products, including local wood- and metalwork. They made sure that the building is adapted to our way of life and representative of our culture. Their buildings cannot leave you indifferent."

PROJECT SUMMARY:

Project: GHEKIO Tuberculosis Hospital
Project location: Port Au Prince, Haiti
Owner/Client: Les Centres GHEKIO
Architect/Landscape Architect: MASS Design Group
Construction manager: GBS Group
Structural engineer: CBI Consulting
General contractor: Chantiers d'Haiti
MEP engineer: Berelec
Civil Engineer: Fall Creek Engineering
Landscape Consultant: Jardins & Accessoires
Photographs: Ivan Baan
Illustrations: MASS Design Group
Construction cost: \$2 million
Building area GSF: 14,000 sf
Cost per square foot: \$143
Construction start date: June 2012
Substantial completion date: March 2015



AERIAL VIEW



COURTYARD

AIA/AAH DESIGN AWARD WINNER

Category A: Built: Less than \$25 million (construction cost)

JURY COMMENT

- ▶ "This building was lauded for being of its place—responding to both the culture and the climate. It shows a sensitivity to the patients with an organization of rooms and courtyards that reaffirm hope and healing as well as serving to build community"
- ▶ This building was lauded for being of its place - responding to both the culture and the climate.
- ▶ It shows a sensitivity to the patients with an organization of rooms and courtyards that reaffirm hope and healing as well as serving to build community.
- ▶ Natural ventilation is enhanced with the porosity of the plan and the well-resolved section. The trussed roof volume serves to cool the rooms as well.
- ▶ Nature plays a role throughout. The screen material has a biophillic feeling – almost like thatch – achieved with perforated metal and rods to mimic weaving. Plantings are integrated up the walls becoming one with the architecture.
- ▶ The well-resolved plan creates shading throughout the day so that patients and staff can get respite from the sun.
- ▶ A very humane project that doesn't do more than it has to or can afford to do. Key Words – Simple, Honest and Sensitive.



COMMUNAL SPACE



CORRIDOR