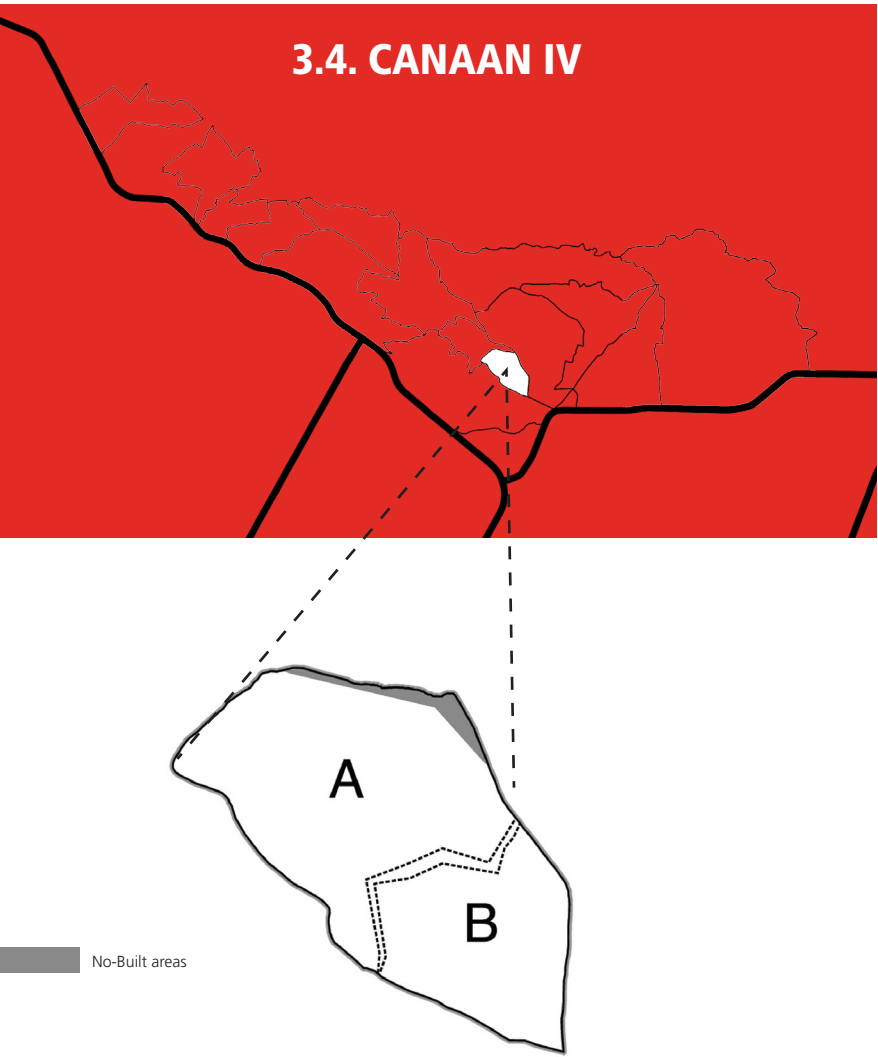




Canaan IV, located in the central part of Canaan, is the densest and is one of the smallest neighbourhood in terms of area. In the north, the slopes are too steep, however, in the south, the presence of wide plateaus gives the potential for development.

The proposals in this section are based on a participatory process with the Canaan IV community that lasted an average of three months. The UN-Habitat team maps the existing situation and then the community validates and proposes ideas. The LAB of urban planning and design checks the proposed interventions and modifies if necessary. Then, a neighbourhood assembly is organized to present the vision and a land use plan is developed.



Fig.107: Canaan IV: participatory planning process

A. STREET NETWORK

Currently, the street network occupies only 11% of the neighbourhood area. There are only secondary roads with the majority leading to a dead-end. To guarantee a good mobility and prevent any congestion, the enhancement of the street network in Canaan IV is vital. It is essential as well to preserve spaces for streets in means to ensure a fluidity of vehicular circulation.

Existing situation
Streets percentage
UN-Habitat: 30%

11%

Streets km/sq.km
UN-Habitat: 18 km/sq.km

18.48 km/sq.km

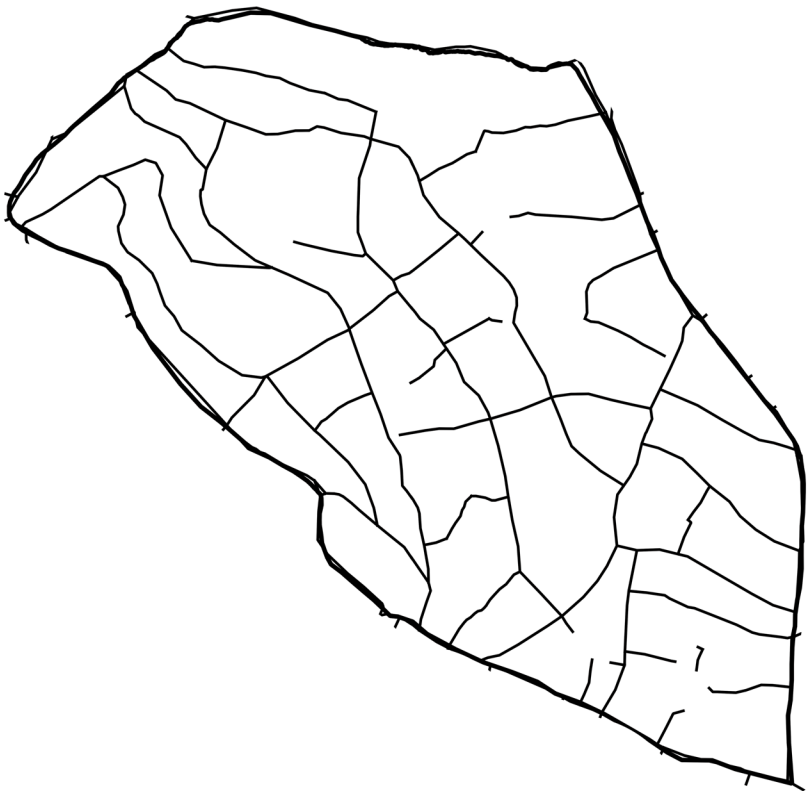


Fig.108: Canaan IV: existing street network

Proposed street network
Streets percentage
24.27% -Option A
Arterial road: 24m
Main roads: 18m
Secondary streets: 12m

- Option B
Arterial road: 18m
Main roads: 12m
Secondary streets: 9m

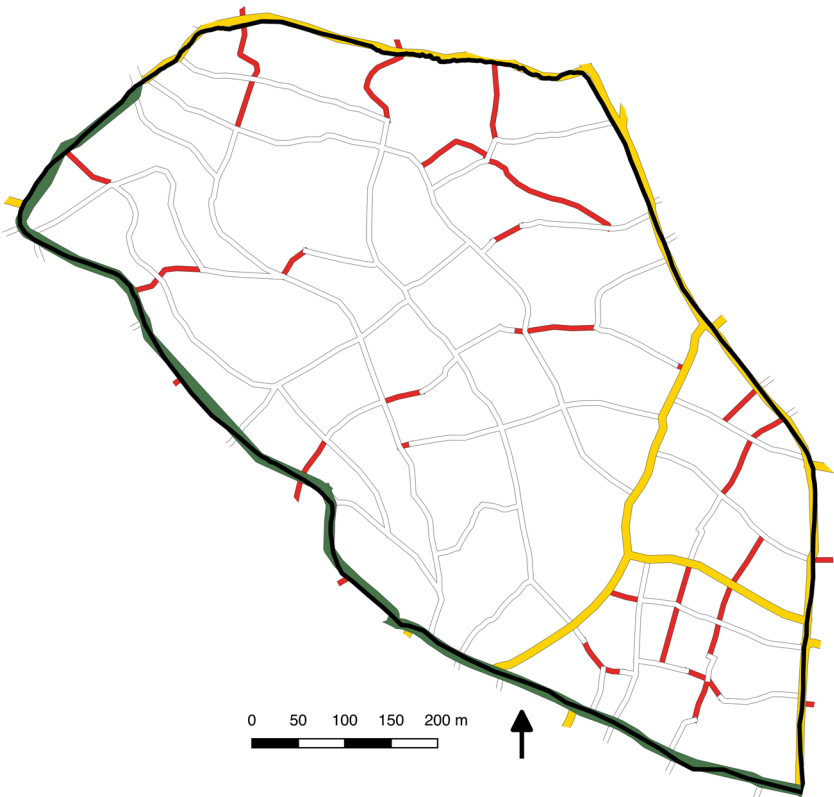
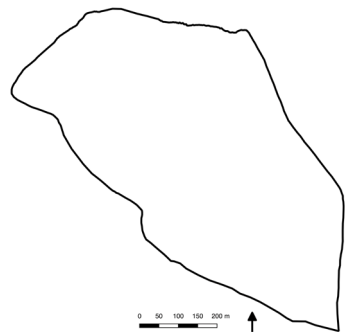
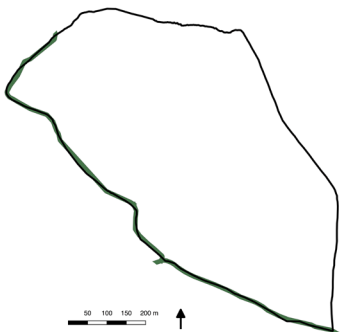


Fig.109: Canaan IV: Proposed street network

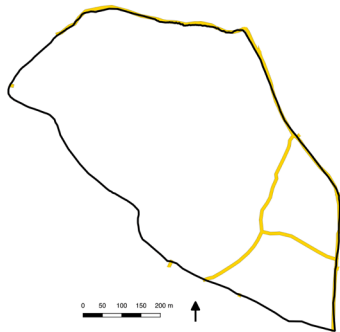
Layers of the proposed street network



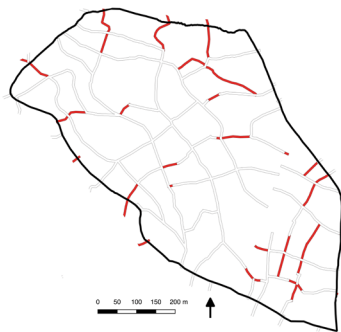
National road



Arterial road



Main roads



Secondary streets

Fig.110: Canaan IV: Layers of the proposed street network

B. PUBLIC SPACES



Fig.111: Canaan IV: Existing Public spaces



Fig.112: Canaan IV: Public spaces proposed by the community

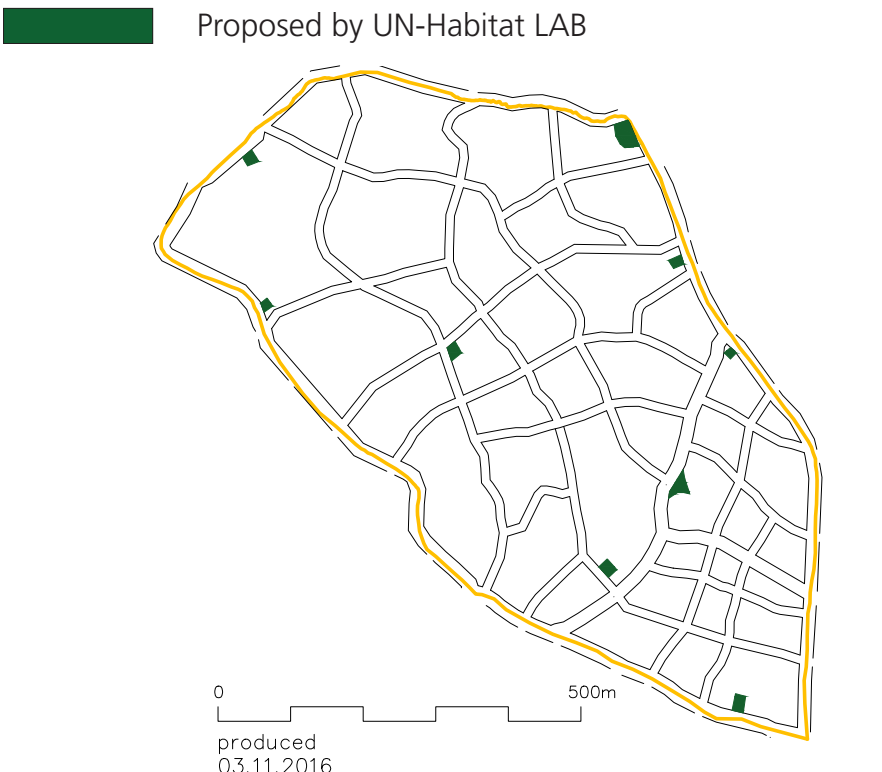


Fig.113: Canaan IV Public spaces proposed by UN-Habitat LAB

#	PUBLIC SPACES IN CANAAN IV	STATUS	NAME	m²	Ha	%
	Neighbourhood area			465.200	46	100%
1	Public space	Existing	Place Public Canaan IV	628	0,06	
				628	0,06	0,03%
2	Public space	Proposed by the community		730	0.073	
3	Public space	Proposed by the community	Place Preval	216	0.021	
				946	0.09	0.20%
4	Public space	Proposed by lab		833	0.083	
5	Public space	Proposed by lab		232	0.023	
6	Public space	Proposed by lab		271	0.027	
7	Public space	Proposed by lab		174	0.017	
8	Public space	Proposed by lab		291	0.0291	
9	Public space	Proposed by lab		481	0.0481	
10	Public space	Proposed by lab		134	0.0134	
11	Public space	Proposed by lab		319	0.0319	
12	Public space	Proposed by lab		352	0.0352	
				3087	0.31	
total:				4667	0.47	1%

At present, the neighbourhood has just one public square that occupies 600m2. As UN-Habitat recommends 15% coverage, it is necessary to consider vacant lands to develop new public spaces.

Following the participatory sessions, the inhabitants expressed their need to have more space allocated to public uses. The community has therefore proposed two new open public spaces. Adding the community's proposals to the existing situation, the percentage of public spaces is still low. Since the number is not yet sufficient, the LAB has suggested the establishment of nine other spaces scattered around the neighbourhood.

Table 16. Canaan IV: Percentage of public spaces

Also, the community and the LAB have proposed a reforestation project in the northern part. This area has been designed with the potential to become an open public space. If this proposal is implemented, the designated public space in the Canaan IV neighbourhood will reach 2%.

#	OPEN PUBLIC SPACE IN CANAAN IV	STATUS	NAME	m²	Ha	%
	Neighbourhood area			465.200	46	100%
	Public spaces			4667	0.47	1%
4	Reforestation	Proposed by the LAB		7,374	0.73	
	Total:			7,374	0.73	1,59
Total of open public spaces:				12,041	1.20	2.59%

Table 17. Canaan IV: Total percentage of open public spaces

The World Health Organization (WHO) recommends 9m²/inhabitant

Existing	Proposed public space	Proposed P.S + non-aedificandi
628 m²	4.667 m²	12.041 m²
10.315 Inhabitants	10.315 Inhabitants	10.315 Inhabitants
0,016 m²/inhabitant	0.45 m²/inhabitans	1.17 m²/inhabitant

Table 18. Canaan IV: Public space area per inhabitant diagram

Proposed public spaces with 400 metres buffer

- Existing public spaces
- Proposed by the community
- Proposed by UN-Habitat LAB



Fig.114: Canaan IV: Overall public spaces' land use and buffer area (400m)

C. RESIDENTIAL AREAS





0.47 km²

Neighbourhood area

10,315

Inhabitants

(source ARC household survey 2016)

21,946

people/km²

 Existing residential areas



Fig.115: Canaan IV: Existing settlements

With a population of 10,315 inhabitants and an area of 0.47km2, the density of this neighbourhood is considered very high. Canaan IV is one of the most densely populated areas in Canaan.

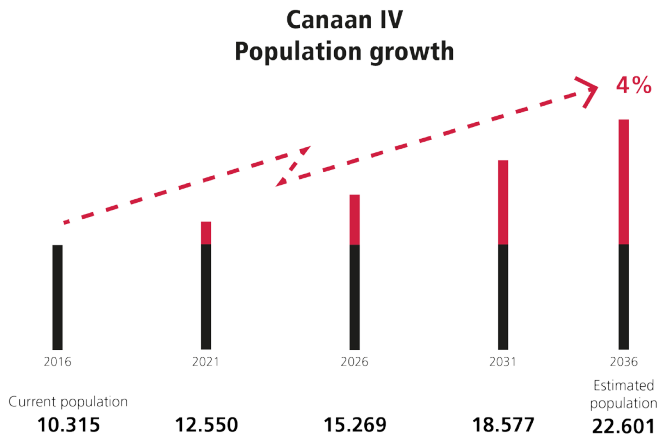


Fig.116: Canaan IV: Projected population increase



Fig.117: Canaan IV: Contours

The topography is not abrupt in the northern periphery, as to the centre and south, it is moderate.

Proposed densities

 Low density

The low density dwellings are located to the north and reach the limit of Canaan IV and the steep slopes to the north. Considering that the density is 12,000 inhab. Per km2, the proposed plan is capable of accommodating about 1,259 inhabitants. Settlements in this classification are often connected by secondary streets. It is possible to have small shops in condition to provide access to the pedestrian path.

 Medium density

Medium-density areas are located in the centre and near low-density zones. In the new land use plan, existing areas that are once considered as low density, are recommended to be converted to a higher density. This implies that a densification approach must be taken. It is suggested to have 18,000 inhabitants. Per km2 in the case of this neighbourhood as the density is already high. Respecting the proposed plan, the district will accommodate 1,064 inhabitants.

 High density

For the classification of high-density zones, UN-Habitat recommends to have 15,000 inhab. Per km2. As Canaan IV is of high density, this classification will consider 24,000 inhabitants. Per km2 as density. These areas are located in the south with direct access to the arterial roads. It is often preferable to locate high-density dwellings near commercial areas in order to promote a more compact city. The new proposal will accommodate up to 3,000 inhabitants.

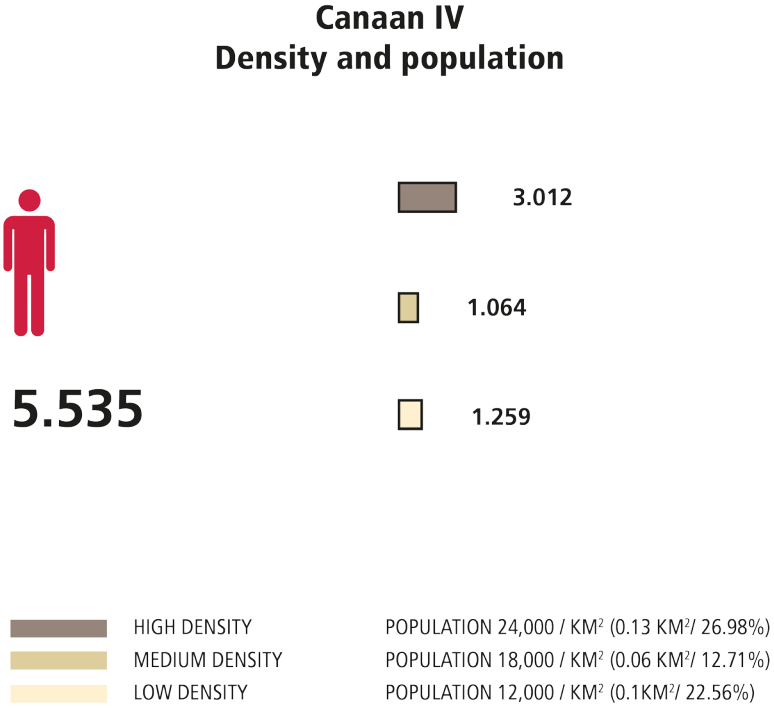


Fig.118: Canaan IV: Diagram of population in the new proposed residential areas.

If the annual growth remains of 4%, Canaan IV will not be able to accommodate its estimated population growth in the coming years. This means that the plan, as it stands, will no longer be able to adapt to the urban growth. Evacuation measures for inhabitants living in high-risk areas should be considered as well as extension strategies should be put in place.

The existence of economic activities in residential areas is encouraged provided they have direct access to the streets. The size of the commerce depends on the types of roads and the density of the houses; the higher the density, the bigger the commerce and vice versa. The compactness of cities is strongly related to the integration of different land uses into the urban fabric.



Fig.119: Canaan IV: Residential areas and proposed densities

D. COMMERCIAL AREAS

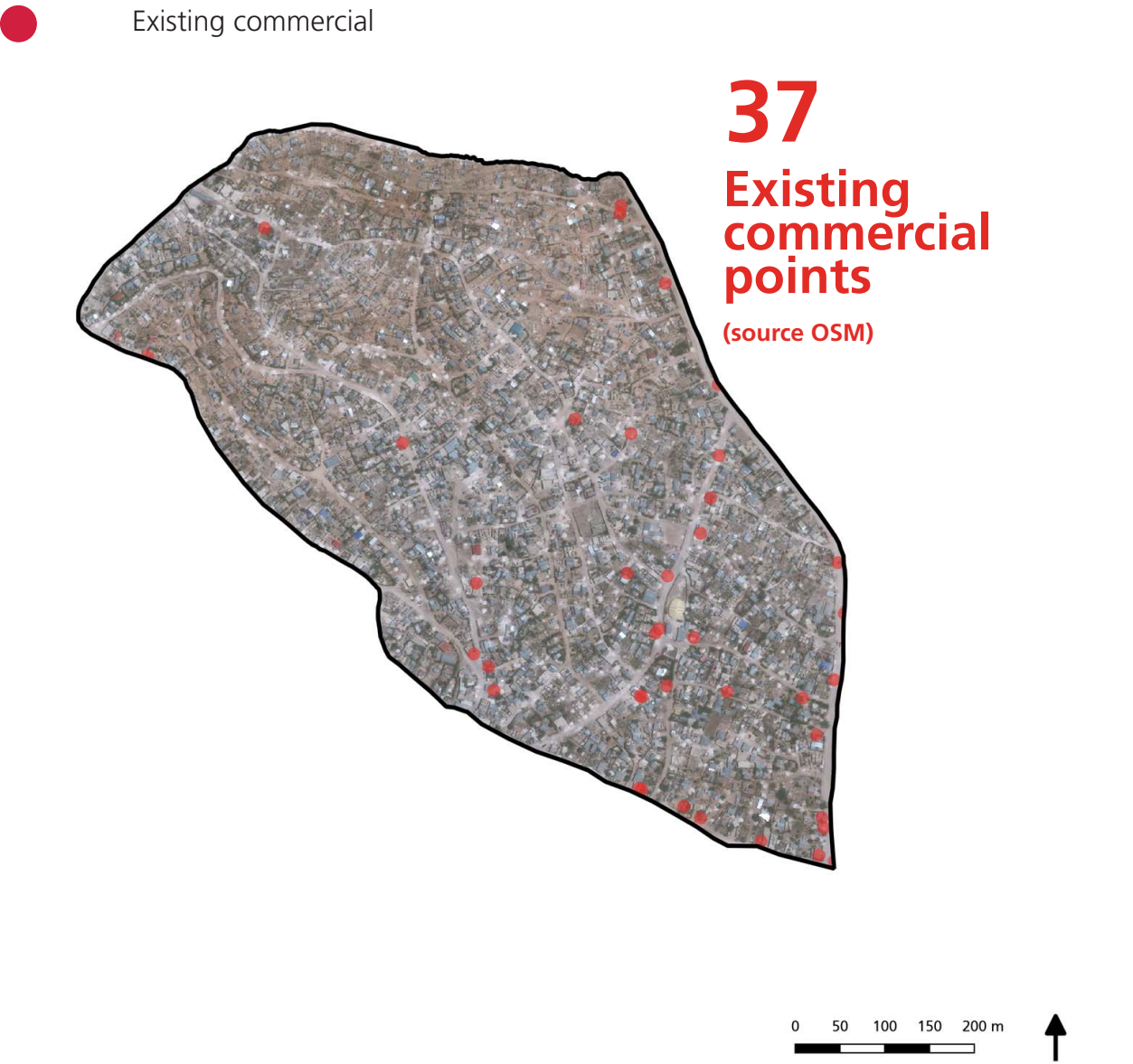


Fig.120: Canaan IV: Existing commercial points (Source: OSM)

According to the OpenStreetMap databases, there are a total of 37 small businesses in Canaan IV. These services are located in the south-eastern part of the neighbourhood facing the new arterial road. There are several types of commerce such as grocery stores, hairdressers and vegetable markets. Canaan IV should consider the allocation of new commercial services to enhance the local economy. The location of the commercial activities in the centre with direct access to main road is encouraged in order to increase the accessibility for the inhabitants.

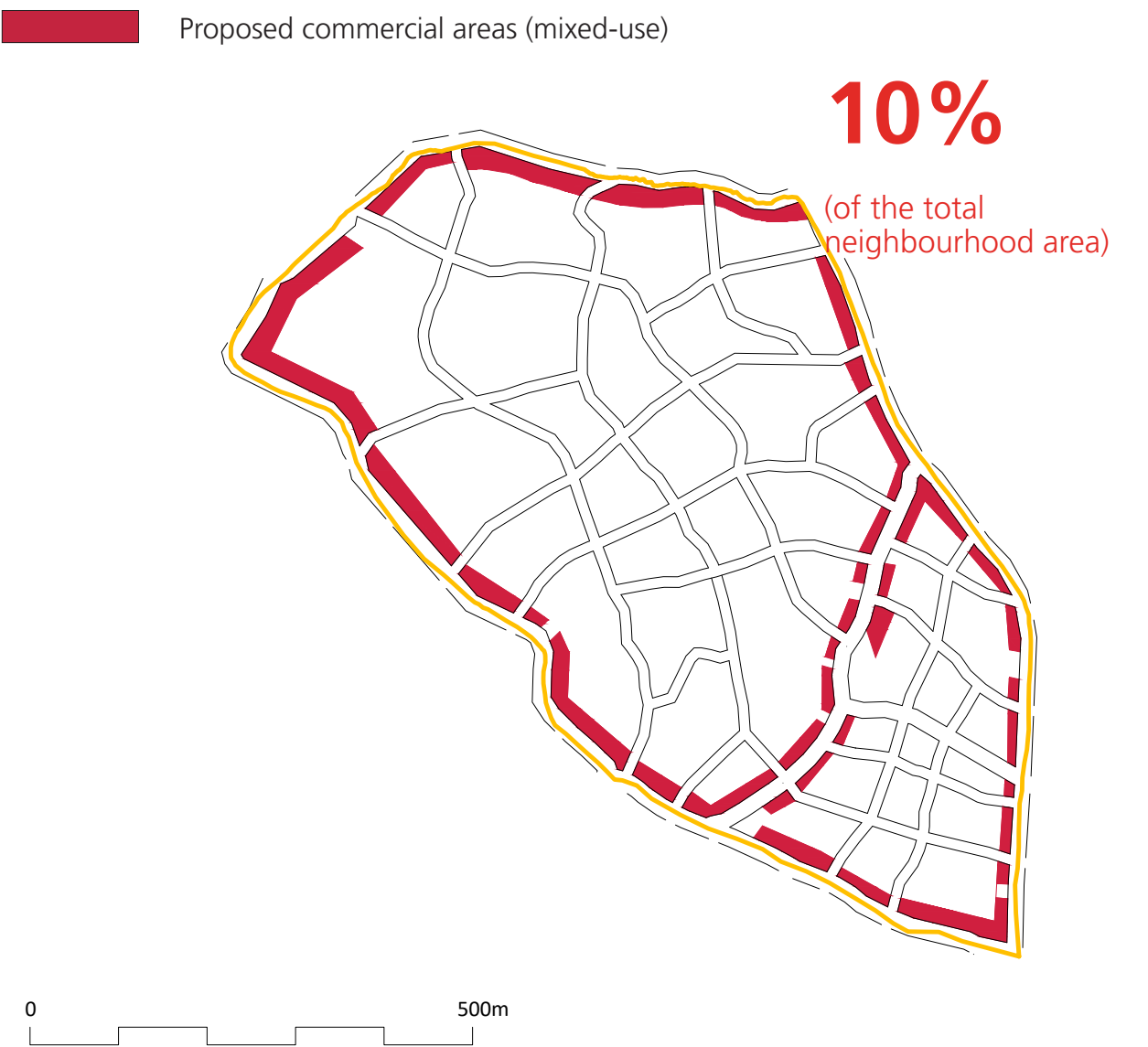


Fig.121: Canaan IV: Proposed commercial areas

Following the community workshops, the needs of the residents were expressed by designating areas adjacent to the arterial road as commercial areas, as well as at the boundary of the neighbourhood. These activities have the potential to generate a new, highly diverse sector within the local economy, with opportunities for job creation. They therefore act as catalysts for initiating a structural transformation. The proposed commercial areas will occupy 10%.

E. PUBLIC FACILITIES

- RELIGIOUS - EXISTING
- EDUCATION - EXISTING
- HEALTH - EXISTING
- OTHER PUBLIC FACILITIES - EXISTING

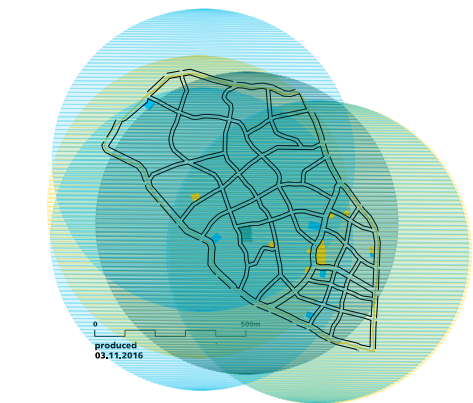


Fig.122: Canaan IV: Existing public facilities and a 500m buffer catchment area.

There are 6 schools that are well distributed in Canaan IV. The data has been validated with the community but there is still a lack of information about the types of schools (primary, secondary, etc.). It was a challenge to predict the required number of facilities for the population. Education plays a major role in reducing poverty and inequality. For that, it is always advisable to reserve certain land for the extension of existing facilities and/or for the provision of new schools.

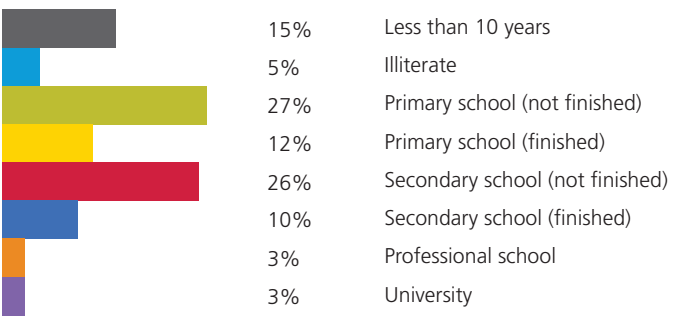


Table 19. Canaan IV: Participation level (Croix Rouge Americaine, Juillet 2016)

The area contains 8 places of worship that are spread out fairly. No information is available about health services, community centres, security stations and others. For planning purposes, and in order to have a long-term sustainable city, it is essential to consider the services mentioned in the new design of the neighbourhood. Generally, these services require good accessibility and therefore their location must be well studied. Normally, it is recommended to locate them within 500 metres from the settlements so that they are easily accessible.

Fig.123: Canaan IV: Existing public facilities

F. NATURAL RESOURCES AND ENVIRONMENT

It is almost impossible to develop the northern part of the neighbourhood due to the complex topography and the steep slopes. The region present a high erosion risk, and for that, new reforestation projects are proposed in means to prevent any landslide. The no-built areas occupy 1.59% of the total neighbourhood area.

#	No-built areas	m²	ha	%
	Neighbourhood area	460,000	46	100%
14	Reforestation	7,374	0.7374	
		7,374	0.7374	1,59%

Table 20. Canaan IV: Total percentage of no-built areas

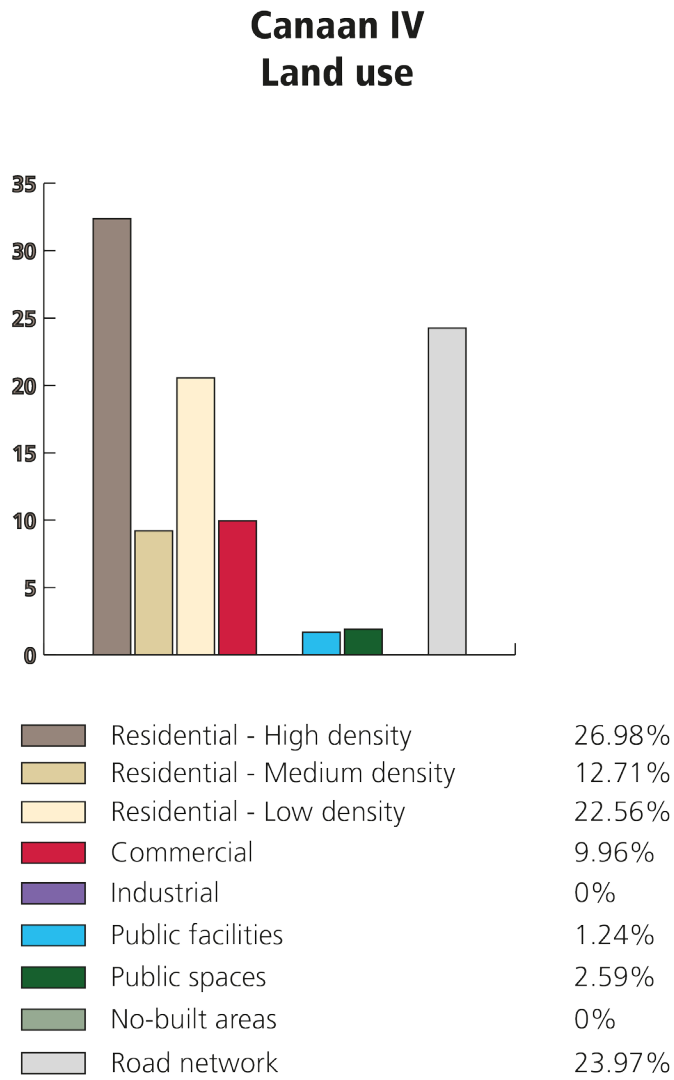
Legend

- Proposed buffer zone along the rivers and ravines
- Proposed area for livestock grazing
- Proposed area for reforestation
- High environmental risk areas
- Existing rivers and ravines
- Quarries



Fig.124: Canaan IV: No-built areas

G. CANAAN IV LAND USE



The assemblies, facilitated by the UN-Habitat team in Haiti, identified the main needs of the residents of Canaan IV. The proposed land-use plan is the result of the ongoing participatory process with the community. It responds as much as possible to their needs and proposes new ideas that can induce prosperity and sustainability. Even though the plan addressed the issues of land uses and increase the street network, the public spaces and commerce, public facilities however remain insufficient. An elaboration of the plan is essential once all the information are provided. To ensure Canaan IV sustainability, it is recommended not to further densify it.

The plan was reviewed as a whole, taking into account the neighbourhoods nearby and how they connect. It is mandatory to situate each of the individual neighbourhood plans in the whole Canaan area to achieve a coherent and rich structure.

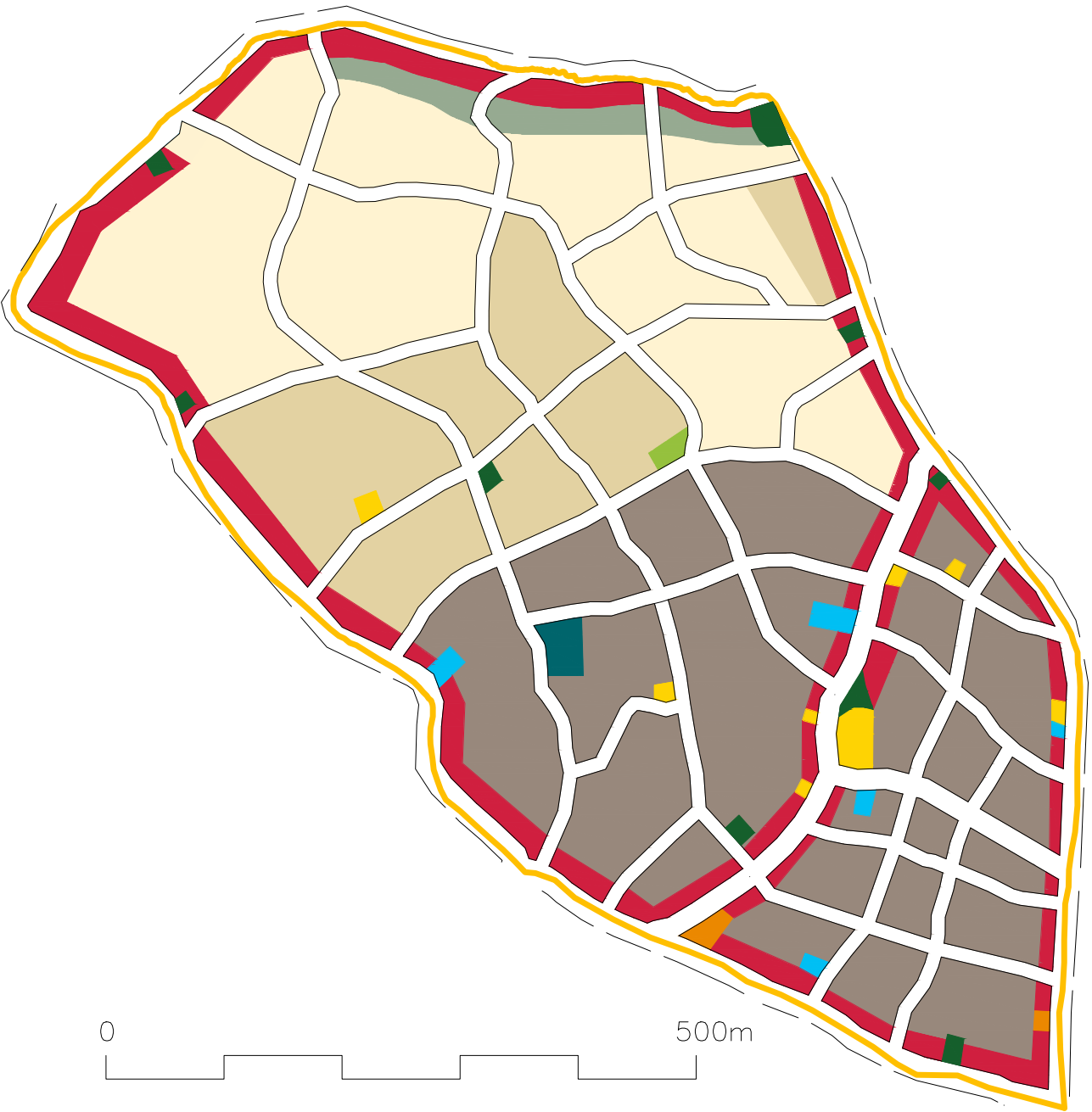


Fig.125: Canaan IV: Proposed land use plan