



UNIVERSITY
INSTITUTE OF
LISBON

STOLEN WATER: Industrial unit for food processing and transformation

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Integrated Master in Architecture

Adviser Teacher:

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ISCTE – University Institute of Lisbon

november, 2021



TECHNOLOGIES
AND ARCHITECTURE

Department of Architecture and Urbanism

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CAPE VERDE

DESIGNING FOR SUSTAINABILITY



STOLEN WATER

“ÁGU FURTADO”

iscte

UNIVERSITY INSTITUTE OF LISBON

Stoled Water

Project for obtaining the Master degree
in Architecture and Urbanism

ISCTE-Department of Architecture and Urbanism

Studio 5 - Designing for Sustainability
Industrial unit for food processing and transformation

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Teacher:

Teresa Marat-Mendes

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*“Education is the most powerful weapon
which you can use to change the world”*

Nelson Mandela

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For the realisation of this dissertation, many were the institutions and people who accompanied this journey where, in one way or another, they gave their satisfactory and enriching contribution.

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ABSTRACT

Over the centuries, the food system has become extremely important for the economic and social development of any country.

Taking the archipelago of Cape Verde as a case study, the work presents a set of information about the reality of the national territory that aims to give a brief observation on the dimension of the problems faced by the local population, presenting the city of Praia (capital of the country) for its urban dimension and influence as a location for future strategic intervention.

Cape Verde has always faced major challenges in the process of food sovereignty, as a result of low rainfall and consequent water shortages for agricultural production and livestock breeding, support sectors for much of the resident population. However, despite the adverse living conditions, this is the basis of food for the majority of the Cape Verdean population.

In order to overcome these challenges, the national government has created infrastructures and agreements that can remedy the situations and bring hope to all those who seek the fruit of the land for family sustenance.

As a part of the nation i see the Stoled Whater project as a form of expression for the problem of the lack of water on the planet whater, especially in an archipelago bathed by the largest ocean. The project proposes an industrial unit for food production and processing as a tool for socio-economic development, in order improving the quality of families lifes.

All figures in this dissertation work are those of the author unless otherwise indicated.

Key words:

Cape Verde, Agriculture, Industry, Market, Techniques, Sustainability.

RESUMO

Ao longo dos séculos, o sistema alimentar tornou-se extremamente importante para o desenvolvimento económico e social de qualquer país.

Tomando o arquipélago de Cabo Verde como caso de estudo, a dissertação apresenta um conjunto de informações sobre a realidade do território nacional que visa dar uma breve observação sobre a dimensão dos problemas enfrentados pela população local, em especial a cidade da Praia (capital do país) pela sua dimensão urbana e influência.

Cabo Verde sempre enfrentou grandes desafios no processo de soberania alimentar, como resultado da baixa pluviosidade e consequente escassez de água para a produção agrícola e pecuária, sectores de trabalho para grande parte da população residente. No entanto, apesar das condições de vida adversas, é a base da alimentação de grande parte da população cabo-verdiana.

Para superar estes desafios, o governo nacional tem desenvolvido infra-estruturas que procuram solucionar as situações e trazer esperança a todos aqueles que procuram o fruto da terra para o sustento da família. Como parte da nação vejo o projecto Stoled Whater como uma forma de expressão do problema da falta de água no planeta água, especialmente num arquipélago banhado pelo maior oceano. O projecto propõe uma unidade industrial de produção e transformação de alimentos (frutas) como instrumento de desenvolvimento urbano e socioeconómico, a fim de reforçar o papel da produção agrícola e da segurança alimentar na melhoria da qualidade de vida das famílias.

Palavra chave:

Cabo Verde, Agricultura, Indústria, Mercado, Técnicas, Sustentabilidade

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GLOSSARY

PFA - Final Project of Architecture

COVID - Pandemic Coronavirus disease 2019

UN - United Nations

LDC - Least Developed Countries

UNESCO - United Nations Educational, Scientific and Cultural Organization

SPLACH - Spatial Planning for Change

GDP - Gross Domestic Product

Morabeza - Regionalism of Cape Verde, originating from the Creole language, characteristic of a kind, attentive and delicate.

Rabidantes - Independent and struggling commerce carried out by men and women as a means of family livelihood.

Azágua - Rainy season for the practice of agriculture.

Grogo - Cape Verdean alcoholic beverage, an aguardente made from sugarcane.

Cachupa - National dish of Cape Verde, found on all the islands with different techniques and products

INTRODUCTION

This master's project in architecture and urbanism, is articulated with the SPLACH - Spatial Planning for Change program (POCI-01-0145-FEDER-016431) where it seeks to relate the good practices of architecture with the food sustainability program in the urban environment.

The work will be developed in the plan presented by the teacher Teresa Marat-Mendes, for Studio 5 of the PFA - Laboratory of Final Project of Architecture, where also has the support of the teachers Mafalda Teixeira de Sampayo and Patrícia Bento Almeida, in order to offer contributions and knowledge necessary to obtain a better result of the work developed.

In this sense the dissertation focuses on the analysis of the food system and all components, developing and justifying with a theoretic and illustrative aspect of the study topics and the idealized strategic.

At a time when the world has gone through several calamities, such as cultural, racial, religious, political and other social factors, the human factor prevails, living different realities and challenges, where status or power do not matter much, opening the door to hope and resilience, which leads us to continue our daily struggle.

According to Thomas Robert Malthus (In An Essay on the Principle of Population), would come a time when it would be impossible for the Earth to produce enough food to feed the entire population of the planet. This theory was based on the way the human population was growing at an alarming rate, causing the lack of natural resources, increasing the unemployment and consequently poverty. But the following theory lost strength with new technological advances that drove large food production capable of dealing with the problem of world population growth.

So, it can be said that the problem of hunger experienced by man is not in the lack of production but in its distribution, since the decade of 1965, the earth has produced more food than the birth rate, and the universe is an abundant place capable of providing resources for all humanity. Looking at the geographical aspects, despite having great biodiversity, tradition and distinctive culinary habits of each territory, the main foods consumed worldwide tend to be the same for each region.

The United Nations (UN) expects a 50% increase in total food demand and a 73% increase in animal protein demand by 2050, when the estimated global population will be almost 10 billion and global income will triple. With all this we need to think beyond the production process, but reduce its ecological impacts, seeking to invest in a system that restores nature rather than depletes it. The vast global scale of our food system can be one of the starters for this positive change, and we are at a crucial moment in history to make changes in that sector.

The economic shock caused by the pandemic of COVID-19 has left many countries struggling to rebuild societies and economies. But there is a growing recognition that reconstruction cannot be a return to "business as usual".

According to World Bank Group President Kristalina Georgieva we need an economic system that is "greener, smarter and fairer for all" (in The Nature Conservancy, The Global Food System Is Ripe for Change).

We as architects also have an important role to play in implementing this new look on the building process and its impacts, both in the choice of building materials and in the functionality and maintenance of the space.

The earth's surface occupied for food production is 37%, not counting the resources obtained from the ocean, the implementation of regenerative practices represents a huge opportunity, but also a challenge, because the change is in the social conscience to become the reflection of the change that we want to see and only in this way can we get there.

The idea behind this research has as its starting point the concern to share new ideas and knowledge in the face of the situation of long periods of dry weather in the archipelago of Cape Verde and the reduced agricultural production, to present new techniques, materials and forms of design that fit the local context.

Son of Cape Verdean parents, the foundation of all my education and life lessons, I absorb in this project a set of knowledge and personal development, which goes beyond a dissertation work, a personal and professional achievement providing my contribution to the development of the land where I saw myself grow up.

STOLEN WATER

Context:

Stoled water aims to express and reinforce how important and precious water and its access as a human right is, in a world where one in three people do not have safe drinking water and 4.3 billion people do not have access to adequate sanitation. Studies indicate that by 2050 this number will increase due to climate change, with the effects of these changes being felt through droughts, floods, melting glaciers and rising sea levels. In the face of this global crisis, it is necessary to promote and dedicate special attention to the environment, families and the food security of communities.

It occupies a strategic position between Africa, Europe and America in the middle of the ocean it is difficult to understand that the population of the archipelago continues to suffer from a lack of water. As an architect I see our contribution and reflection as fundamental for the elaboration of strategic proposals in terms of urban and social organisation in order to provide answers and guarantee better sustainability.

The understanding of Cape Verde's growth as an economic-political nation is mostly part of the great divide coming from the international base. But it is the different factors and moments in history that lead to the condition that Cape Verde is facing, given the scarcity of natural and infrastructural resources. This conditioned the growth of the nation as much as its viability and is one of the most important factors for socio-economic growth.

Therefore, emigration is presented as a factor of viability of the national economy in the face of a weak investment in available resources.

Independence of Cape Verde was demarcated on 5 July 1975 as a consequence of a national unity project with Guinea-Bissau where it once demarcated the essence of the society itself. It became the primordial base for the propagation of moral and identity values as well as political ones. The result is a consolidation of knowledge as well as customs, to which there is a bond that ensures a good position in terms of protocols and programmes with other communities. This new prototype of independence has been given a new set of challenges in the face of deficiencies and breakdowns in different social and economic sectors. The reality is a country with a lack of natural resources, a dependent and precarious economy and a low level of per capita income (Lopes, 2002). In the past, the precarious economy consequently resulted in a high unemployment rate marked by low income and low working conditions.

Therefore, the economy is based on the scarcity of products and the notorious need for large-scale economies that, given the economic reality, can meet the needs of society. As a result, the Cape Verdean economy is based primarily on services, such as trade, transport and tourism, which account for 72% of GDP (Economist Intelligence Unit, 2015).

Methodology:

Taking Cape Verde as a case study, it generally seeks to understand food system issues, as well as social and economic issues, in order to present strategies and solutions that may be appropriate to the Cape Verdean context.

The justification of the growth, or expected growth of Cape Verde, has in itself contemplated the basis of late independence in an unstable political and economic environment. The history of growth both nationally and internationally is marked by the scarcity of natural resources that are visible through markers such as unemployment and competitiveness.

It is also noted that, as an independent country, it suffered several blows that made it impossible for it to rise both in political and economic terms as well as in social terms, where despite its strategic position in relation to Europe, Africa and the Americas, it is repressed by the lack of investment in relation to companies, hindering the labour sector.

In this sense, it becomes pertinent to understand these indexes in face of the national reality modelling appropriate methods to attract investments and subsequent advances in the economy. The concept of Global Competitiveness Report is used to classify in terms of competitiveness facing international lines. Allied to this concept, it is named three phases: factor-driven, efficiency-driven, innovation-driven. Due to the lack of quality in services and products, Cape Verde's economy is in the efficiency-driven phase,

That said, and despite the phase in which the Cape Verdian economy finds itself, positive results will prosper in the future due to changes made within. Starting from a consolidation of democracy through more stable institutional services. The 2030 program aims at the implementation of international investments with sustainable development in all sectors. The development of the various sectors that have this gap is aimed at reducing indebtedness as well as the GDP itself, since these are factors that directly hinder the growth of any economy.

With the right investments and progressively, the expected is that the economy will gain some importance both nationally and internationally. Besides that, it will become an economy with positive indicators praising the strong points that the country presents.

For a better understanding of the theoretical scope of the topic of discussion, it was necessary to analyse the problem of unemployment within society as a result of social, economic, political and institutional reasons, resulting in serious urban and social consequences.

As I was not able to go to the territory myself, I used the data available from the town council and the google map resource to better understand the area of intervention and the urban planning intended.

In this way the dissertation is divided in two main chapters, the first one where it tries to approach general theoretical concepts of the territory of study as, context, socio-economic analysis, unemployment rate, architecture and growth plan of the nation. The second one gives way to the intervention project and the whole process of analysis and development of the architectural project. Finally follows the culmination of a set of appendices of the entire balance of the academic year.

Objectives:

Taking Cape Verde as a case study, it generally seeks to understand food system issues, as well as social and economic issues, in order to present strategies and solutions that may be appropriate to the Cape Verdean context.

In this sense, the Stoled Water project tried to understand the socio-economic context of Cape Verde, starting from the early days of its independence and its relationship within the national and international framework to frame the importance in international terms through the global indicative in terms of competitiveness. It is sought to gauge the international lines and to understand the existing gap in this environment. Subsequently, the nation needs a new era with supply in gaps in the education and economic sectors through investments.

It is sought to focus on the resolution of the problems of unemployment in the archipelago of phase of low supply and much demand, with notable result in the social, economic, political, territorial and institutional issues, because despite the efforts the different structures still could not give response to the wishes of the population due to the lack of new opportunities and solutions to combat the problems presented.

Relate the theme of work with the Food System where it refers to the set of processes that includes production, processing, distribution, marketing, consumption and waste treatment. To expose the problematic of the practice of agriculture in food security, presenting a set of information about the reality, in the perspective of improving the quality of life of families.

Observing the development of the archipelago with special attention to Santiago Island, and in the urbanization plans programmed by the Municipality of Praia, Frutas do Atlantico appears, an industrial unit of processing, transformation, and commercialization of fruits, offering a satisfactory contribution in the ambit of local and national development.

CAPE VERDE

Islands of Morabeza



Cape Verde

Latitudes: 14° and 18°N

Longitudes: 22° and 26°W

Area: 4.033Km2

Population: 549,935 population (2019)

Official designation: Republic of Cabo Verde

National Anthem: Cântico da Liberdade

“Chant of Freedom”

Currency: Cape Verdean escudo (CVE)

Language: National languages Cape Verdean Creole /

Official languages Portuguese

Nation's capital: Praia (Island of Santiago)



CAPE VERDE

Territory:

In view of the work of development and recognition of the Cape Verdean people in the physical and territorial context, the present topic intends to address a brief introduction of the archipelago, so as to make known a little of its history, the people, food system and the economy of the country. Thus, going back to the 15th century is to look at its past and better understand the reality of the archipelago. The result of its historical particularity, where it shows distinct cultural traits in relation to the other countries of Lusophone Africa.

Who were the first humans to discover the Cape Verde Islands?

“...on the maps that accompanied Idrisi’s work, some of the islands appeared, one of which had the name of Aulil; some centuries later, the world map of Macias de Viladestes of 1413, which is in the National Library of Paris, shows opposite the River of Gold, clearly identified as the Nile of Ghana, that is, Senegal, two islands of equal size and shape; and with the name of Islands of Gaderi on the world map of Andrea di Bianco of 1448. These same islands appear again facing the coast between Senegal and Cape Verde, with the name of Dos Hermanos”¹.

The factor of the discovery of Cape Verde is a controversial and still discussed issue, where many argue that at least some islands were already known to African, Greek and Arab populations before the arrival of the Portuguese in 1460. According to historical factors the archipelago of Cape Verde dates back to the time of the Discoveries, by the Portuguese Diogo Gomes and Genoese António de Noli who, travelling together on behalf of Prince Henry the Navigator, were pushed westwards by the southerly winds between 1460 and 1462, time when the settlement of the archipelago began. Where slaves were brought from the Guinea coast to cultivate sugar cane, cotton and other fruit trees. The first islands to be populated were the island of Santiago followed by the island of Fogo. Santiago was occupied in Ribeira Grande, where a system of captaincies was introduced, and later the chapel, hospital and palace were built. When we analyse this historical path, we realise that Cape Verdean society was conditioned in its formation by the role the archipelago played as a trading post in the Atlantic for the modern slave trade and by its settlement in a process of miscegenation resulting from the linguistic factor and acculturation. As had already happened in the Azores, the settlement of the islands took place from east to west.

The settlement and colonisation of Cape Verde is due to its privileged geographical position, bordering the African continent, but also to its function as an obligatory port of call on the major atlantic shipping routes.

1. According to Jaime Cortesão (Incomplete information provided by Arab geographers)

Fig 01 - Cape Verde Islands

Fonte: <https://www.google.co.uk/maps/place/Cape+Verde/>



Islands of Morabeza:

Cape Verde and its people constitute a set of rich anthropology and ethnography developing and evolving over the centuries providing contingents that by multiple crossings constitute the current Cape Verdean population, very varied from island to island. Since independence in 1975, Cape Verde has taken strategic and fundamental steps for the people and its society, focusing on the preservation of its cultural heritage, urban planning and architecture. Thus, after the historical and overcoming phase, Cape Verde starts the consolidation of the settlement centres, developing in the archipelago a system of ports to support the Atlantic routes, thus marking a new development phase. The island of Santiago, due to the fact that it was the largest and had the best harbours and fresh water, was the first to be populated, but was later divided into two captaincies, one with its capital in Ribeira Grande (today Cidade Velha) and the other with its capital in Cidade da Praia. The colonisation made it possible to re-establish urban and administrative forms, especially from the sixties onwards, presenting a model of colonial organisation with African heritage. Today Cape Verde is an independent country and belongs to the group of countries that form part of Macaronesia and the PALOP whose mother tongue is Creole.

Cape Verdean people are governed by many cultural and family factors, where despite the various manifestations and external influences it presents a unique and distinctive feature reselling the social, intellectual and organic formation of the nation. In an archipelago composed of ten islands with culture as a defining element of its identity, there is a rich variety of aspects according to their motivations and underlying human evolution because man is the product and producer of their own culture.

The values of the Cape Verdean people are manifested in many ways, such as customs, beliefs, traditions, popular wisdom, language, music, dance and behavioral patterns.

According to the information report to the Secretary General of the United Nations (UN), concerning the process of Cape Verde's withdrawal from the category of LDCs (Least Developed Countries), since the 1990 the archipelago of Cape Verde has seen an exponential development at the architectural, urban and general infrastructure levels.

“In view of the various constraints, the Cape Verdean man sought for centuries to develop mechanisms that could allow their survival, cultivating a peculiar mode of being and living in the world. The morabeza is the term that best describes this particular way of warm relationship, making the Islands a particular case of study. This article reflects this concept, adopting for this purpose an intersubjective and interdisciplinary perspective. By analyzing this notion of identity and cultural point of view, it becomes essential to build an analytical model that best fits the object of study.”²

2. According to João Paulo Madeira in A morabeza cabo-verdiana: contributos para a sua análise.

Fig 02- Fishing port, Mindelo (São Vicente Island)
Source: <https://www.voyagevirtuel.com/cap-vert/pages/sao-vicente-port-de-peche-mindelo-vue-generale-5.php>



Flag:

The blue symbolises the infinite space of sea and sky that surrounds the islands, the banners, the road to building the country. White, the peace we want. The red, our efforts. The stars, the ten islands that make up the archipelago.

Islands:

Santo Antão Island Green island (agricultural), São Vicente island Pink island (glamour), Santa Luzia island Grey island (desert island), São Nicolau island Orange island (culture), Sal Island Island blue (sea, beach), Boa Vista Island Island yellow (sand, dunes), Maio Island Island beige (pasture, sand), Santiago Island Brown island (land, history, tradition), Fogo Island Red island (volcano), Brava Island Island lilac (flowers).

The 10 islands of Cape Verde are further complemented by 16 islets: to windward, the Ilhéu dos Pássaros, between S. Vicente and Santo Antão; Branco and Raso, between Santa Luzia and S. Nicolau; Rabo de Junco near the island of Sal; de Sal Rei, Curral Velho and Baluarte, on the coasts of Boa Vista. To leeward, the islet of Santa Maria, in front of Praia, in Santiago; the islet of Areia, near Brava, and the islets of Grande, Rombo, Baixo, de Cima, do Rei, Luís Carneiro and Sapado, 8 Km to the north of this island.



Nha cretcheu



Fig 03



Fig 04

La ka ten
tremor di tera



Fig 05



Fig 06

Fig 03: Monte Cara, in the island of São Vicente

Fig 04: Carbeirinho, in the island of São Nicolau

Fig 05: Paúl Valley and the old Corda street, in the island of Santo Antão

Fig 06: The Fogo Volcano, in the island of Fogo

Source: <https://www.diariesofmagazine.com/cape-verde-islands/>

Hoje mas ki onte



Fig 07

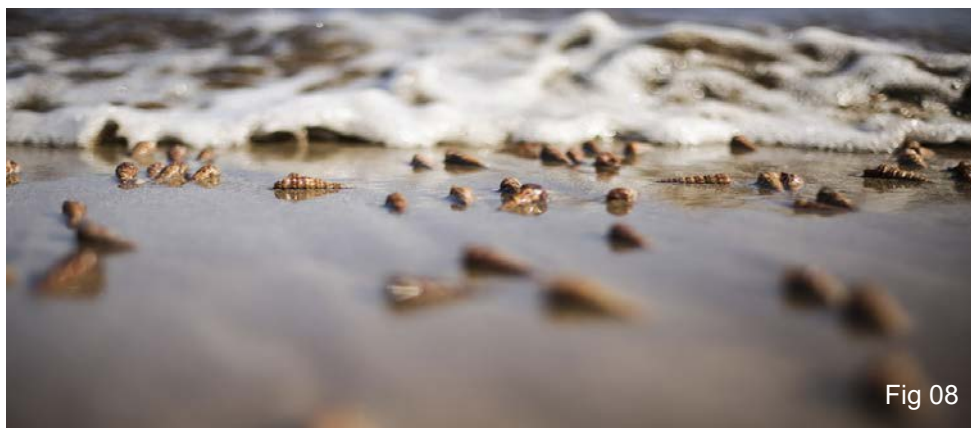


Fig 08

N'cre bu tcheu



Fig 09



Fig 10

Fig 07: Monte Gordo Nature Park, in the island of São Nicolau

Fig 08: Whelks, in the island of Santiago

Fig 09: Santa Luzia island

Fig 10: Viana desert, in the island of Boa Vista

Source: <https://www.diariesofmagazine.com/cape-verde-islands/>

Social State:

The Republic of Cape Verde is governed by a parliamentary democratic system, based on the principles of popular sovereignty, pluralism of expression and respect for fundamental rights and liberties, with free elections by direct and universal suffrage for the Presidency of the Republic, the Legislative Bodies (the National Assembly) and the Local Authorities. Over the centuries, the Cape Verdean population has experienced cyclical moments that, although extra demographic, determine and guide its structure and social growth.

The implementation of public investment programmes (PIP) in order to respond to the effects of the international crisis marked the Cape Verdian economy in 2010. The Government Programme for the IX Legislature 2016-2021 and the Strategic Sustainable Development Plan (PEDS) 2017-2021 classify Tourism as the main pillar of the Cape Verdean economy, to which other sectors such as agriculture, fisheries, livestock, etc. are linked as a whole. These linked as a whole, have tools to combat poverty, doubling income for a prosperity and improvement of living conditions of Cape Verdeans.

In the year 2021 Cape Verde will start the recovery process with sanitary programmes and the plan for the promotion of the economy of Cape Verde after the COVID-19 pandemic, “Cape Verde Ambitions 2030” in the framework of the sustainable development strategy for the country. This aims to provide strategic guidelines to meet the SDGs and contribute to a better recovery and make tourism in Cape Verde much more resilient and competitive.

In 2002, and over the last fifteen years, the tertiary sector had a significant increase in the national economy, contributing 75.3% of the Gross Domestic Product. This is due essentially to the growth in tourism, as well as in transport, banking and insurance. The secondary sector is dominated by the construction sector, representing more than 60% of the sector. In the case of the primary sector, it was possible to observe a very weak growth in real terms and a decrease in its importance in the Gross Domestic Product (8.5%).

According to Maria Silva study analysis in “Consumption Habits and Consumer Behaviour”, the economic growth in Cape Verde in recent years was due in factor to the policies adopted in the country, which aimed at a strong and sustained growth based on the private sector and the Cape Verde's integration into the world economy, where the high growth rate registered in Cape Verde during the 90s allowed for a significant improvement of the population's average standard of living, demonstrated by the high growth of the per capita GDP that went from 904 dollars in 1990 to 1764 dollars in 2003.

The structure of foreign trade is very unbalanced, as the country is highly dependent on imports of basic goods. The comparison between the rate of imports and exports is very low, which is very much conditioned by low domestic production, the irregularity and high cost of transport, insufficient economic infrastructure and the lack of a national export-oriented business class, forcing the systematic use of imports as a way to ensure the satisfaction of domestic needs.

Table 01: Graph of Cape Verde's population evolution from 1940 to 2010

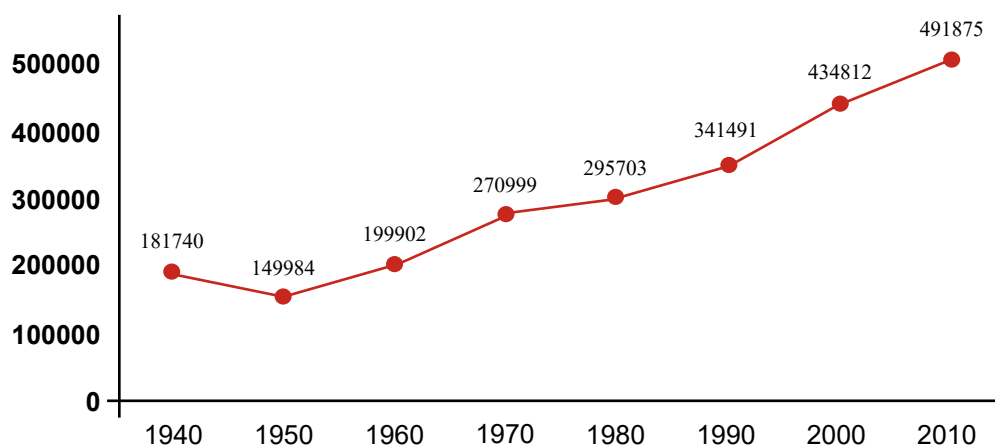


Table 02- Distribution of the Population by Island

Islands / Counties	Population			
	1990	%	2000	%
Cape Verde	341491	100%	434625	100%
Santo Antão	43845	12,8%	47170	10,9%
Ribeira Grande	20851	6,1%	21594	5,0%
Paul	8121	2,4%	8385	1,9%
Porto Novo	14873	4,4%	17191	4,0%
São Vicente	51277	15,0%	67163	15,5%
São Nicolau	13665	4,0%	13661	3,1%
Sal	7715	2,3%	14816	3,4%
Boavista	3452	1,0%	4209	1,0%
Maio	4969	1,5%	6754	1,6%
Santiago	175691	51,4%	236627	54,4%
Tarrafal	11626	3,4%	17792	4,1%
Santa Catarina	41584	12,2%	50024	11,5%
Santa Cruz	25892	7,6%	33015	7,6%
Praia	71276	20,9%	106348	24,5%
São Domingos	11526	3,4%	13320	3,1%
São Miguel	13787	4,0%	16128	3,7%
Fogo	33902	9,9%	37421	8,6%
Mosteiros	8331	2,4%	9469	2,2%
São Filipe	25571	7,5%	27952	6,4%
Brava	6975	2,0%	6804	1,6%

Source: General Census of Housing and Population, 2000 / INE, 2011

Economic activity

In 2021 Cape Verde will start the recovery process with health programmes, and the plan to promote Cape Verde's economy after the COVID-19 pandemic, "Cape Verde Ambitions 2030" in the framework of sustainable development strategy for the country. This aims to provide strategic guidelines to meet the SDGs and contribute to a better recovery and make tourism in Cape Verde much more resilient and competitive. The implementation of public investment programmes (PIP) in response to the effects of the international crisis marked the Cape Verdean economy in 2010. The Government Programme for the IX Legislature 2016-2021 and the Strategic Sustainable Development Plan (PEDS) 2017-2021, classifies Tourism as the main pillar of the Cape Verdean economy to which other sectors such as agriculture, fisheries, livestock, etc. are linked as a whole. These linked as a whole, have tools to combat poverty, doubling income for a prosperity and improvement of living conditions of Cape Verdeans.

In 2002, and over the last fifteen years, the tertiary sector had a significant increase in the national economy, contributing 75.3% of the Gross Domestic Product. This is due essentially to the growth in tourism, as well as in transport, banking and insurance. The secondary sector is dominated by the construction sector, representing more than 60% of the sector. In the case of the primary sector, it was possible to observe a very weak growth in real terms and a decrease in its importance in the Gross Domestic Product (8.5%).

As Maria Silva states in "Consumption habits and consumer behaviour", the larger families are those with greater food vulnerability and consumption. Where obesity problems affect around 11 per cent of children, while moderate acute malnutrition affected around 5 per cent. Observing a decrease in the consumption trend of traditional products (such as maize) and a greater diversification.

Since Independence in 1975, the country has managed to overcome some structural obstacles with bilateral and multilateral aid, in the fight against food security, seeking to assist poor families and invest in development infrastructure, to create employment, income and nutritional impact of the country. During 2000, Cape Verde received a total of 37,782.5 tons of foodstuffs, of which 35,809.7 tons were for marketing and 1972.8 tons for free distribution within the framework of WFP and Red Cross food assistance programmes. This support has an important role in meeting the basic food needs of the Cape Verdean population, covering about 49.7% of cereal consumption (maize 30.4%, rice 64.2%, wheat 90.5%).

Countries such as Austria, Holland, Luxembourg, Portugal, France, China and Italy are countries with great incentives to support development in Cape Verde. Support for micro-enterprise projects, environmental projects, rural development projects, projects in the area of employment and professional training as well as decentralization policies. In addition, there are food aid programmes, particularly from the United States, which finance the work of the FAIMO (Strategy and Poverty Reduction Document, 2004). Made for Minds, an online research daily, publishes an article depicting a possible economic crisis caused by the Covid-19 pandemic, which points to a 58.8% drop in tourism demand from 819,000 in 2019.

Tourism represents almost 25% of the country's Gross Domestic Product (GDP), in the face of the situation and to predict a 66.1% drop in revenues in the sector that in 2019 reached a maximum of 43,103 million escudos (389 million euros), an estimated loss of 6.3% of GDP.

The government also predicts that confinement of the country will lead to the loss of 19,800 jobs in Cabo Verde, mainly in the tourism sector, increasing the unemployment rate to 19.2 percent (of the active population), up from 11.3 percent at the end of 2019 and with the 11.4 percent entered in the current State Budget. A large part of Cape Verdean workers saw their employment contracts suspended, receiving 70 percent of their salary, supported by the employer and the National Institute of Social Security.

“We cannot add to a strong economic crisis, a strong economic recession, elements that can further amplify the scale of the recession”³.

Main Macroeconomic Indicators:

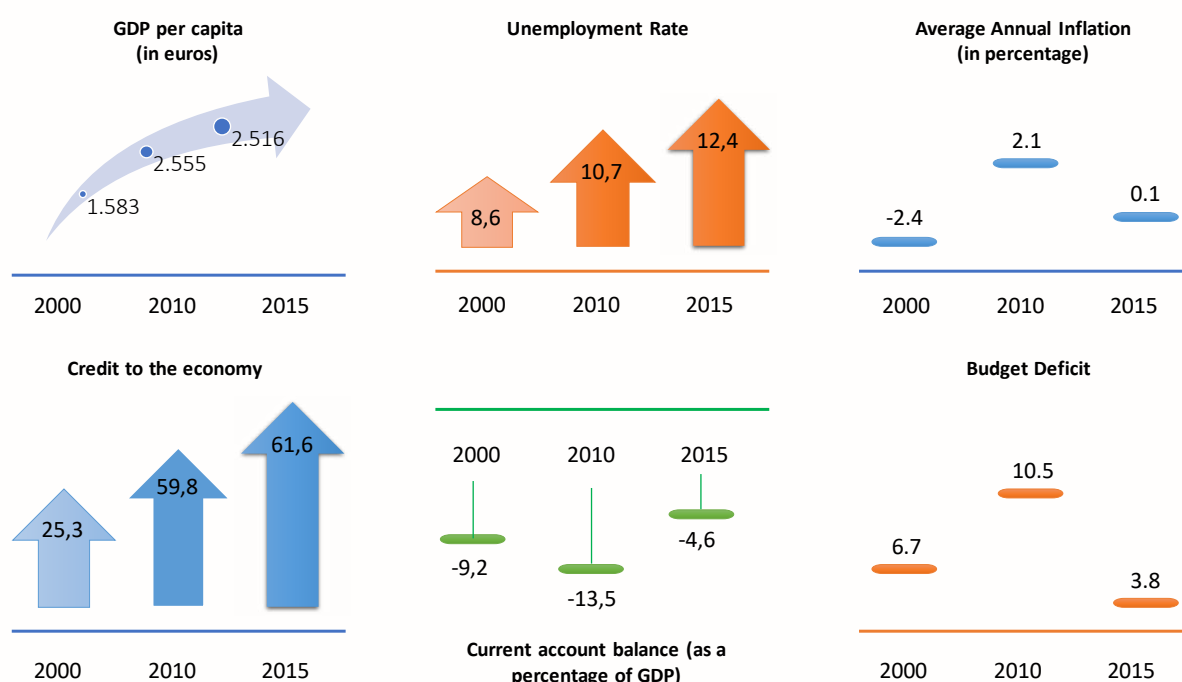
Table 2- Indicators 1990/2003

Indicators	1990	1995	2000	2003
GDP per capita (in dollars)	20851	20851	0851	20851
Inflation rate (%)	8121	8121	8121	8121
Life expectancy (years)	8121	8121	8121	8121
Human Development Index	20851	20851	0851	20851

Fonte: INE, 2003, 2005 / PNUD, 2002, 2004

3. According to Olavo Correia, Deputy Prime Minister and Minister of Finance.

Table 3- Indicators 14/05/2021



Source: <https://www.bcv.cv/pt/Estatisticas/Quadros%20Estatisticos/Principais%20Indicadores/Paginas/PrincipaisIndicadoresdaEconomiaCaboVerdiana.aspx>

The notion of unemployment presupposes that people are actively looking for work, yet the present pandemic period has changed the way we look at the labour market. With the policies of social distancing, the possibilities of searching have been drastically reduced both by the invisibility of doing it personally and by the unavailability of supply in the localities. The IMF report estimates, in global terms, a “strong recovery in 2021 and 2022” compared to “the latest estimates, with a projected growth of 6% in 2021 and 4.4% in 2022”. However the organisation warns that this estimate presents challenges in the speed of recovery due to the crisis generated by covid-19. The IMF chief economist pointed out that lower income countries will receive increased capital from the fund, so governments’ efforts should be directed at increasing sources of income to capitalise on the funding and ensure sufficient job creation for their population.

Unemployment in the labour market has been one of the greatest social problems currently faced by humanity, understood as a social situation, generating numerous problems, of a social, economic, psychological nature, affecting quality of life and well-being. It should be acknowledged that over time, there has been some cooling in unemployment rates worldwide, with everything the rates have always remained in an extremely high pattern.

Food System

The food system can be understood as the set of processes and resources required for the production, consumption and treatment of waste. With the outbreak of the Covid-19 Pandemic in 2019, the Food and Agriculture Organization of the United Nations (FAO) has issued reports warning of the consequences of this pandemic on the food supply process. This one focuses on guaranteeing access to food for the population complying with health security measures, especially those who have lost their source of income. A recent report by The Lancet Commission²² highlighted the need to reformulate Food Systems in order to maintain life on the planet.

E.F. Schumacher, from the environmental movement, described and questioned the economic paradigm that was being consolidated at the time, especially the idea that economies of scale were an “irresistible trend” derived from modern technology. Cape Verde’s food situation can be observed by two constraints of the national economy. First, the structural deficit of national food production in relation to the population’s consumption needs, second by the limited capacity to exchange on the international market.

War on Want, a London-based anti-poverty charity founded 60 years ago, remains committed to fighting world hunger in order to deliver a world free from poverty and oppression, based on social justice, equality and human rights. Despite great challenges in addressing the root causes of the crisis, especially at the political level, it aims to support efforts towards positive solutions that are socially just and environmentally sustainable. Establishing partnerships with farmers’ movements around the world to promote the food sovereignty model as a viable alternative.

“In 2009, for the first time in human of humanity, more than one billion people were officially classified as hungry. As announced by the Food and Agriculture Organization of the United Nations (FAO/UN), this record number was not a consequence of unsuccessful harvests or natural disasters. Hunger on this scale is the result of a global economy in which hundreds of millions of small farmers, fisherfolk, pastoralists and indigenous peoples are being ruined through the appropriation of the food system by agribusiness and large food retailers. ⁴”

According to War on Want the crisis in the global food system stems from the expansion of corporate capitalism. This expansion has not only caused millions of families to leave their land, but is also transforming the way countries practice agriculture. Many local agricultural systems have been converted to export-oriented agriculture, at the same time as countries are forced to open their markets. Based on my experience as an immigrant, I believe that the factor offers two points of observation.

4. Perspectives of Brazilian food system in face of Covid-19 pandemic.

The threat of leaving one's homeland and the sacrifice of leaving part of one's life story to face a new beginning where everything is uncertain and challenging. It requires a factor of courage and resilience on the part of those who do it. On the other hand when embarking on this journey the vision of what it seeks to achieve becomes the motivating force to move forward, with purpose to achieve the objectives and new opportunities.

As pointed out in the food sovereignty document "Rescuing the global food system", food sovereignty requires an agrarian reform that contemplates the reorganisation of the world food trade focused on self-sufficiency. It also states that food security was the main basis on which the international community decided to address the global scandal of hunger, a social situation which can be resolved through better distribution of food, recognising that the issue of hunger is essentially a political problem that can only be resolved through transformations in the balance of power.

Specialising in economic and social rights Olivier de Schutter, discusses the issue of food speculation by hedge funds, pension funds and investment banks on food markets as one of the factors in the 2008 food crisis. According to his statement, in the search for new asset classes after the successive crashes in the real estate market a large number of these speculators entered the derivatives markets trading food, thus creating a speculative bubble that, resulted in rising prices of staple foods such as corn, rice and wheat, where 150 million people were driven into extreme poverty.

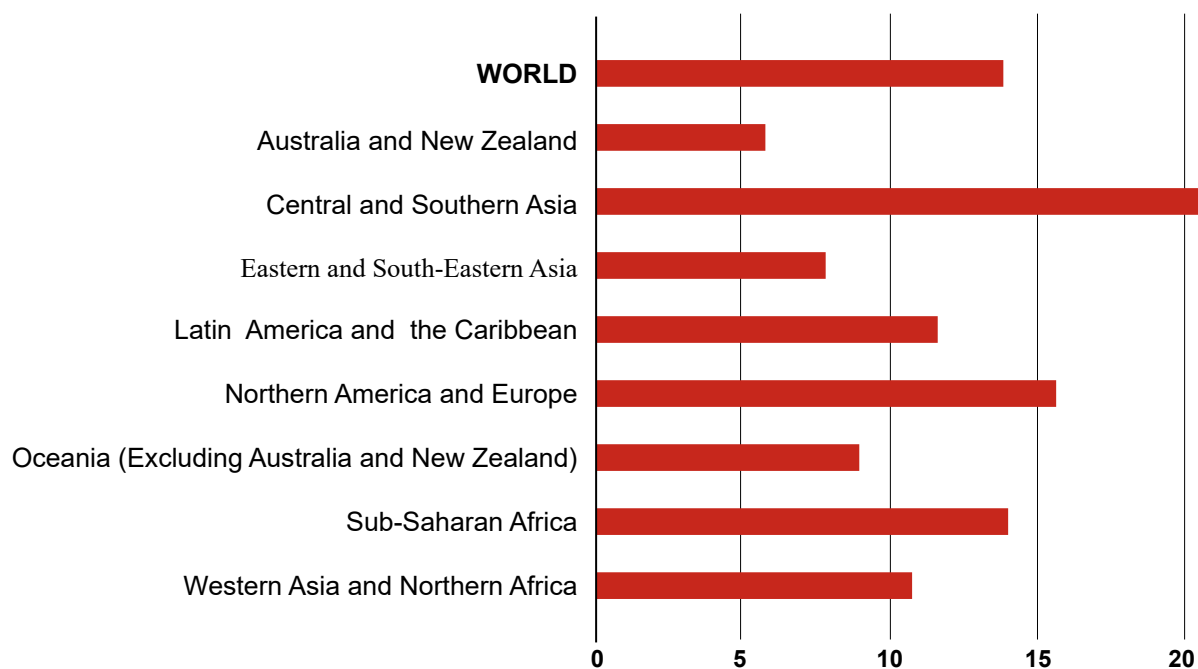
In the process of urbanisation and socio-spatial forms, it is important to develop and address the complex social, economic, environmental, political and cultural processes that shape the consequences for the food system. With attention to the urban landscape and relationships of connection and reconnection, articulation and disarticulation, which can be modified through institutional and governmental decision-making practices at the centre of a programme of activities aimed at developing resilient and sustainable food systems through the harmonisation of international trade and local production with rural-urban linkages.

The Cape Verde archipelago is largely dependent on the outside world when it comes to food system issues. Despite the difficulties of internal production means, the population finds in the resources and techniques available (mostly traditional techniques), a way of generating income to improve the quality of life of families. Thus it can be said that food security in Cape Verde is a challenging process, with improved indicators in terms of supply and average consumption, but there is still an enormous challenge in terms of vulnerability and sovereignty.

According to Maria Silva in "Consumption habits and consumer behaviour", the larger families are those with greater food vulnerability and consumption.

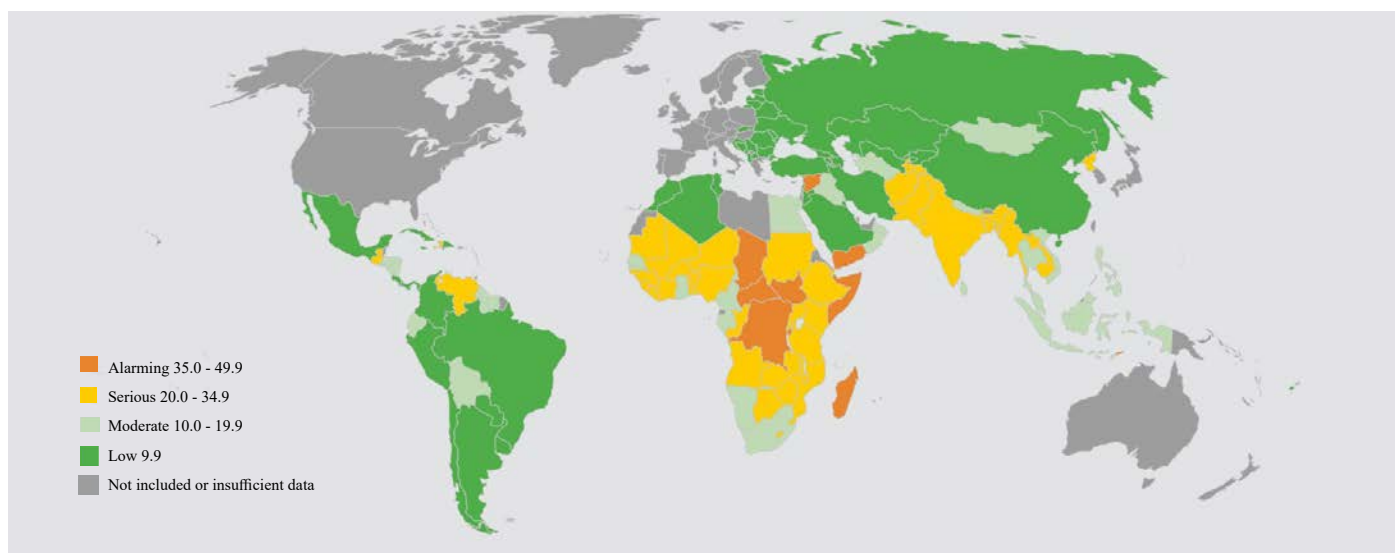
Where obesity problems affect around 11 per cent of children, while moderate acute malnutrition affected around 5 per cent. Observing a decrease in the consumption trend of traditional products (such as maize) and a greater diversification of the diet with the increase in income, (such as rice consumption). Since Independence in 1975, the country has managed to overcome some structural obstacles with bilateral and multilateral aid in the fight against food security, seeking to assist poor families and invest in development infrastructures to create jobs, income and the nutritional impact of the country.

Table 4 - Food loss from post-harvest to distribution (2016), percentages globally and by region



Source: <https://esdac.jrc.ec.europa.eu/content/carta-agr%C3%ADcola-prov%C3%ADncia-de-carbo-verde-ilha-de-santiago>

Fig 11 - Global hunger index



Source: <https://www.globalhungerindex.org/ranking.html>



Fig 12 - Santo Antão the green island
Source: <https://pelomundo.pt/terminar-periplo-cabo-verde-santo-antao/>

Architecture:

“Architecture is not only, as many suppose, a simple form of plastic expression that allows artists to give free rein to their creative fantasy, embodying dreams and daydreams with the help of technique and building materials. It is much more and better than that. It is the reflection of life itself, the harmonious translation of the material and spiritual needs that characterize times, regions and peoples. History shows us how it has always been linked to life in accordance with the evolution of humanity. It is thus the precious witness of many factors, such as a mirror of lasting images, of civilizations” ⁵.

The archipelago presents different architectural styles from island to island making the country with distinctive traces and forms, influenced by African and European culture, thus presenting one of the richest architectures in West Africa. Manueline was the first architectural style in the island, followed by Renaissance, Baroque, Pombaline (late Baroque and Neoclassical), Old Modern and Modern. After independence, modern architecture along with African continued to be influenced in newer buildings and is now the dominant influence in its buildings, its newer resorts particularly Sal features a mix of Spanish, African, probably Mexican and Moorish elements of architecture including the Garupa and Funana hotels, both owned by RIU. Also the Aristides Pereira International Airport has a mix of African, Cape Verdean and Arab-Moorish architecture. As well as several buildings and houses with a similarity of Portuguese architectural origins.

The main architectural styles practiced in the territory include stone buildings with a sloping thatched roof. The traditional funco construction is one of the landmarks of Capeverdean architecture, dominant on the islands of Fogo, Santiago and Maio, a style of housing especially used in rural areas for housing or support for agriculture and livestock. The materiality is mostly exploited in the very territory of construction, unifying the building with the environment where it is enclosed.

Cidade Velha, the first capital of the archipelago now considered a World Heritage Site, is a collection of Renaissance and Mannerist architecture, mostly religious buildings such as the churches of São Roque and São Pedro, the church of Nossa Senhora da Conceição, the church and hospital of Santa Casa de Misericórdia. At the top of the town is the Royal Fort of São Filipe Ribeira Grande, built in 1585 to protect from potential enemy attacks.

5. According to Francisco Keil do Amaral in Modern Dutch Architecture.

Manueline colonial architecture, presenting elements from the 1460s dating from the Portuguese colonial era in its architecture and would continue until the independence of Cape Verde in 1975. Present in the constructions of the city of Ribeira Grande (today Cidade Velha) highlighting its buildings from the early 1490s and the beginning of the 15th century. The church of Nossa Senhora do Rosário, the first colonial church in the world and the Sé Cathedral, destroyed and rebuilt in the 20th century, have been reconstructed in different locations and are part of the UNESCO World Heritage since 2009.

Fig 13/14 - Nossa Senhora do Rosario church, (Santiago Island)



Fig 14



Fig 15

Source: <https://www.wondermondo.com/nossa-senhora-do-rosario-church-in-cidade-velha/>

Pombaline architecture, as the capital of the country was transferred to Praia in 1770, some architectural buildings were added, including warehouses, port headquarters, the beginning of Pombaline baroque architecture, but almost all of them would be demolished around the end of the 19th century and replaced by neoclassical buildings. Only the warehouse on Gamboa beach survives today. Another example is the Nossa Senhora da Conceição de São Filipe (Our Lady of Conception) Church, which was built in a comparatively simple style at the end of the 19th century. In front of the church there are several well-preserved colonial houses dating from the 18th century.

Fig 15/16 - Nossa Senhora da Conceição Church, (Fogo Island)



Source: [https://www.wikiwand.com/pt/S%C3%A3o_Filipe_\(Fogo\)](https://www.wikiwand.com/pt/S%C3%A3o_Filipe_(Fogo))

Neoclassical architecture dominated the building styles from 1822 to the early 20th century, reshaping the city of Praia and Mindelo. The capital of the country suffered great modernisation by the colonial governor João da Mata Chapuzet, one of the buildings he designed was the Jaime Mota Barracks, it has roofs detached from its walls, common in Portugal and the Portuguese Empire of the time. As Mindelo flourished in the mid-19th century with its coal and telegraph replenishment services, numerous Pombaline and neoclassical architecture sprang up in Mindelo. Notable examples include the National Handicraft Centre, the People's Palace, which features Indian-style architecture with its pink walls and fences. Other notable examples include the Town Hall of Praia and the buildings around the Alexandre de Albuquerque square.

Fig 17 - Jaime Mota Barracks, (Santiago Island)



Source: [https://commons.wikimedia.org/wiki/Category:Quartel_Jaime_Mota_\(Ilha_de_Santiago\)](https://commons.wikimedia.org/wiki/Category:Quartel_Jaime_Mota_(Ilha_de_Santiago))

Early modern architecture began to appear in the newer buildings of the 1930s, such as art nouveau, there were almost no building projects in this period marked by the Great Depression and Famine of the 1940s until the 1950s. During the time Raul Pires Ferreira Chaves was director of public works for Cape Verde and Guinea-Bissau, he did architectural works such as the terminal at Sal International Airport (now known as Amílcar Cabral International Airport). After independence, as the population grew, many buildings with modern flat roof architecture (or modernism) began to gain ground on national territory. Built in the late 1990s, one of the most notable is the National Library located in Várzea, in the centre of the city of Praia. The other is the headquarters of the Bank of Cape Verde in Planalto, one of the first glass buildings.

Modern architecture is present in several sports stadiums, including the Marcelo Leitão Stadium in Espargos built in 2003, the Arsénio Ramos Municipal Stadium in Sal Rei built in 2008 and the Porto Novo Municipal Stadium in 2009. As well as some resorts and villas, which appears in Santa Maria (Funana, Garupa) and near Sal Rei (Karamboa, also features arabesque architecture) along with a mix of modern Afro-North-Mediterranean architecture in places like Ribeira do Rabil southeast of Sal Rei and Murdeira, Sal.

Aristides Pereira International Airport, the airport on Boa Vista Island located in Rabil. Its style is a mixture of Portuguese origin and Moorish architectural elements and has peach coloured stone bricks with two arches, entrance and exit doors and a yellow exterior where the name of the airport is located and in the south three melon coloured exteriors with two brown fudge exteriors in the middle and are bounded by an exterior stone brick wall.

Fig 18 - Drawing of the National Assembly Palace, (Santiago Island)



Source: <http://portais.parlamento.cv/palacio/historia.php>

Fig 19 - Funaná Hotel (Sal Island)



Fig 20- Hotel VIP Praia (Santiago Island)



Fig 21- Aristides Pereira International Airport (Boa Vista Island)





Source: [https://en.wikipedia.org/wiki/Architecture_of_Cape_Verde#/media/File:Hotel_Riu_1_\(Sal,_Cabo_Verde\).JPG](https://en.wikipedia.org/wiki/Architecture_of_Cape_Verde#/media/File:Hotel_Riu_1_(Sal,_Cabo_Verde).JPG)



Source: <https://www.logitravel.co.uk/beach-hotels/cape-verde/santiago/praiia/hotel-vip-praiia--hotel-1930250>



Source: <https://www.dutyfreeinformation.com/aristides-pereira-air-port-duty-free/>

Poverty and Unemployment:

Poverty is a complex, multidimensional, systemic phenomenon, with a diversity of manifestations and effects, and with a variety of definitions and concepts. Therefore, any discussion on poverty must necessarily start by clarifying the concept adopted in each case. This is because depending on how one defines poverty, one also has the how poverty will be measured and, most importantly, how it will be tackled. In the past (19th and 20th centuries, until the 1950s), the predominant concept of poverty focused on survival, was defined fundamentally in terms of family income (or budget). From 1970 onwards, the focus on survival evolved and the basic needs for a dignified life, such as access to rights and services (health education, culture, social participation, drinking water services, sanitation, etc.). Thus, absolute poverty is based on the notion of basic needs and relative poverty refers to the analysis of poverty in relation to the standards of society (it differs from country to country depending on the standard of living of the majority of the population) (Costa, 1984).

Today, according to the United Nations Commission on Social, Economic and Cultural Rights United Nations (2001), poverty is defined as “a human condition characterised by sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights”, i.e. poverty represents a severe denial of human rights as enshrined in the Universal Declaration. According to Costa (1984), the sharp increase in the problems of poverty and social exclusion in the last decades, not only with the persistence and aggravation of traditional forms, but also with new manifestations and modalities, in addition to the widening inequalities between countries, between social classes and between individuals, has forced it to be considered as a structural problem of contemporary societies, both in the so-called underdeveloped and developed countries. It is not surprising, therefore, it is not surprising that “end poverty in all its forms, everywhere” is the first of the 17 Goals of the 2030 Agenda for Sustainable Development.

Cape Verde, due to its volcanic origin, its archipelagic nature and its location in the Sahel region, it has faced, since Portuguese colonialism to the present day, several natural and structural problems. The country achieved its independence on 5 July 1975 and, since then, the objectives of job creation and poverty reduction have been the main priorities in the mandate of successive governments. According to the Strategic Plan for Sustainable Development Plan (2017), the main natural vulnerabilities that the Cape Verdean nation faces are: the small territorial, demographic and economic size, its isolation in relation to the African continent, the scarcity of rainfall and the lack of mineral resources (soil poor in organic matter and only 10% of the land is arable). These characteristics lead to an enormous food dependency (the country imports more than 80% of the food needed by the population), energy (the country's renewable energy production capacity is around 25%) and economic dependence on Official Development Assistance - ODA - to balance the Current Account from abroad, which limit the real possibilities for the country's development (structural vulnerabilities).

Cape Verde is one of 47 countries that make up sub-Saharan Africa, considered the poorest region in the world. Poorest region in the world. According to data from the United Nations (UN), the World Bank (WB) and the International Monetary Fund (IMF), Sub-Saharan Africa registers the highest indices of poverty in compared to other regions of the world, sub-Saharan Africa has the highest rates of poverty, hunger, illiteracy illiteracy, infant mortality, endemic diseases, low life expectancy at birth, lack of potable water and lack of sanitation. Life expectancy at birth, lack of drinking water and basic sanitation, poor housing conditions desertification and environmental degradation.

Even so, as a small island nation, Cape Verde has managed to achieve significant significant results in the construction of a country that is fairer, more dignified, more inclusive and sustainable country. Thanks to the efforts made over the past 20 years, the economy grew by about 7% between 1990 and 2008 between 1990 and 2008, poverty fell from 58% in 2001 to 35% in 2015 and in 2007 Cape In 2007 Cape Verde ceased to be on the United Nations list of least developed countries and reached the level of Lower Middle Income Country (LMIC). There has been a substantial increase in the standard of living and currently the country ranks 122nd in the Human Development Index (it went from 132nd out of 187 countries in 2013 to 122nd out of 188 countries in 2015). This growth sustained, has been stimulated by strong public investment in infrastructure (FDI) in tourism, strong Official Development Assistance (ODA) support and high levels of remittances (World Bank Group Document, 2019).

Table 05 - Characterisation of the Labour Market

	2018	2019	2020
Active Population	222.028	232.604	218.351
Employed	195.000	206.344	186.627
Unemployed	27.028	26.259	31.724
Population of working age	399.588	405.007	412.086
Activity Rate %	55.6	57.4	53.0
Unemployment Rate %	12.2	11.3	14.5
Distribution by gender			
Male	12.7	10.7	14.8
Female	11.6	12.1	14.2
By age group			
15 - 34 years old	18.7	16.6	22.3
35 - 64 years old	5.8	6.8	8.0
65+	0.0	0.9	0.4
By education level			
Without qualification	9.6	6.4	6.4
Literacy and basic education	9.2	10.4	12.4
Secondary education	16.5	13.6	19.1
Secondary and higher education	6.2	7.1	7.9
Average unemployment duration (months)	12.0	13.0	16.0
Underemployment Rate %	14.7	12.7	12.6

Source: National Statistical Institute (INE)

Cape Verde has made significant progress towards ensuring macroeconomic stability and promote sustainable growth, but unemployment remains, albeit on a smaller scale, persistently high and to a lesser extent, to be persistently high and discrepant between the islands. If we analyse the data made available by the National Institute of Statistics - INE, it is possible to see that even when economic growth was at historically high rates, unemployment rates did not fall rates, unemployment rates did not fall as much as expected, remainingstagnated at double digits (24.4% (2005), 18.3% (2006), 21.7% (2007), 10.7% (2010),16.8% (2012), 15.0% (2016).

With regard to the characterisation of unemployment, there are several documents (national and international) that indicate that unemployment in Cape Verde affects mainly young people in the between 15 and 34 years of age and women. On the other hand, they indicate that not only affects the less educated, given that around 30% of the unemployed have unemployed have secondary education (19.1%) or higher education (7.9%). Moreover, there are considerable regional differences in unemployment rates between islands. In 2020, the municipalities of Porto Novo and Santa Cruz have the highest unemployment rates in the country, 22.3% and 21.5%, respectively. They are followed by the municipalities of Sal with 19.5%, São Domingos with 18.6% and Boavista with 18.0%. The lowest unemployment rates were registered in the municipalities of of Santa Catarina do Fogo (3.0%), São Filipe (4.1%) and Tarrafal Santiago (6.0%). The highest higher unemployment rate in the interior of Santiago, in the city of Praia, Porto Novo and Ribeira Grande de Santo Antão, is justified by their higher population sizes (INE, 2020).

Regarding the sector of activity, the tertiary sector continues to be the main generator of employment (66.3% (2018), 67.5% (2019), 65.6% (2020), driven essentially by the strong performance of tourism, transport, banking and insurance. This particularity is consequence of the existence of an extremely small primary and secondary sector, due the natural vulnerabilities of the archipelago, namely the scarcity of rainfall, the lack of mineral resources and the insufficient exploration of sea resources. As could be expected, the workers in the agricultural and fisheries sectors, register the highest rates of poverty rates among the usually employed population. In fact, poverty is more pronounced in rural than in urban areas. Moreover, at the national level, more than half of jobs are informal (51.6%), mainly occupied by women. The regional disparity in the informality of jobs is visible (INE, 2020).

In this sense, then, we understand why the unemployment rate is considered one of the economic indicators of the state of the labour market and of the levels of development of development levels of countries, regions, etc., and is equally important as a social indicator. O World Bank (2010: 6) states that “persistently high unemployment carries political and social costs - long-term unemployment threatens to destroy skills aggravates poverty and inequality and eventually leads to social marginalisation. Moreover, the lack of jobs, if not improved, will act as a brake on the substantial reduction in poverty that has occurred and will undermine the political support needed for economic reforms.” By Therefore, the fight against unemployment, poverty and precariousness, in a political and governmental action, with the involvement of all actors in the public and private sectors and NGOs, is the goal of any country that aspires to promote sustainable growth, ensure macroeconomic stability macroeconomic stability and respect and celebrate the human rights of all people.

The Government of Cape Verde recognises, as recent experience has shown, that high and economic growth, was not enough to combat the high, disparate and persistent unemployment rates, so in the Strategic Plan for Sustainable Development (2017-2021) employment is a central theme and a set of reforms is envisaged to create a business environment of excellence and stimulate household autonomy and self-sufficiency, through employment, production and income, and the creation of instruments that define clear rules objective and impartial rules for the conditions of access to care, benefits and social programmes.

The Nation's Growth:

Cape Verdean society saw its economic growth being affected due to its late independence by the lack of natural resources such as labour. The dependence on the exterior, that is, on imports of international nature due to the existing scarcity, contemplates as a trait of the nation's own economy. This will directly affect the internal growth of the society at the socio-economic level where effectively the size of the internal market becomes volatile and unstable in turn.

The consolidation of this democracy based on more effective methods that address the need that the economy explores, making it more resilient to its privileged strategic position, is also part of institutional and political ambitions. Thus, the 2030 Agenda contemplates in itself implementations of urgent and innovative character presented in the second Voluntary National Report at the UN High Level Political Forum aims mainly at the development of this nation.

According to the deputy head of the Cape Verdean government, the pandemic caused major impacts in the economic and social areas due to the pandemic. The challenges underlying this theme arise mainly in internal challenges, mainly in terms of the market and the proper expansion. Thus, more than ever, international aid has been paramount in the face of the progress denoted, however, in national terms it lacks progress by itself. The sustainability of progress also consolidates the economic aspect and the national power of each country. In the case of Cape Verde, it went from a first phase of consolidation in the first half of the year 2021 to a period of recovery from a severe recession. It is denoted that the country in terms of employment caused a decline of about 9% while the debt increased to 154.9% in terms of GDP hindering its due progress (Bernardo, E., & Rodrigues, V, 2020). In social terms, the public deficit and the poverty index saw their values increase due to the prioritization of the economic and social health sectors.

The priority interlinked with the need for growth of the nation focuses on addressing the vulnerabilities within the nation itself. In terms of gender parity the same has become less due to the measures imposed by the relevant factor through the presence of women in political decision making bodies. This discrepancy of public charges to women aims to decrease with the new measures and proposals of the government aiming at increasing opportunities to all constituents of the society and aiming at equal participation in all sectors. The elimination of gender inequalities and measures aimed at this induce a more effective management of human and social resources, contributing to a solid society in terms of rights, which develops the country's economy.

Santiago Island:

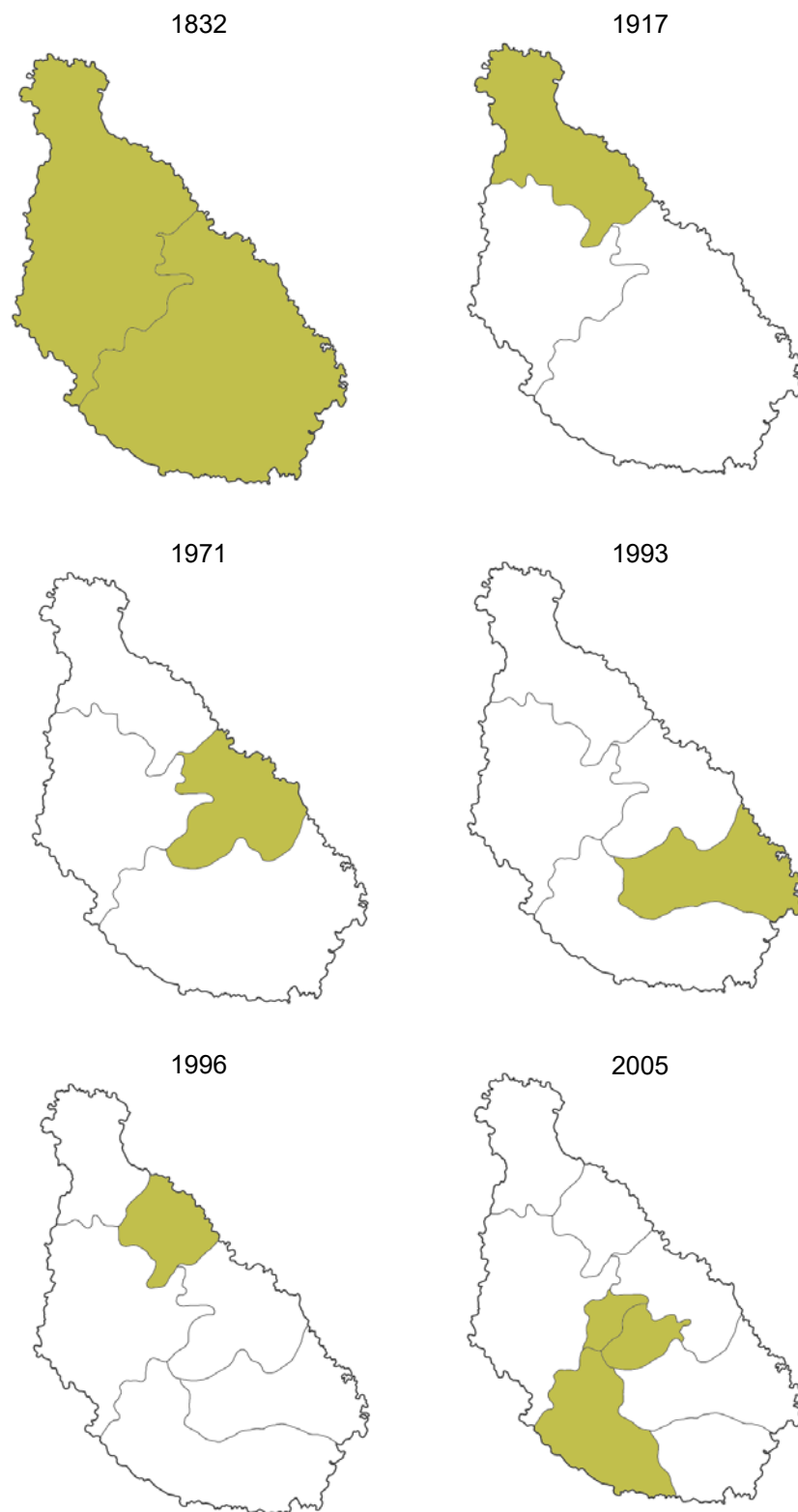
Santiago Island is one of the islands of the archipelago of Cape Verde characterized by three hydrogeological units, these the Base Formation (semi-confined), the Intermediate Formation (phreatic) and the Recent Formation (phreatic), which have geological characteristics and hydraulic behavior that differentiate them. The island's climate is arid to semi-arid, with very scarce and irregular rainfall, conditioned in its distribution by altitude, winds and slope orientation, sometimes giving rise to prolonged periods of drought. In times of "good" rainfall, precipitation provides temporary surface water resources and recharge of underground water resources. The island is administratively divided into nine municipalities, namely: Praia, Ribeira Grande de Santiago, São Domingos, Santa Cruz, São Lourenço dos Órgãos, São Salvador do Mundo, Santa Catarina, São Miguel and Tarrafal. The nine municipalities are divided into 11 parishes, housing approximately 57% of the total population of the country, which corresponds to 299,920 inhabitants, divided into urban population with a weight of 59.5% and rural population, representing 40.5% (Santos, 2011), the human presence initiated with the settlement introduced profound changes in the local flora and fauna.

Initially as a colony, like the Azores and Madeira. The settlement started in the second half of the fifteenth century, based on trade and navigation of the African coast was the main incentive for settlement which favored the importation of large contingents of Africans to the island of Santiago, especially as slaves, as well as sailors, administrative, military, ecclesiastical and adventurers. Despite having a modest territory of only 991Km², the volcanic nature of the island of Santiago, imprints a great diversity of relief, which in turn translates into a variety of ecosystems. This variety of relief constitutes the most important argument for the choice of this island for the beginning of the settlement of the archipelago in the 15th century. It is a mountainous island, with peaks reaching 1394 meters above sea level, two mountainous massifs, favoring orographic rains and recharge of springs that diverge from the island's high points, but at the same time it has an interior plateau, several streams and ravines diverging towards the coast and an extension of flat land on the southern and southeastern coastline, where the first urban centers were installed.

Santiago is Cabo Verde's most agriculturally productive island. Corn (maize) is the main crop; bananas, oranges, sugarcane, coffee, and castor beans are also grown.

Fishing is important, and a new trading port has been planned for the city of Tarrafal, on the northwest coast. City of Praia, on the south shore of the island, is the capital of Cabo Verde.

Fig 22: Evolutionary map of administrative divisions 1832-2005



Source: <https://imgur.com/gallery/aFJBR>

Santiago Island main urban centres.

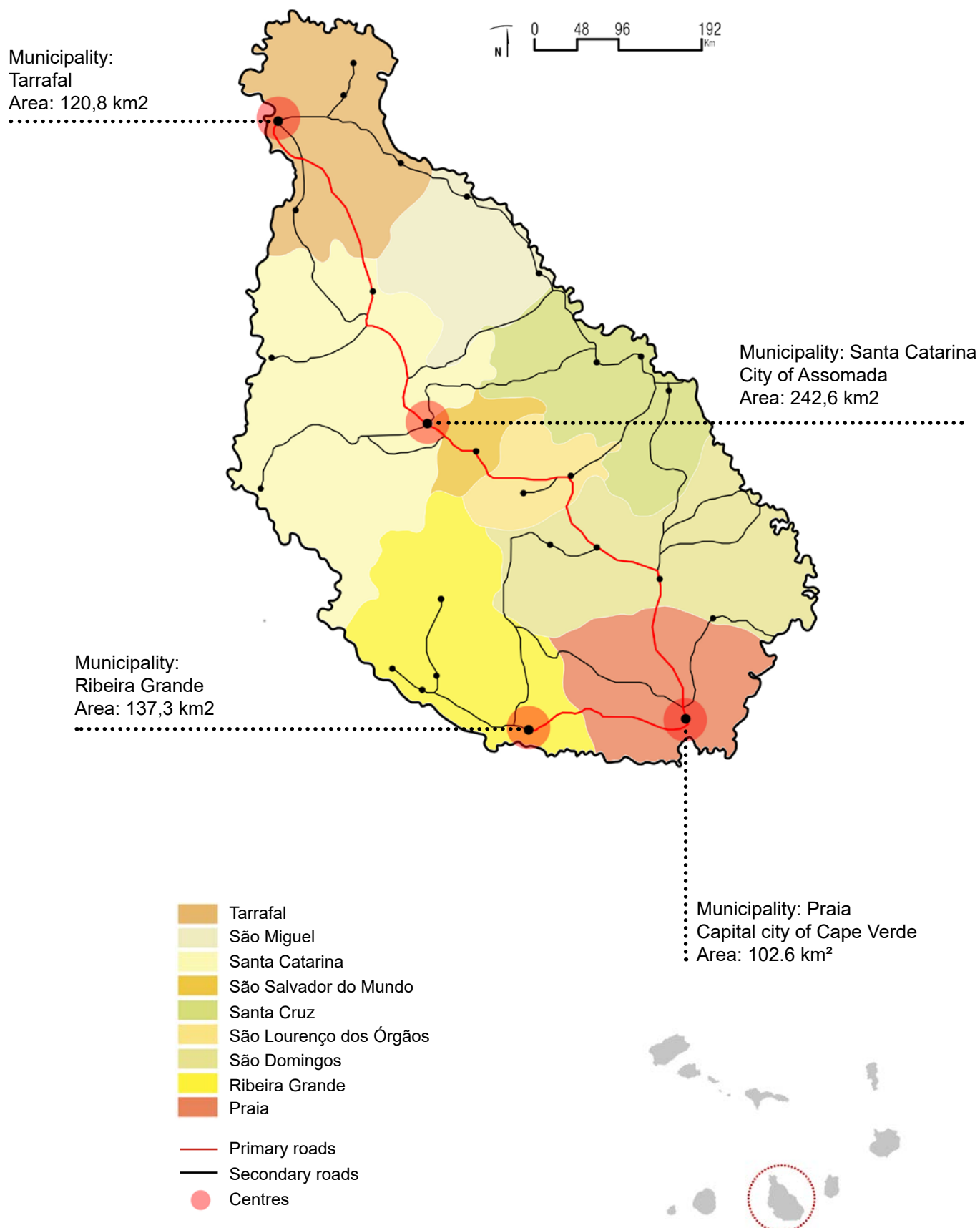




Fig 23



Fig 24



Fig 25



Fig 26



Fig 27



Fig 28

Fig 23: Old Town

(Cidade Velha)

Source: <https://www.pinterest.co.uk/pin456411743461481680>

Fig 24: Os Picos

Fig 25: Bay of Tarrafal

Source: <http://zeluisphotography.com/zeluisphoto/cv--tdm/tdm--praia-santiago.html>

Fig 26: Dona Maria Pia Lighthouse

Source: photos1-6617-praia_cabo_verde_farol_de_dona_maria_pia

Fig 27: Serra da Malagueta

Source: <https://www.flickr-river.com/photos/neumeyer/40488605754/>

Fig 28: Sucupira Market

Source: <http://zeluisphotography.com/zeluisphoto/cv--tdm/tdm--praia-santiago.html>

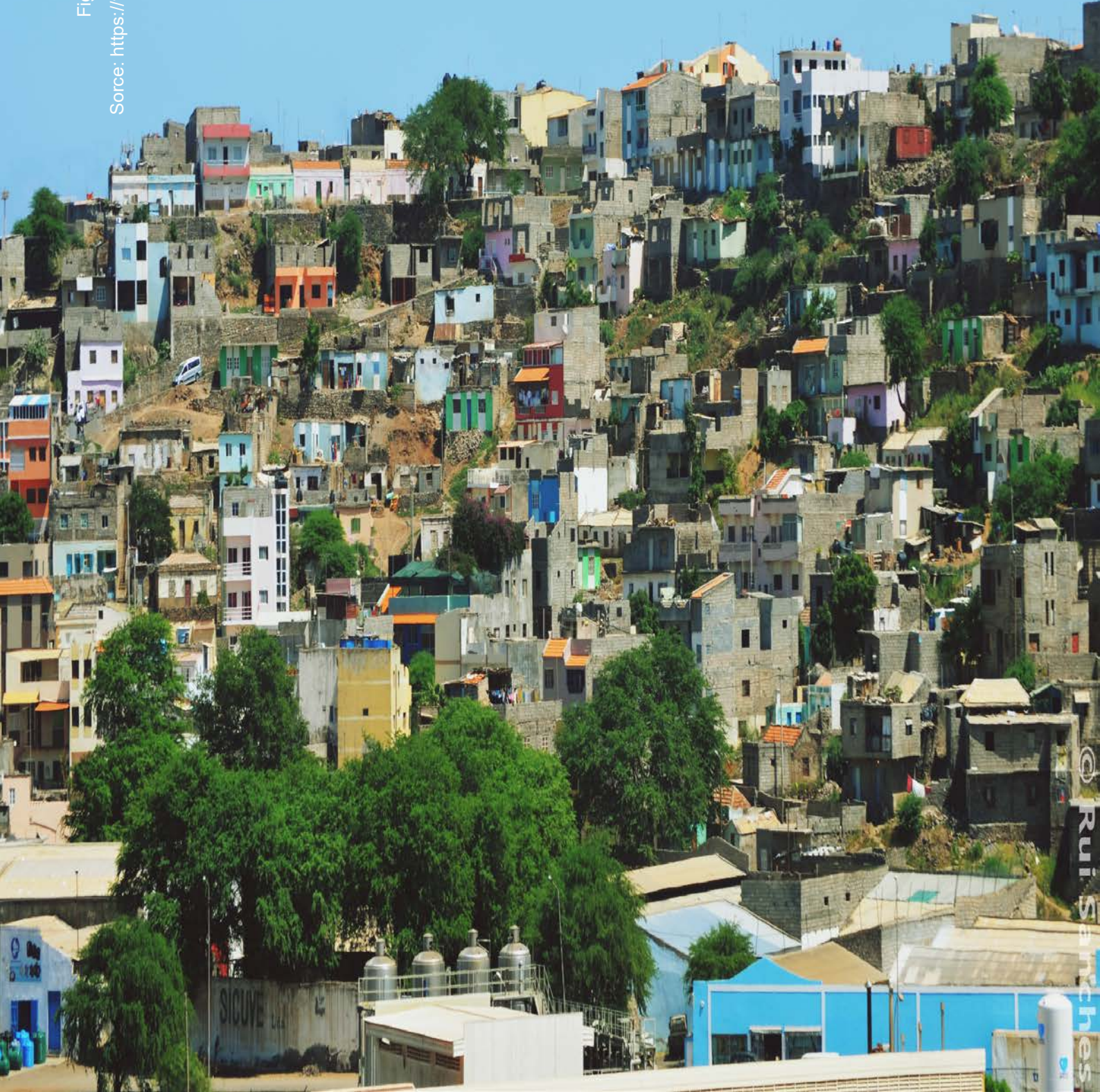
“If in the present crisis, when the earth is being scorched by the flames of Himsa and crying for deliverance, I failed to make use of the God given talent, God will not forgive me and I shall be judged unworthy of the great gift. I must act now...”

Mohandas Karamchand Gandhi

INDUSTRIAL UNIT

Frutas do Atlântico

Fig 29- Lém Ferreira neighbourhood (City of Praia)
Source: <https://www.flickr.com/photos/ruiisanches/15598300184>



THE PLACE

City of Praia::

Located in the south of the island, the Municipality of Praia faces the municipality of Santa Catarina to the north and northeast, the municipality of São Domingos to the east and the Atlantic Ocean to the south. The topographic nature is characterised by the presence of plateaus and valleys, peculiar characteristics of the Municipality. After colonial times, the municipality of Praia had an important milestone in its history, due to the economic prosperity of the 19th century. Where it is verified the affirmation of the settlement and public investment in the cities of Praia and Mindelo.

According to data from INE (Statistics Portugal), the resident population of the city of Praia is of 132.317 inhabitants. There are 64,968 men and 67,349 women. The internal and external migrations as well as birth rates are elements that, at the social level, will maintain the growth trend of the population of the Municipality of Praia. The municipality continues to be a pole of attraction for populations both from municipalities within the island of Santiago and from other islands. The forecast of the trends of demographic trends in the country, allows a clearer view of the factors that will determine in coming years the demographic evolution of the population of the island of Santiago.

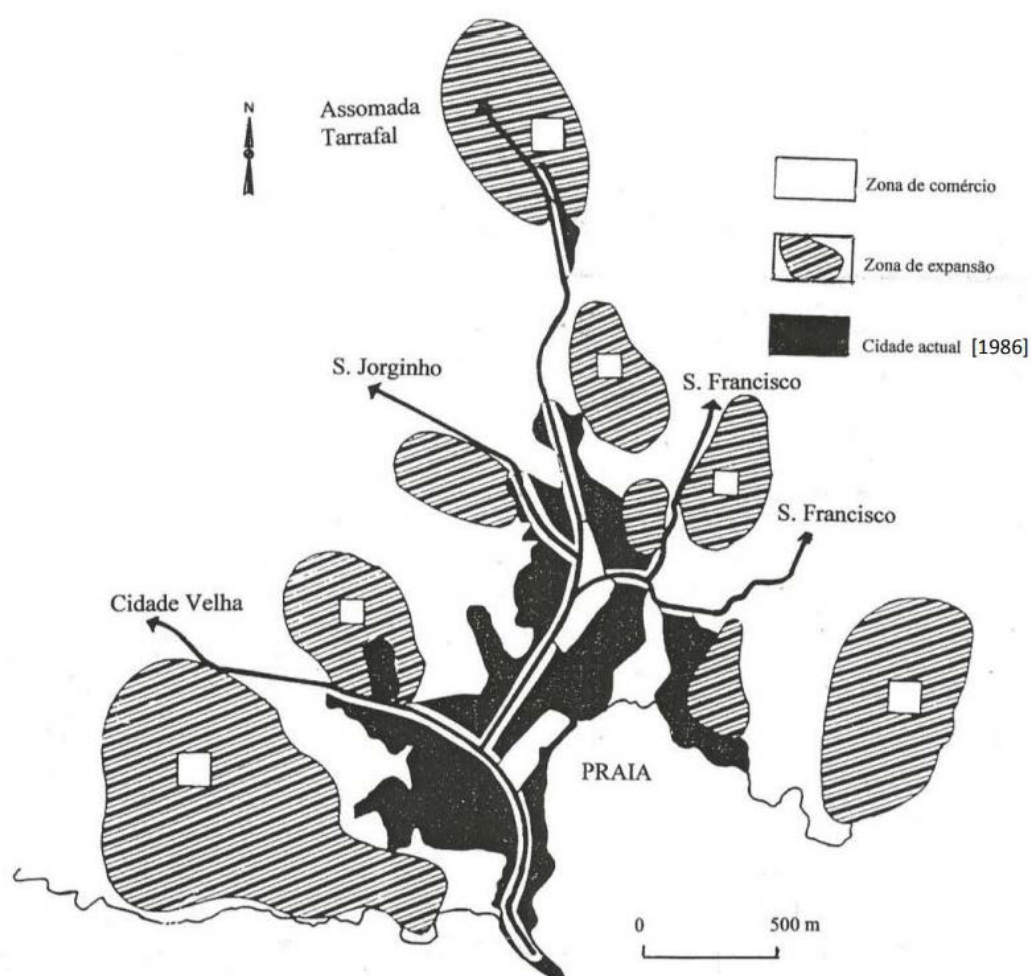
The statistical data available shows a sharp drop in the unemployment rate, both in Praia and in the rest of the national territory. Although one may advance with the eventual seasonality in job creation as an explanatory factor for the drop in unemployment, it is verified, however, that the economy of the municipality of Praia has been very dynamic and hence the generation of jobs, with particular emphasis on the role of the private sector. A possible concentration of investments, both public and private, in the municipality of Praia may be considered as one of the factors explaining this phenomenon. In general, the capital city as well as the rural areas of the municipality are characterised by high unemployment rates, low schooling levels and a high number of families lacking the minimum resources to meet their basic needs. In 2005, the Ministry of Culture had the objective of promoting culture in order to influence the social, political and economic environment for Cape Verde's cultural development and to invest more and better in cultural diversity.

The urban area is divided into North Beach (U1), Central Beach (U2), South Beach (U3), Eastern Beach (U4) and Western Beach (U5). The peri-urban area is divided into North East Beach (R1), North West Beach (R2) and South West Beach (R3). Part of these areas does not present any urban and cultural equipment, as most of them are concentrated in Plateau, the city centre.

According to the Municipal Master Plan (PDM), the cultural equipments in the city represent 0,6%, divided into schools, health, civil protection, sports, cultural, religious, commerce, services, , industrial and tourism equipments.

The first general urbanization plan was elaborated in 1690, with the objective of recovering the idea of the Atlantic maritime platforms and routes, in order to affirm the aptitude of the places and consolidation of the settlement and economic activities.

Fig.32: Scheme of the urban development plan of Praia, in 1986, with the areas and axes of urban expansion in the city of Praia



Source: <https://docplayer.com.br/58699499-Qualidade-habitacional-em-sustentabilidade-area-habitacional-clandestina-na-praia-cabo-verde.html>

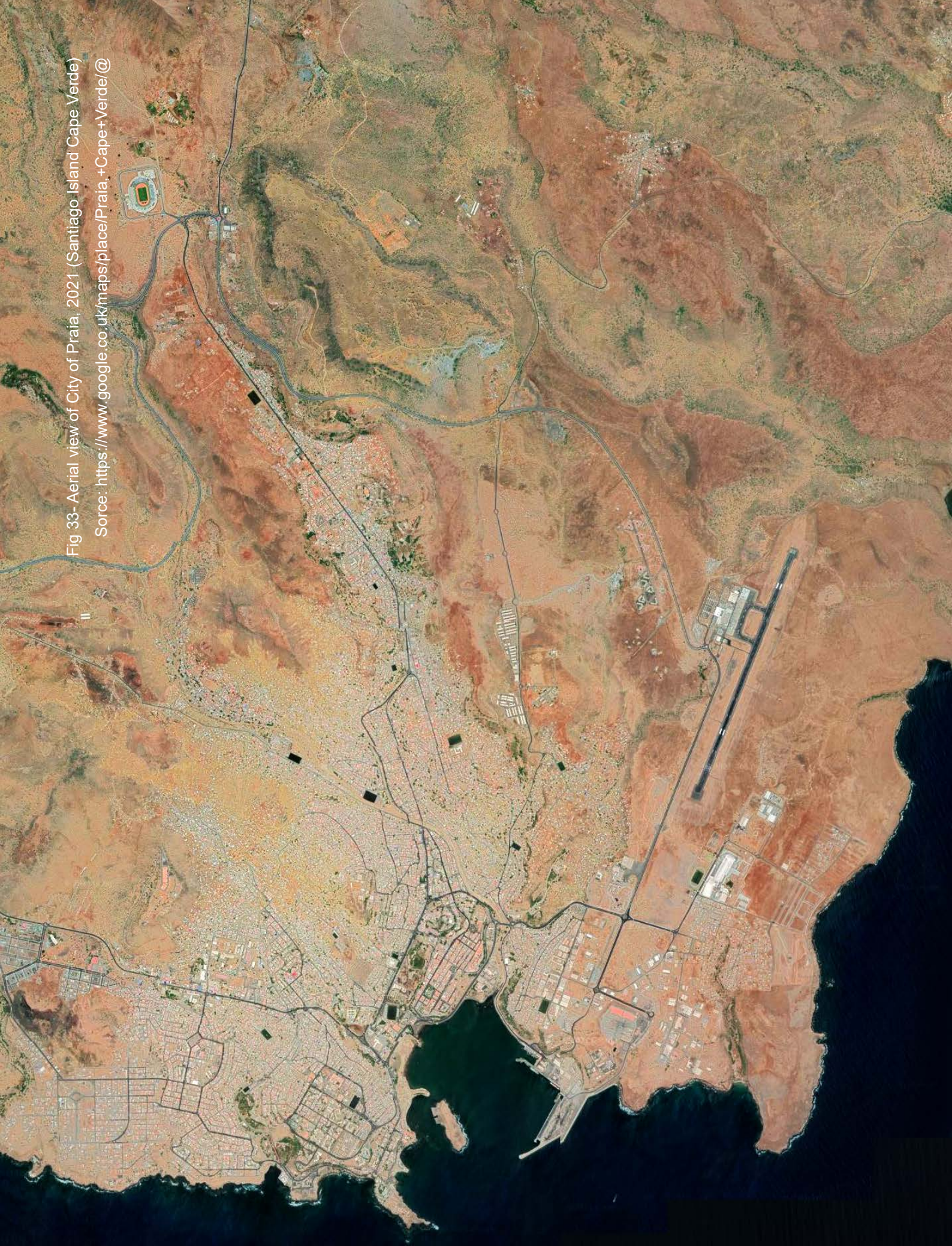
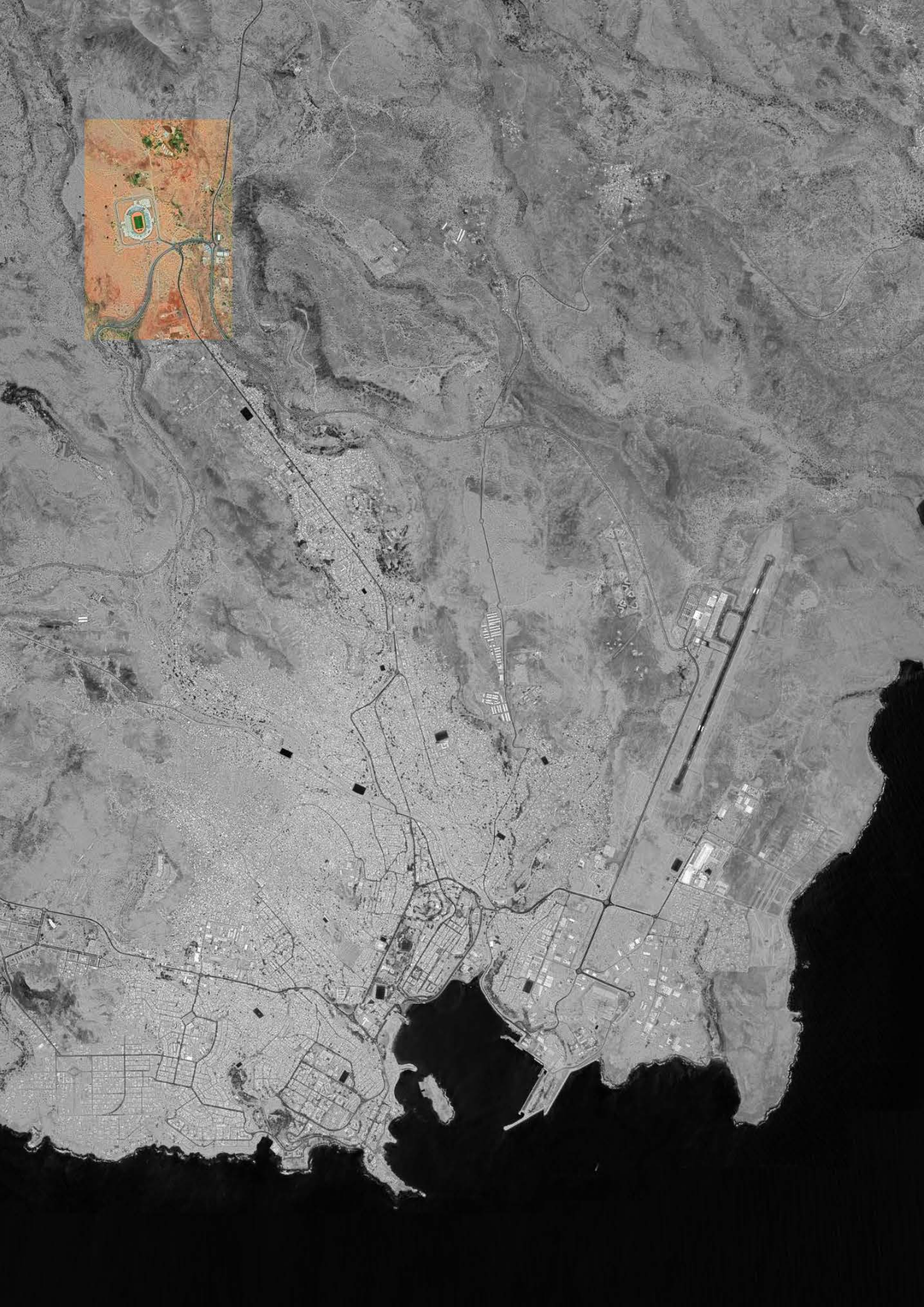


Fig 33- Aerial view of City of Praia, 2021 (Santiago Island Cape Verde)
Source: <https://www.google.co.uk/maps/place/Praia,+Cape+Verde/@>

Fig.34: Urban occupation sketch plan from 1960 to 2016



Source:file:///C:/Users/aLEXA/Desktop/REFERENCIAS%20de%20trabalho/76178123.pdf



Intervention area:

The city of Praia, Santiago Island, needs a special attention due to its characteristics as the capital of the country. In the first stage of the intervention territory research, it was necessary the urban observation of the city in order to offer an alternative to potentialize the new trends and adapt the existing functional structures.

The intervention area is located in the northern area of the city, in the zone of Achada Sao Filipe, about 7 km from the capital. The road structure that allows quick access to the airport, the port and other existing infrastructures provide suitable conditions for the implementation of the project.

Strategy points:

To the north of the intervention delimited by the vegetation barrier of the Municipal Master Plan for reforestation of the empty spaces around the central nucleus of the city, in order to value and qualify these areas and possible areas of permeability.

To the south we have the circular road of Praia, a physical barrier that as a protection wall marks the limits of the consolidated city and the urban residential expansion.

The circular road of Praia presents a strategic connection pattern of the main points of the city (centre, airport and port, new urbanization plan and expansion of the Citadel), as well as connection to the historic centre of Cidade Velha (UNESCO patrimony), Assomada, Calheta, Tarrafal other main municipality of Santiago Island.

In recent years, the national government has carried out interventions of asphaltting and requalification of roads given their socio-economic importance, since these are the main access for commercial transport and access for the rural population who, for various reasons, seek the capital of the country to fulfill their needs.

The national stadium inaugurated in 2014, for Cape Verdeans living in the national territory and in the emigrant diaspora that reflect a new phase of valorisation and qualification of national sport.

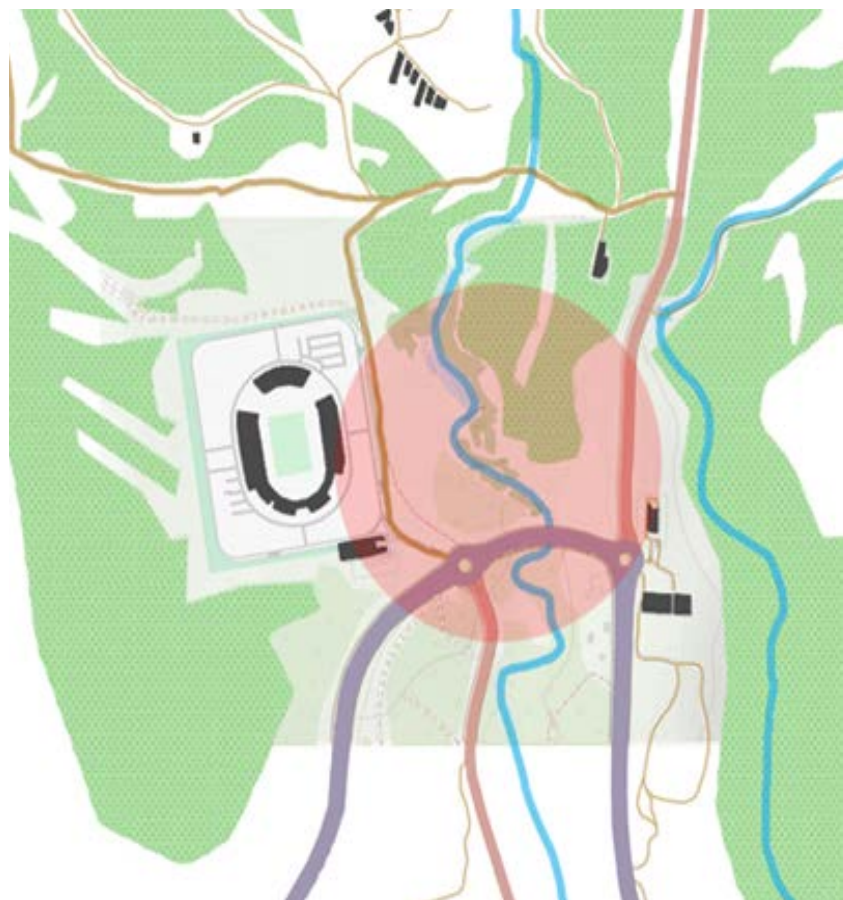
Besides the construction of the industrial unit, the project focuses on the requalification of the surroundings, creating an urban park where collective and convivial activities are carried out in order to consolidate relationships between the various groups, and to contribute to the formation of a culture of aggregation and sharing between citizens.

The idealized public space seeks to establish an articulating element between the existing and the new, with common use and possession of all, making a connection between the rural and urban environments.

Fig 35 - Aerial view of the intervention area
Source: <https://www.google.co.uk/maps/place/Praia,+Cape+Verde/@>



Overview plant:



-  Buildings
-  Reforestation Area
-  Secondary road
-  Primary road
-  City of Praia ring road
-  Water Line (Ribeira Sao Filipe)
-  Connection node

Reference architectures:

The Cape Verdean architecture as well as its people receive African and colonial influences, offering the archipelago different architectural features that follow its evolution over the centuries.

As architectural references we have chosen a reference of industrial production architecture, enabling a differentiated observation that aims to show how, in different parts of the world, architecture has been able to adapt to the territory taking advantage of local characteristics.

Terra Remota, is a wine estate in Barcelona, along the Mediterranean coast in the province of Girona, Catalonia, processing and producing organic wines in Empordà one of the oldest wine regions in Spain. Organic wines are not a new trend for centuries, many cultures have been producing wine from purely natural methods, without the use of any chemicals in the process. According to Untaller ateler, the location of the winery is a response to different factors, where, it needed to be close to the existing vineyards and buildings and take into account the use of gravity for the wine-making process thus seeking the best natural conditions of the intervening terrain, thus achieving a contemporary design of the three-storey winery, creating seamless pathways with a focus on the functionality of the space.

Nett Winery designed by Architects Collective, located in the Pfalz wine region in Germany. The winery can be described as a modern building organised into two main halls and a covered walkway over the surrounding nature creating a unique connection. The architects' challenge was to design a completely new building that would harmoniously combine the production, shop, tasting room, warehouse, office and living spaces to meet the client's expectations.

Brown Sugar designed by DnA architects, located in Lishui, China and an industrial facility for sugar production. It represents the rural lands and remote villages left behind with urbanisation, with peasants gravitating towards the industrial and commercial urban centres, attracted by a better quality of life. located on the central level of the Songyin river, Xing village is an important region for the cultivation of sugar cane and the production of brown sugar, which is also the main source of income for the village. It consists of several building elements, which accommodate different functions and are connected to each other by corridors, with transparent ground floors connecting the working areas to the fields. According to the ateler it was important to design the building in such a way that the village community can use it for other activities, thus giving rise to a new socio-cultural life, which helps define their identity once again.

More than just an architectural design, the Terra Remota Winery, Nett Winery and Brown Sugar Factory projects are designed to be instruments of development, offering their contribution to the economy by bringing new opportunities to the resident population.

Fig 36: Photographs of the project Terra Remota Winery

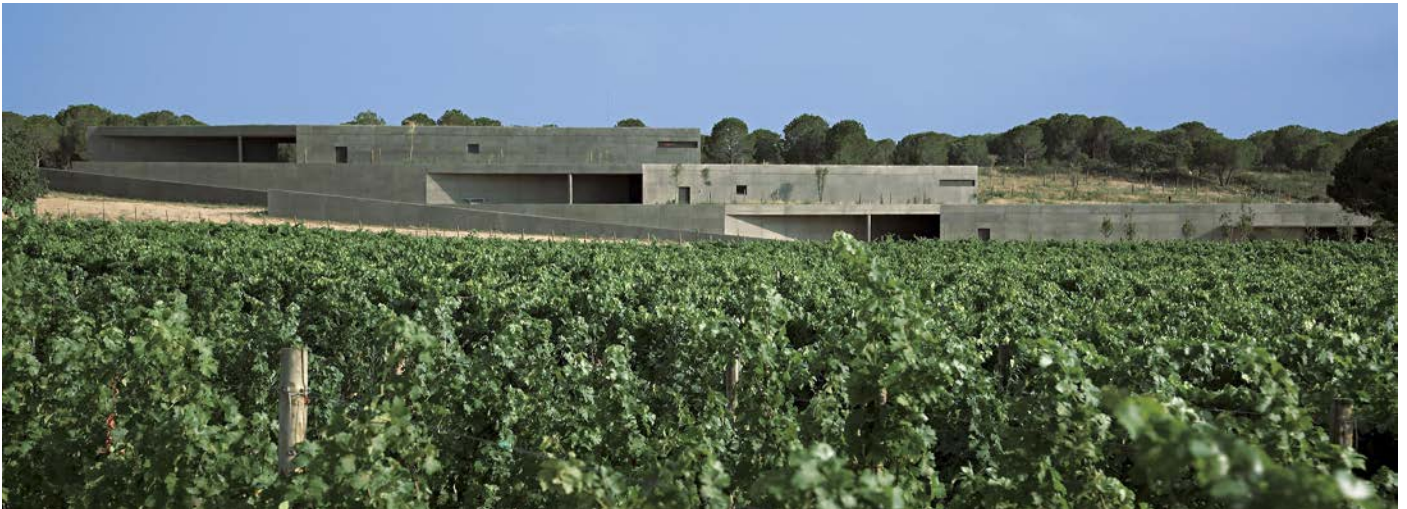


Fig 37: Photographs of Nett Winery



Fig 38: Photographs of the project Brown Sugar Factory



Sources: https://www.archdaily.com/?ad_name=small-logo

Frutas do Atlantico:

The Archipelago of Cape Verde, due to its designation, is a green country with agricultural potential. However, only three months, the “azágua” season (August, September and October), are rainy with reduced results, constantly affecting the production season, as well as farming activities that depend exclusively on rainfall.

The main sources of the food system’s supply are:

Agriculture:

It is a subsistence agriculture, mainly practiced in a traditional way (irrigated and rainfed cultivation process), rural-based and archaic, based on small family units that use traditional techniques to produce their own food.

The main crops are corn (the basis of the archipelago’s gastronomy, with special attention and taste for the plate of “cachupa”), beans, sweet potato, cassava and sugar cane (for the production of the national “grogro” among other liquors).

In addition to these indicated in smaller quantities, the cultivation of fruit trees such as banana, mango, orange, lemon, tangerine, etc.

Besides the products mentioned above, another basic food of the Cape Verdean population is rice, which is imported in its entirety.

While the local production is scarce, due to the low productivity of the fields it plays an important role in the supply of agricultural products for the national markets, as well as in partially solving the employment problem in the country.

Ranch farming:

Animal husbandry in Cape Verde also suffers the effects of dry weather as a complementary activity to agriculture.

This constitutes a source of social supply, sometimes as a business or for family consumption. The most frequent holdings are poultry (83%) mainly for egg and meat production, pigs (81%) for meat production, goats (70%) and cattle only (29%). Cattle and goats are mainly used for milk and meat production.

Fishing:

The fishing and farming sector has a significant contribution to the national GDP, is extremely important in social terms as it provides employment, income and nutritious food.

Artisanal fishing is mainly for local consumption and sale, while industrial fishing is used to supply the national market and for export.

Cape Verde has abundant fish and seafood resources due to the length of its coastline and the richness and diversity of its fishing grounds. Weak technological and infrastructural investments are constraints for many of the fishermen who seek a means of survival at sea.

A country where the struggle against the adversity of nature, with periods of drought and famine, also faces challenges in the process of transformation of products acquired with much sweat and persistence, since most of them use traditional techniques. Most of these have as their main objective their own consumption and local subsistence trade. However, with the implementation of new techniques and industries, the country has been able to rise up and overcome its weaknesses in order to fill some gaps and seek strategic solutions for income and sustainability.

Each island, each city and each region is marked by its originality and creativity, thus making the marketing process differential and dynamic by the charismatic factor of each “rabidante” trader, together with all the collective entity that through multiple commercial transactions and different logistic operations, from its place of production to the consumer’s disposal adds value to the product. It is necessary to observe the food system as a revolving circuit between all the components so that the desired result achieves the needs.

With the elections in 1991, the liberalization of the economy and political change opened doors to new commercial and operational sectors in the domestic economy of the country, giving a great leap in new commercial activities so new points of commerce began, the supermarkets and mini-markets in order to offer and satisfy the population in general with new products, both in variety and quality.

The entry of goods into the islands of the archipelago passes mainly through the three main ports of the country, Porto da Cidade da Praia on Santiago Island, Porto Grande in Mindelo on the island of São Vicente and Porto da Palmeira on Sal Island. Based on a transverse matrix and through maritime transport, the entrances supply the others.

From the port of Ilha de Santiago, due to its size and being the capital of the country, the largest national importer, supplies the islands of Fogo, Brava, São Vicente and Sal. Besides having one of the largest ports in the archipelago, Nelson Mandela International Airport receives various goods from abroad. The ports of São Vicente distribute goods to Santo Antão, São Nicolau and sometimes Boavista. As an importer, the island of Sal is mainly due to the development of tourism, with a large number of flights to the Amílcar Cabral International Airport.

During the year 2000, Cape Verde received a total of 37,782.5 tons of food, of which 35,809.7 tons were for marketing and 1,972.8 tons for free distribution under the WFP and Red Cross food assistance programmes. This support plays an important role in meeting the basic food needs of the Cape Verdean population, covering about 49.7% of cereal consumption (maize 30.4%, rice 64.2%, wheat 90.5%).

Countries such as Austria, Holland, Luxembourg, Portugal, France, China and Italy have great incentives to support development in the archipelago, with micro-enterprise projects, environmental projects, rural development, employment and vocational training, as well as decentralisation policies. In addition, there are food aid programmes, particularly from the United States, which finance FAIMO’s work (Strategy Paper and Poverty Reduction, 2004).



Fig 39- Traditional market, Asomada (Santiago Island)

Source: <https://m.facebook.com/capvertenimages/photos/a.1272043569559917/3359862024111384/?type=3&source=57>

The high costs of energy and the lack of natural resources have been one of the great difficulties for investments in new transformation processes, the low cost of labour and the increase in the price of products make the market process reduced and the internal economy weak. Most of the food consumed on the planet consumes a lot of energy in its production process and transport. The choice is largely related to the social, cultural and consumption characteristics of the population. The increase or decrease is related to factors such as changes in habits, prices and consumer income.

So in a region where agriculture is one of the sectors to offer great opportunities in the labour market, it is necessary to focus on the improvement of processes and techniques in order to impulse and promote a better quality of life for the population.

The industrialisation of agriculture was strongly driven after the Second World War in what came to be known as the 'Green Revolution', with the aim of increasing production and achieving food security in regions facing food shortages and famine. Despite some social and environmental consequences, it succeeded with excellence in increasing productivity.

The consumption of fruits and vegetables is a public health priority in several countries, Cape Verde being no exception to the rule. The evidence has shown that the national consumption of fruits and vegetables has been below the recommended by the World Health Organization, which is equivalent to 400 grams of fruits and vegetables per day (5 portions/day).

In this sense, interconnecting the socio-economic situation, the role of agriculture in the food system, the STOLED WATER project proposes an industrial architectural project called Frutas do Atlantico, fresh fruit processing factory. Seeks to give its contribution with the presentation of products and instil in young people the importance of a healthy diet and a taste for the practice of agriculture, in a process of exchange of experiences, knowledge and presentation of new practices focused on internal resources available. The market for horticultural products has been showing changes in consumption, where besides the processed products (canned) fresh products with minimal processing have conquered their place at the table, because consumers are increasingly aware of the importance of fresh food for human health.

Purpose of this processing is to offer the consumer a product of defined quality and guarantee of safety and maintenance of nutritional quality. As a raw product, the factory focuses on packing melons and melacias, as they are exotic and tropical fruits that adapt to the archipelago and its morabeza. As a transformation process it offers its cutting capacities to produce fruit salads in tamper-proof, standard or made-to-measure plastic buckets to supply establishments such as hotels, restaurants, supermarkets, etc. The supply of the products can be provided by an agricultural space destined for the company, as well as by local farmers who share the same idea and business purpose. Waste produced is used to support local livestock farming.

The country has been able to attract foreign investment thanks to the infrastructure already in place, good governance, political stability, and a good business environment, factors that gain relevance for a country seeking to strengthen its name in the commercial sector. This consolidation both in democratic and societal terms will bring a new economic era to Cape Verde.

ARCHITECTURE

Descriptive memory

DESCRIPTIVE MEMORY

The Project:

The project idealized a two floor unit, with work and office areas, supported by vertical lift accesses, with very simple organization in L-shape, seeking the best integration with the morphological and the surrounding environment.

The main volume, oriented north-south, integrates the processing warehouse building. With its industrial character, the ground plan aims to offer the maximum working space, having the central space free and service and support corridors on the sides. In continuity, the second volume directed east-west, integrates the transformation and office space, developed on two floors with work rooms, auditorium and technical areas. The transformation zone occupies the central space of the unit, functioning as a transition line between the two volumes.

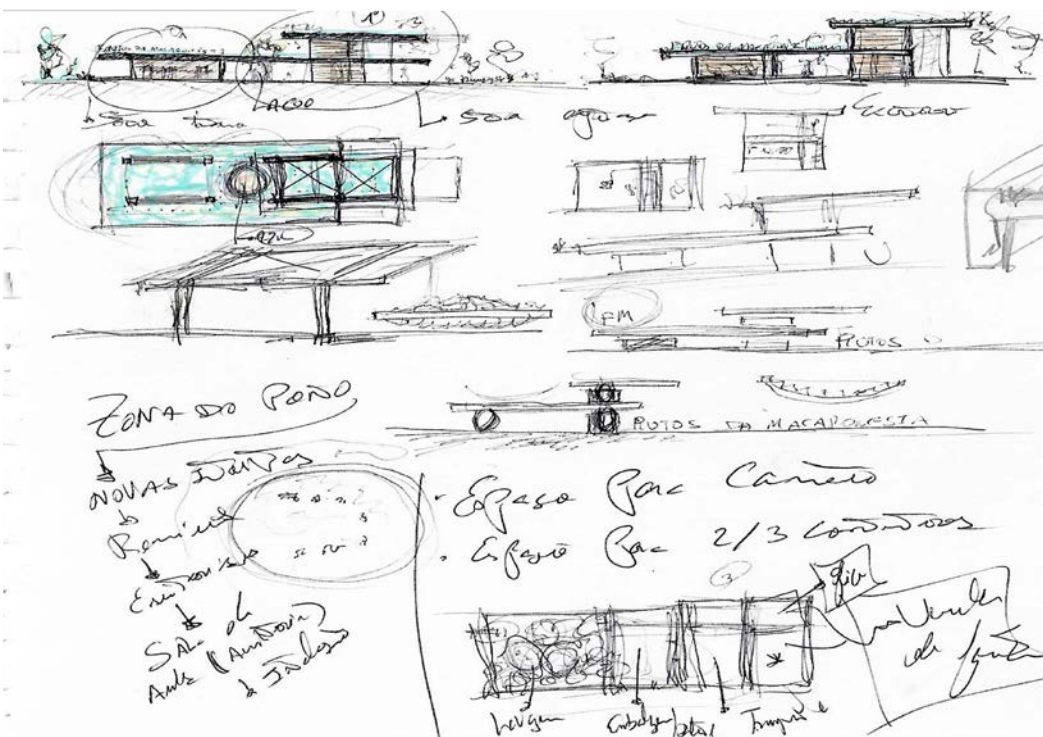
Seeking sustainable architecture, the ventilation and lighting of the building looked to make the most of the natural resources, as well as the maintenance and solar energy capture. As the Design Strategies, includes openings in the wall and roof to obtain indirect lighting points where the light source is reflected producing a soft light without large light loads inside the building. Especially for processing space in order to maintain the internal temperature suitable for fruit storage. In the entrance and passage areas, a visual and projection relationship between the interior and exterior was sought, the openings gain scale in relation to the rest, with double tempered glass panels. To achieve air quality the project sought to achieve a good indoor-outdoor air exchange, creating healthy and comfortable environments, reducing energy costs and reducing the use of HVAC. In the office area an internal courtyard was designed with perforated glass panels, with aesthetic character strategically located helps in the ventilation of the interior space.

As the topography of the intervention area is not possible, the quota of the road structure and the national stadium served as reference elements, and the floor of the industrial unit at zero level. In addition to the construction of the industrial unit, the project also extends to the requalification of the surrounding area, creating a public space as a connection zone between the existing and the projected infrastructure.

The idealized public space seeks to establish an articulating element of common use, in this way a balance between the existing and the proposed can be guaranteed.

It seeks to create a green ring where collective activities can be developed, conviviality and relationships between different groups, contributing to the formation of a culture of aggregation and sharing between citizens.

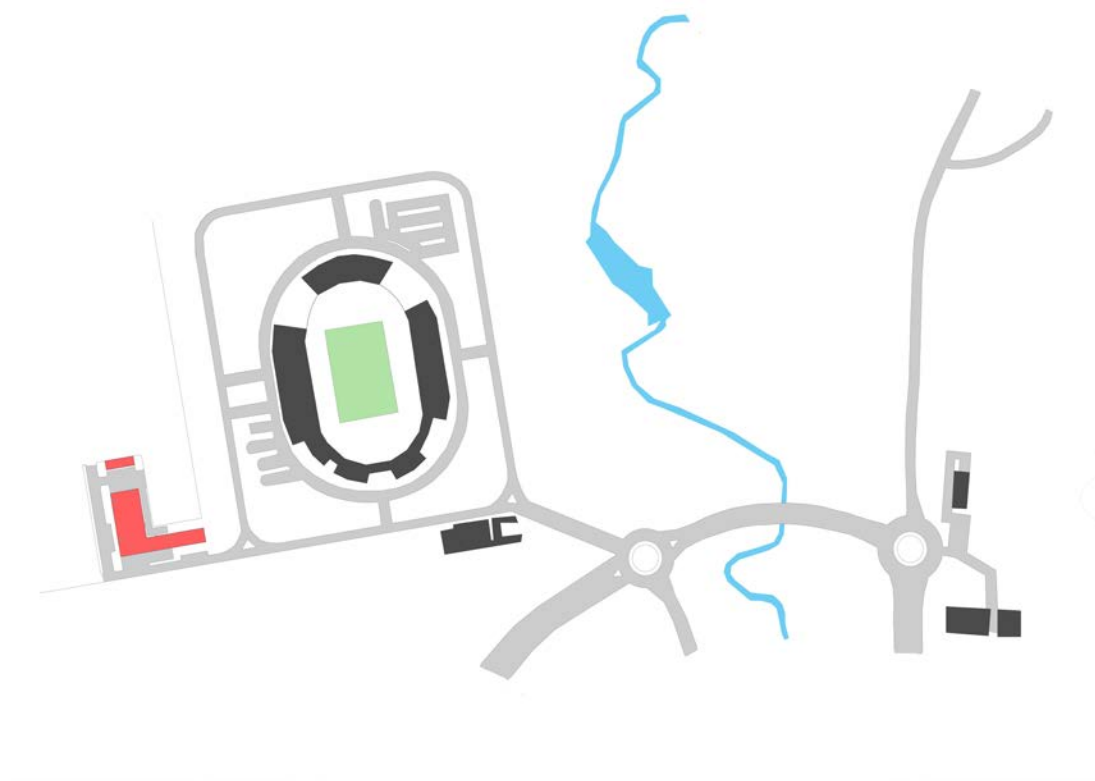
In order to establish a bridge between rural and urban areas, the project opens the doors to production gardens, investing in rainfed agriculture where it intends to maintain and preserve traditional techniques in the face of climatic situations where the land is dry, receiving low volumes of precipitation and limited water from other fresh water resources. Faced with the scarcity and lack of rain, the agricultural production process seeks a sustainable solution of low economic and ecological cost, without recourse to fertilizers and using sunlight to produce energy to fuel the irrigation system.



The building's functionality programme aims to respond to some points in order to provide the best service and flexibility:

- The activities and functions carried out in spaces should contribute to the safety and protection of all employees and the community from the hazards and risks the space is exposed to (accidental falls, fire risk, etc);
- Be inclusive and accessible to people with disabilities;
- The spaces should be attractive, pleasant and cared for, providing well-being and the necessary comfort, and should also be stimulating, encouraging employees and the rest of the community to share and make good use of them;
- Flexibility and/or functional adaptation, in accordance with the demands and needs adopted in other changes that may happen over time;
- It has taken into consideration the issue of maintenance of the space and its constituent elements. It is easy to maintain and conserve, implying especially low water consumption and reduced manpower.
- The differentiation of the different spaces of use (leisure, recreation, work and free framing areas) are clear and simple.
- The perimeter pedestrian circulation, also guaranteeing the circulation of emergency, service, maintenance and employees' vehicles, connected to the already existing infrastructure.
- The pavement of the spaces, takes consideration the role and the functionality as well as the characteristics and uses for which they are intended. Having in general the following general properties:
 - Anti-slip
 - Washable
 - Durable
 - Easy to maintain
 - Flexible
 - Safe
- The pavement areas will be drained by rain water runoff, ensuring an efficient system with minimum inclination that eliminates excess water in paved areas;
- Safe and comfortable stairs with non-slip treads and metal railings in the warehouse area and glass in the office area;

Site plan intervention:



- Factory Frutas do Atlantico
- The existing construction
- Water line
- Road infrastructure



Proposal for implantation:



Covering plan





Ground floor



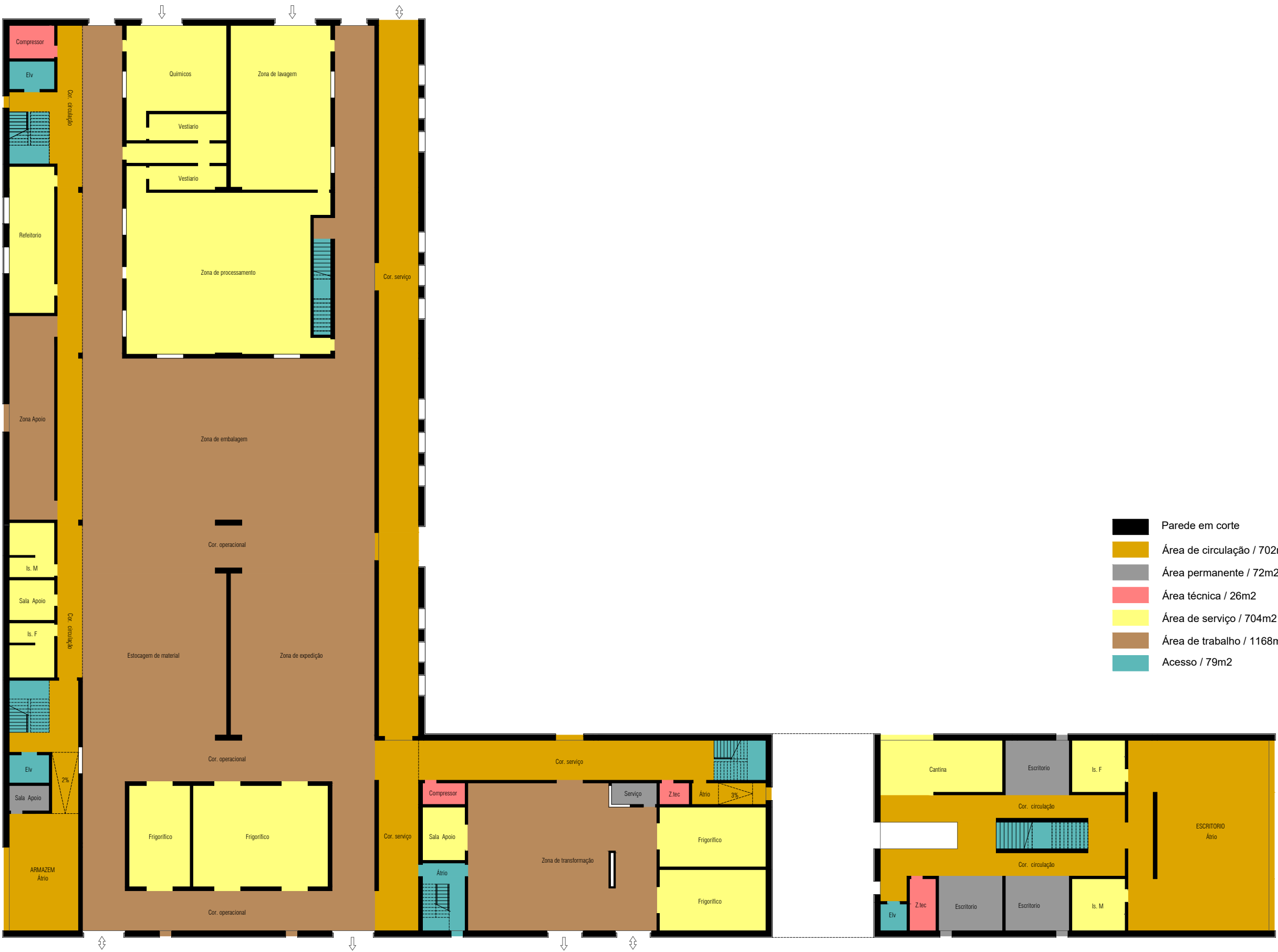


First floor



Drawings

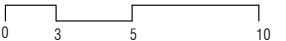
Illustrative & Technical



STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

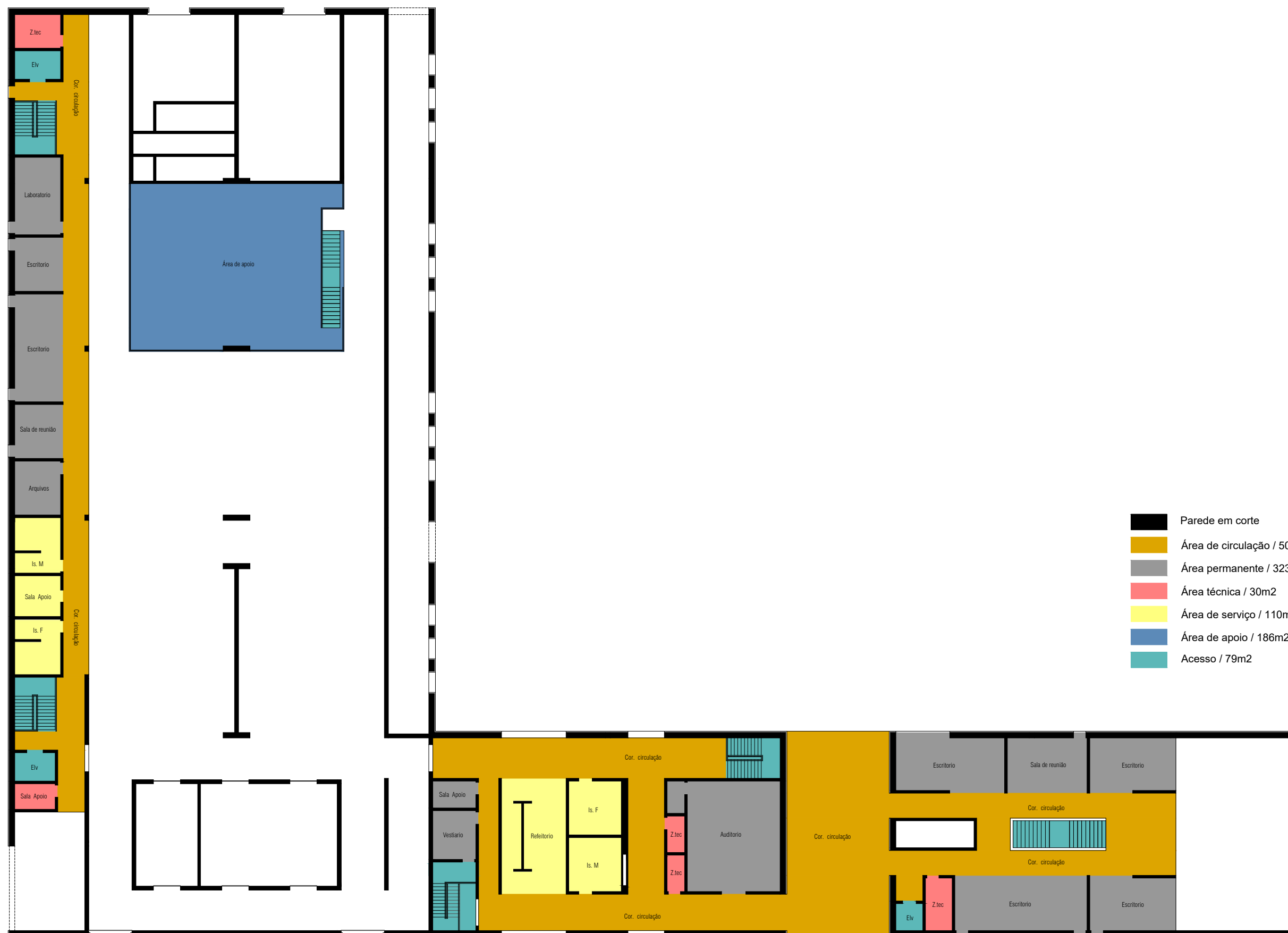
Project:
Frutas do Atlântico

Drawing:
Space plan / Ground floor



Nov 2021

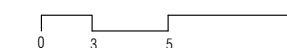




STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and transformation

Project:
Frutas do Atlântico

Drawing:
Space plan / First floor



Nov 2021





STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Emergency plan / Ground floor

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Nov 2021





STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

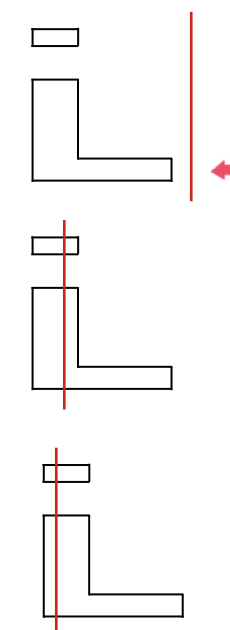
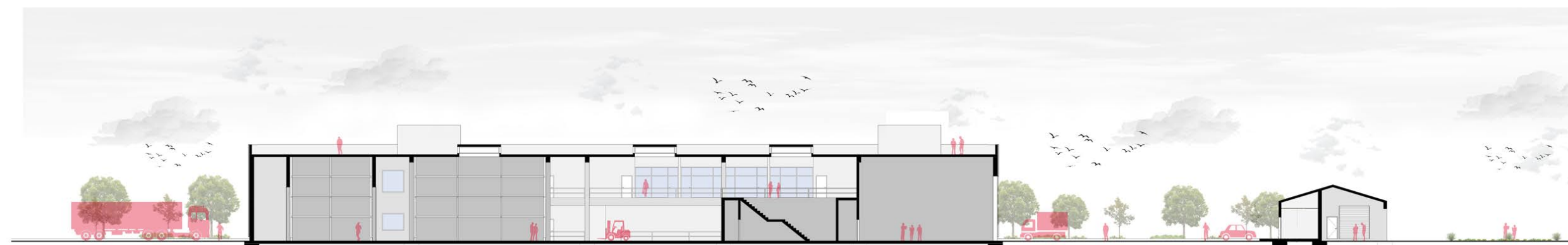
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Frutas do Atlântico

Drawing:
Emergency plan / First floor

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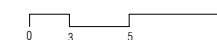




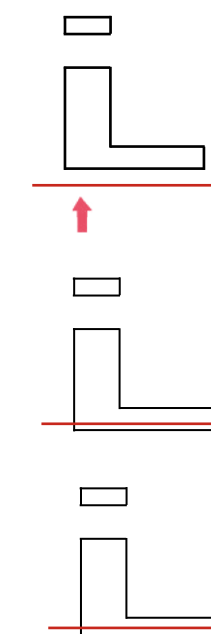
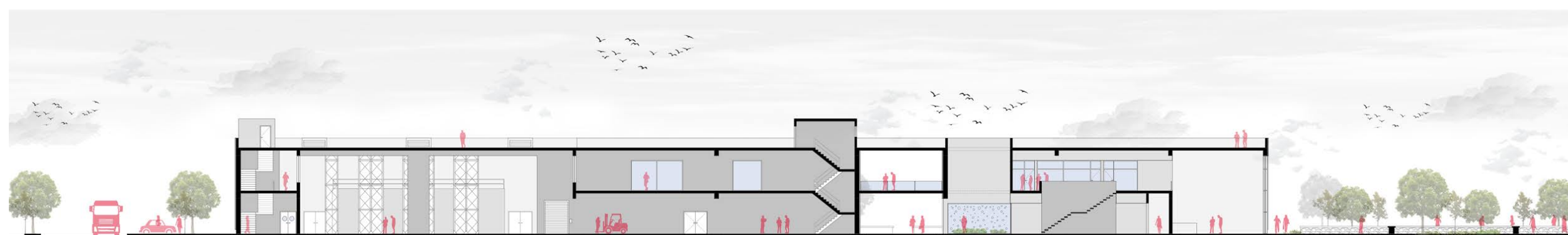
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Illustrative overview
East to West



Nov 2021



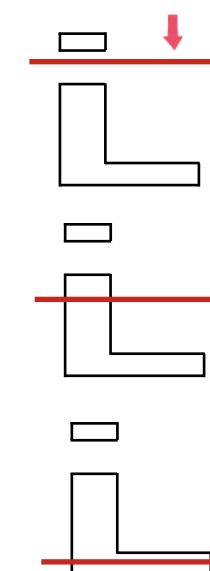
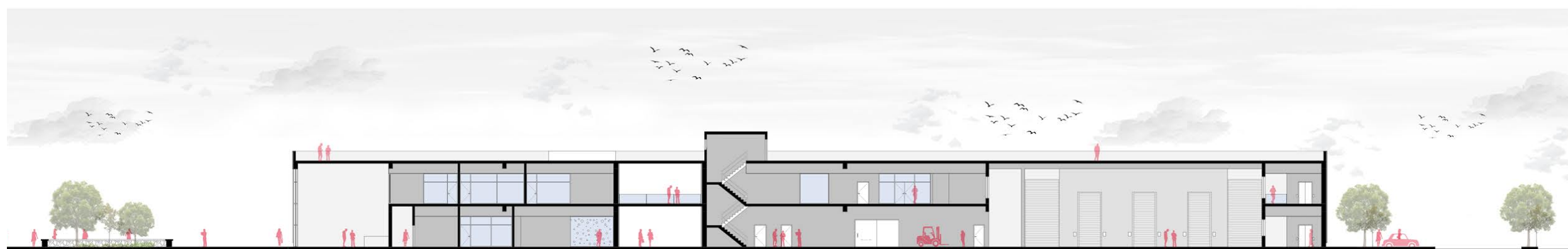
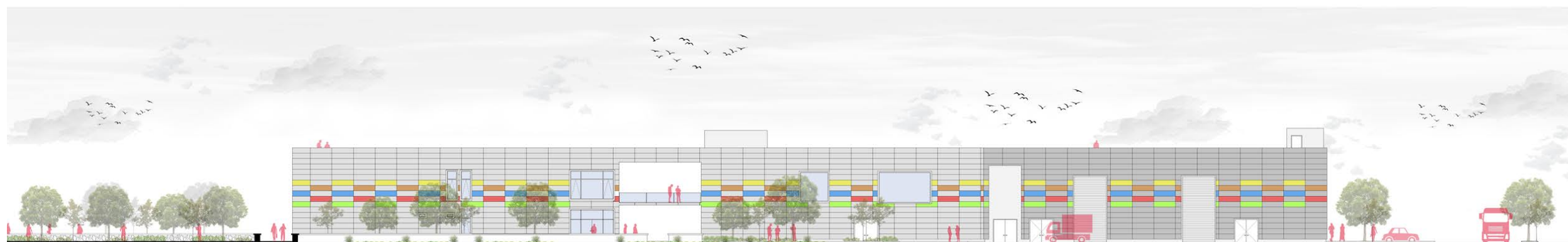
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Illustrative overview
South to North

0 3 5 10

Nov 2021



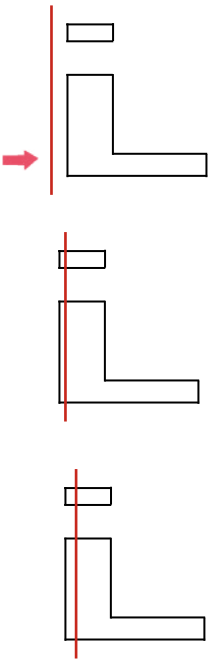
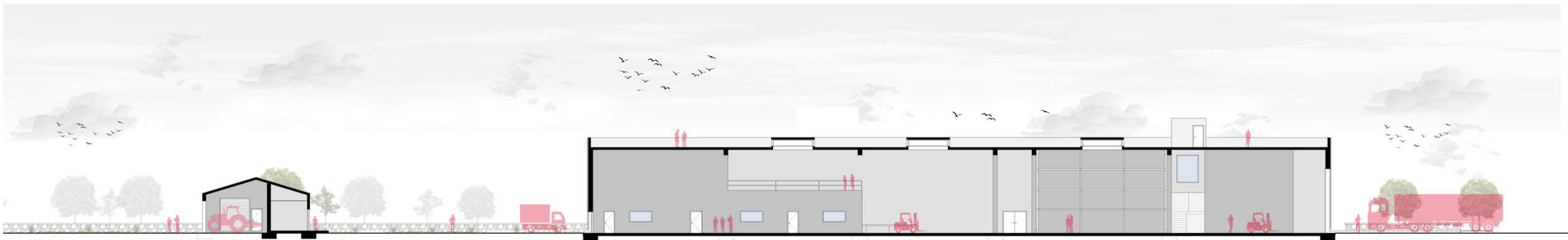
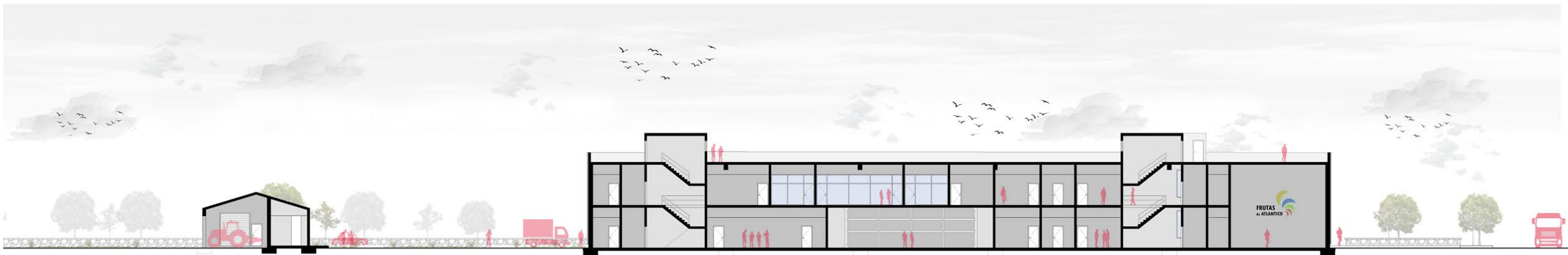
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Illustrative overview
North to South

0 3 5 10

Nov 2021



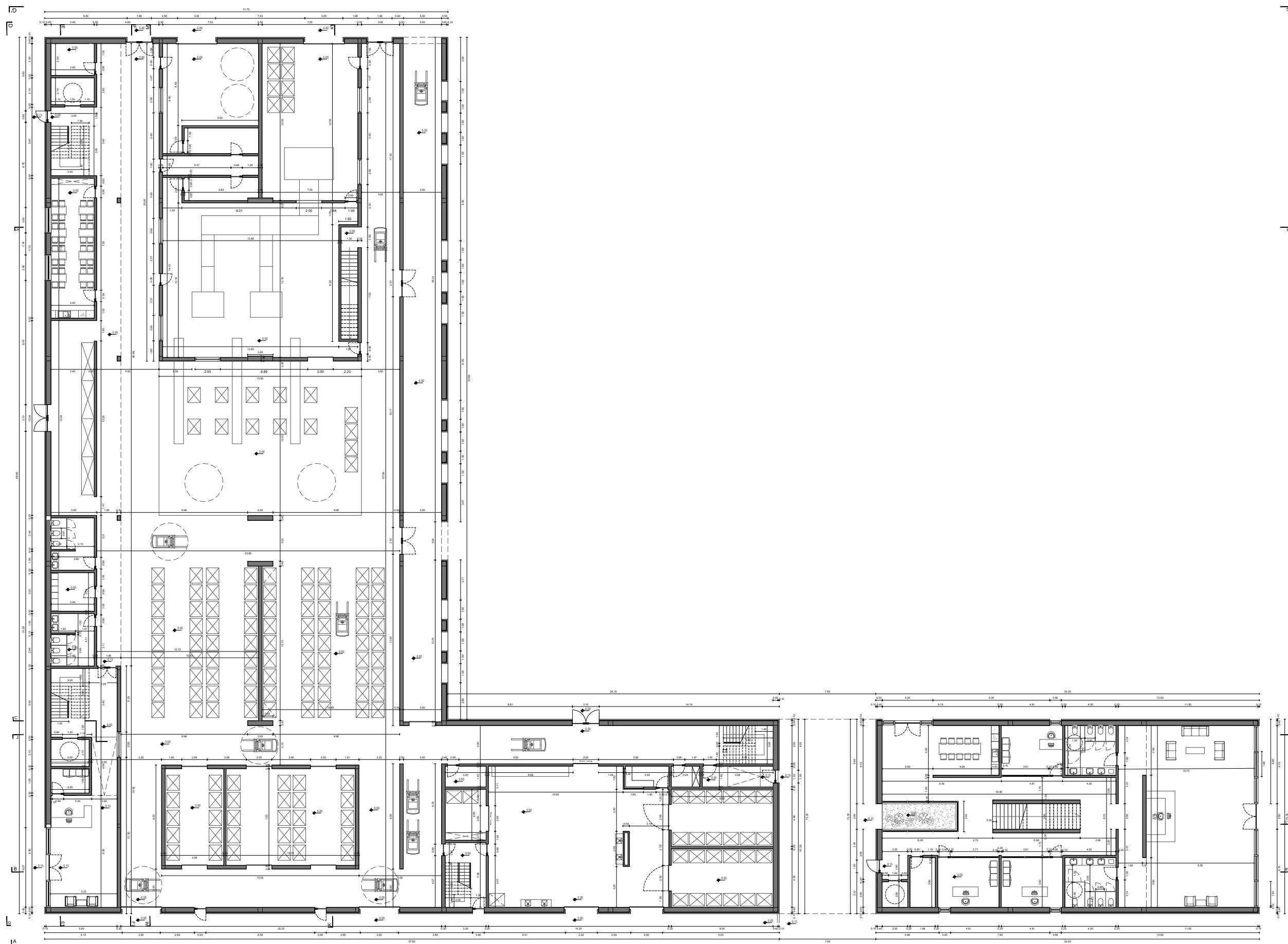
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Illustrative overview
West to East

0 3 5 10

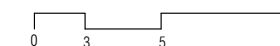
Nov 2021



STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

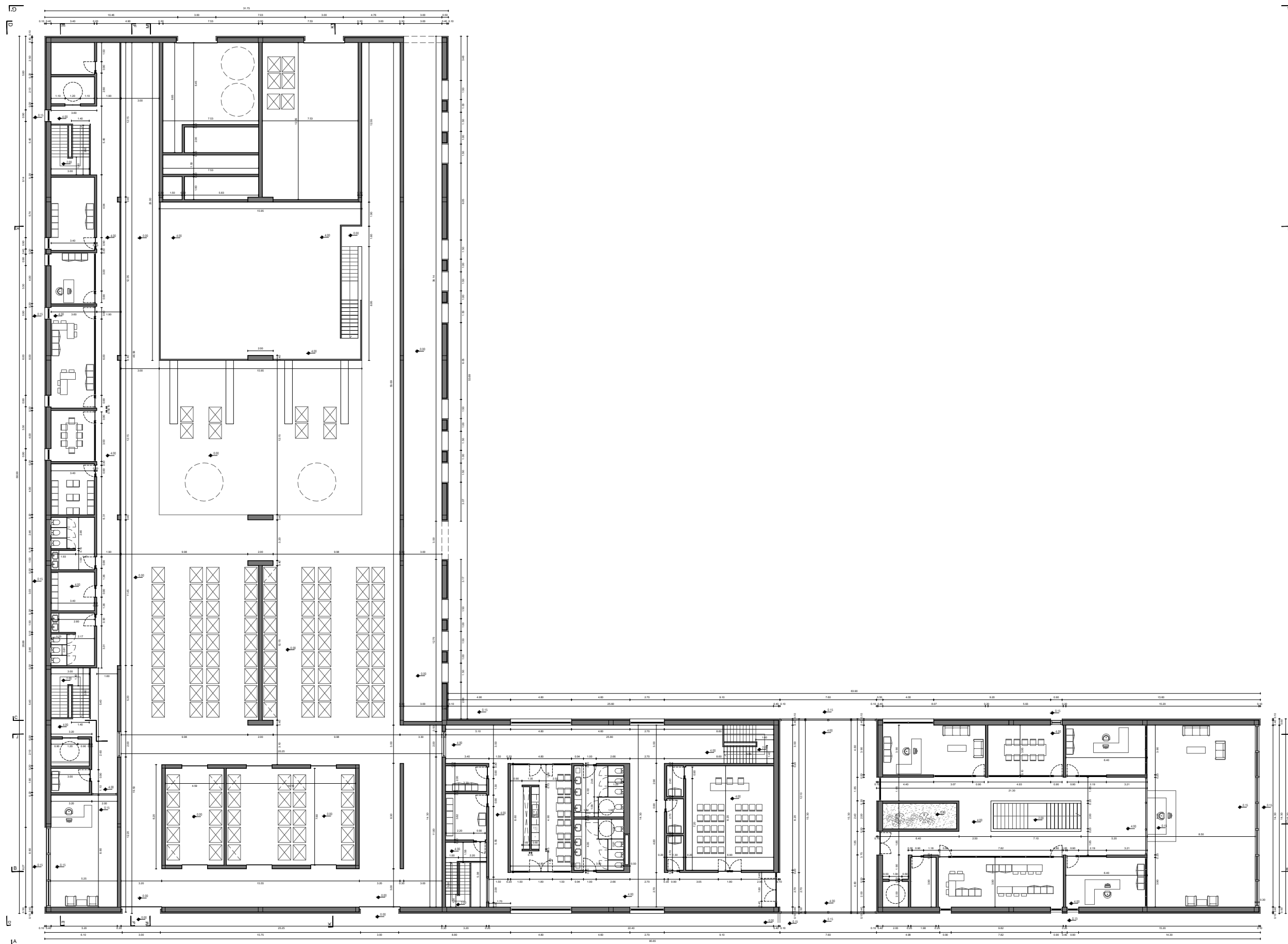
Project:
Frutas do Atlântico

Drawing:
Technical plan / Ground floor



Nov 2021

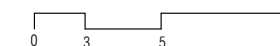




STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

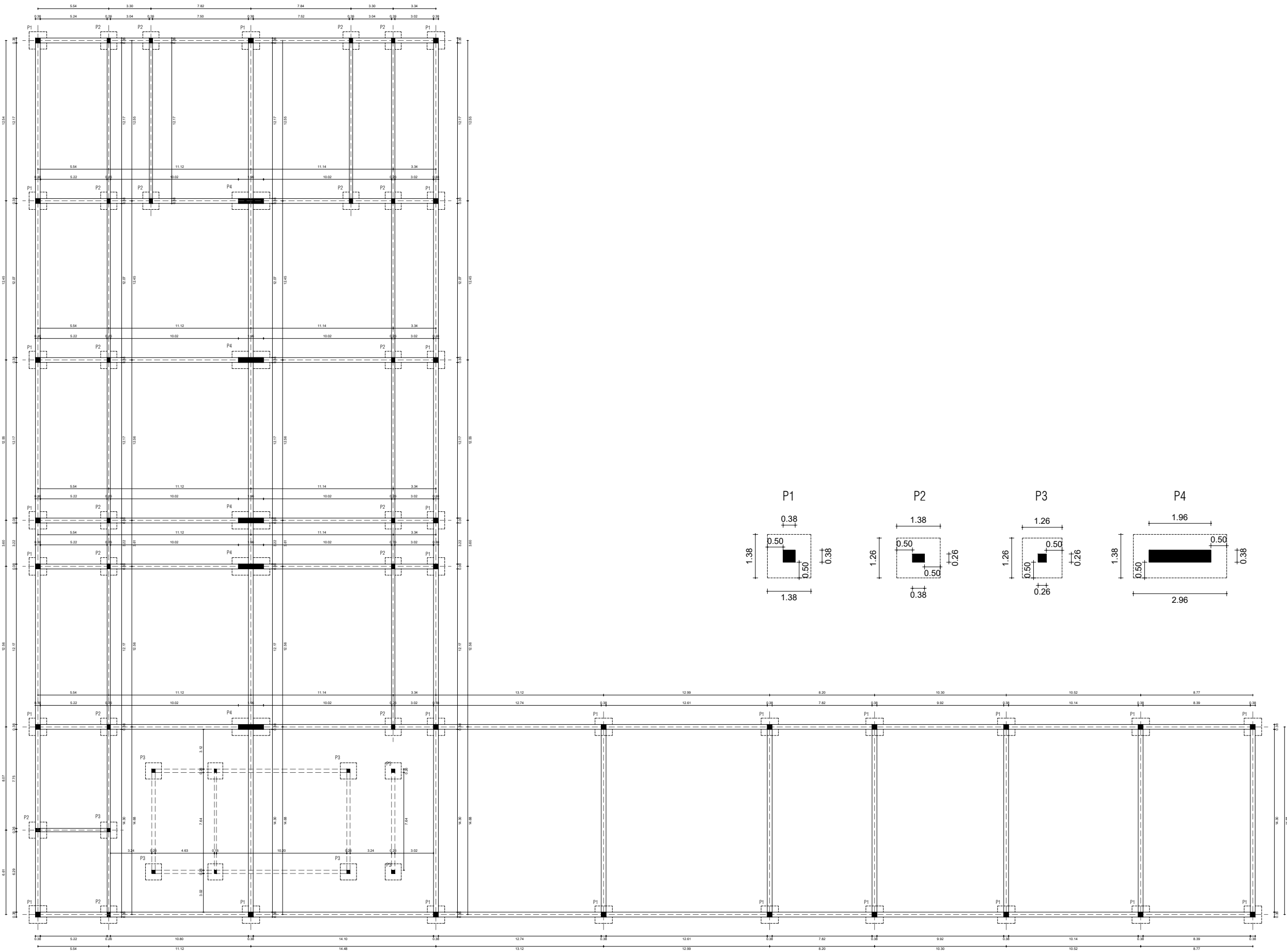
Project:
Frutas do Atlântico

Drawing:
Technical plan / First floor



Nov 2021

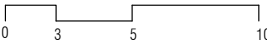




STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

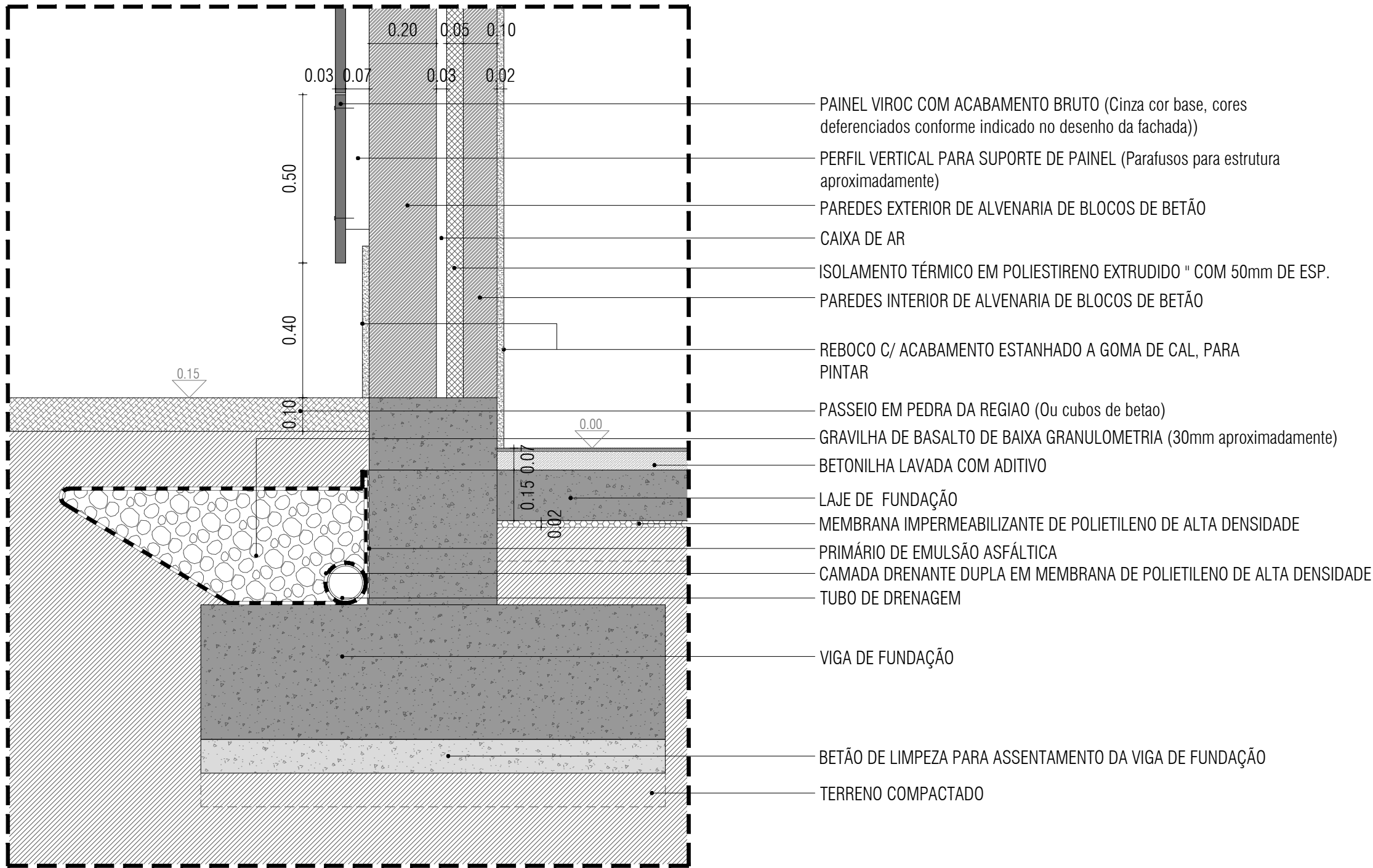
Project:
Frutas do Atlântico

Drawing:
Layout of the foundation column



Nov 2021





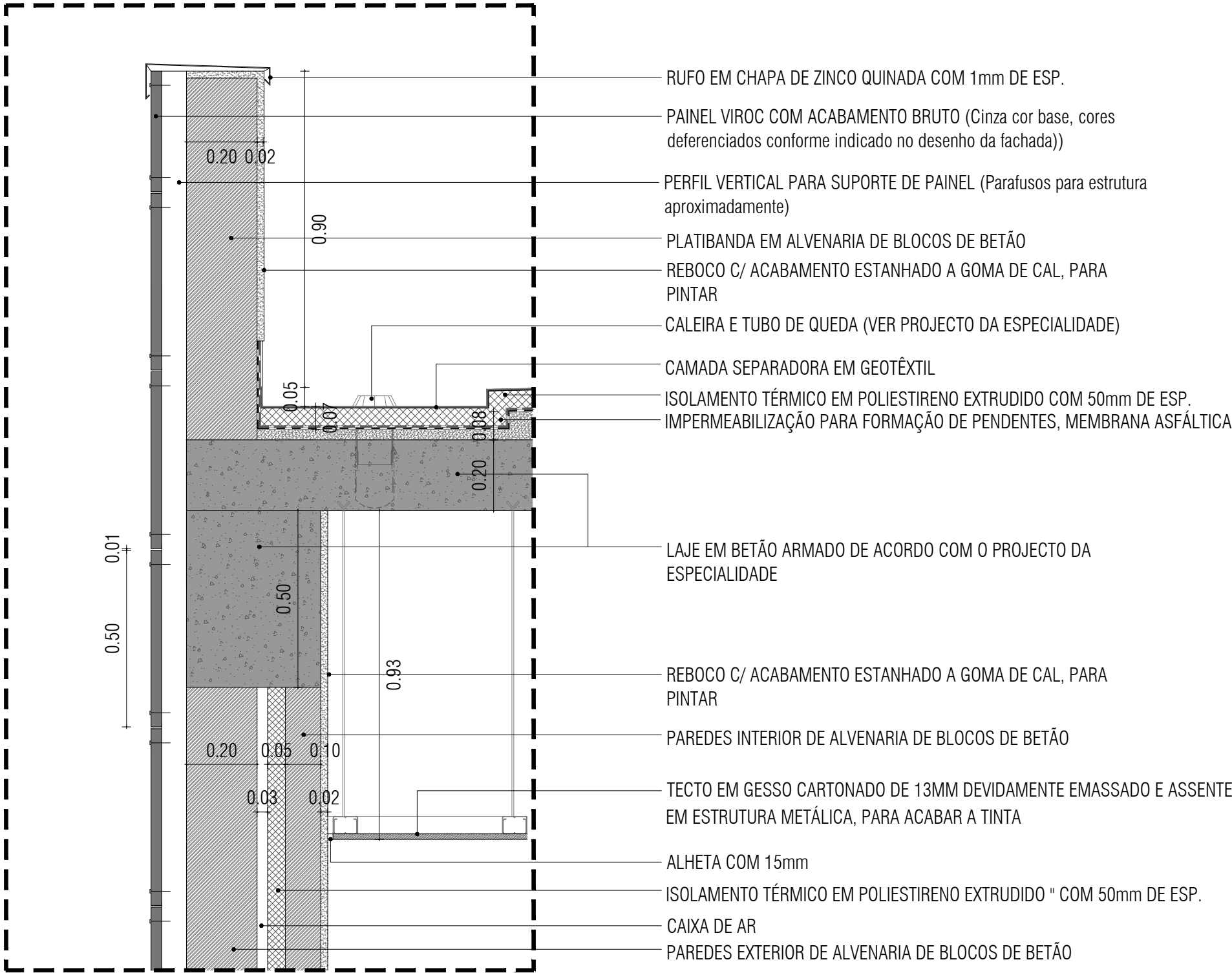
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
Construction detail of foundation /
Vertical section

1/20

Nov 2021



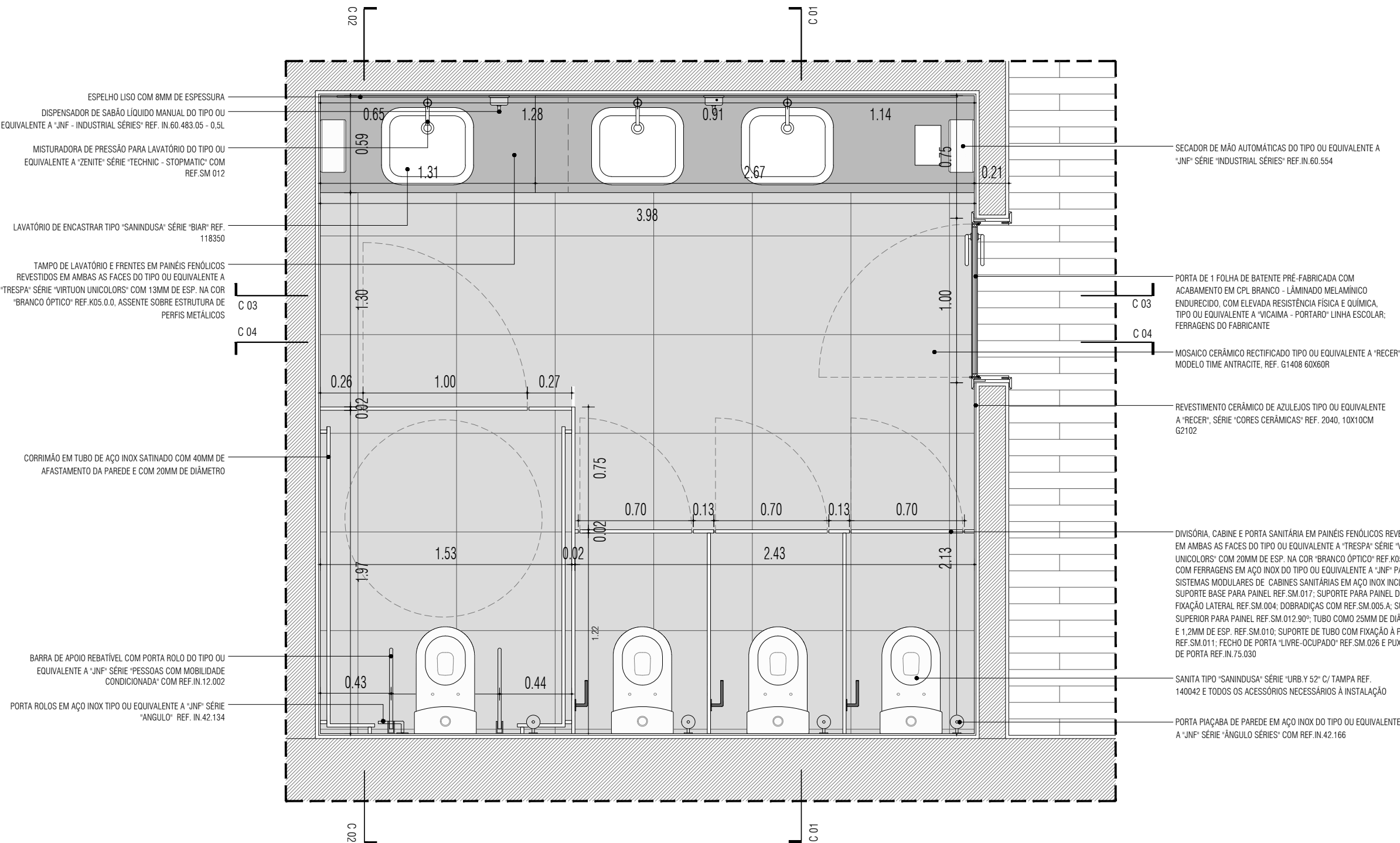
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

Drawing:
**Roof construction detail / Vertical
section**

1/20

Nov 2021



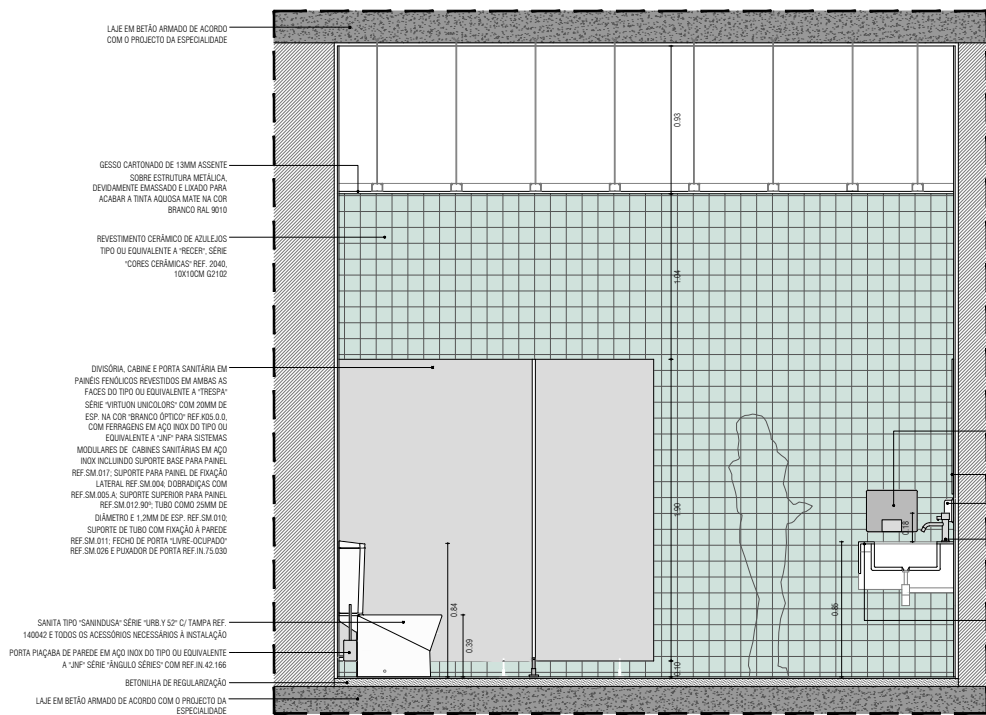
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and transformation

Project:
Frutas do Atlântico

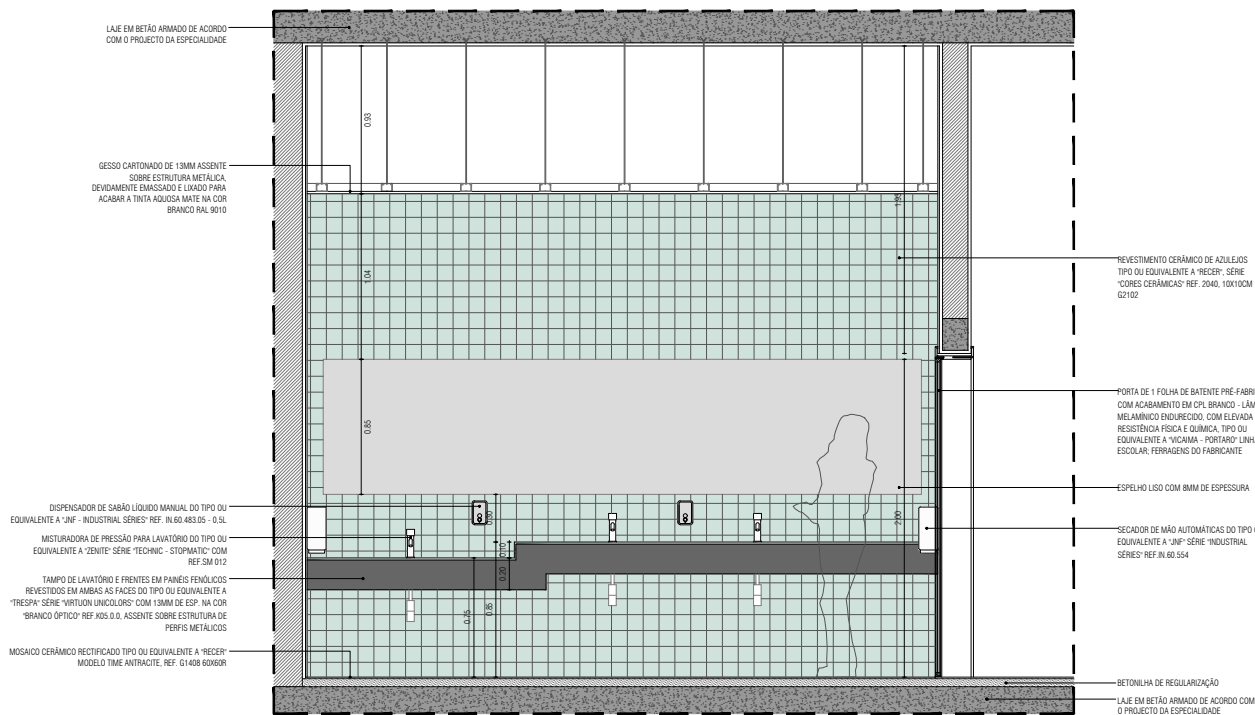
Drawing:
Office area, sanitary installation on the ground floor
Partial plan

1/50

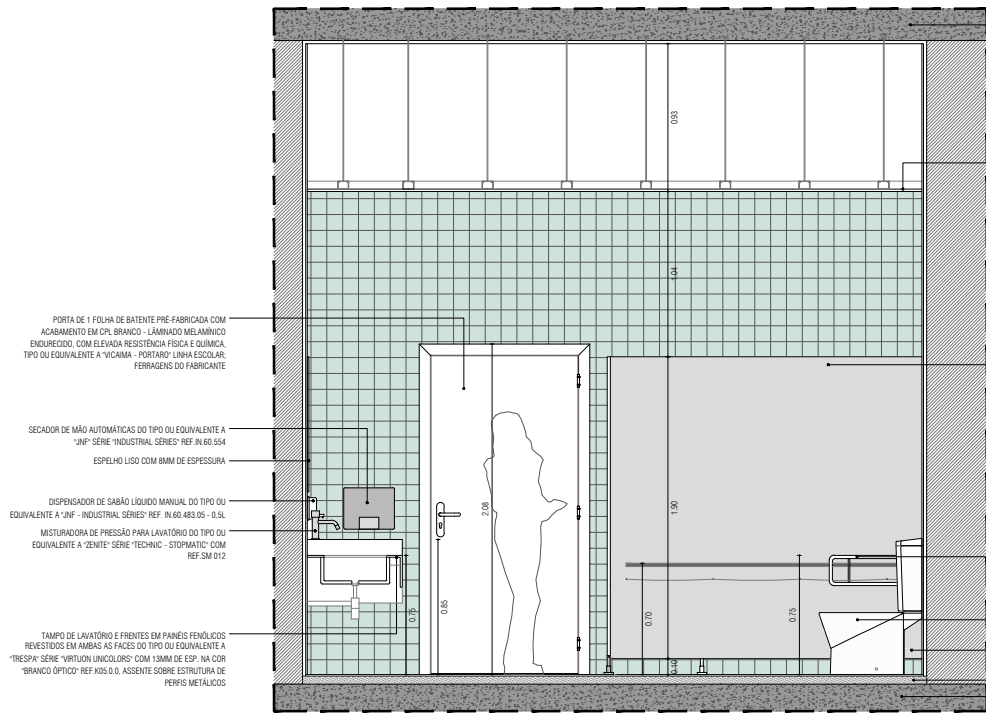
Nov 2021



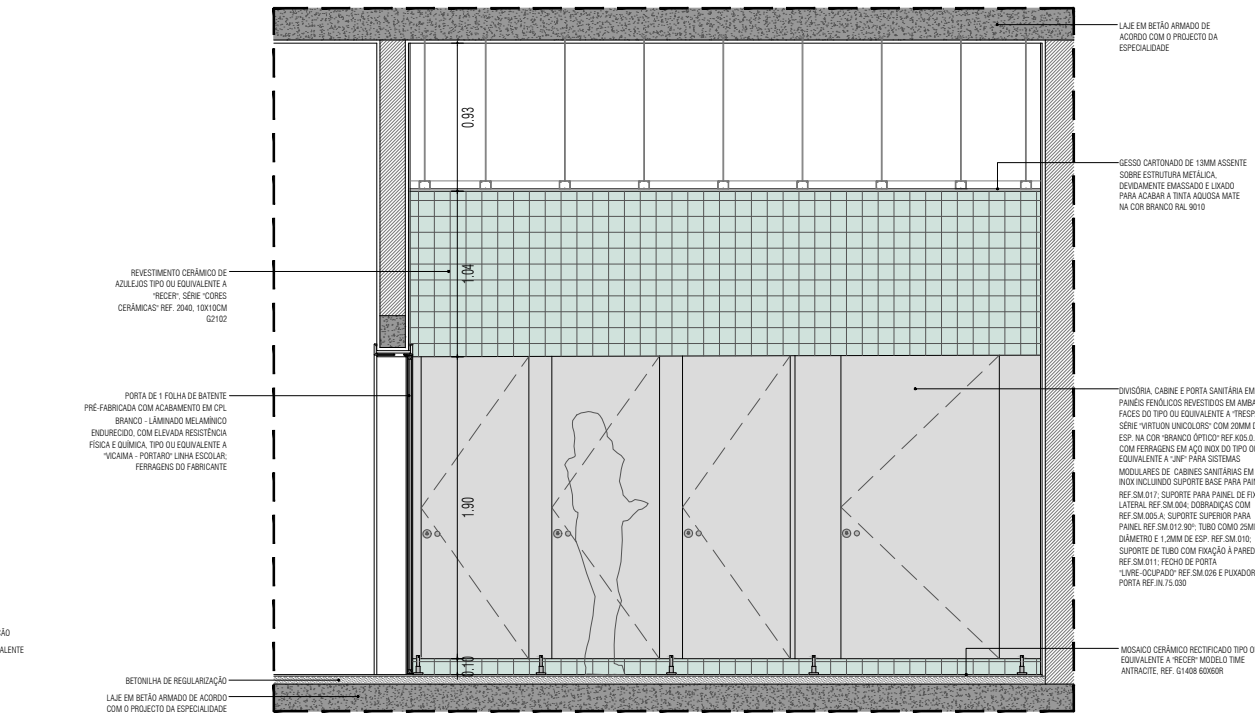
Section 01



Section 03



Section 02



Section 04

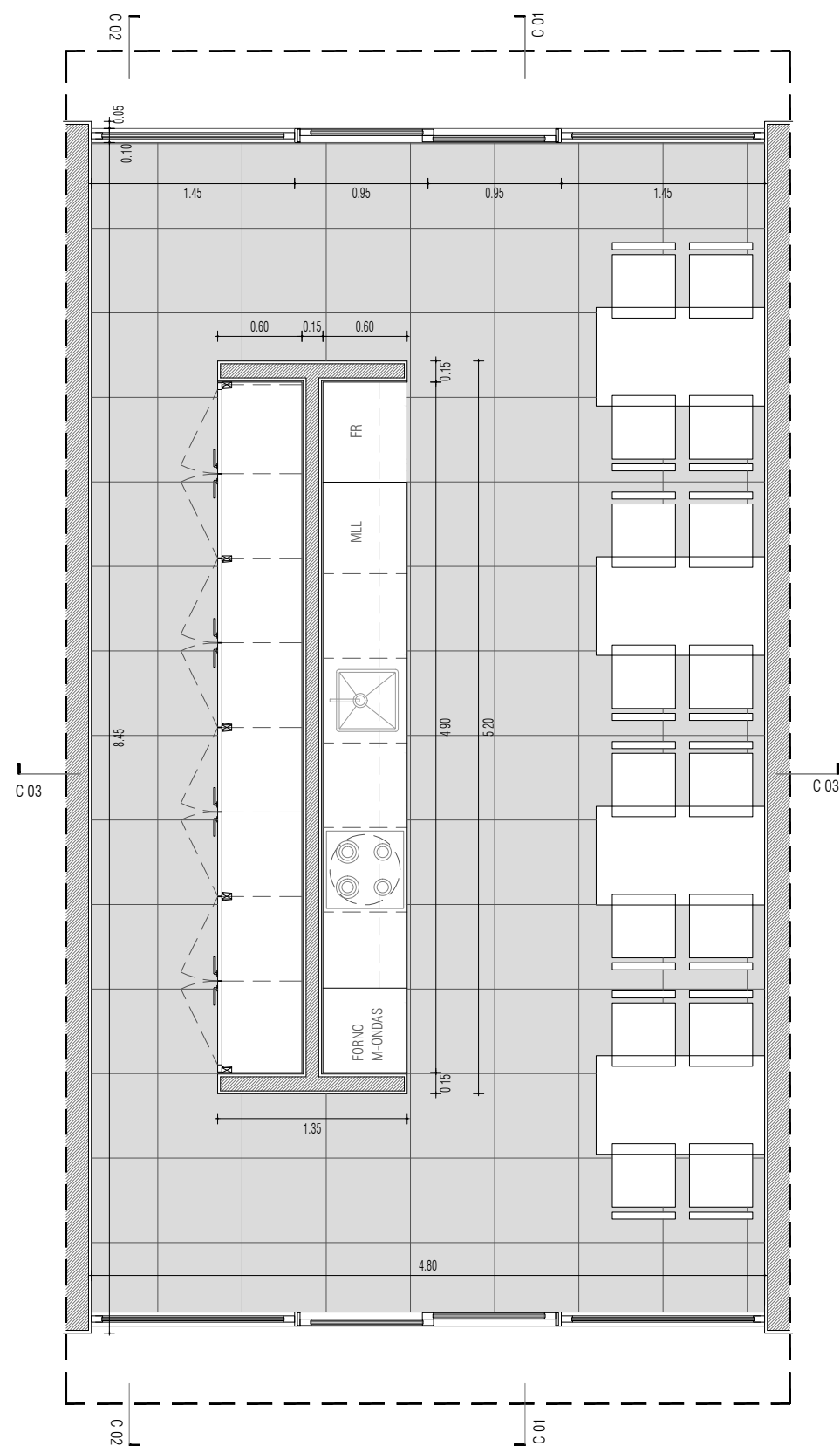
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and transformation

Project:
Frutas do Atlântico

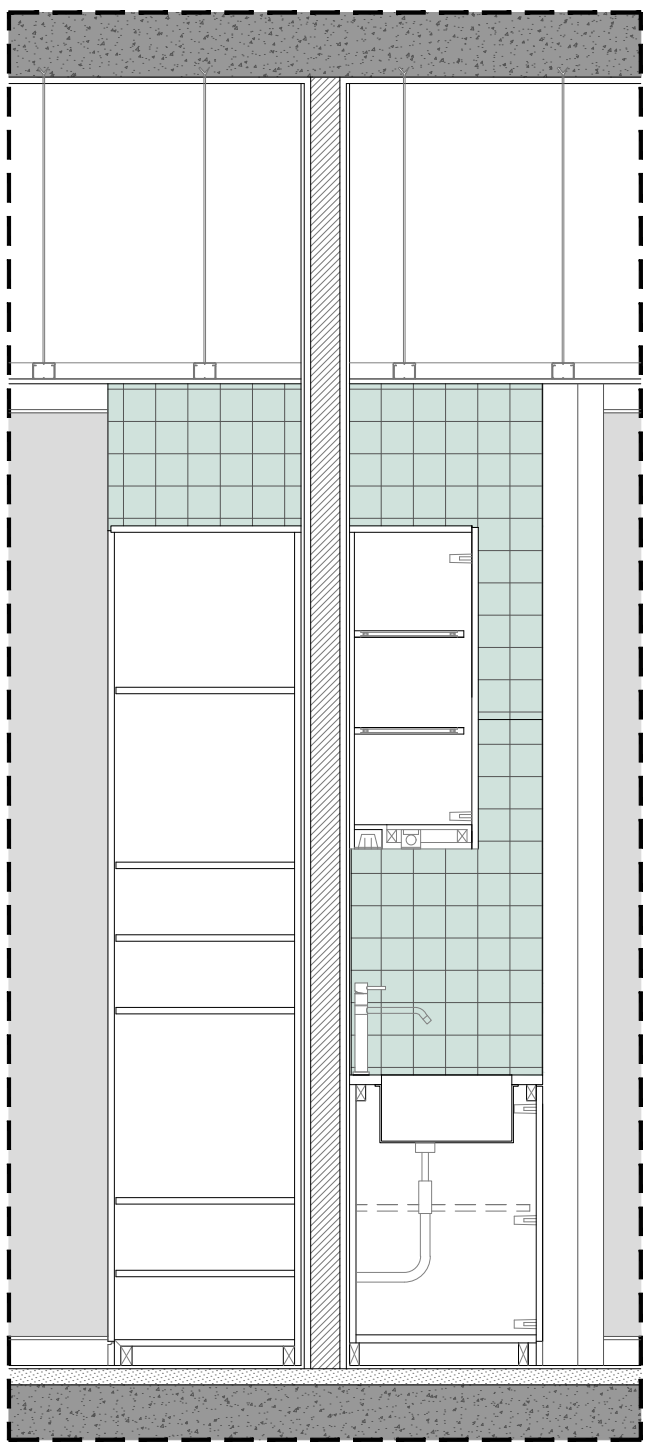
Drawing:
Office area, sanitary installation on the ground floor
Partial sections

1/50

Nov 2021



Technical plan



Section 03

BANCADA E ARMÁRIOS DE COZINHA

ACABAMENTO
TAMPO DA BANCADA EM PAINEL DE QUARTZO NATURAL TIPO "SILSTONE" SÉRIE
"MITHOLOGO" NA COR BRANCO * ZEUS EXTREME* COM 3CM DE ESPESURA.
ARMÁRIOS E GAVETAS EM AGLOMERADO DE MADEIRA - MDF DE 19mm
DEVIDAMENTE EMMASSADOS PARA LACAR NA COR BRANCO MATE RAL 9010,
COM INTERIORES EM MELAMINA BRANCA (ELECTRODOMESTICOS
ENCASTRÁVEIS);
ILUMINAÇÃO EMBUTIDA NO ARMÁRIO.

ARMÁRIOS DE ARRUMOS

ACABAMENTO ARMARIOS EM AGLOMERADO DE MADEIRA E CIMENTO TIPO "VIROC" DEVIDAMENTE IMPERMEABILIZADO NAS SEIS FACES PARA ACABAR A TINTA PLÁSTICA NA COR BRANCO MATE

OBSERVAÇÕES FERRAGENS EM AÇO INOX;
PUXADORES EM AÇO INOX TIPO "JNF" REF. IN.00.016.R04.M COM
ENTRADA DE CHAVE REF. IN.04.28R.P04.M E FECHADURA REF.
IN.20.895
DOBRADIÇAS DO INSTALADOR.

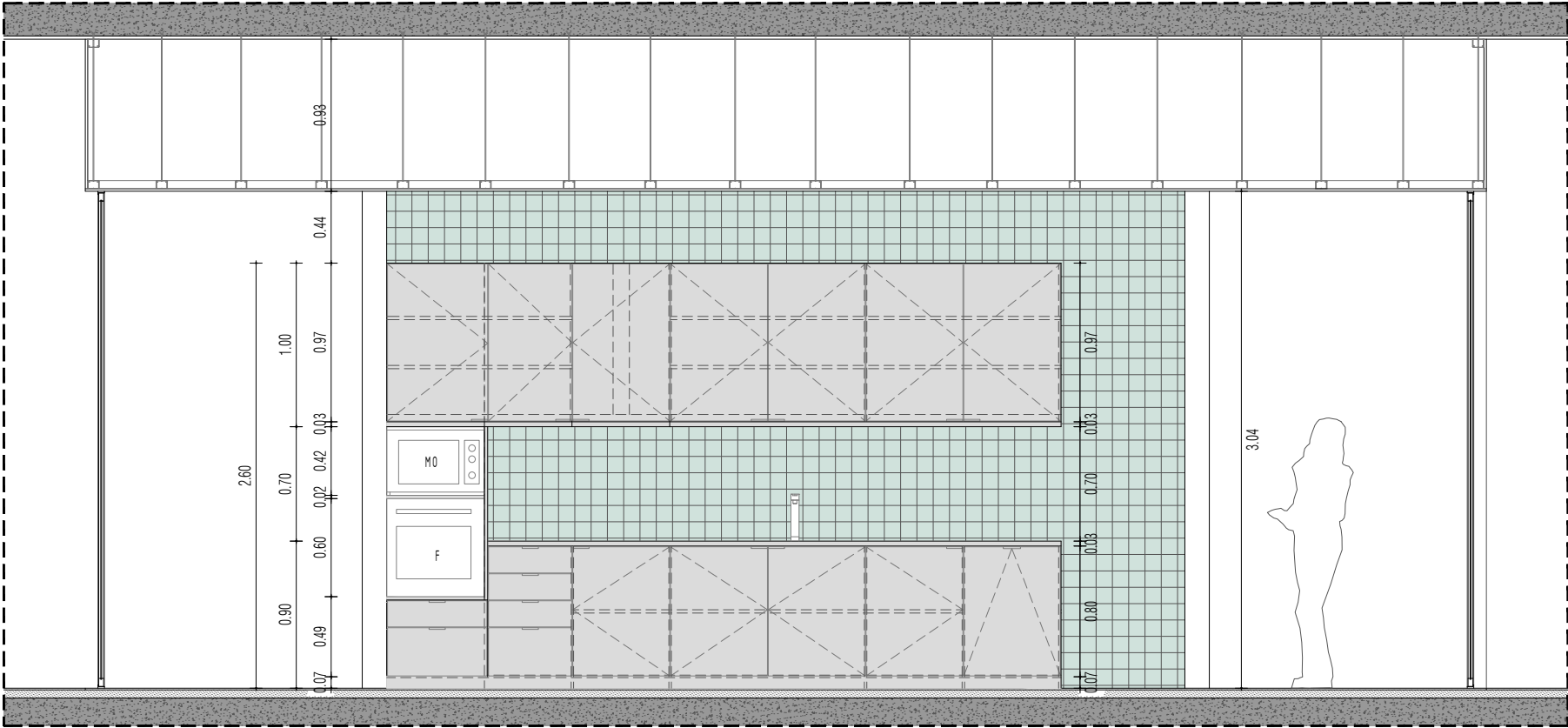
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and
transformation

Project:
Frutas do Atlântico

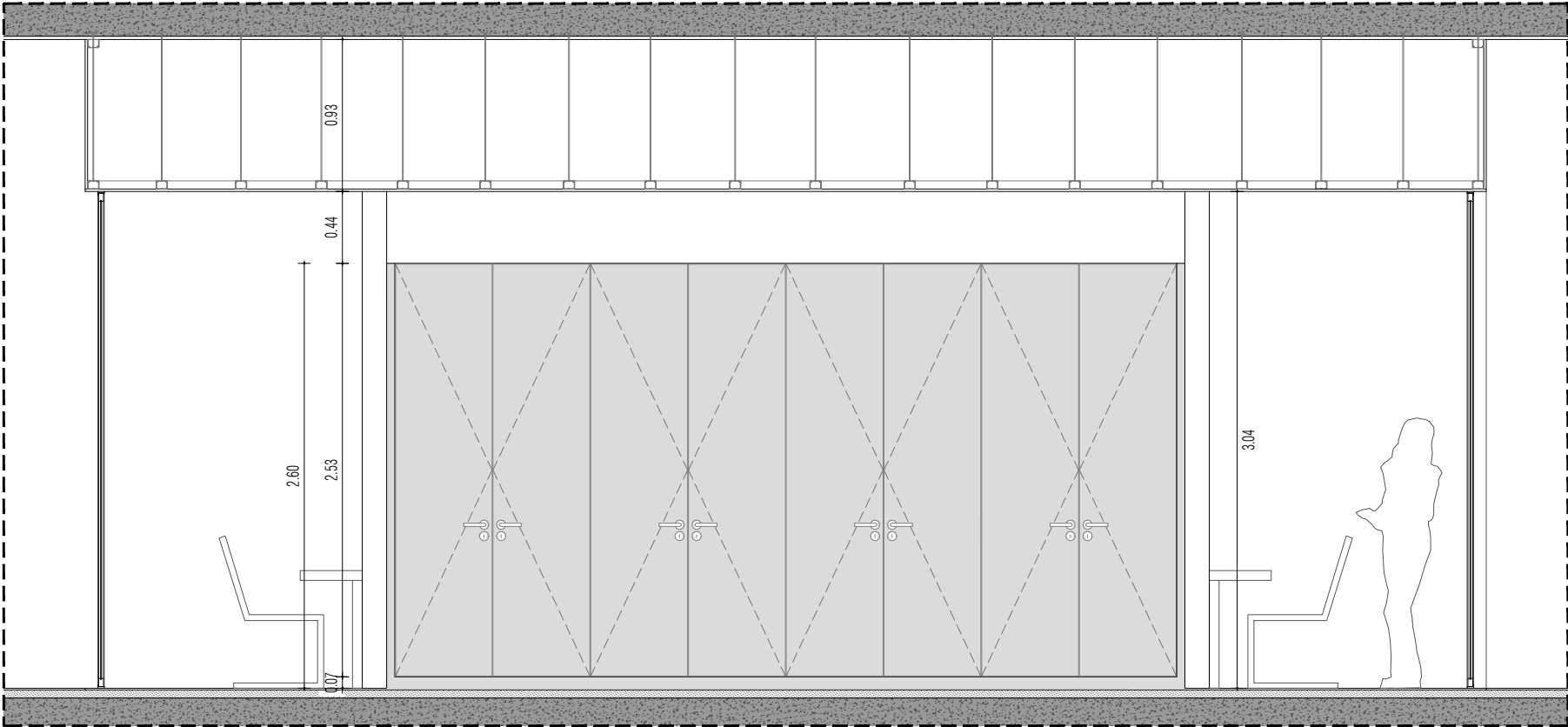
Drawing:
Transition area, Canteen on the
first floor
Partial details

1/50

Nov 2021



Section 01



Section 02

BANCADA E ARMÁRIOS DE COZINHA

ACABAMENTO TAMPO DA BANCADA EM PAINEL DE QUARTZO NATURAL TIPO "SILSTONE" SÉRIE "MYTHOLOGY" NA COR BRANCO "ZEUS EXTREME" COM 3CM DE ESPESSURA. ARMÁRIOS E GAVETAS EM AGLOMERADO DE MADEIRA - MDF DE 19mm DEVIDAMENTE EMASSADOS PARA LACAR NA COR BRANCO MATE RAL 9010, COM INTERIORES EM MELAMINA BRANCA (ELECTRODOMÉSTICOS ENCASTRÁVEIS); ILUMINAÇÃO EMBUTIDA NO ARMÁRIO.

OBSERVAÇÕES FERRAGENS EM AÇO INOX; PUXADORES DE MÓVEL PARA COZINHA TIPO "IKEA - KLIPPING" REF. IN.801.536.59; DOBRADIÇAS E CALHA DE CORRER PARA GAVETAS, DO FABRICANTE. CALHA PARA TOMADAS TIPO "GIRA - PERFIL 55" COM 3 SAÍDAS NA COR BRANCO, A APLICAR TRÊS, ENCASTRADAS NOS LOCAIS ASSINALADOS, NO FUNDO DO ARMÁRIO SUPERIOR. ILUMINAÇÃO LINEAR EMBUTIDA, COM APLICAÇÃO À FACE EM FITA DE LEDS, NO ARMÁRIO SUPERIOR, EXCEPTO NO LOCAL DO EXAUSTOR. MISTURADORA DE COZINHA TIPO "RODI" SÉRIE "LINE" REF. MN 800.

ARMÁRIOS DE ARRUMOS

ACABAMENTO ARMÁRIOS EM AGLOMERADO DE MADEIRA E CIMENTO TIPO "VIROC" DEVIDAMENTE IMPERMEABILIZADO NAS SEIS FACES PARA ACABAR A TINTA PLÁSTICA NA COR BRANCO MATE

OBSERVAÇÕES FERRAGENS EM AÇO INOX; PUXADORES EM AÇO INOX TIPO "JNF" REF. IN.00.016.F04.M COM ENTRADA DE CHAVE REF. IN.04.28R.P04.M E FECHADURA REF. IN.20.895 DOBRADIÇAS DO INSTALADOR.

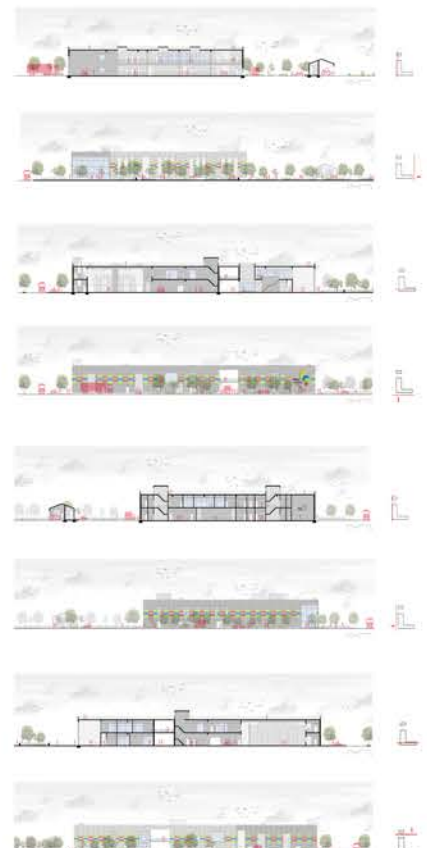
STOLDE WATER
Designing for Sustainability
Industrial unit for food processing and transformation

Project:
Frutas do Atlântico

Drawing:
Transition area, Canteen on the first floor
Partial details

1/50

Nov 2021



COMCLUSION

The economy of Cape Verde is directly influenced by the existing political, social and economic gaps. Despite its privileged geographical position in the world, it is clear that it does not achieve what was expected of it, which is justified by the competitiveness index and also by the import and export indexes. It should be pointed out that the rise of the country finds itself in an unstable economy and with little revenue either in national or international terms.

The study of the Cape Verdian economy and society resulted in a characterization of the same through the lack of resources needed to trigger a country to a rise in which is directly linked to the high rate of unemployment. Unemployment is one of the greatest difficulties encountered in this economy. Since the unemployment rate is directly linked to the development of the economy, the value of the index itself indicates the need for greater employability within the norms that are necessary for change.

It can be stated that development will effectively depend on the competitiveness index. Once, increasing the competitiveness index means that there are several companies of different characteristics operating in a sustainably developed economy. That is to say, the increase of competitiveness means an increase of the companies in terms of production and sale, which consequently turns into positive values towards the sectors that implement the society. The development of companies and factories in this economy of low production and scarcity of products will result in a dynamisation of the economy itself. It will thus determine the nature of the remaining means, whether labour, social or economic. The role of the State will be preponderant through the agenda³⁰ which aims to develop the country through the valorisation of the role of women, investments, better working conditions and, of course, investment in tourism.

In the face of, the unemployment rate increases as all sectors fail in terms of development, explained by low infrastructures, low working conditions and the economic system itself, unable to bring such values to statistics. The city of Praia, being the capital of the country and able to offer better opportunities, has weaknesses and constraints phase demand.

The problem of unemployment in society goes beyond the lack of work, it has a strong impact on the development of an organized and civil society. Many of the problems of domestic violence, violence, dropping out of school, drugs and prostitution are the result of a lack of opportunities and unfortunately many see these paths as an escape from the situation they are in.

In sum, despite being an insular State that lacks internal changes and this factor constitutes a problem for development, it is a State with great potential for prosperity. Thus, the contribution of investments that are demonstrated by the various cleavages of society will consequently constitute a primordial factor. The injection of investments will, on the other hand, shorten the value of debt giving a chance to an economy that suffered the consequences of its late independence, and all that comes from it.

According to Francisco Keil do Amaral in *Modern Dutch Architecture*, we clearly understand the role and value of the architect in a society, whether as a reflection of life itself or as historical testimony. With the capacity of observation, interpretation and action, I affirm that the function of the architect and urban planner goes far beyond designing it is an element of great impact on economic and social development, the conservation of the past and the promotion of environments in order to guarantee accessibility, comfort, safety, economy, sustainability in urban development and social promotion. Architecture has then a commitment to the space and the collective, which must be in tune to walk, drive, work, fly, rest, relax, discipline and institute.

Cape Verde has made great progress in the social and economic development of the archipelago, but there is still a long way to go. Being an archipelago, and an arid and dry territory, it is necessary to look to its natural and human resources as a solution to the problems, in order to develop its own autonomy. Sectors such as agriculture, animal husbandry and fishing, due to their importance and national impact, require new techniques and strategies that can be integrated with traditional ones. By observing the city as a whole it was necessary to imagine and live its space influenced by socio-economic, political and ethical or moral factors of the intervening parties. The seafront of the city of Praia has represented a postcard to the island with the new infrastructure and urban requalification, but on a wide observation it is notorious the abandonment of the surroundings of the national stadium, where as the entrance of the city for residents of other councils another attention is necessary, as well as the seafront.

In the first drafts the project had a more organic character, but with the spatial and functional reorganization was taking shape and adapting to the requirements. The metallic structure that was planned before was now in reinforced concrete, in order to achieve a flat roof in slab to implement solar panels and take advantage of the solar energy available throughout the year. In planning the project Frutas do Atlântico independent of users, it was necessary to pay attention to the physical space and its surroundings because they have their memories and create new ones so seek to combine a set of knowledge and techniques offering memories and feelings in people who see and inhabit it.

REFERENCES

- ANYANWU John.C. (2006). Promotion of investment in Africa. *African Development Review*, 18(1), 1467-8268.
- CAETANO José e GALEGO Aurora. (2009, julho). Investimento Directo Estrangeiro e Desenvolvimento Humano em África.
- CARDOSO Humberto. (1993). O Partido Único em Cabo Verde: um assalto á esperança. Praia: Imprensa Nacional de Cabo Verde.
- MALTHUS Thomas. (1798). An Essay on the Principle of Population. London.
- ÉVORA Roselma. (2004). Cabo Verde, A Abertura Política e a Transição para a Democracia.
- BERNARDO Edgar e RODRIGES Vitor G. (2020). Turismo em Cabo Verde, governação e governança. *PASOS Revista De Turismo Y Patrimonio Cultural*, 18(1), 27-38.
- MENDES Domingos V. (2010). Perspetivas e alternativas para a economia de Cabo Verde.
- COSTA Alfredo B. (1984). “Conceito de pobreza”. *Estudos de Economia*, IV (3):275-296.
- MADEIRA João P. (2016). A morabeza cabo-verdiana: contributos para a sua análise. In *Revista de Estudos Cabo-verdianos Numero Especial / Atas IV EIRI*.
- SILVA Maria Fernanda F. (2005). Hábitos de Consumo e Comportamento do Consumidor: Estudo de Caso da Ilha de Santiago. Cap 2- Caracterização de Cabo Verde (59-79)
In Tese Mestrado em Produção Agrícola Tropical.
- JUNIOR Fernando Pereira V. (2016). Arquitetura de valor social e cultural Projeto para uma Casa da cultura na cidade da Praia, Cabo Verde, (Universidade do Minho Escola de Arquitectura).
- NSHIMYUMUREMYI Adalbert, ARVANITIS Yannis e ROFFARELLO Luca Monge. (2017). Perspetivas Económicas em África: Cabo Verde. AFDB, OECD, UNDP.
- COSTA Zenaida. B. (2013). Avaliação das práticas agrícolas nas culturas de regadio Ilha de Santiago-Cabo verde, (Universidade de Cabo Verde Departamento de Ciências e Tecnologias).
- SEMEDO José. M. (2012). A Ilha de Santiago (Cabo Verde) - Génese de um ecossistema e identidade cultural numa ilha de escala marítima entre a África, a Europa e as Américas, (Universidade de Cabo Verde).
- PINA António. F. L. (2009). Hidroquímica e qualidade das águas subterrâneas da ilha de Santiago - Cabo Verde., (Universidade de Aveiro Departamento de Geociências).
- MADEIRA João P. (2016). “CABO VERDE: DE UM “ESTADO INVIÁVEL” AO PRAGMATISMO NA POLÍTICA EXTERNA”, *Revista de Relaciones Internacionales, Estrategia y Seguridad*, vol. 11, núm. 1, janeiro-junho.

CADERNO GESTÃO DO PATRIMÔNIO. (2015). Centro Regional de Formação para a Gestão do Patrimônio sob os auspícios da Unesco, Intervenções PALOP.

NOVAS TECNOLOGIAS REVOLUCIONAM AGRICULTURA EM CABO VERDE. (2012). Boletim Informativo do Ministério do Desenvolvimento Rural, Edição nº 01 - Agosto.

JORNADAS TÉCNICAS. (2014-2010). Frutais Tropicais na Região da Macaronesia Situação dos Frutais Tropicais nas Ilhas de Cabo Verde. Perspetivas, FRUTIMAC - Projeto de Cooperação Territorial MAC.

BANCO DE CABO VERDE. (2021). Relatório do Estado da Economia de Cabo Verde em 2020.

BANCO MUNDIAL. (2010). Cabo Verde: Avaliação Inicial do Mercado de Trabalho Formal. Washington, DC: Banco Mundial. Relatório n.º 58551-cv.

BANCO MUNDIAL. (2019). Quadro de Parceria para País - República de Cabo Verde para o Período Fiscal 2020-2025. Washington, DC: Banco Mundial. Relatório n.º. 127164-cv.

GOVERNO DE CABO VERDE. (2018). PEDS - Plano Estratégico de Desenvolvimento Sustentável 2017/2021 - Cabo Verde.

INSTITUTO NACIONAL DE ESTATISTICA. (2020). Estatísticas do Mercado de Trabalho: Ano 2020.

GOVERNO DE CABO VERDE. (2012). Documento de Estratégia de Crescimento e Redução da Pobreza.

AIP – FCE. CESO CI Portugal para a AIP – Feiras. Congressos e Eventos no âmbito do QREN – Projecto Conjunto SI Qualificação número 16834. Cabo Verde Estudo do Mercado. Principais Sectores Económicos (12-14).

<https://news.un.org/pt/story/2015/07/1517301-mais-de-40-da-populacao-da-africa-subsaariana-vive-na-extrema-pobreza> (consultado em agosto de 2021)

<https://www.worldbank.org/pt/country/caboverde/overview#1> (consultado em agosto de 2021)

<https://preprints.scielo.org/index.php/scielo/preprint/view/1731/version/1840>

<https://news.un.org/pt/story/2021/07/1756742>

<http://www.africa-turismo.com/cabo-verde/historia.htm>

<https://inforpress.cv/santo-antao-mais-de-dez-mil-litros-de-grogue-serao-exportados-em-2020-para-o-mercado-europeu-empresa/>

<http://www.portugalglobal.pt/PT/Internacionalizar/Paginas/MercadosExternos.aspx?marketId=21>

<https://investexportbrasil.dpr.gov.br/arquivos/Publicacoes/ComoExportar/GNCaboVerde.pdf>

<http://pt.reingex.com/Cabo-Verde-Negocios-Economia.asp>

<http://philosogogos.mozello.com/params/post/993736/outros-trilhos-de-historia-da-ilha-de-santo-antao-i>

<http://www.caboverde-info.com/Ilhas>

<https://brito-semedo.blogs.sapo.cv/tag/mem%C3%B3rias>

<https://momentoseolhares.blogs.sapo.pt/287054.html>

<https://expressodasilhas.cv/economia/2020/06/09/ministerio-da-economia-maritima-isenta-embarcacoes-de-pesca-do-pagamento-de-licencas/69900>

<https://sites.google.com/site/gastronomiacver/>

<https://www.archdaily.com/530616/terra-remota-winery-untaller>

<https://www.archdaily.com/893213/brown-sugar-factory-dna>

<https://www.archdaily.com/910236/nett-winery-architects-collective>

Learning About Organic Wines in Emporda at Terra Remota | HDYTI (heydipyourtoesin.com)

Nett Winery by Architects Collective - Architizer

Rural restoration: Xu Tiantian, DnA, China - Architectural Review (architectural-review.com)

<http://www.esp.org/books/malthus/population/malthus.pdf>

Attachments

Working process

PROJETO

AGU FURTADO

VOLTA AS ORIGENS
DANILLO ALEXANDRE SILVA PEREIRA

FRUTOS DO ATLANTICO
CABO VERDE PARA O MUNDO
TESE FINAL DE MESTRADO

HISTORIA | ARQUITECTURA | MARKETING

ISCTE
INSTITUTO UNIVERSITARIO SUPERIOR LISBOA

PROJETO "AG. FURTADO"

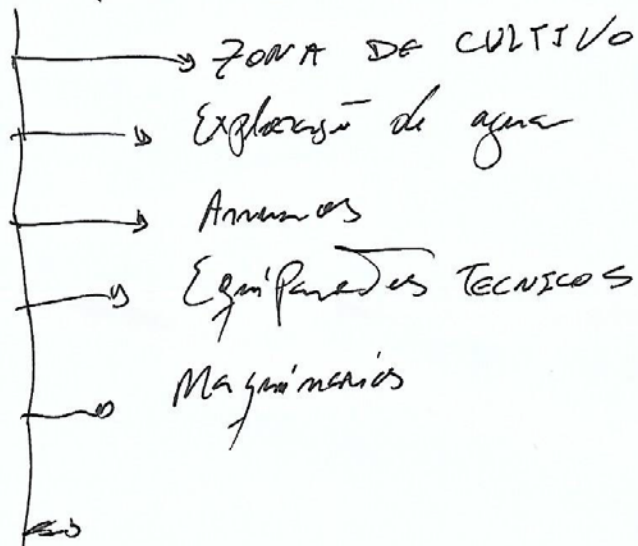
PROGRAMA DE NECESSIDADES

ESPAÇO EXTERIOR

- Estacionamento Público
- Estacionamento Privado
- Jardim
- CAIS DE CARGAS
- CAIS DE DESCARGAS
- Espaço Polivalente

~~ÁREA DE CULTIVO~~

- ÁREAS TÉCNICAS



- Apoio à zona técnica

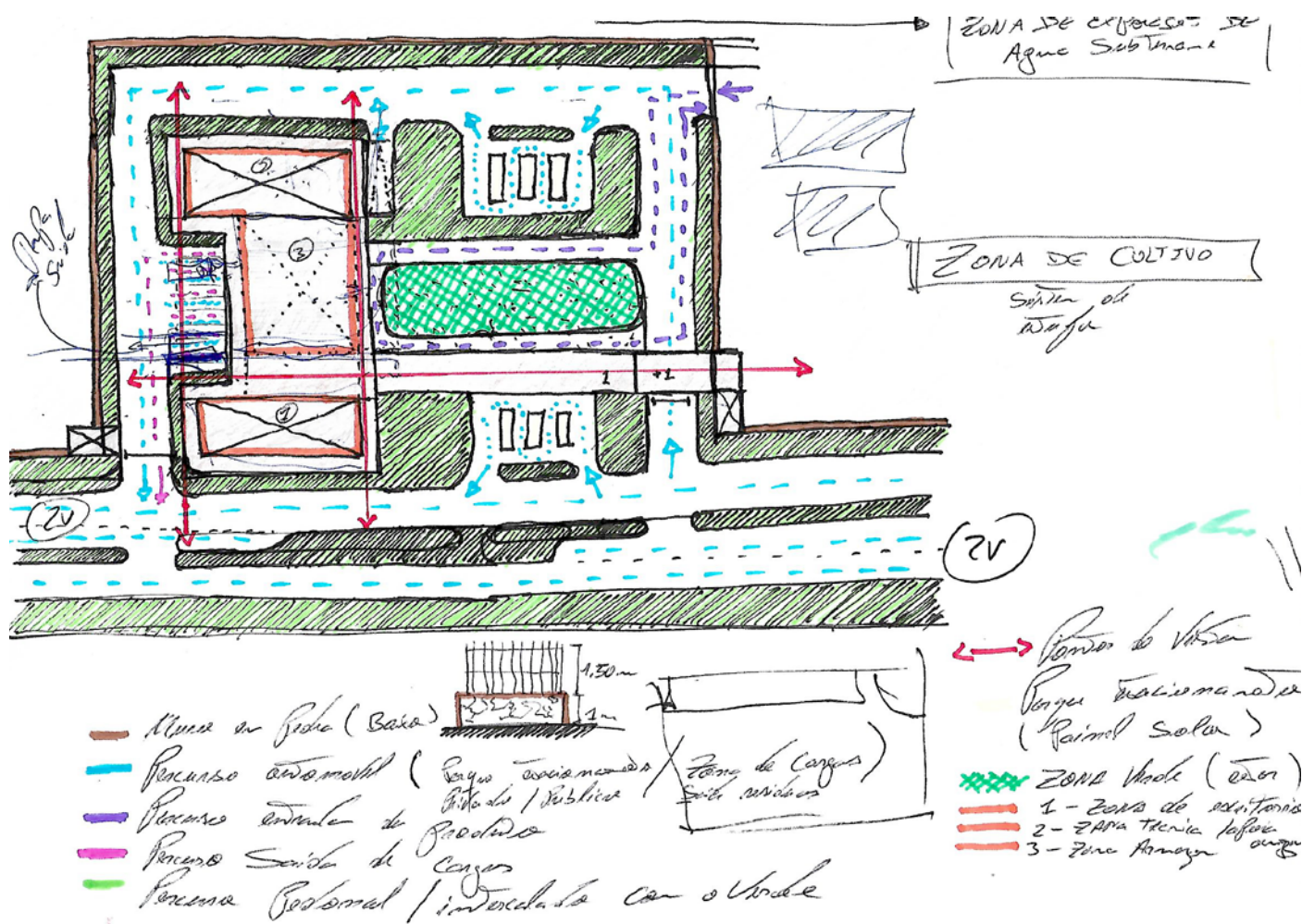
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- I. SANITÁRIO
- Balneários

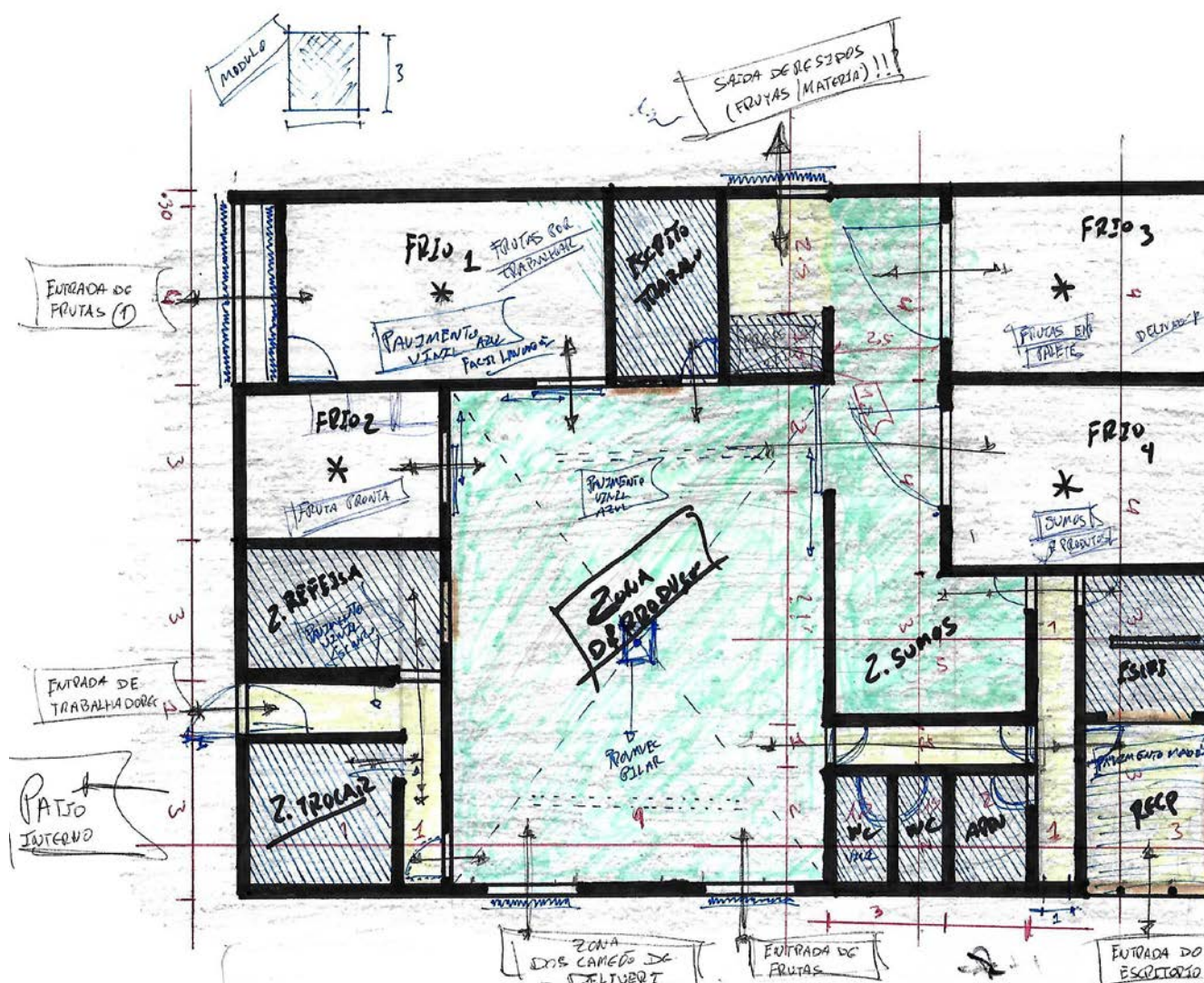
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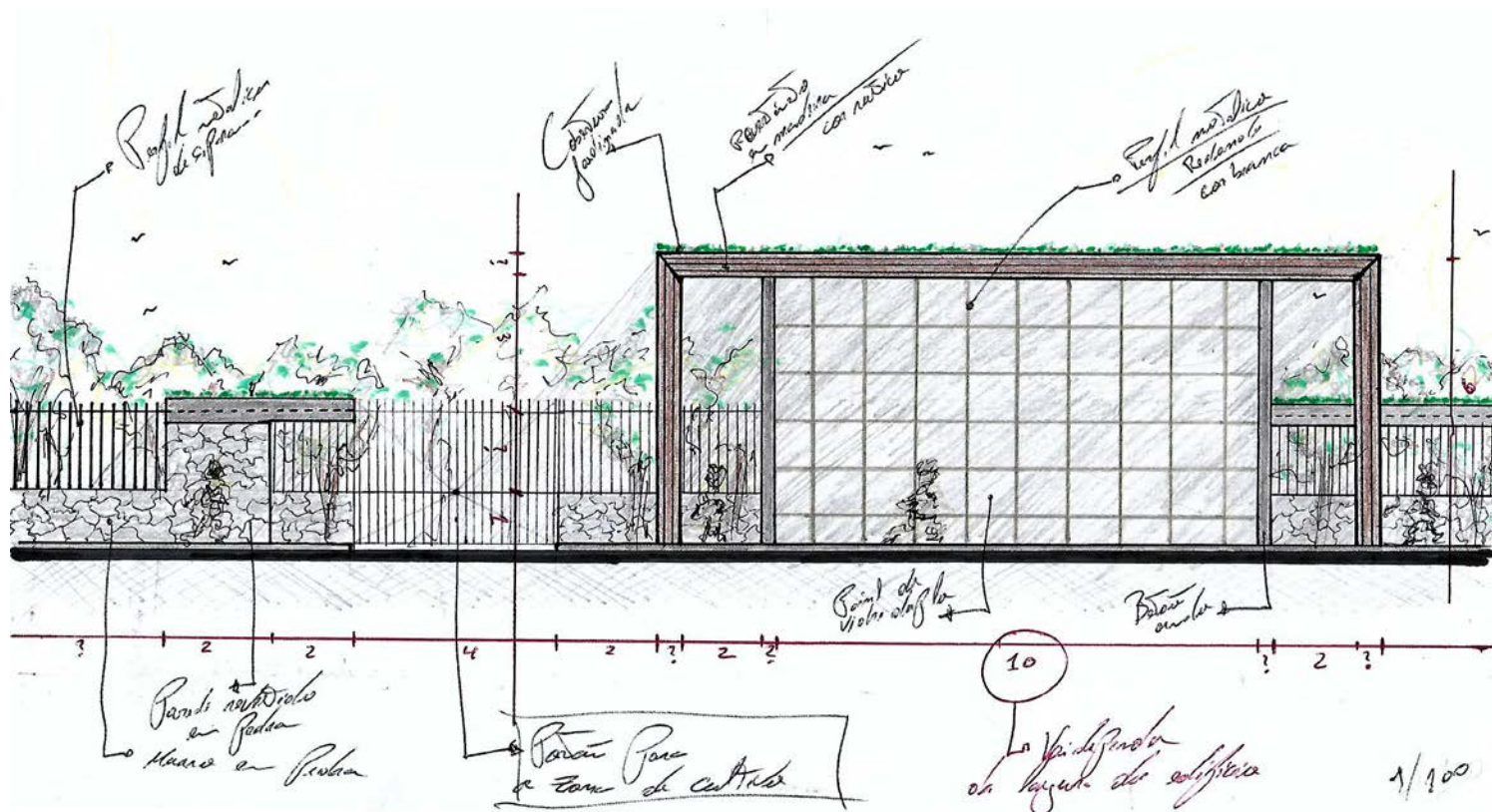
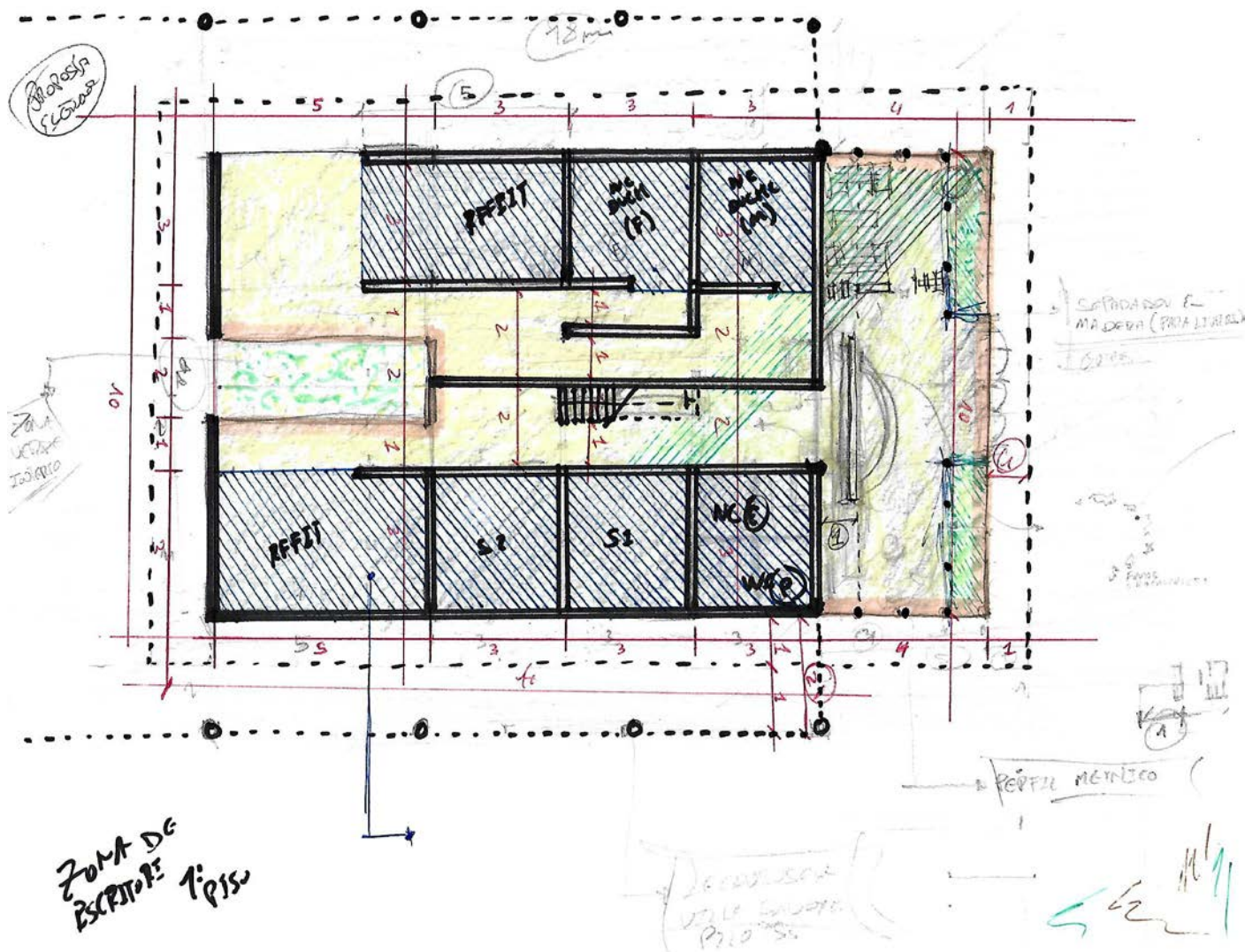
- SALA DOS EQUIPAMENTOS Versão

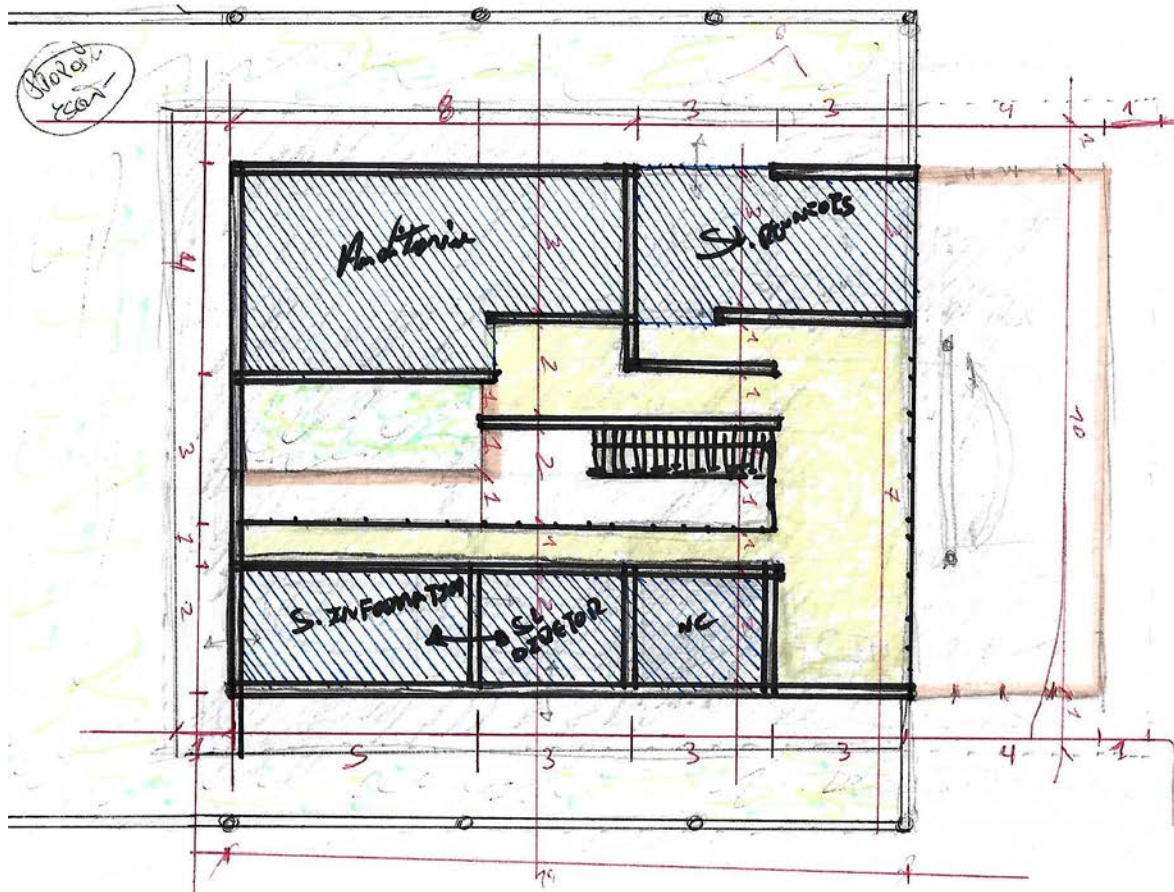
CAVE

- ZONA DE ARQUIVOS
- DESCARGA DE RESÍDUOS
- ZONA DE CARGA / DESCARGA
- T. SANITÁRIA DE APOIO



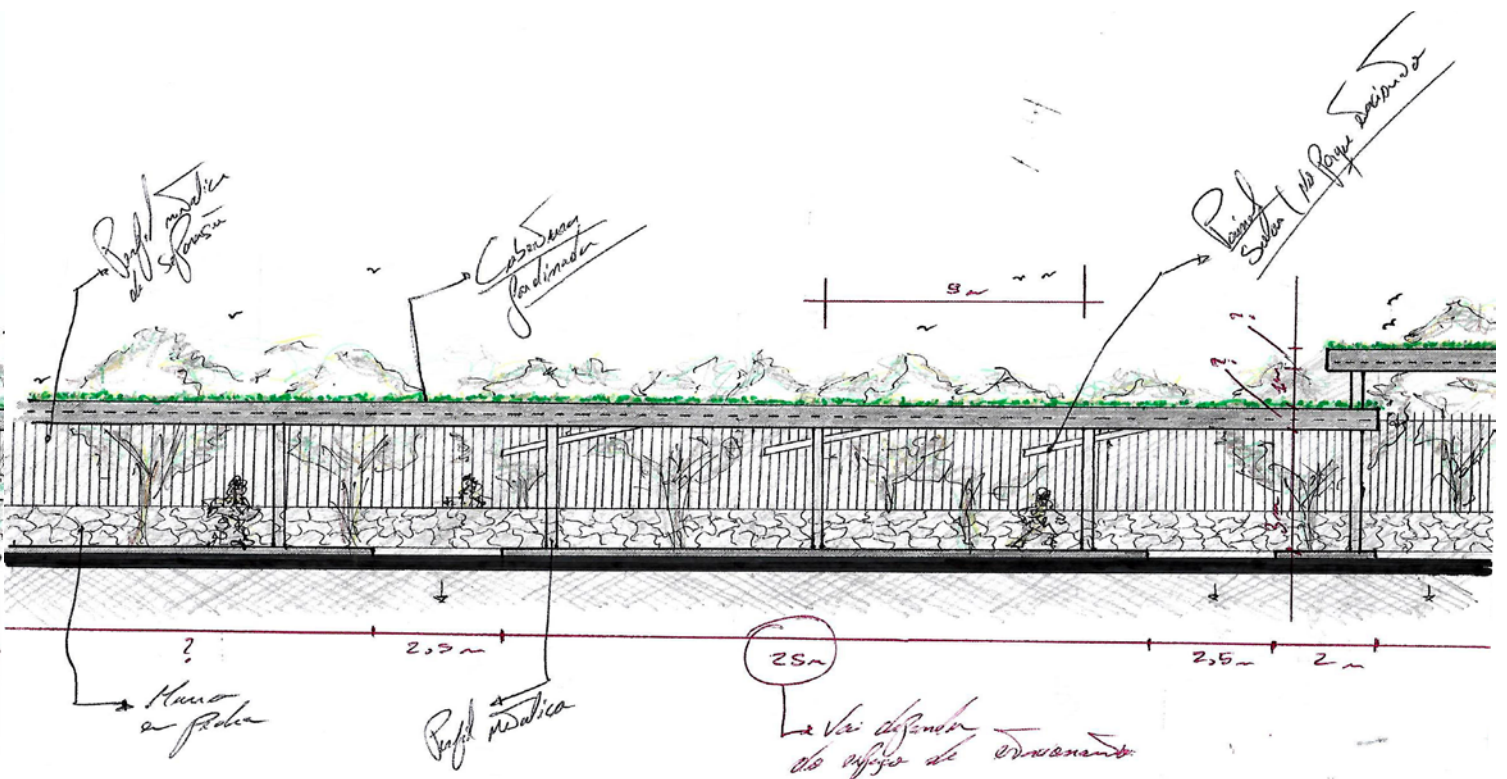


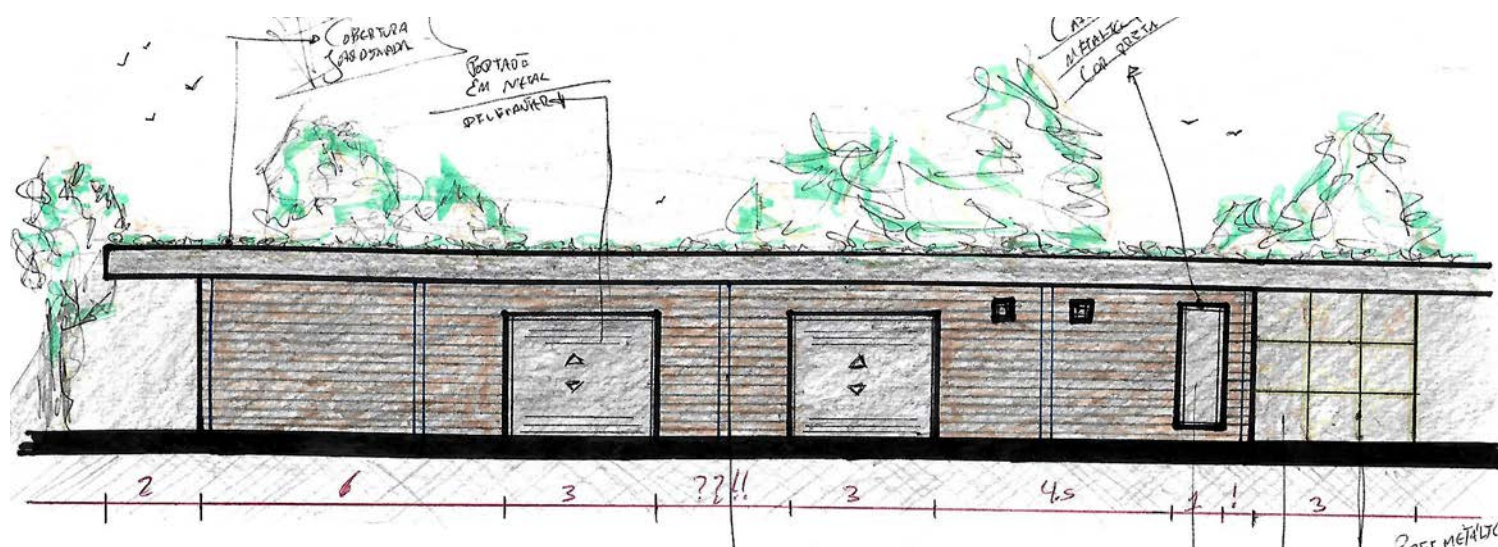
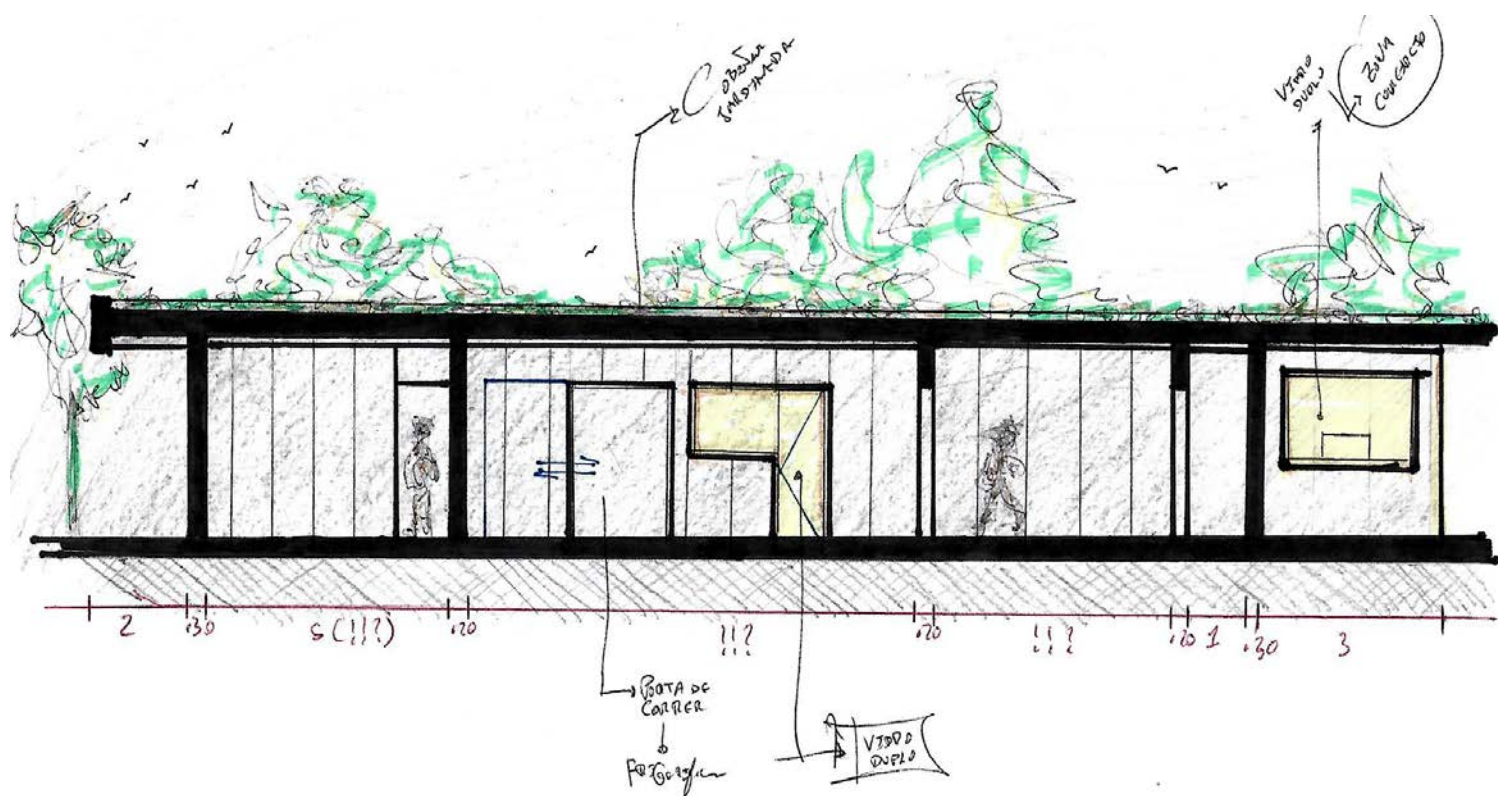


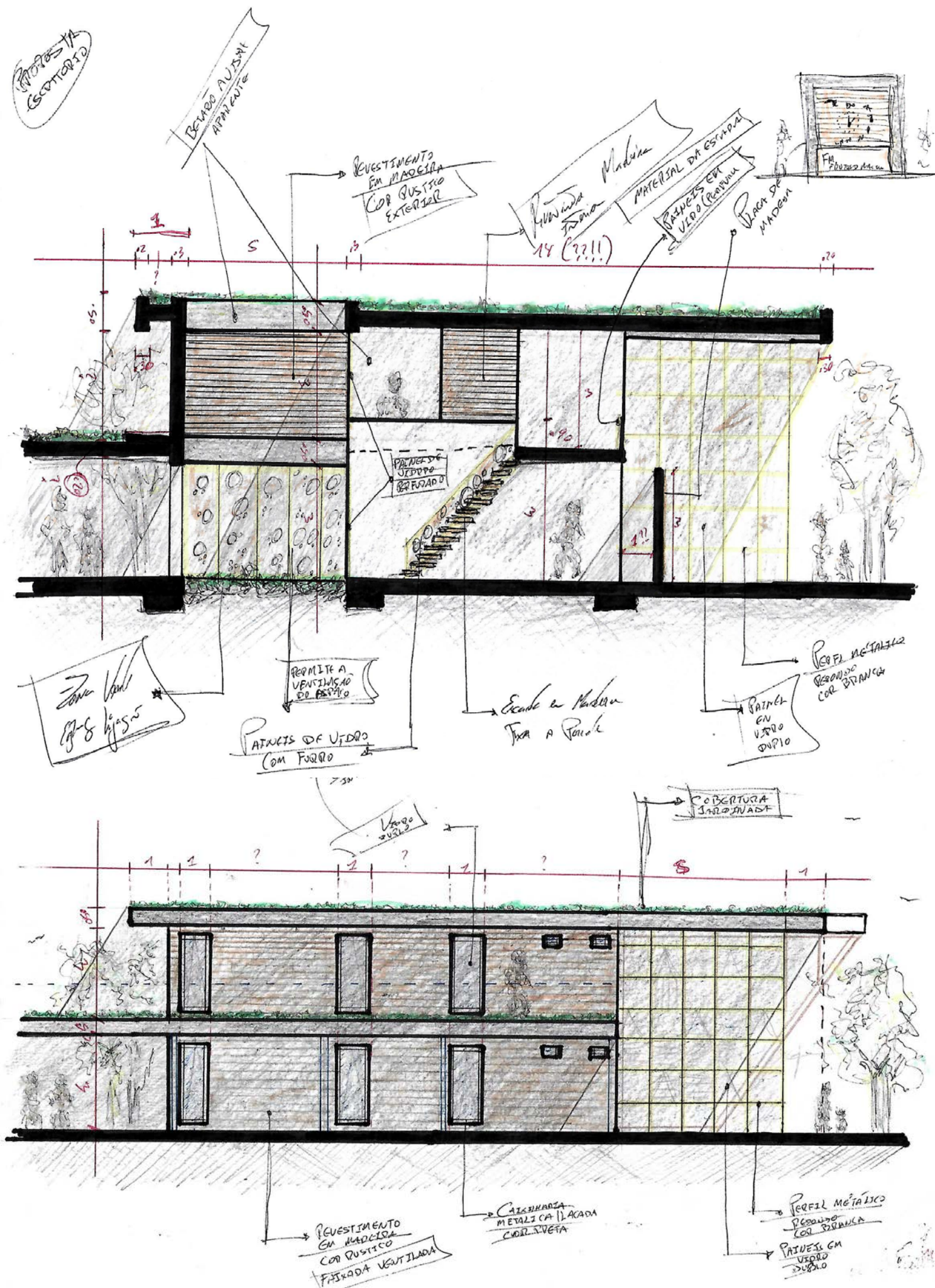


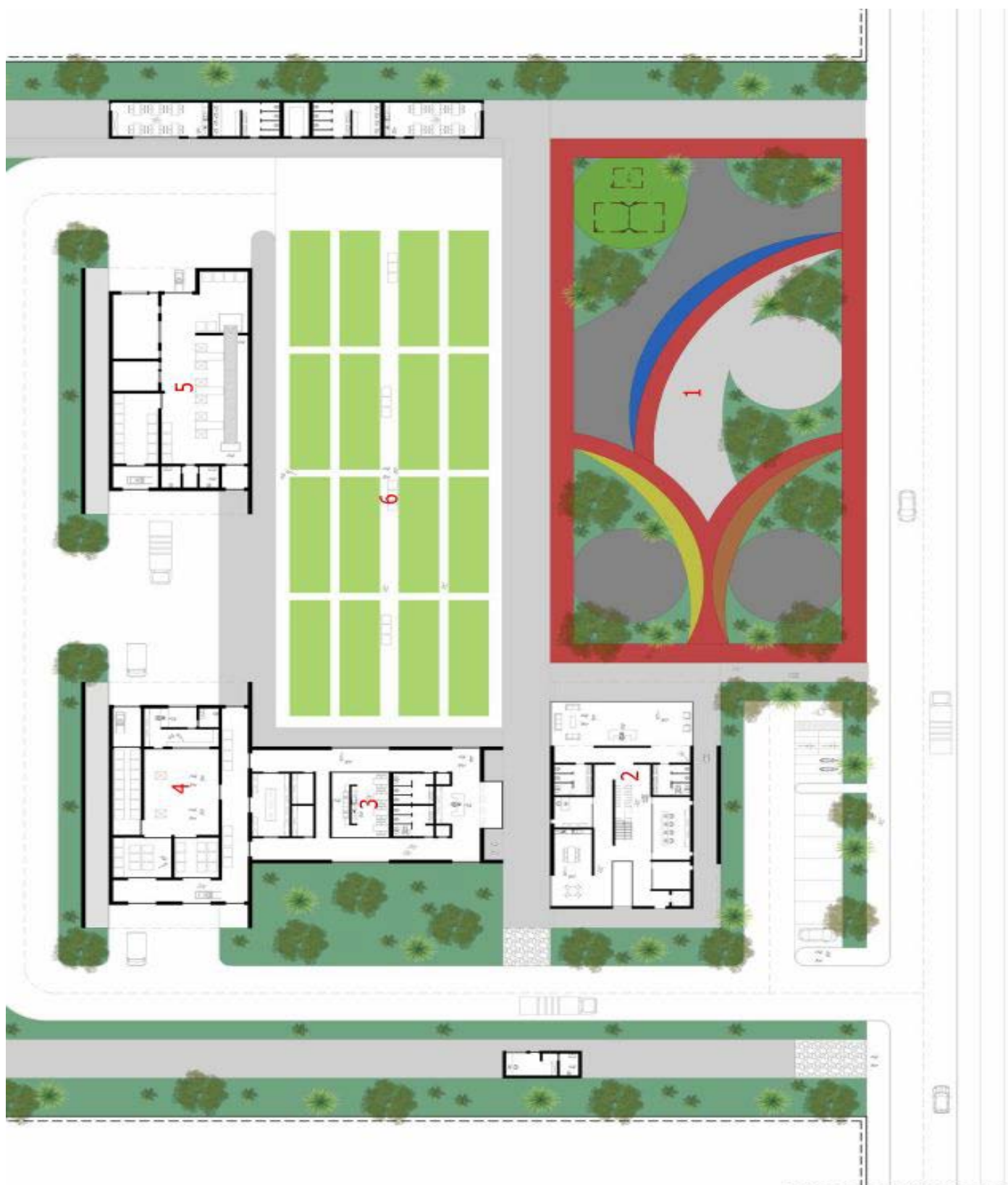
$$5+3=8+6 \text{ (7)}$$

Fondos:
Exterior 2: 1350









1 - Parque urbano 2 - Escritorio 3 - Zona de Transicao 4 - Transformacao 5 - Tratamento

Estacionamento
Centro de eventos
Zona infantil
Area verdes
Area de lazer
Zonas de estar

Atrio de entrada
Recepcao
Apoyo a recepcao
IS Publico
IS Privado
Sala de reunioes
Refeiturio
Zona tecnica
Gabinetes tecnicos()

Atrio de entrada
Recepcao
Apoyo a recepcao
Instalacao Sanitarias
Refeiturio
Zona tecnica
Vestuario
Gabinetes tecnicos()

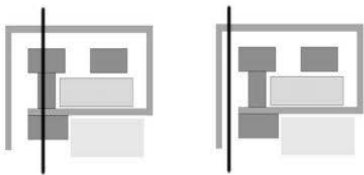
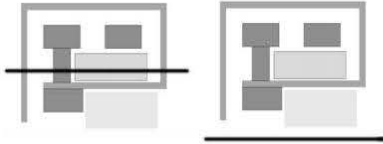
Recepcao
Gabinete
C. Fria
Armazem
Zona tecnica

Recepcao
Gabinete
C. Fria
Armazem
Lavagem
Zona tecnica

6 - Zona de Cultivo 7 - Zona Tecnica

Campo agriculo
Zonas de apoio

Reservatorios de agua
Zona dos paineis solares



iscte

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