

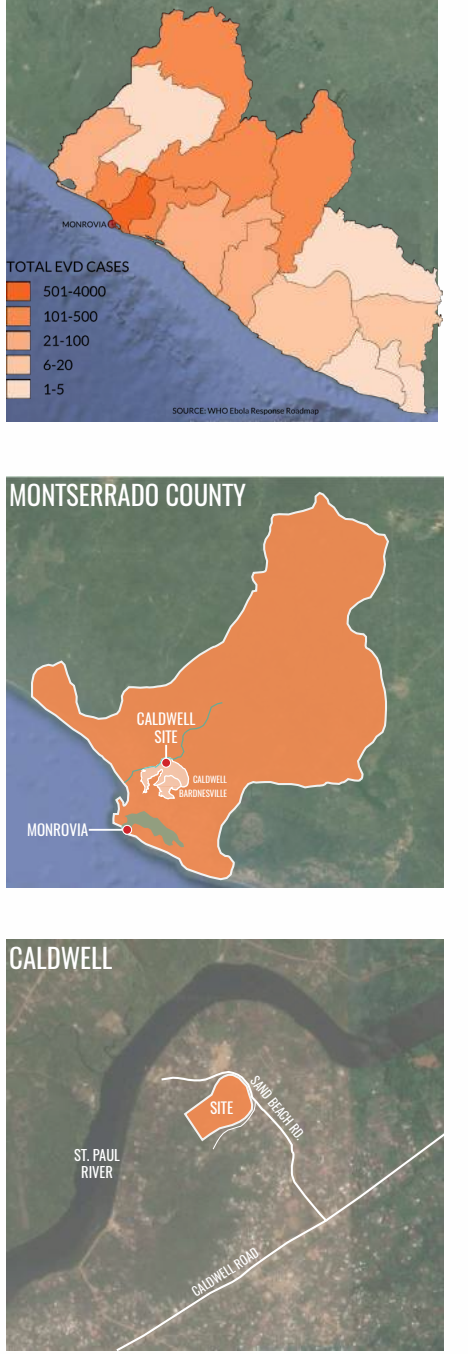


ENTRY CANOPY
VIEW 1

CALDWELL COMMUNITY HEALTH CENTER



SITE SELECTION



LIBERIA | POST-EBOLA HEALTHCARE

The Ebola outbreak of 2014-15 exposed weaknesses in Liberia's health care delivery services. The dilapidated state of the country's health sector included poorly equipped medical facilities and a lack of infection control measures. Within Liberia, Montserrado County had the highest reports of Ebola Virus Disease; however, all 15 counties eventually reported cases. One of the confounding factors of the outbreak was the lack of proper sanitation which remains a major struggle. As Liberians rebuild in a post-Ebola society, a need for well designed facilities that support best practice healthcare is an opportunity to enhance the communities and lives of the people of Liberia.

MONTSERRADO COUNTY | POPULATION GROWTH

Since 2015, Monrovia's population has expanded even farther inland along the St. Paul River and into adjacent communities. The reasons for Monrovia's population growth include an upsurge in both rural-to-urban migration and inter-urban migration causing major traffic issues and delays in getting to any destination, including healthcare facilities.

IDENTIFYING A TARGET POPULATION IN GREATER MONROVIA:

CALDWELL ZONE	31,152
BARDNEVILLE ZONE	40,423
	71,575

CALDWELL | SITE LOCATION

The project site is located in the Upper Caldwell community near the St. Paul River. The township of Caldwell is a fast-growing region on the outskirts of Monrovia that is accessible via a new bridge and a recently paved highway.

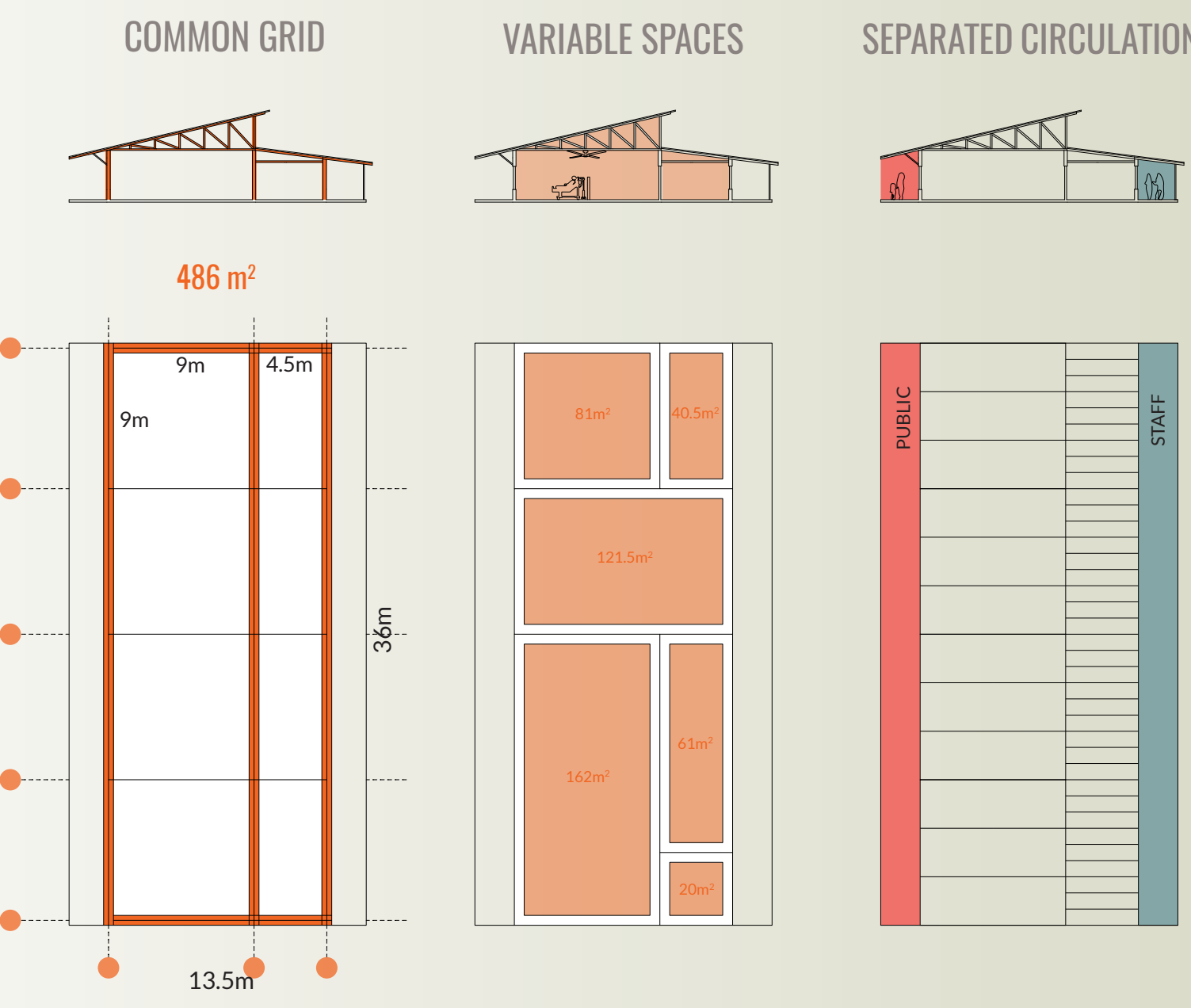
The 35-acre site has been set aside by the township of Caldwell for the Ministry of Health in the development of a new hospital campus. The site is 20 kilometers north of Monrovia's city center. The area surrounding the site has only recently been developed with single family residences, and many of the adjacent properties are used for farmland.



KEY CONCEPTS

- USE LOCAL MATERIALS & BUILDING TECHNIQUES
- SEPARATE STRUCTURES FOR ADAPTABILITY & FLEXIBILITY
- DEVELOP A COMMON UNIT & STRUCTURAL GRID

A UNIVERSALLY DIMENSIONED MODULE



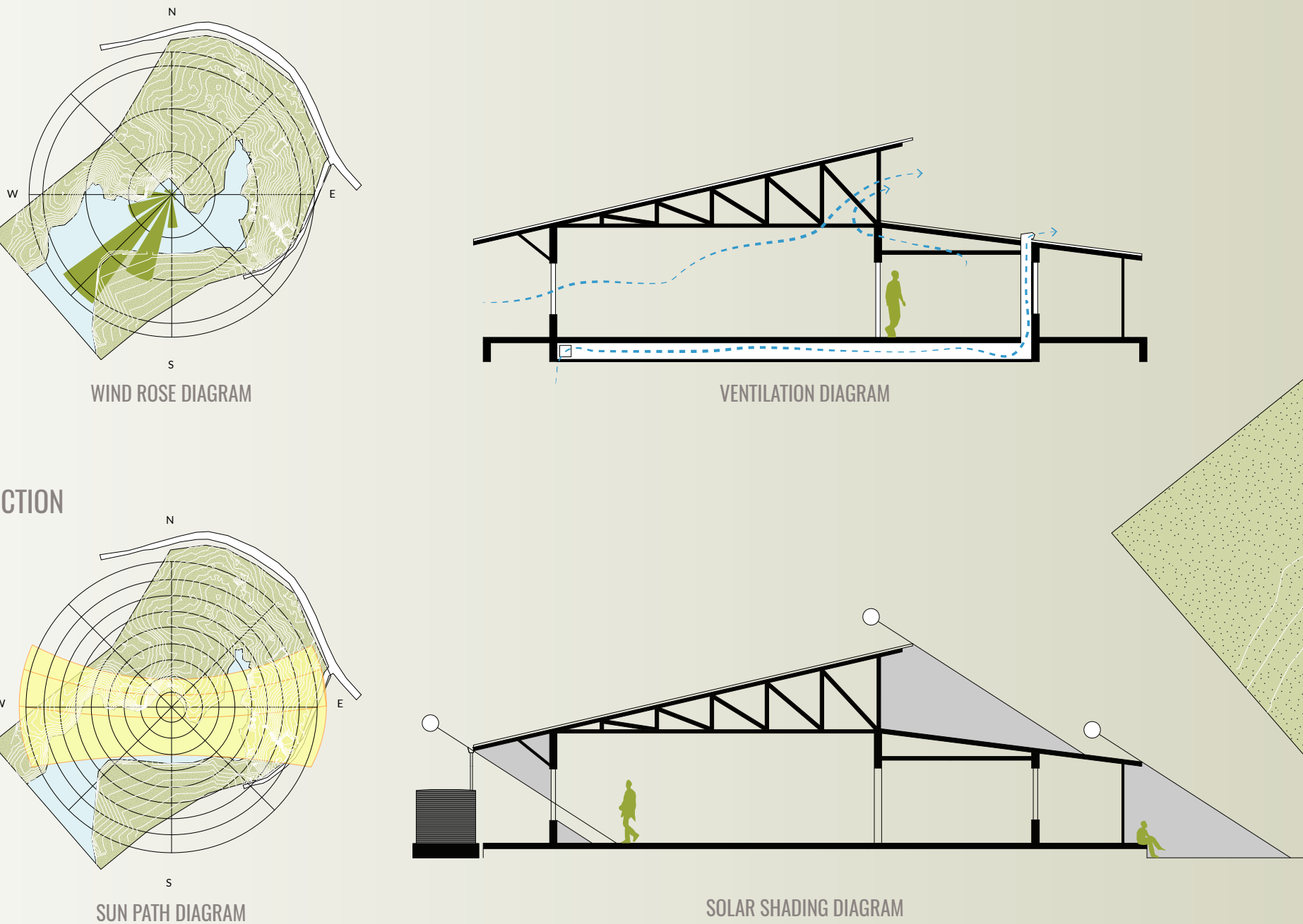
PASSIVE STRATEGIES

NATURAL VENTILATION & THERMAL LABYRINTH

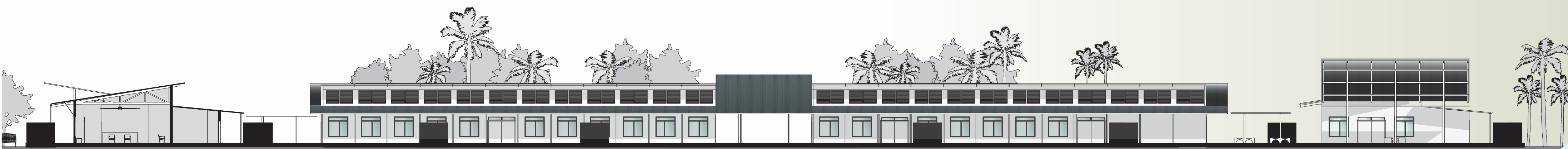
With Liberia's favourable outdoor climatic conditions, the use of natural ventilation reduces a need for mechanical cooling except in the surgical department and enhances thermal comfort conditions in the larger ward spaces. The universally dimensioned module features smaller, operable openings located lower on the inlet side and a larger outlet in the clerestory. A thermal labyrinth foundation also cools the interior spaces by drawing air in a maze-like path under the floor slab and exiting through an exhaust chimney.

SOLAR SHADING & RAIN WATER COLLECTION

Large overhangs over the exterior verandas control heat gain and provide shading which is a crucial element in passive solar design. The module's roof structure both blocks the sun's heat energy and allow for maximizing rain-water collection into large water storage tanks. The facility is near Monrovia, one of the rainiest world capitals, and rainwater catchment tanks can be utilized for irrigation and flushing toilets as they use a high volumes of water all year round.



SITE PLAN
NORTH



SITE SECTION

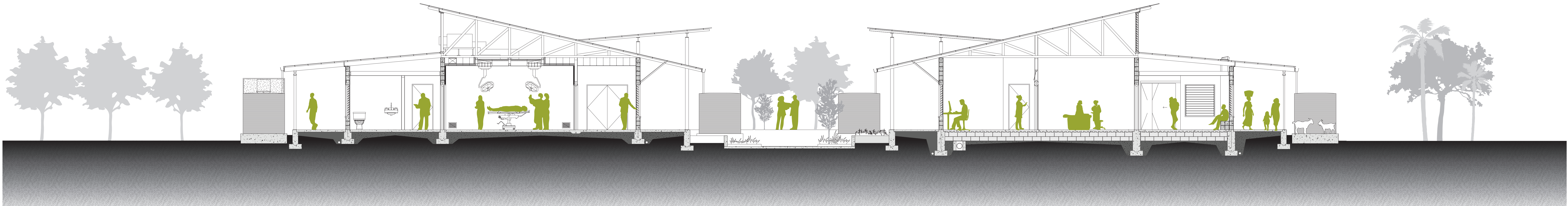


INTERIOR & EXTERIOR SPACES

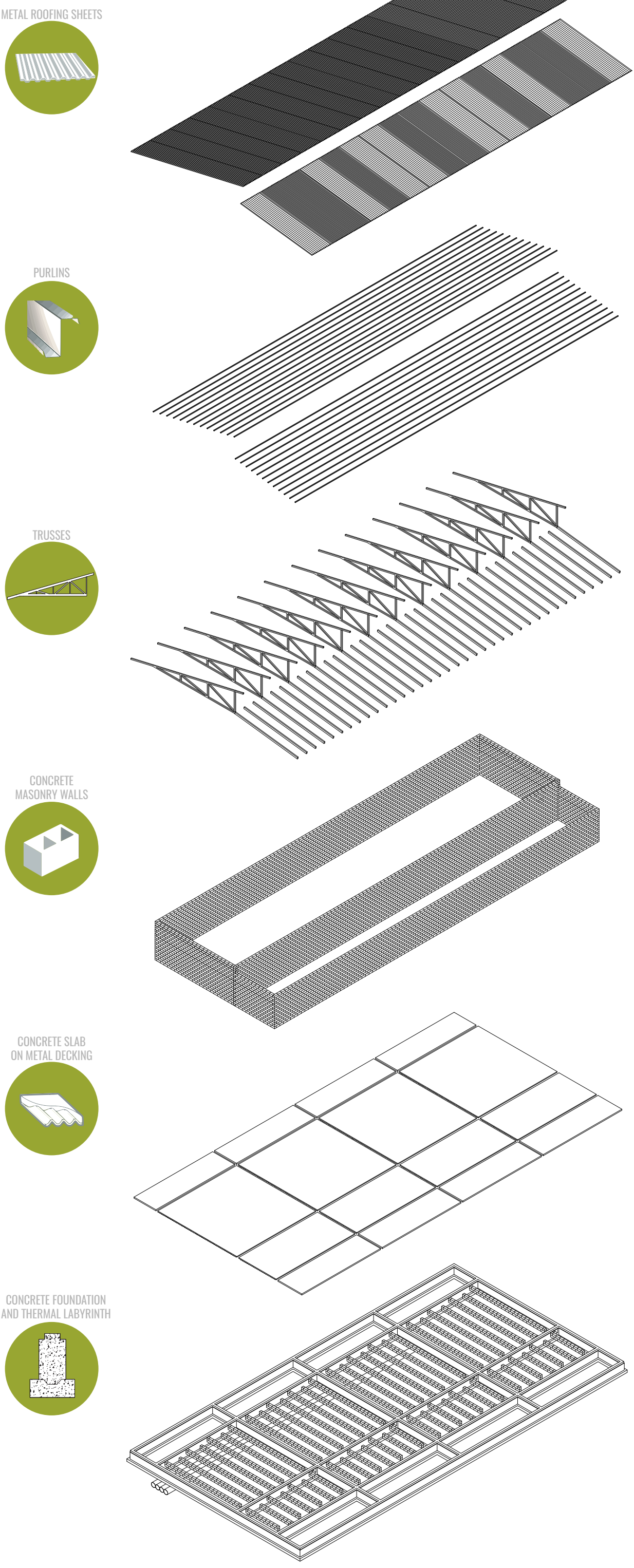
The design for Caldwell Community Health Center aims for an intentional connection to the surrounding natural environment while providing daylight and maintaining comfort for all patients and staff. The regularly dimensioned department modules support variability of room sizes within the interior spaces based on the different programmatic needs in healthcare settings across culture and geography. The open inpatient ward (above) allows patients to face large windows and have views to the wetlands beyond while support spaces and private rooms are near by. The exterior spaces between department modules provides amenities such as the rain garden (below) and family waiting spaces under the verandas and dog trots while providing clear separation of the public and staff circulation throughout the facility.



BUILDING SECTION C (SURGERY + CLINIC)



MODULE AXONOMETRIC DIAGRAM



MODULE AXONOMETRIC DIAGRAM

