

# PLAN DE AUTOPROTECCIÓN FRENTE AL RIESGO DE INCENDIOS FORESTALES

RESIDENCIALES DEL SECTOR R1 - LAS RAMBLAS.  
ORIHUELA COSTA

*AUTOPROTECTION PLAN  
IN THE CASE OF FOREST FIRES*



NOVIEMBRE 2025

+O<sub>2</sub> ingenieros



Table of Contents

**DOCUEMNTO I. MEMORANDUM**

<b>1.</b>	<b><u>FUNDAMENTALS</u></b> .....	<b>6</b>
	1. BACKGROUND .....	6
	2. OBJECTIVE AND TERRITORIAL SCOPE OF PLAN.....	7
	3. DEFINITIONS .....	9
<b>2.</b>	<b><u>IDENTIFICATION OF THE OWNERS AND THE LOCATION OF THE COMPLEX OF BUILDINGS</u></b> .....	<b>12</b>
	1. GENERAL DATA.....	12
	2. ENVIRONMENTAL DATA AND VULNERABLE ELEMENTS.....	13
	1. CHARACTERIZATION OF THE URBAN-FOREST INTERFACE .....	13
	2. BUILDINGS AND URBAN FABRIC.....	14
	3. GREEN AREAS .....	16
	4. TOPOGRAPHY .....	20
	1. Relief.....	20
	2. Slope.....	21
	3. Orientation .....	22
	5. CLIMATOLOGY .....	23
	6. VULNERABLE ELEMENTS.....	26
	1. Vulnerability of people.....	26
	2. Vulnerability of housing .....	28
	3. Vulnerability of critical infrastructures, other facilities. ....	29
	3. ACCESSIBILITY .....	30
	1. EXTERNAL ACCESSIBILITY .....	30
	2. INTERNAL ACCESSIBILITY .....	32
	1. Inner Roads .....	32
<b>3.</b>	<b><u>DESCRIPTION OF THE COMPLEX OF BUILDINGS</u></b> .....	<b>35</b>
	1. BUILDINGS .....	35
	2. PEOPLE WITH REDUCED MOBILITY .....	36
	3. PREMISES AND PLACES OF PUBLIC ATTENDANCE.....	36
	4. POINTS OF SPECIAL PROTECTION. DOMINO EFFECT.....	38
	1. ACCESS TO THE URBANIZATION .....	38

2.	HYDROCARBON DEPOSITS .....	38
3.	ELECTRICAL INSTALLATIONS.....	39
4.	EFFECT ON ELECTRICAL TRANSFORMERS.....	40
<b>4.</b>	<b><u>FOREST FIRE PREVENTION AND PROTECTION</u></b> .....	<b>40</b>
<b>1.</b>	<b>EXTINGUISHING SUPPORT INFRASTRUCTURES.....</b>	<b>40</b>
1.	ROADS, FIREBREAKS AND FOREST ROADS .....	40
2.	WATER NETWORK.....	41
<b>5.</b>	<b><u>PROPOSED FOREST FIRE PREVENTION AND PROTECTION MEASURES</u></b> .....	<b>43</b>
<b>1.</b>	<b>ACTIONS IN THE REGULATORY FIELD .....</b>	<b>44</b>
<b>2.</b>	<b>COMMUNICATION, AWARENESS-RAISING AND TRAINING ACTIONS .....</b>	<b>46</b>
<b>3.</b>	<b>ACTIONS ON THE ROAD.....</b>	<b>49</b>
<b>4.</b>	<b>ACTIONS ON VEGETATION NETWORK.....</b>	<b>51</b>
<b>5.</b>	<b>ACTION ON THE WATER NETWORK .....</b>	<b>53</b>
<b>6.</b>	<b><u>ECONOMIC AND TEMPORAL PROGRAMMING</u></b> .....	<b>55</b>
<b>7.</b>	<b><u>ACTION PLAN IN THE EVENT OF AN EMERGENCY SITUATION</u></b> .....	<b>56</b>
<b>1.</b>	<b>RESPONSIBILITY AND MEMBERS OF THE SELF-PROTECTION PLAN .....</b>	<b>56</b>
<b>2.</b>	<b>ALARM DETECTION AND TRANSMISSION .....</b>	<b>57</b>
<b>3.</b>	<b>RECEIPT OF EXTERNAL AID .....</b>	<b>58</b>
<b>4.</b>	<b>MEASURES OF ACTION AND PROTECTION.....</b>	<b>58</b>
<b>5.</b>	<b>EVACUATION / DISTANCING / CONFINEMENT .....</b>	<b>59</b>
1.	SAFE ZONE ISOLATED FROM FOREST STAND .....	60
2.	PREFERENTIAL ROUTES OF REMOVAL/EVACUATION AND THEIR HIERARCHY.....	60
3.	DISTANCING/EVACUATION PROTOCOL .....	61
<b>6.</b>	<b>POPULATION WARNING SYSTEMS .....</b>	<b>61</b>
<b>1.</b>	<b>PERSONAL SELF-PROTECTION MEASURES .....</b>	<b>62</b>
1.	DETECTION OF A FIRE.....	62
2.	ATTACK BY A DETECTED OUTBREAK.....	63
3.	IF YOU ARE IN A HOUSE AND THE FIRE IS APPROACHING .....	64
4.	IF YOU FIND YOURSELF IN A CAR AND YOU FIND YOURSELF SURROUNDED BY FIRE .....	64
5.	IF YOU WALK IN THE BUSH AND THERE IS A FIRE IN THE VICINITY.....	65
6.	IN CASE OF CONFINEMENT.....	65
7.	AFTER FIRE .....	66

<b>8.</b>	<b><u>IMPLEMENTATION AND MAINTENANCE OF PLAN</u></b> .....	<b>67</b>
1.	IMPLANTATION .....	67
2.	INFRASTRUCTURE VERIFICATION .....	67
3.	TRAINING OF THE PERSONNEL INVOLVED .....	67
4.	INFORMATION TO THE POPULATION .....	68
5.	MAINTENANCE .....	69
1.	UPDATE AND REVISION .....	69
2.	CONTINUING EDUCATION .....	69
3.	FOREST FIRE PREVENTION INFRASTRUCTURES .....	69
<b>9.</b>	<b><u>TELEPHONE DIRECTORY</u></b> .....	<b>70</b>
	<b><u>ANNEX 1 PEOPLE WITH REDUCED MOBILITY</u></b> .....	<b>71</b>
	<b><u>ANNEX 2 RECOMMENDATIONS FOR LANDSCAPING</u></b> .....	<b>72</b>

## **DOCUMENT II. PLANS**

1. Location plan.
2. Topographic map of the scope of application of the PAU.
3. Orthophoto of the scope of application of the PAU.
4. Road network classification
5. Emergencies domino.
6. Defence Measures and Infrastructures.
7. Evacuation routes and safe areas.
8. Proposed action measures.



## 1 FUNDAMENTALS

The preparation of this Plan is based on compliance with Royal Decree 893/2015, of 15 November, which approves the Basic Guideline for Civil Protection Planning for Forest Fire Emergencies. Section 1.2 states that the purpose of this Royal Decree is:

*"To establish the minimum criteria to be followed by the different Public Administrations for the preparation of emergency civil protection plans for forest fires in the territorial area and competences that correspond to each one, in the event of the existence of a possible national or supra-regional interest that may be affected by the emergency situation. All this with the aim of providing a minimum design that allows the coordination and joint action of the various services and Administrations involved in the prevention, preparation and fight against forest fires and in coherence with the principle that the protection of life and the safety of people must prevail over any other value."*

In this way, this document is developed following section 3.6 of the aforementioned royal decree in which the functions and minimum contents that this self-protection plan must have for the residential areas of the Las Ramblas Sector of Orihuela Costa are set out. The basic functions of this plan are the following:

- a) To complement the prevention, surveillance and detection tasks provided for in the higher-level plans.
- b) Facilitate the extinguishing tasks by the public services and, where appropriate, organise the human and material resources available for a first intervention until their arrival and intervention.
- c) Guarantee the possible evacuation of the occupants of the facilities or buildings.

### 1.1 Background

The Special Forest Fire Plan of the Valencian Community establishes as a Regional Master Plan that sets the guidelines for territorial planning at a lower level in the face of this risk, establishing the basic functions and minimum content of municipal action plans and self-protection plans (PAU). In this way, section 6 develops the objectives and functions of the PAUs, highlighting that the preparation of self-protection plans for forest fire risk will be the responsibility of the natural or legal person who owns the facilities or buildings to which the plan refers.

These plans will be annexes to the corresponding Municipal Action Plan against the risk of forest fires and their preparation will be promoted and supported by the municipalities themselves.

Legislative Decree 1/2021, of 18 June, of the Council approving the revised text of the Law on Territorial Planning, Urban Planning and Landscape, also includes in its seventh additional provision a series of measures for the prevention of forest fires in housing estates, population centres, buildings and facilities located on forest land and in the area of forest influence. Annex XI details a series of infrastructures and measures that must be adopted by any urbanisation, population centre, building or installation intended for residential, industrial or tertiary use on forest land or in its area of influence (less than 500 m), these being:

1. Perimeter protection strip.
2. Roads.
3. Treatment of indoor vegetation.
4. Water points.
- 4.2 Other systems.
5. Self-protection plans.

Point three of the seventh additional provision states that the owners of housing estates, population centres, buildings or facilities located on forest land or in areas of forest influence shall be obliged subjects and must comply with the obligations established in Annex XI. The owners of such property shall be jointly and severally liable for the fulfilment of these obligations, unless a community of owners or collaborating urban planning entity has been constituted, in which case it shall be the latter. A deadline of six months is set for the execution of the measures included in Annex XI from the approval by the city council of the cartography of urban forest interface areas.

## 1.2 Objective and territorial scope of the Plan.

**Royal Decree 893/2013** in point 3.6.1 details that the self-protection plan is the document that establishes the provisions relating to an installation, building or set of them, located in an urban-forest interface area, which aim to prevent the generation or spread of forest fires and facilitate the extinguishing work of specialised public services when their action is necessary.

The aforementioned Royal Decree includes as basic functions of the Self-protection plans in the event of an emergency due to the risk of forest fire:

- a) To complement the prevention, surveillance and detection tasks provided for in the higher-level plans.
- b) Facilitate the extinguishing tasks by the public services and, where appropriate, organise the human and material resources available for a first intervention until their arrival and intervention.
- c) Guarantee the possible evacuation of the occupants of the facilities or buildings.

The **Special Forest Fire Plan of the Valencian Community** states that the Self-Protection Plans for facilities and/or buildings, located in an urban-forest interface area, will aim to prevent the generation or spread of forest fires and facilitate extinguishing work for specialised public services when their action is necessary. Marking in turn a functionality similar to that established in Royal Decree 893/2013.

Its drafting is considered a priority for those areas with marked vulnerability and where the potential severity of the fires so requires. The local authorities will have the competence to demand the drafting, grant approval (following a report from the competent regional body) and verify compliance with these plans, which will include at least:

1. Identification of the owners and the location of the set of buildings.
2. Description of the set of buildings.
3. Prevention and protection against forest fires.
4. Emergency action plan.
5. Implementation and maintenance of the Plan.
6. Telephone directory.

The scope of application of the plan covers an area of 93.3 hectares and corresponds to all the communities of owners of the Las Ramblas residential sector of Orihuela Costa and the facilities of the Las Ramblas Golf course, leaving out only the community of owners El Lago that has not participated by the will of its president and therefore is excluded from this document.

All the references to geographical coordinates in this plan, as well as the cartography included in it, have been made in the ETRS89, this being the reference system for the capture, representation and metric harmonization of the geo-spatial information, and engineering works, which came into force on August 29, 2007 after the publication of ROYAL DECREE 1071/2007, of July 27, which regulates the official reference geodetic system in Spain.

### 1.3 Definitions

Royal Decree 893/2013 includes the following definitions:

**Forest:** Any land on which tree, shrub, scrub or herbaceous forest species vegetate, either spontaneously or from sowing or planting, which fulfil or may fulfil environmental, protective, productive, cultural, landscape or recreational functions, as well as those considered in accordance with Article 5 of Law 43/2003, of 21 November.

**Forest fire:** Fire that spreads uncontrollably on forest fuels located in the forest. For the purposes of this guideline, those that occur in areas adjacent to the forest or in transition with other urban or agricultural spaces will also be considered as such.

**Controlled forest fire:** It is one that has been isolated and its advance and spread within control lines. **Stabilized forest fire:** A fire that, without being controlled, evolves within the established control lines according to the forecasts and extinguishing work leading to its control.

**Extinguished forest fire:** A situation in which ignited materials no longer exist in or within the perimeter of the fire and it is not possible to reproduce it.

**Index of potential severity of a forest fire:** Indicator of the damage that a forest fire is expected to cause, given the conditions in which it develops.

**Urban-forest interface:** Area in which buildings come into contact with the forest. The fire developed in this area can not only reach buildings, but can also spread within built-up areas, whatever the cause of origin.

**High Fire Risk Areas (ZAR):** Areas in which the frequency or virulence of forest fires, and the importance of the threatened values, make special fire protection measures necessary and are declared by the corresponding Autonomous Community, in accordance with Law 43/2003, of 21 November, amended by Law 10/2006. of 28 April.

**Fire Hazard:** The possibility of a wildfire occurring at a particular place and time.

**Hazard indices:** Indicative values of forest fire danger in a given area.

**Vulnerability:** The degree of loss or damage that the population, property and the environment may suffer in the event of a forest fire. **Fire risk:** A combination of the probability of a fire occurring and its potential negative consequences for people, property, and the environment.

**Mobilization:** Set of operations or tasks for the implementation of means, resources and services for the fight against forest fires.

**Preferential area of action:** This is the ordinary work area assigned to a medium of the Ministry of Agriculture, Food and the Environment for the support of the Autonomous Communities in the extinction of forest fires; which is determined annually by the aforementioned Ministry, without prejudice to the national coverage capacity of the environment in question.

**CECO:** State Coordination Committee. A body of the General State Administration, made up of the heads of the management centres of the General State Administration, concerned with the prevention and fight against forest fires.

**Official cartography: Cartography** carried out by the Public Administrations, or under their direction and control, subject to the provisions of Law 7/1986, on the Regulation of Cartography, and Royal Decree 1545/2007 which regulates the National Cartographic System and its essential instruments. Any spatial data infrastructure developed in accordance with the principles of Law 14/2010, of 5 July, on Geographic Information Infrastructures and Services in Spain (LISIGE), which transposes Directive 2007/2/EC, of the European Parliament and of the Council, of 14 March 2007, into our legal system, will also be considered as such. establishing a Spatial Information Infrastructure in the European Community (INSPIRE).

**Meteorological Information System for the estimation of forest fire danger:** It is the set of actions and activities carried out by the State Meteorological Agency to provide meteorological hazard indices for the fight against forest fires and other complementary information, as well as the procedures for their submission at national level and to the autonomous communities. especially in emergency situations.

**Evacuation:** it is the urgent transfer of the threatened population from their habitual residence to another safer place because the threat is imminent. The evacuation is framed as an intervention measure and, as it is a longer-term measure, it is only justified if the danger to which the population is exposed is great.

**Confinement:** Confinement is a measure that falls within the scope of the intervention. It consists of the shelter of the population in their own homes or in nearby buildings, enclosures or dwellings at the time the adoption of the measure is announced.

**Distancing:** It is a measure of protection for the population that is framed within the scope of prevention. It consists of the transfer of the population from exposed positions to safe places, generally not far from them. The main characteristic of this measure is that the population mobilizes using its own resources.



## 2 IDENTIFICATION OF THE OWNERS AND THE LOCATION OF THE COMPLEX OF BUILDINGS

### 2.1 General data

<b>NAMING OF THE COMPLEX OF BUILDINGS</b>	Las Ramblas de Orihuela Partial Plan Sector R-1
<b>HEADLINE</b>	Various headlines <sup>1</sup> .
<b>ADDRESS/LOCATION OF THE MAIN ACCESS</b>	San Miguel de Salinas Highway
<b>COORDINATES MAIN ACCESS</b>	<b>X:</b> 696,159.71m. <b>Y:</b> 4.200152.35 m.
<b>NUMBER OF BUILDINGS NUMBER OF DWELLINGS</b>	607
<b>BUILDINGS NUMBER OF DWELLINGS</b>	888
<b>CENSUS POPULATION</b>	
<b>SEASONAL POPULATION</b>	95 hectares
<b>AREA SECTOR</b>	6,223 m
<b>PERIMETER SECTOR</b>	5,597 m
<b>FOREST URBAN INTERFACE</b>	

*Table 1. General data of the PAU Las Ramblas.*

#### <sup>1</sup> List of holders of the Self-Protection Plan of Sector R1 – Las Ramblas

No	Name	CIF	Contact Person
1	C <sup>a</sup> Owners Azahar IV - V	H53832895	Michael Hooke
2	C <sup>a</sup> Owners Nuevas Villas I	H53897187	Mark Grainger
3	C <sup>a</sup> Owners Nuevas Villas II	H53817078	Richard Colebrook
4	C <sup>a</sup> Owners Blocks New Villas, Orange Blossom Blocks I-II-III and Lirios X-XI-XII	H53784179	Joyce McClusky
5	C <sup>a</sup> Owners Los Lirios I-II-III	H53358529	Peter Hassall
6	C <sup>a</sup> Owners Altamira	H53381562	Lena Wallin
7	C <sup>a</sup> Owners Loire I	H54776984	Armand De Bracker
	C <sup>a</sup> Owners Loire II	H54953104	Maggie Sebel
	C <sup>a</sup> Owners Loire III	H42620674	Erik Samson
8	C <sup>a</sup> Owners Almonte	H54461025	Dean
9	C <sup>a</sup> Owners Los Claveles	H53509311	Gillian Snell
10	C <sup>a</sup> Owners El Farallón	H54709795	Jean Ramijisen
11	C <sup>a</sup> Owners La Feria	H53739173	Jayne Elizabeth Cumming
12	Campo de Golf. PROFOTUR S.A.	A03300464	Arturo Manzano Ferreiro

*Table 2. List of holders of the PAU Las Ramblas.*

## 2.2 Environmental data and vulnerable elements

### 2.2.1 Characterization of the Urban-Forest Interface

For the classification of the urban-forest interface zone, the keys and the identification catalogue of *the Basic Study for the Protection against Forest Fires in the Urban-Forest Interface* (Tecnoma, 2005) have been used. In this way, it is identified that the residential area of Las Ramblas presents a typology of compact and wooded urbanization interface with the key A.5.



Image 1. Map of the area of action and forest land. Source: +O2 Ingenieros

<b>IUF Model</b>	<b>A.5. Compact urbanization and woodland interface</b>
<b>Description House density</b>	Compact urbanization, with little or no vegetation inside and with well-defined edges with the outdoor tree vegetation
<b>Special features</b>	Group of houses in a compact urbanization with a lack of plant elements or the presence of some ornamental elements. The edge with the exterior vegetation is well defined, and is often crossed by a track or street. Situation typical of newly built urbanizations, with high land prices. Presence of common infrastructures.
<b>Fire development</b>	The fire progresses to the edge of the urbanization, affecting the houses on the edge depending on their type and distance. The firecrackers can jump into the urbanization and light hedges or other flammable elements, including roofs of houses or balconies.
<b>Defence</b>	Given that the fire is difficult to progress within the urbanization, the Defence is concentrated on the border with the forest vegetation, including a strip of protection and adaptation of the houses and their surroundings located immediately after the edge. Evacuation is not always necessary, ideally homes located indoors can act as safe shelters from fire. Hydrants and defence infrastructures are concentrated on the border with the outdoor vegetation.
<b>Hazard Index</b>	HIGH

*Table 3. Basic characteristics of the IUF model present in Las Ramblas.*

### 2.2.2 Buildings and urban fabric

The R1-Las Ramblas Sector has an area of 89 hectares and is made up of a set of 13 urbanizations and the facilities of the Las Ramblas Golf Course. All communities of owners with the exception of Community of owners of El Lago have joined together for the development of the current Self-Protection Plan against the risk of Forest Fire.

The urban fabric of the Las Ramblas sector, the object of this Plan, is made up of a total of about 888 homes of different types, with an average density of 9.5 homes/ha, being able to find detached single-family homes, semi-detached houses and blocks of flats. In general, the homes are distributed between 2 and 3 floors and the blocks of flats can reach up to 5 floors. The semi-detached and single-family houses have a landscaped area, generally with a swimming pool, while the blocks of flats have larger communal garden areas, around a swimming pool.

Building Typology	Surface	Percentage
Block	40,976 m2	16,1 %
Isolated	101,255 m2	39,9 %
Townhouse	111,065 m2	43,8

Table 4. Typology of buildings in the residential areas of Las Ramblas. Source: +O2 Ingenieros

In general, the buildings are made with materials resistant to forest fires, with a predominance of exterior walls made with concrete block masonry, covered with different types of mortars based on lime, cement, plaster or a combination of these.

The roofs of the houses alternate between walkable roofs, such as terraces or solariums, and ceramic tile roofs with one or two slopes.

The existence of auxiliary constructions has been observed, such as pergolas, platforms, or small cabinets made of highly flammable materials such as pine wood or plastic materials.



Image 2. Typology of existing constructions.

### 2.2.3 Green areas

Indoor green areas are spaces vulnerable to forest fires and with the capacity to spread fire between homes, which can affect the interior of the homes. The planning and correct maintenance of these landscaped areas is essential to improve the resilience of residential areas against forest fires.

Within the R1 Las Ramblas sector there are large areas classified as non-forest land affected by fires and pests. These correspond mainly to a plot of municipal property, located in the central area of the sector and classified as general systems and wooded areas of the Las Ramblas Golf course. These areas, not being forest land, are subject to current forestry regulations for the purposes of forest fires and pests as set out in the PATFOR of the Valencian Community.

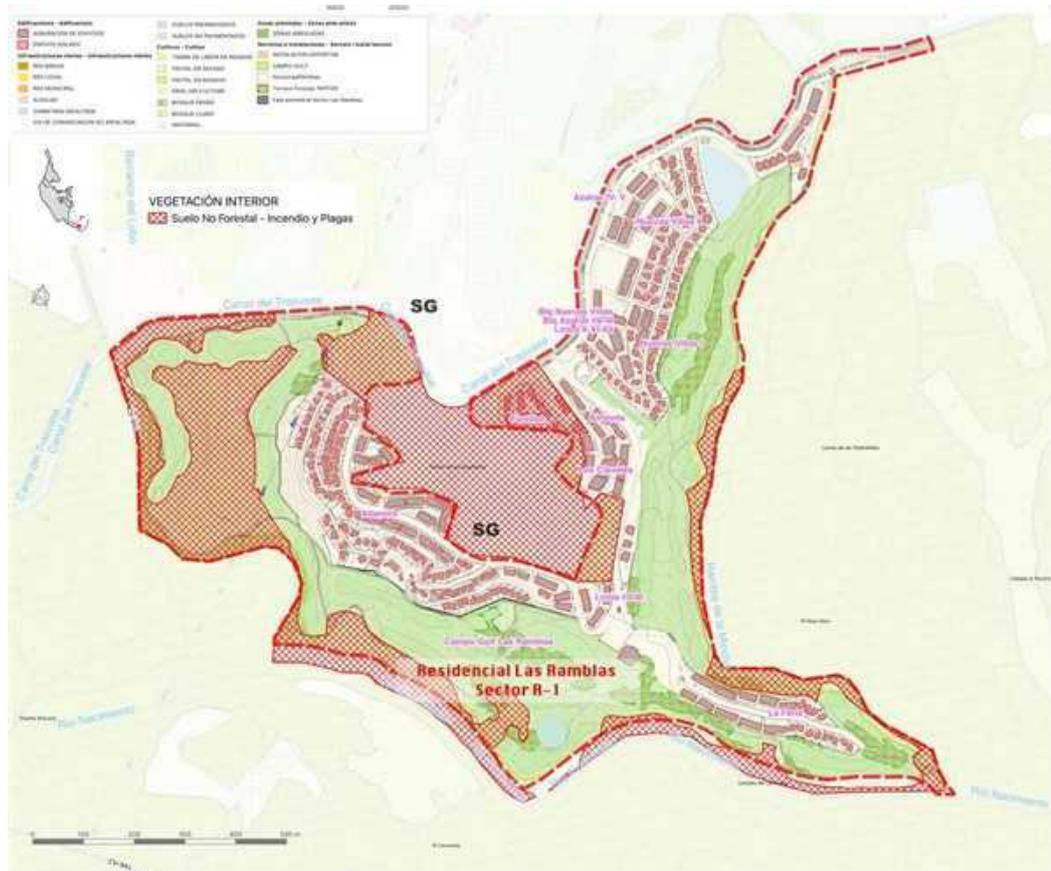


Image 3. Map of the distribution of uses in Sector R1 - Las Ramblas, with identification of vegetation classified as Non-Forest with interest in pests and Forest Fires. Source: +O2 Ingenieros

Newly created landscaping, whether for collective use or inside homes, does not generally represent a significant source of risk in the face of forest fire danger. The private gardens are of low importance, being of greater importance the remains of forest vegetation that have been scattered in different plots between the houses and in perimeter strips after the urban development of the area.



*Image 4. Types of landscaping in homes and community areas.*

The most important interior area with vegetation in the sector is represented by the plot of general systems owned by the Orihuela City Council, which is located between the Los Farallones and Altamira residential areas, with an area of 17 hectares and

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covered with vegetation typical of forest land. A valley runs through the central area of the plot in an east-west direction that collects the waters from the springs coming from the north of the Los Farallones residential complex and from the south of the Altamira residential area, bordering on the west with the transfer channel and on the east with Ramblas de Oleza Avenue.

Currently, after the periods of drought suffered in recent years, many Aleppo pine stands have dried up and remained on the ground, especially in the central area of the plot and the south-facing slope.

The plot has a combination of TU-2 (162) and SB-3 (203) fuel models, according to the classification of fuel models used by the DG for forest fire prevention.



*Image 5. Aerial photograph of the plot owned by the Orihuela City Council with forest vegetation.*

### **TU-2 (162)**

Scrub less than 1 m high, under canopy of adult trees of both pinaceae and quercineas.

<b>Descriptive parameters</b>	<b>TU-2</b>
Wooded FCC (Hm > = 4 m)	>= 30 %
Scrub FCC (Hm < 4m)	>= 30 %
Average scrub height	< 1 m

<b>Parametric features</b>	<b>TU-2</b>
1h fuel load (t/ac)	0,95
10h fuel load (t/ac)	1,8
100h fuel load (t/ac)	1,25
Live herbaceous fuel load (t/ac)	0
Loading of live woody fuels (t/ac)	0,2
Fuel Model Type	N/A
SAV of dead fuels 1h (1/ft)	2.000
SAV of herbaceous vegetation (1/ft)	9.999
SAV woody (1/ft)	1.600
Fuel depth (ft)	1
Dead fuel extinguishing humidity (%)	30
Heat of combustion(BTU/lb)	8.000

### SB-3 (203)

Scrub and woody remain together with adult trees, as a result of strong winds, snowfall, intense pests, etc. Woody remains cover more than a third of the reference area.

<b>Descriptive parameters</b>	<b>SB-3</b>
Wooded FCC (Hm > = 4 m)	>= 30 %
Scrub FCC (Hm < 4m)	>= 30 %
Woody remains FCC	>= 30 %

<b>Parametric features</b>	<b>SB-3</b>
1h fuel load (t/ac)	5,5
10h fuel load (t/ac)	2,75
100h fuel load (t/ac)	3
Live herbaceous fuel load (t/ac)	0
Loading of live woody fuels (t/ac)	0
Fuel Model Type	N/A
SAV of dead fuels 1h (1/ft)	2.000
SAV of herbaceous vegetation (1/ft)	9.999
SAV woody (1/ft)	9.999
Fuel depth (ft)	1,2
Dead fuel extinguishing humidity (%)	25
Heat of combustion (BTU/lb)	8.000

The Las Ramblas golf course, with a total area of about 60 hectares, has discontinuous areas of adult pine forest between the grass meadows that make up the 18 holes of this golf course. There are some stands of pine forest next to residential areas that are used as a vegetation screen to safeguard homes from the impacts of golf balls.

Special attention must be paid in these areas to maintain the minimum distance between branches and homes. Although the minimum distance set by the Technical Standard is 3 metres to buildings, in the case of large pine trees exposed to west or east orientation, it is recommended to increase this distance due to the risk that this situation implies for homes and people.



*Image 6. Images of Aleppo pine specimens next to houses.*

## 2.2.4 Topography

The topography of the terrain plays a crucial role in the analysis of wildfire risk, as it affects the spread of fire in a variety of ways. Factors such as slope, orientation and relief determine how fire behaves and its potential for expansion.

### 2.2.4.1 Relief

The general relief of the terrain, such as valleys and ridges, can affect wind direction and speed, as well as the formation of microclimates that influence the humidity and temperature, all key factors in the spread of fire. In the study area, the altitude ranges from 20 to 90 meters above sea level.

The urbanizations are distributed over a series of hills and undulations of the terrain, the result of the erosive processes of the hydrographic network and the geomorphology of the area.

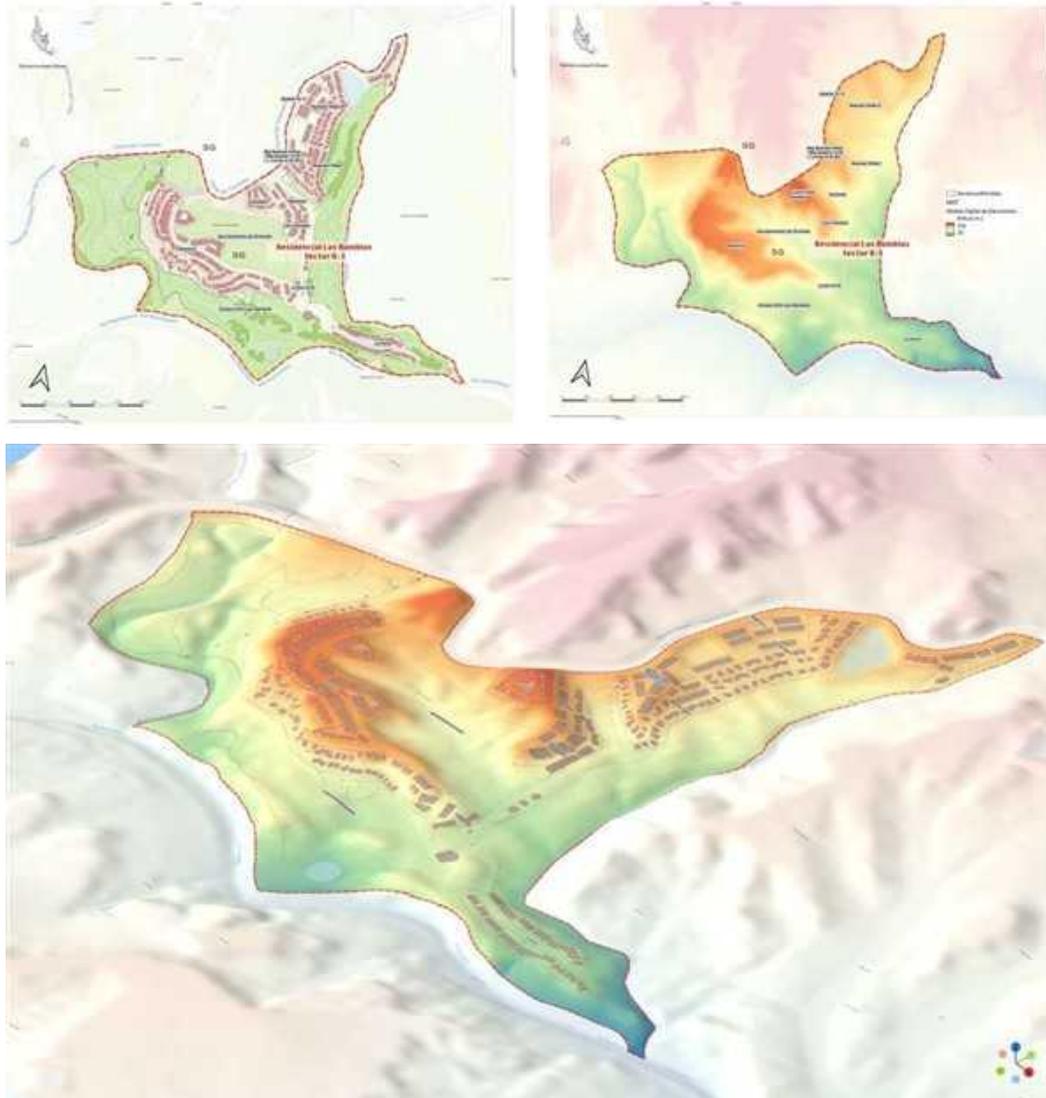


Image 7. Elevation mapping and 3D recreation of the topography of the study area. Source: +O<sub>2</sub> Ingenieros

#### 2.2.4.2 Slope

The slope has a significant impact on the speed of fire propagation. Steep slopes favour upward propagation, as fire preheats the fuel at the top of the slope, making it easier to advance. In addition, slopes can intensify the chimney effect, especially on flat ground, which accelerates spread.

The following illustration shows the slope map obtained from the digital elevation map of the study area.

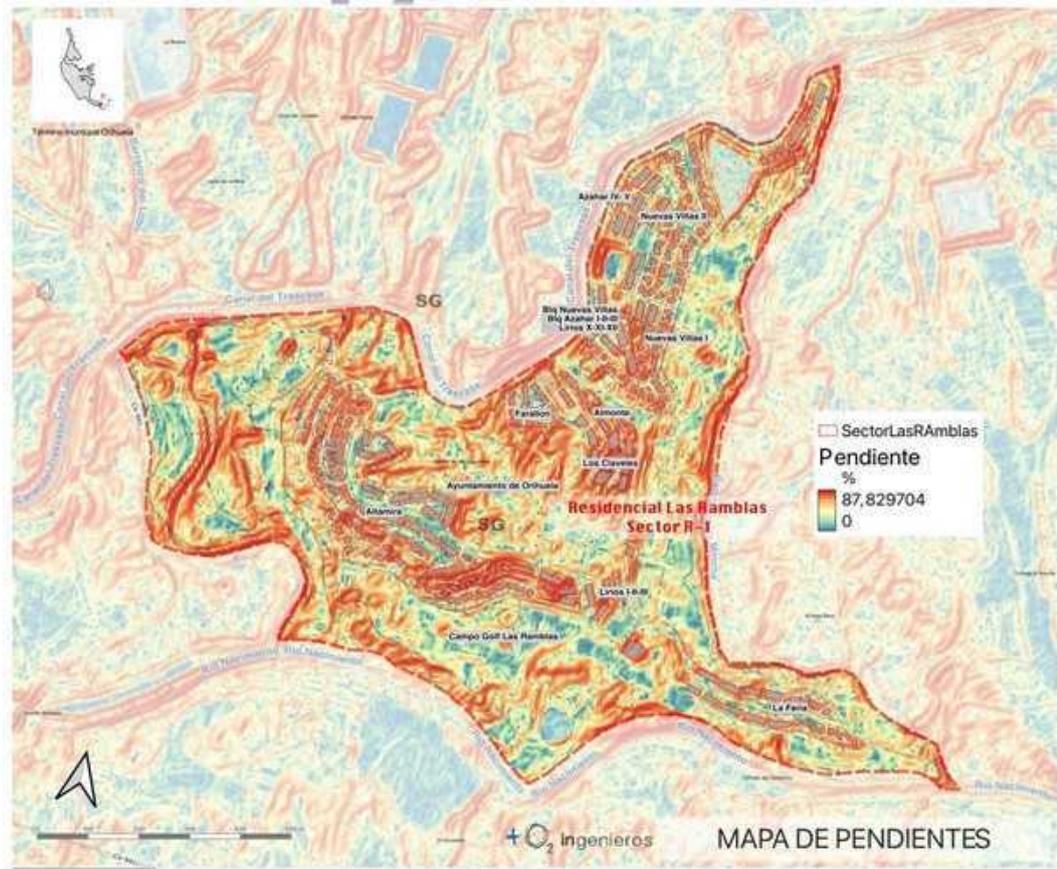


Image 8. Slope map. Source: +O2 Ingenieros

### 2.2.4.3 Orientation

The orientation of the slope, or exposure to the sun, also influences the behaviour of the fire. South-facing slopes tend to be warmer and drier, which can result in increased fuel availability and faster fire spread. The following illustration shows the orientation map of the study area's surroundings.

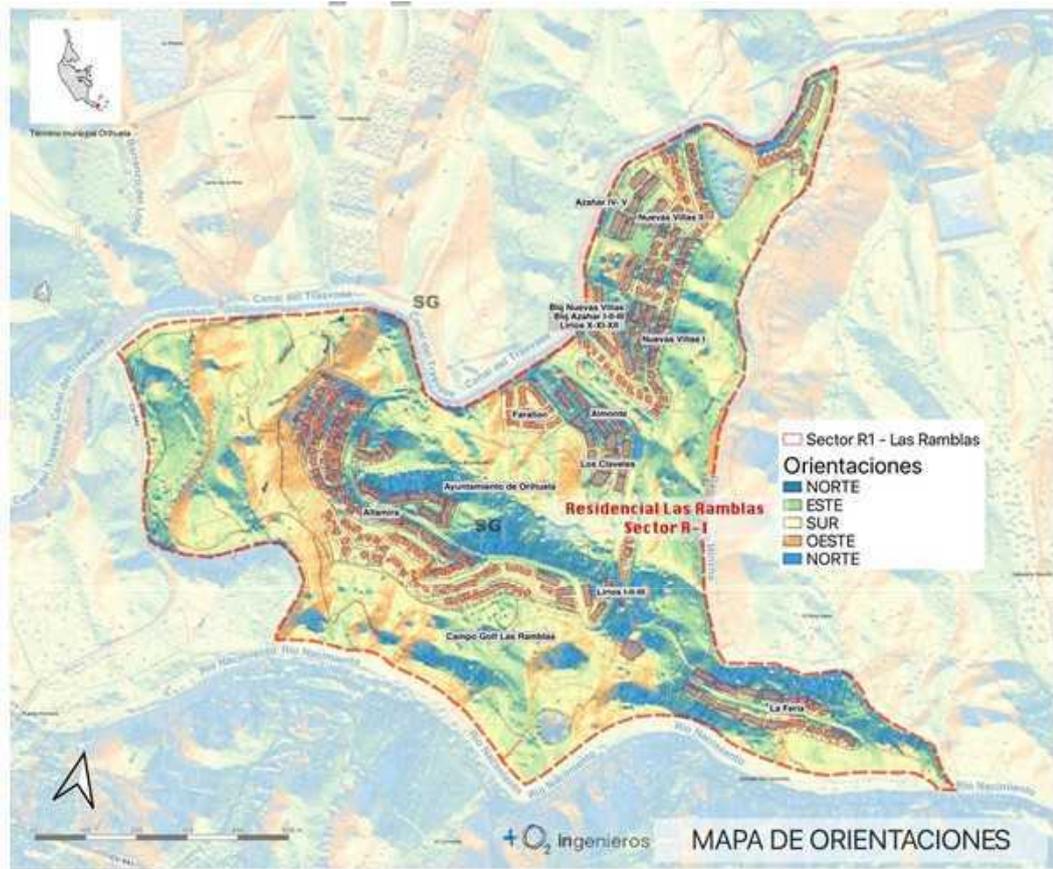


Image 9. Map of orientations. Source: +O2 Ingenieros

In the area of Las Ramblas, as well as in its surroundings, the existence of an alternation between different exposures of the terrain can be observed, which would give rise to variable fire behaviour, depending on the effect of the sunshine on the vegetation and ultimately on the combustible materials existing in each area.

In general, the interior vegetation of the urbanized area corresponding to private and community gardens is in accordance with the Technical Standard of Infrastructures in urbanized areas of the Generalitat Valenciana, although some deficiencies have been detected, these will be included in the proposals for action.

### 2.2.5 Climatology

Climatology plays a critical role in the occurrence and intensity of wildfires, especially factors such as temperature, air humidity, precipitation, wind, seasonal periods, and extreme weather events.

These factors will significantly influence fire risk, hazard, spread, the state of available vegetation (fuel), intensity and extinguishing capacity. Therefore, the analysis of these parameters will provide information on the initiation, evolution and opportunities for extinguishing forest fires, serving at the time of organization, decision-making and justification of the actions carried out.

The State Meteorological Agency publishes the statistics of the forest fire meteorological index (FWI). The objective of this statistic is to give a general overview of the level of forest fire risk according to the values obtained from the meteorological index of forest fires (FWI), throughout the national territory, particularizing for each province. It is a matter of having some statistical values of the risk levels (minimum and maximum value, first and third quartile, medium and median) for each province and of the monthly and annual frequency in which the level of risk is found in each of the classes or levels (low, moderate, high, very high and extreme).

The daily weather risk level for forest fires is based on the Canadian system (FWI, Fire Weather Index) and is calculated from the values obtained from the daily weather index of forest fire risk. This index is a derived variable obtained from the surface analysis of a numerical weather prediction model. The input variables for its calculation are: the temperature of the dry air at 2 meters (expressed in °C), the relative humidity of the air at 2 meters (expressed in %), the wind speed at 10 meters (expressed in km/h) and the precipitation recorded in the last 24 hours expressed in mm. The analysis data refer to 12 UTC (Coordinated Universal Time), in order to obtain the daily maximum risk value, which happens around noon, although its value is valid from several hours before to several hours after 12 UTC.

We are going to use the FWI index to know the distribution of the periods of greatest risk throughout the year in the province of Alicante and by extension to the study area.

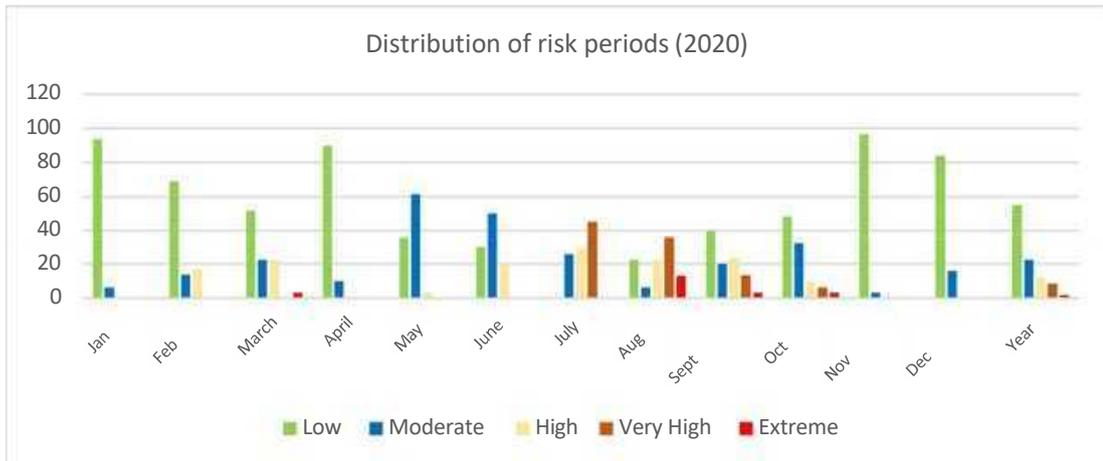


Ilustración 10. Gráfica de distribución de los periodos de riesgo de incendio forestal según el índice meteorológico FWI para la anualidad 2020. Fuente: AEMET – (Image 10. Graph of the distribution of forest fire risk periods according to the FWI meteorological index for the year 2020. Source: AEMET)

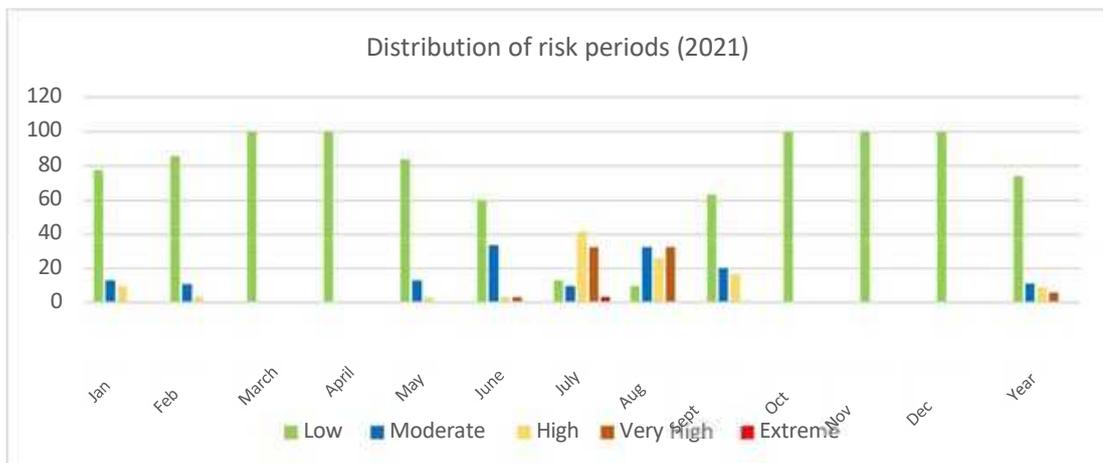


Ilustración 12. Gráfica de distribución de los periodos de riesgo de incendio forestal según el índice meteorológico FWI para la anualidad 2021. Fuente: AEMET – (Image 12. Graph of the distribution of forest fire risk periods according to the FWI meteorological index for the year 2021. Source: AEMET)

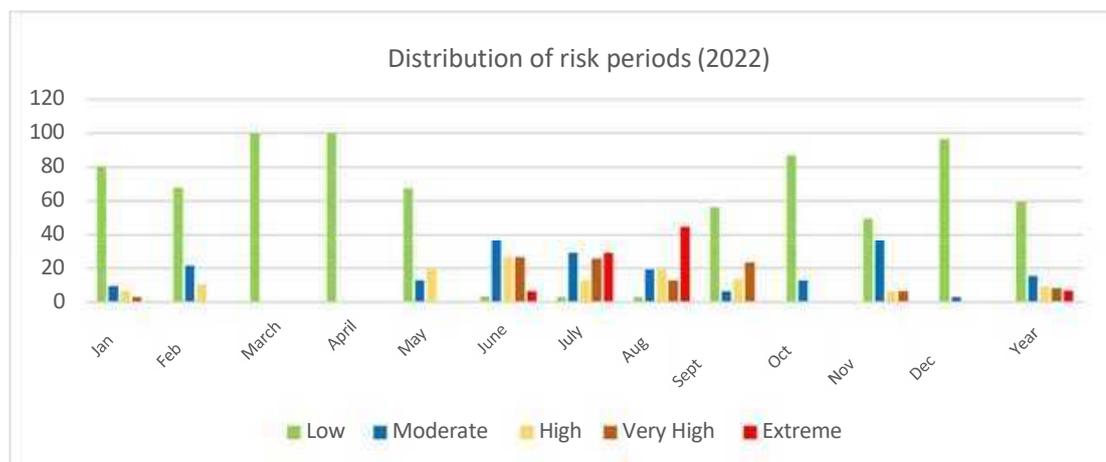


Ilustración 11. Gráfica de distribución de los periodos de riesgo de incendio forestal según el índice meteorológico FWI para la anualidad 2022. Fuente: AEMET – (Image 11. Graph of the distribution of forest fire risk periods according to the FWI meteorological index for the year 2022. Source: AEMET)

Looking at the frequency distribution of the 5 risk classifications throughout the year and for the series of years between 2020 and 2022, it can be seen that the months of greatest risk, as expected, are focused on the summer season, mainly the months of July and August, sometimes extending even to June and September.

### 2.2.6 Vulnerable elements

For the analysis of the vulnerable elements present in Sector R1- Las Ramblas we will differentiate between the vulnerability of people, whether they are residents or visitors or users of existing sports facilities and we will also analyse the vulnerability of existing buildings or facilities.

In forest fires, vulnerability refers to the susceptibility or fragility of an area, community or system (housing, infrastructure, or ecosystems) to suffer damage or adverse effects as a result of a forest fire. This vulnerability depends on factors such as the amount and type of vegetation (fuel), topography, weather conditions, and the presence of elements such as homes, infrastructures or facilities of all kinds and of course people in areas prone to fires.

In the previous sections we have analysed factors such as vegetation or topography and then we are going to analyse the exposed elements such as housing, infrastructures and people who can be directly affected by fire.

#### 2.2.6.1 Vulnerability of people

The vulnerability of people in the forest urban interface zone or its catchment area is high due to the proximity of inhabited areas and sports facilities to forest areas, increasing the risk of damage to property and lives.

People are probably the element that presents the greatest complication when it comes to estimating their vulnerability, because they are a dynamic or random element in terms of their presence or not in an emergency (they can go towards the source of danger, move away or even remain static).

In this type of residential areas of second homes in coastal areas, seasonality is an important factor, although occupancy is sustained in the winter season, there is a great increase in occupants in the summer period.

The vulnerability of people increases as a general rule in areas or places of public concurrence, both for visitors to the golf course and residents who may be at the time of the emergency and for the extinguishing operation. Vulnerability is closely linked to proximity to the forest mass, because they are close to the engine of the fire, and to the safety conditions that these places meet.

In the sector is Las Ramblas Golf, it is a sports facility that has 18 holes and occupies an area of about 43 hectares and generally extends between residential areas and forest land. The facilities have a Clubhouse, with different services such as a restaurant, shop, changing rooms, event celebration room or electric vehicle charging area.

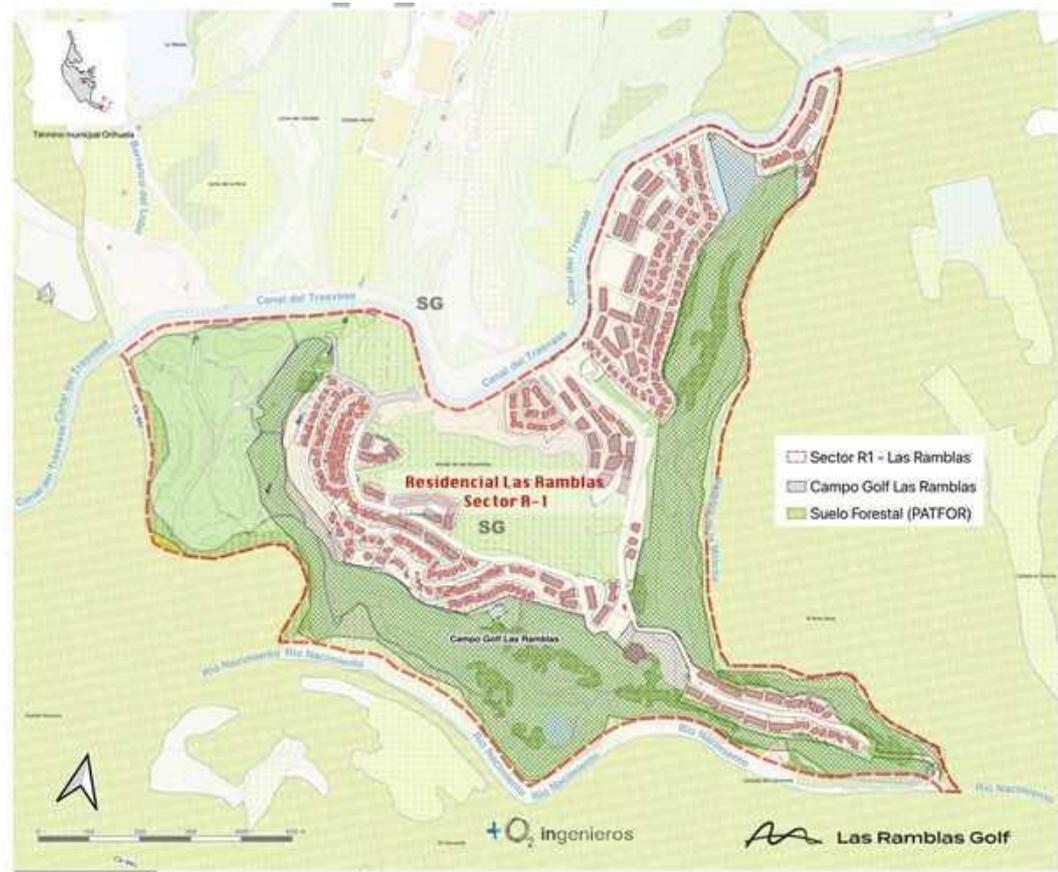


Image 13. Map of the Las Ramblas sector with the location of the golf course facilities. Source: +O2 Ingenieros

### 2.2.6.2 *Vulnerability of housing*

The vulnerability of housing is related, among other factors, to the materials with which it is built, as well as its location and distance from vegetation and combustible elements.

In the study area, the buildings are built with non-combustible elements and materials, so the destruction of the houses is an unlikely situation if the appropriate measures are taken.

Their vulnerability, therefore, is directly related to the chances that fire has of entering them. In the event of an illness, it is possible that its passage is directly due to radiation-flame contact, or indirectly, such as the ignition of firecrackers, as well as other factors, such as smoke (if it has not done so previously due to poor insulation), or convection.

It should be noted that radiant and convective heat can cause damage and partial destruction, but it is rarely related to total destruction. However, convective motion involves violent air movements that can throw objects and break glass, or conduct ash and incandescent materials into the home. The embers are a source of heat in contact with the house for a long time. They greatly affect the more horizontal elements that collect them, they are places of accumulation of ash and often also of fuel (terraces, porches, roof skirts, horizontal roofs, etc.).<sup>1</sup>

The presence of blinds reduces the radiation that reaches the glass frame, which reduces the possibility of breakage. It is always more advisable to have the blinds down, as they are also extra protection against the projection of objects. Metal shutters are good protections. Double glazed glass with an air chamber is more effective in case of possible breakage caused by fire. However, radiation in the first glazing can cause an increase in the pressure of the intermediate hermetic gas and contribute to breakage. Likewise, tempered glass withstands up to four times more mechanical stresses caused by fire. Alternatively, floating frames allow for more effective expansion. These are measures simple constructions that effectively protect the house from the entry of fire elements into the house<sup>2</sup>.

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<sup>1</sup> Manual of Fire Operations in the Urban-Forest Interface

Other weak points where flame or sparks can enter are ventilation openings in façade, roof, eaves, etc., or roofs with low maintenance, broken tiles, uncovered eaves edges, etc. In addition, the situation of the house with respect to the doors and windows at the time when ash or flames reach it: open exterior and interior doors, open windows, open garage doors or open skylights, are frequently associated with the destruction of homes. This is a priority aspect prior to the triage of a home, and aspects that must be included in the protection protocols of these, either prior to evacuation or in Defence operations<sup>2</sup>.

Especially important is the presence of fuels attached to the structure of the house itself and close to these weak points. It has often been observed that the flame or the embers have been generated in the first meters immediately to the house and that they have then entered it, regardless of the distance to the main front (Remote Interface). **It is therefore essential to identify and assess the importance of combustible elements attached to the home (especially furniture, plastic trunks or cabinets, wooden floors, in general any flammable material), weak points through which fire can enter and flammable material inside the home.** These aspects are directly related to people's behaviour, so it is essential to have an education about them.

#### *2.2.6.3 Vulnerability of critical infrastructures, other facilities.*

In Interface fires, it is necessary to identify and assess the vulnerability of critical infrastructure in or around populated areas. This critical infrastructure has three concepts associated with it depending on its effect on the development of the emergency:

1. Those infrastructures and facilities that pose a potential danger due to the domino effect when they are reached by fire (flame, embers, radiation, smoke, etc.)
2. Those infrastructures whose affectation or destruction means that services necessary for the effective management of the emergency are put at risk.
3. Those infrastructures and facilities that are affected by the fire (smoke, flames, embers, convective air currents, etc.) mean the cessation of the fire temporal o disruption of services critical to the community or economic activity

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<sup>2</sup> Manual of Fire Fighting Operations in the Urban-Forest Interface

The list of critical infrastructures and facilities identified in the R1- Las Ramblas sector will be listed below.

*Table 5. Inventory of critical infrastructures. Source: +O2 Ingenieros*

### CRITICAL FACILITIES AND INFRASTRUCTURES

Item	CoordX	CoordY	Annotation
Transformer Station 1	695127,77	4199258,86	Com. Prop. Altamira
LPG Storage Facility	695237,70	4199196,35	Com. Prop. Altamira
Transformer Station 2	695227,6	4199069,0	Com. Prop. Altamira
LPG Storage Facility	695689,0	4198976,2	Com. Prop. Los Lirios I-II-III
Transformer Station 3	695792,3	4198934,4	Com. Prop. Los Lirios I-II-III
LPG Storage Facility	695794,4	4198980,6	Avd. Rambla de Oleza
Transformer Station 4	695934,9	4198843,0	Com. Prop. La feria
LPG Storage Facility	695939,2	4198814,1	Com. Prop. La feria
LPG Storage Facility	695632,3	4199247,9	Com. Prop. El Farallón
Transformer Station 5	695549,1	4199360,9	Com. Prop. Loira I-II-III
Transformer Station 6	695604,7	4199426,1	Com. Prop. Nuevas Villas I
LPG Storage Facility	695765,2	4199880,6	Com. Prop. Nuevas Villas II

## 2.3 ACCESSIBILITY

Accessibility to residential areas is considered a factor of great relevance when planning the self-protection actions of its inhabitants against the risk of forest fire. The network of streets and roads that make up the population centres are used both by emergency means to access and deal with the emergency situation, and to be used by the inhabitants in case preventive evacuation is prescribed.

### 2.3.1 External accessibility

The main access to the Ramblas is located on the so-called San Miguel de Salinas road that crosses several residential areas of Orihuela Costa such as Castillo de Don Juan, Las Filipinas or Blue Lagoon in the municipality of San Miguel de Salinas. The access is right at the intersection of the San Miguel de Salinas race with the Tajo-Segura Transfer channel. There is another secondary access to the urbanization from the CV-941 road through the facilities of the Las Ramblas Golf course, this access is not for public use and remains closed, only being able to be used by the golf course maintenance service.



Image 14. Access location map.

Las Ramblas is well connected to the primary road network, being only 7 minutes by car and 3.5 kilometres from the N-332 national road at the exit of La Dehesa de Campoamor in the direction of Alicante to Cartagena.



Image 15. Map of access route from the N-332 road.



Analysing the area of Las Ramblas we see that the interior road network is characterised by the existence of a main road, called Avenida de Las Ramblas de Oleza that from the main access runs through the different residential areas from north to south until it reaches the Las Ramblas Golf Club where it continues west to the Altamira residential area. From the Golf Club, a cul-de-sac road leads east that gives access to the residential La Noria, it is Calle Ánfora.

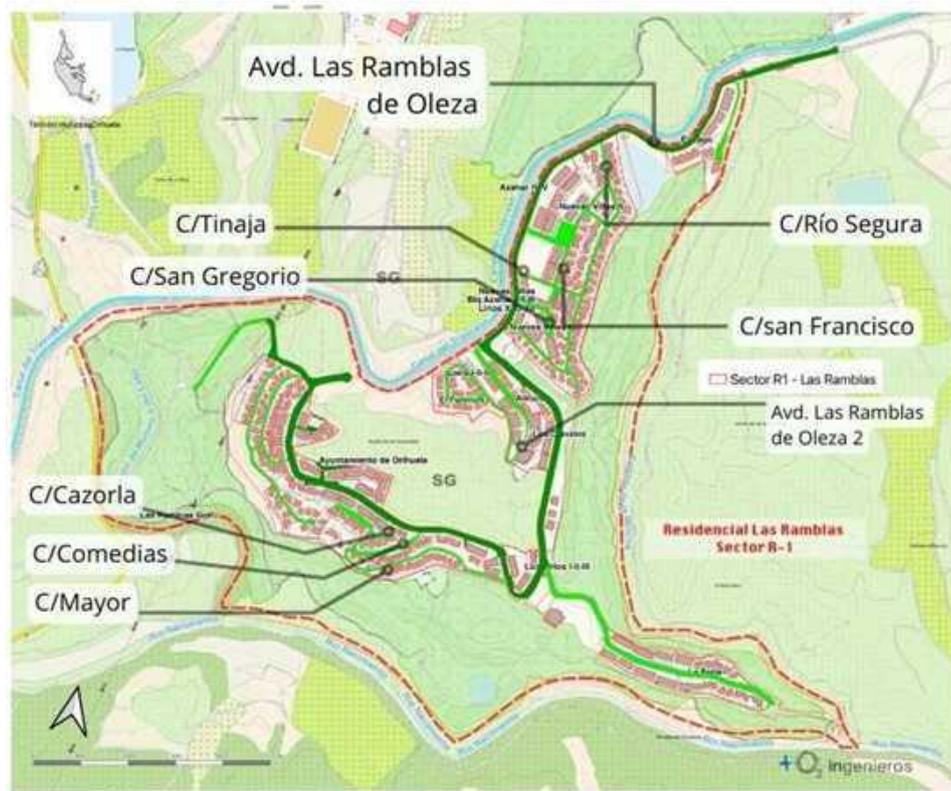


Image 17. Map of the interior road network of Las Ramblas. Source: +O2 Ingenieros.

The characteristics of the interior vials are listed in the following table:

Name	ORDEN	Longitude	Ancho	No way out	Height	Hydrants
Avd. Las Ramblas de Oleza	1	2.696 m	6-10m.	X	>4m.	SI
C/ Río Segura	1	700 m.	5 m		>4m.	NO
C/ San Francisco	2	250 m.	5 m.		>4m.	NO
C/ Rey Teodomiro	2	126 m.	5 m.	X	>4m.	NO
C/Tinaja	2	95 m.	5 m.		>4m.	NO
C/ San Gregorio	2	180 m.	5 m.		>4m.	NO
Avd. Las Ramblas de Oleza 2	2	403 m.	5 m.	X	>4m.	SI
C/Mayor	2	400 m.	4 m.	X	>4m.	NO

C/ Comedias	2	170 m.	4 m.	X	>4m.	NO
C/Cazorla	2	175 m.	4 m.	X	>4m.	NO
Plaza del Lio	3	60 m.	3 m.	X	>4m.	NO
C/ Pia	2	266 m.	4 m.	X	>4m.	NO
C/ la Peña	2	421 m.	4 m.	X	>4m.	NO
C/Ánfora	1		6-7 m.	X	>4m.	SI

*Table 6. Characterization of the interior road network of the residential area of Las Ramblas. Source: +O2 Ingenieros*

In the internal road network, some risk factors have been detected, such as the existence of numerous dead-end streets with a lack of signage and cars parked on the pavements that hinder the circulation of heavy vehicles in case of emergency and preventive evacuation situations. At the end of these dead-end roads there are very small turning areas with turning radii of just over 3 metres. Mayor, Comedias or La Peña streets in the Altamira residential complex have several points to correct to improve the circulation capacity and safety of its neighbours.



*Image 18. Image of the access to Calle Comedias without dead-end street signage*



*Image 19. Vehicles parked on a two-way road with a width of 5 meters on Calle Mayor.*



*Image 20. End of Peña Street with insufficient space to turn around the large vehicles used in the extinguishing work.*

### 3 DESCRIPTION OF THE COMPLEX OF BUILDINGS

#### 3.1 BUILDINGS

As mentioned in section 2.2 *Buildings and urban fabric*, the R1-Las Ramblas sector covered by this Plan has an area of 93 hectares, is made up of a total of 12 communities of owners and a sports facility of a golf course.

The residential area is made up of a total of about 888 homes made up of buildings of different types, from detached single-family homes, semi-detached houses, semi-detached houses and blocks of flats. The following table shows the surface area of the built area by type of building.

Building Typology	Surface	Percentage
Block	40.976 m <sup>2</sup>	16,1 %
Isolated	101.255 m <sup>2</sup>	39,9 %
Townhouse	111.065 m <sup>2</sup>	43,8

*Table 7. Typology of building present in Las Ramblas. Source: +O2 Ingenieros*

### 3.2 PEOPLE WITH REDUCED MOBILITY

Annex 1 contains a table with the list of people with reduced mobility who reside in the different housing estates of Las Ramblas.

### 3.3 PREMISES AND PLACES OF PUBLIC ATTENDANCE

Public spaces are more vulnerable to exposure to emergency situations because they are places where a significant number of people can gather and require greater means and organization to preserve their integrity.

In the planning to improve people's self-protection against the risk of forest fire in the forest urban interface area, we will consider commercial premises (shops, restaurants, cinemas, leisure areas, etc.), sports areas, playgrounds and facilities for general public use (collective swimming pools, etc.) as public spaces. recreational areas, trails, climbing areas, etc.).

In Sector R1- Las Ramblas we identify the following public spaces:

PUBLIC SPACES ATTENDANCE	DISTANCE TO FOREST AREA	OBSERVATIONS
Campo de Golf – Las Ramblas	IUF	The Las Ramblas Golf sports complex has an area of 60 hectares and a commercial area with shops, a cafeteria and a restaurant.
Swimming Pool - Res. Azahar IV-V	250 m.	
Swimming Pool - Res. Los Lirios	240 m.	
Swimming Pool - Res. Almonte	100 m.	
Swimming Pool -Res. Los Claveles	200 m.	
Swimming Pool – Res. Los Loira	60 m.	
Swimming Pool – Res. El Farallon	IUF	

Swimming Pool – Res. Los Lirios I-III	IUF	
Swimming Pools - Res. Altamira		4 Swimming Pools, 2 in Calle Cazorla, 1 in plaza Arneva, 1 in Avd. Rambla Oleza.
Swimming Pools – Res. La Feria	50 m.	
Public Park		In Avd. Rambla Oleza between Res. Nuevas Villas I and Res. Almonte.

*Table 8. Inventory of buildings and public spaces.*



*Image 21. Images of swimming pools for community use, public park located on Avenida Rambla de Oleza and the building of the commercial and social complex of the Las Ramblas Golf Club.*

### 3.4 POINTS OF SPECIAL PROTECTION. DOMINO EFFECT

Forest fires in urban-forest interface areas are associated with the possibility of other emergencies being triggered simultaneously, or that there are effects on services or facilities of common use.

According to the Manual of Fire Operations in the Urban-Forest Interface, the domino effect could be defined as: "a correlative set of situations and events in which the consequences of a forest fire are increased by them, both spatially and temporally, generating an emergency situation more serious than that expected by the initial emergency".

A domino emergency therefore implies the existence of a "primary" incident (the forest fire) that threatens or affects a populated area (this fire may not be a serious emergency), but can induce or provoke one or more equal or more serious emergencies.

#### 3.4.1 Access to the urbanization

As the residential area has a single entry and exit point, it is particularly vulnerable in this regard.

It should be taken into account that in the event of evacuation this point may suffer congestion as it is a single communication route for exit vehicles as an entrance for means. The current access only has one lane in each direction and can be a point of generation of other emergencies due to traffic collapses.

#### 3.4.2 Hydrocarbon deposits

One of the biggest concerns of firefighting services is emergencies caused by events that are unpredictable and have significant consequences. In urban-forest interface areas, the presence of liquid petroleum gas (LPG) deposits of propane and other hydrocarbons in fire situations requires the application of preventive measures to keep these deposits away from nearby heat sources (especially flame contact) that can cause the tripping and fire of the safety valves or even the collapse and explosion of the tank.

A total of 6 LPG-type liquid gas tank sites have been located in the residential area. According to the information provided by the neighbours and administrators of the communities of owners, these deposits are presently out of service, but they have not been withdrawn so far due to the bureaucratic difficulties that this procedure requires.

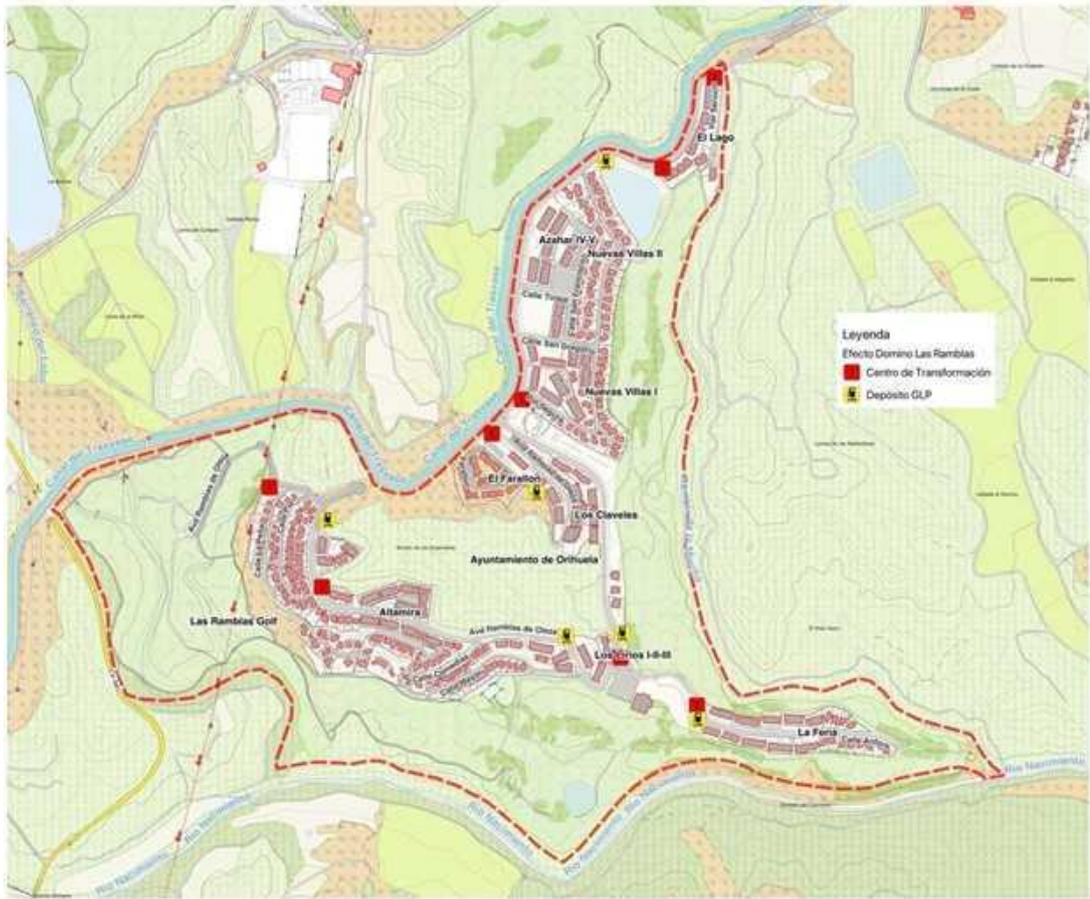


Image 22. Map of the location of LPG tanks and electrical transformation centres. Source: +O2 Ingenieros

### 3.4.3 Electrical installations

On the southwest flank of the Las Ramblas residential area crosses a high voltage line that flies over forest areas, as well as trees in the area of the golf course and several houses.

The person responsible for the operation of the line will be obliged to guarantee that the safety distance between the conductors of the line and the mass of trees within the right-of-way area satisfies the requirements of these regulations, and the owner of the land will be obliged to allow such activities to be carried out. Likewise, it will notify the competent body of the administration of the masses of trees excluded from the right-of-way area, which could compromise the safety distances established in this regulation.

#### 3.4.4 Effect on electrical transformers

A total of 8 transformer stations have been inventoried, consisting of prefabricated buildings made of concrete slabs and metal doors, their location is shown in illustration no. 12.

## 4 FOREST FIRE PREVENTION AND PROTECTION

The different communities of owners and facilities present in Sector R1- Las Ramblas do not have their own means for extinguishing forest fires. The following section sets out the existing means belonging to the Orihuela City Council, the Provincial Council and the Generalitat Valenciana.

### 4.1 EXTINGUISHING SUPPORT INFRASTRUCTURES

#### 4.1.1 Roads, firebreaks and forest roads

Las Ramblas has a single public entrance located to the north of the sector that gives access to all the roads that run through its interior. There is no perimeter road of its own and the golf course facilities have a private access to the CV-941 that connects with Avenida Ramblas de Oleza at its western end of the urbanization. This access could be used in case of emergency need for both extinguishing means and evacuation of residents.

The eastern and southern flank of the Ramblas borders forest land and in the interface area the golf course facilities extend with areas of vegetation discontinuity and stands of Aleppo pine with high density and continuity of crowns. No vegetation treatment has been carried out in the area focused on the prevention of forest fires, except for the maintenance work that is carried out annually in the facilities of the golf course. However, in the plan of Infrastructures to support extinguishing, areas have been plotted on the perimeter of the urbanization that can perform functions of minimization of the impact force and can be used by the means of extinguishing to combat the advance of the fire towards residential areas.

The map of communication routes shows both the internal road network of the urbanization and the paths and tracks present in the forest area closest to the Ramblas.

#### 4.1.2 Water network

Water is a resource of great importance in firefighting, being its basic utility in both direct and indirect attacks. For this reason, it is necessary to have a network of water points to meet the following objectives:

- Water supply for pumper vehicles.
- Aircraft water loading.
- Use of water directly with a motor pump and laying hoses.

The water points analysed and inventoried can be classified into two categories:

- a) **Of multiple use**, being of natural or artificial origin. The purpose of construction of these infrastructures is not as such the extinction of forest fires, but they can be used for this purpose under certain conditions by helicopters, fire trucks and motor pumps. Irrigation ponds, swimming pools or small artificial lakes or larger water sheets such as reservoirs or open sea can be included in this category.
- b) **Specific** for firefighting, artificially built, such as tanks and cisterns for loading pumpers, rafts for helicopters and hydrants for loading pumpers.

#### Multi-purpose water points

Having consulted the Fire Prevention Plan of the Crevillente Demarcation and the Local FI Prevention Plan of the municipality of Orihuela, we have the following supply points within a radius of 2 kilometres from the Las Ramblas area.

LABEL	CAPACITY	X_ETRS89	Y_ETRS89	TYPE	OWNERSHIP
M589	> 500 m3	693691,41	4200648,82	Agricultural Reservoir	Private
M590	> 500 m3	695827,37	4199802,09	Pond Campo Golf	Private
M591	> 500 m3	694640,76	4200673,10	Pond Campo Golf	Private
M592	> 500 m3	694630,70	4199891,62	Agricultural Reservoir	Private
M602	> 500 m3	696287,09	4199844,19	Agricultural Reservoir	Private
M605	> 500 m3	697226,96	4199155,46	Agricultural Reservoir	Private
M606	> 500 m3	695713,57	4198668,93	Pond Campo Golf	Private
M607	> 500 m3	693443,39	4198656,94	Agricultural Reservoir	Private
M608	> 500 m3	693190,75	4198001,43	Agricultural Reservoir	Private
M610	> 500 m3	694494,68	4197529,35	Agricultural Reservoir	Private
M611	> 500 m3	694326,47	4197573,23	Agricultural Reservoir	Private

*Table 9. Inventory of multi-use water points within a radius of 2 kilometres. Source: Crevillente Demarcation Regional Plan*

For the supply of other air means such as amphibious aircraft there are several loading points in the vicinity of the Las Ramblas Urbanization, depending on the weather conditions different locations can be used in the Mediterranean Sea or the Pedrera reservoir located 13 kilometres away.



Image 23. Water supply points for amphibious aerial means.

### Specific water points, Hydrants

The following table shows the location data of the existing hydrants on Las Ramblas:

Number	XETRS89	YETRS89	Location	Community of Owners
HCO-001	696316,9828	4198764,782	Calle Ánfora	La Feria
HCO-002	696163,8466	4198785,257	Calle Ánfora	La Feria
HCO-003	695993,4541	4198798,487	Calle Ánfora	La Feria
HCO-004	695848,3121	4198894,313	Calle Ánfora	La Feria
HCO-005	695776,3396	4198919,428	Avd. Ramblas de Oleza	Los Lirios I-II-III
HCO-006	695776,6266	4199093,181	Avd. Ramblas de Oleza	
HCO-007	695570,1038	4198988,599	Avd. Ramblas de Oleza	Altamira
HCO-008	695398,3982	4199015,637	Avd. Ramblas de Oleza	Altamira

HCO-009	695224,1277	4199094,35	Avd. Ramblas de Oleza	Altamira
HCO-010	695228,5725	4199183,913	Avd. Ramblas de Oleza 2	Altamira
HCO-011	695594,9774	4199280,185	Avd. Ramblas de Oleza	El Farallón
HCO-194	695151,7393	4199290,856	Avd. Ramblas de Oleza	Altamira
HCO-332	695680,5225	4199823,282	Avd. Ramblas de Oleza	Nuevas Villa II
HCO-333	695607,3278	4199662,646	Avd. Ramblas de Oleza	Azahar IV-V
HCO-358	695946,6626	4200011,487	Avd. Ramblas de Oleza	El Lago

Table 10. Inventory of Hydrants in Las Ramblas.

Apart from the water points described in the urbanization, there are a large number of private swimming pools for collective use that can be used both to supply the pumps and for the use of motor pumps.

Once the existing water points have been exposed throughout Sector R1 Las Ramblas, and taking into account the Technical Standard<sup>3</sup>, it is not considered necessary to expand the network of hydrants as it is considered sufficient, although it is necessary to signpost them and review them periodically, although it is true that in some cases the separation of 200 meters between hydrants is not complied with.

## 5 PROPOSED FOREST FIRE PREVENTION AND PROTECTION MEASURES

The following section includes the different actions that are considered necessary to improve the protection of inhabitants and their property against the risk of forest fires.

The actions, following the structure of the Local Forest Fire Prevention Plan of the municipality of Orihuela, are framed within the following categories:

- a) Regulatory scope.
- b) Communication, dissemination, awareness and training actions.
- c) Actions on the road network
- d) Actions on vegetation
- e) Actions on the water network

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<sup>3</sup> Engineering Manual. Forest Fire Prevention Infrastructures- Technical Standard. Infrastructures in built-up areas. Generalitat Valenciana

## 5.1 ACTIONS IN THE REGULATORY FIELD

CODE	NAME OF THE ACTION
001	Adaptation to the Technical Standard of paella and barbecues on private plots

### DESCRIPCIÓN DE LA ACTUACIÓN

Based on the requirements that must be met by paella pans and barbecues located less than 500 m from the forest area, in compatibility with the *Technical Standard for Infrastructures in Urbanized Areas*, which is included in the approved *Demarcation Plan*, it is proposed to send a circular to all owners informing them of the conditions that these facilities must meet.

The conditions that the elements must meet are:

- In the chimneys and smoke outlets of the dwellings there must be a spark arrestor network of non-flammable material with a mesh opening of between 0.5 and 1 cm on a side, maximum, without branches or elements that may obstruct it at a minimum distance of 3 meters.
- Paella pans and outdoor barbecues preferably located outside the boundary area with the interface band and complying with the following requirements:
  - o Ceiling and three side walls from floor to ceiling.
  - o Located on a slab that must protrude at least 1 m from the fire area.
  - o All smoke outlets will have a spark arrestor network made of non-flammable material and will have a spark arresting hood.
  - o No branches within a radius of 3 m from the smoke outlet.
  - o It is advisable to have a nearby water point.

### LOCATION OF THE ACTION

Residential sector R1 Las Ramblas, Orihuela Costa

Forest Fire Prevention Plan of the Crevillente Demarcation.

EXECUTION PERIOD	VALIDITY OF THE MEASURE
Year: 1	Unlimited as long as its cancellation is not requested or Modification

### EXPECTED COST OF THE ACTION

S.R.E.

### OWNERSHIP/AVAILABILITY OF LAND

### EXPECTATION OF FINANCING OF THE PERFORMANCE

### FOLLOW-UP

Tracking indicator: No. of circulars sent to owners.

**CODE NAME OF THE ACTION**

002 | Update of the internal rules of the communities of owners.

**DESCRIPTION OF THE ACTION**

Incorporation into the internal rules of the different communities of owners of a series of obligations in the field of forest fire prevention included both in the Special Plan Against the Risk of Forest Fires and other technical documents in the field of prevention of forest fires in residential areas.

**LOCATION OF THE ACTION**

Municipality of Orihuela

YES, PARTIALLY

Special Plan against Forest Fire Risk

**PERIODO DE EJECUCIÓN VIGENCIA DE LA MEDIDA**

Year:  
1

Unlimited as long as its cancellation is not requested or  
Modification

**EXPECTED COST OF THE ACTION**

S.R.E.

**OWNERSHIP/AVAILABILITY OF LAND**

**EXPECTATION OF FINANCING OF THE PERFORMANCE**

**FOLLOW-UP**

Monitoring indicator: No. of meetings or assemblies of owners convened to discuss the measure and number of communities proposing the measures and number of approved rules for internal use.

## 5.2 COMMUNICATION, AWARENESS-RAISING AND TRAINING ACTIONS

The lack of knowledge of the risk to which the inhabitants of IUF areas and areas of forest influence are exposed is a factor that increases the vulnerability of these residential areas to forest fires. That is why it is essential to carry out actions aimed at raising awareness and informing the population so that they know the risks to which they are exposed and internalize a series of actions or customs that reduce their exposure to forest fires, improving the resilience of these residential areas against this type of increasingly common risks.

CODE	NAME OF THE ACTION
003	Dissemination of the Self-Protection Plan
DESCRIPTION OF THE ACTION	
Once the Self-Protection Plan has been approved by the Orihuela City Council and by the competent service in matters of Security and Emergencies of the Valencian Community, it will be translated at least into English and disseminated among all the residents of Las Ramblas.	
LOCATION OF THE ACTION	
Residential Area Sector R1- Las Ramblas	
ACTION INCLUDED IN PLANNING DOCUMENTS APPROVED AND/OR DRAFTED BY THE COMPETENT MINISTRY IN THE FIELD OF FOREST FIRE PREVENTION	
NO	
PERIODO DE EJECUCIÓN	VIGENCIA DE LA MEDIDA
Year: 1	Unlimited
EXPECTED COST OF THE ACTION	
Translation cost:	
OWNERSHIP/AVAILABILITY OF LAND	
EXPECTATION OF FINANCING OF THE PERFORMANCE	
FOLLOW-UP	
Monitoring indicator: No. of languages translated, No. of residents reported.	

CODE	NAME OF THE ACTION
004	Dissemination of information to prevent and act in the event of forest fires

#### DESCRIPTION OF THE ACTION

This action includes the preparation of a manual of recommendations and actions to be carried out both at the time before a fire, to prevent its risks and in the course of an emergency situation due to forest fire.

#### LOCATION OF THE ACTION

Residential Area Sector R1- Las Ramblas

#### ACTION INCLUDED IN PLANNING DOCUMENTS APPROVED AND/OR DRAFTED BY THE COMPETENT MINISTRY IN THE FIELD OF FOREST FIRE PREVENTION

NO

EXECUTION PERIOD	VALIDITY OF THE MEASURE
Year: 1 to 10	Unlimited

#### EXPECTED COST OF THE ACTION

Cost of processing and translation

#### OWNERSHIP/AVAILABILITY OF LAND

#### EXPECTATION OF FINANCING OF THE PERFORMANCE

#### FOLLOW-UP

Monitoring indicator: No. of languages translated, No. of residents reported.

**CODE                      NAME OF THE ACTION**

005	Carrying out fire drills.
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**DESCRIPTION OF THE ACTION**

A fire drill will be carried out periodically in which coordination in an emergency situation will be improved. It is considered strategic to improve the response of the population to an emergency evacuation or evacuation situation.

It is proposed to carry out a drill 3-6 months after the approval of the Self-Protection Plan and to carry out maintenance drills at least every 2 years.

After each drill, the Director of the Plan or the people responsible for its implementation will convene a meeting of the parties involved to evaluate the development of the drill, requesting, if necessary, the preparation of a report.

**LOCATION OF THE ACTION**

Residential Area Sector R1- Las Ramblas

**ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES**

Yes	Spatial Plan for Forest Fire Risk
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**PERIOD OF EXECUTION                      VALIDITY OF THE MEASURE**

Year: 1, 4, 7 and 10.	Unlimited
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**EXPECTED COST OF THE ACTION**

Estimated unit cost 1 drill: 1,500 € Total  
 estimated cost: 6,000 €

**OWNERSHIP/AVAILABILITY OF LAND**
**EXPECTATION OF FINANCING OF THE PERFORMANCE**
**FOLLOW-UP**

Monitoring indicator: Number of drills carried out and participating entities.

### 5.3 ACTIONS ON THE ROAD NETWORK

Once the internal road network of the residential area has been analysed and catalogued, it is considered necessary to signpost certain dead-end streets and to place signs prohibiting parking on streets that present a greater traffic problem due to their size and danger in an emergency situation.

CODE	NAME OF THE ACTION
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006	Organisation of traffic and road signage
-----	------------------------------------------

DESCRIPTION OF THE ACTION
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Placement of signage in dead-end streets and vertical signs prohibiting parking in two-way street areas of order 2 and 3, especially in those that do not comply with the technical standard in terms of places for change of direction or sidings. Preparation of a proposal to convert two-way roads into one-way roads because if cars are parked on the side of the road, the passage space is reduced to less than 4 meters.
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LOCATION OF THE ACTION
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Calle Mayor, Calle Comedias, Calle Cazorla, Calle Pia, Calle la Peña, Avd. Ramblas de Oleza 2, Calle Rey Teodomiro.
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ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES
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Yes	Spatial Plan for Forest Fire Risk
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PERIOD OF EXECUTION	VALIDITY OF THE MEASURE
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Year: 1	Unlimited
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EXPECTED COST OF THE ACTION
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Cost to be determined
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OWNERSHIP/AVAILABILITY OF LAND
--------------------------------

TBD
-----

EXPECTATION OF FINANCING OF THE PERFORMANCE
---------------------------------------------

TBD
-----

FOLLOW-UP
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Tracking indicator: No. of road signs placed.
-----------------------------------------------

CODE	NAME OF THE ACTION
007	Treatment of vegetation next to roads

#### DESCRIPTION OF THE ACTION

Cleaning of vegetation next to interior roads to facilitate the evacuation of inhabitants and access to extinguishing means safely. In certain places, vegetation invades part of the road and the branches of the trees create a tunnel effect.

#### LOCATION OF THE ACTION

#### ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES

Yes	Spatial Plan for Forest Fire Risk
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PERIOD OF EXECUTION	VALIDITY OF THE MEASURE
Year: 1	Unlimited

#### EXPECTED COST OF THE ACTION

Cost to be determined

#### OWNERSHIP/AVAILABILITY OF LAND

TBD

#### EXPECTATION OF FINANCING OF THE PERFORMANCE

TBD

#### FOLLOW-UP

Monitoring indicator: No. of hectares treated

## 5.4 ACTIONS ON VEGETATION

In compliance with the seventh provision of Legislative Decree 1/2021, of 18 June, of the Council approving the Law on Territorial Planning, Urban Planning and Landscape, vegetation treatments must be undertaken in the urban forest interface area as set out in ANNEX XI, point 1- Perimeter protection strip.

As for private plots, the provisions of point 3 - Treatment of interior vegetation will be followed.

CODE	NAME OF THE ACTION
008	Vegetation Treatment - Perimeter Protection Strip

### DESCRIPTION OF THE ACTION

In order to reduce or break the continuity of forest fuels, a perimeter strip of protection of at least 30 meters wide must be ensured, measured from the outer limit of the building, installation or set of buildings to be defended.

To determine the areas to be treated, a detailed study will be carried out in which the types of existing fuels or the existing areas of vegetation discontinuity will be analysed in order to prepare the project for the execution of these vegetation treatments.

The treatments to be carried out will be as set out in Annex XI, point 1 of Legislative Decree 1/2021 of the Council approving the Law on Territorial Planning, Urban Planning and Landscape

### LOCATION OF THE ACTION

### ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES

1.	Spatial Plan for Forest Fire Risk Yes	<ul style="list-style-type: none"> <li>Legislative Decree 1/2021 of the Council approving the Law on territorial planning, urban planning and landscape</li> </ul>
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PERIOD OF EXECUTION	VALIDITY OF THE MEASURE
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Year: 1	Unlimited
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### EXPECTED COST OF THE ACTION

Estimated area of 15 ha. Average cost of treatment €4,500/ha.  
Estimated total cost of vegetation treatment: €67,500 (plus taxes) Estimated cost of the project and project management: €4,500

### OWNERSHIP/AVAILABILITY OF LAND

Private – Orihuela Town Hall

### EXPECTATION OF FINANCING OF THE PERFORMANCE

Affected landowners

### FOLLOW-UP

Monitoring indicator: No. of hectares treated

CODE	NAME OF THE ACTION
009	Vegetation Treatment – Interior Vegetation and Private Plots
DESCRIPTION OF THE ACTION	
<p>The existing interior vegetation in the plots is also capable of spreading a fire, therefore, in order to reduce the vulnerability of existing assets, it is necessary to carry out the following actions when the distance to the forest land is less than 500 m:</p> <ol style="list-style-type: none"> <li>1. Action on the shrub layer: Reduction of coverage to a maximum of 10% of FCC.</li> <li>2. Action on the tree stratum: The FCC of the trees will be less than 40% (taking into account the total area of the plot).</li> <li>3. The remaining trees will be pruned to 2/3 of their height or a maximum of 3 meters.</li> <li>4. In any case, the fraction of covered capacity of the shrub and tree stratum may not exceed 40 %.</li> <li>5. The contact of vegetation with buildings will be avoided, separating the branches of any type of construction, whether auxiliary or main, at a minimum distance of 3 meters.</li> <li>6. The accumulation of waste or combustible material (firewood, garden debris, etc.) inside the plot or built-up area will be avoided, in any case it will be located in protected areas against a possible fire.</li> <li>7. The most flammable materials and vegetation (hedges) will be avoided for the closure of the plots.</li> </ol> <p style="color: red;">Shaving of the trunks of palm trees of the genus <i>Washingtonia</i> is recommended to reduce the load of highly flammable fuels in situations near buildings.</p>	
LOCATION OF THE ACTION	
Private pitches in Sector R1-Las Ramblas	
ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES	
Yes	Spatial Plan for Forest Fire Risk Legislative Decree 1/2021 of the Council approving the Law on territorial planning, urban planning and landscape
PERIOD OF EXECUTION	VALIDITY OF THE MEASURE
Year: 1	Unlimited
EXPECTED COST OF THE ACTION	
TBD	
OWNERSHIP/AVAILABILITY OF LAND	
Private	
EXPECTATION OF FINANCING OF THE PERFORMANCE	
Owners	
FOLLOW-UP	
Monitoring indicator: No. of hectares treated	

## 5.5 ACTION ON THE WATER NETWORK

As seen in the previous sections, the water network is considered sufficient, the area has a network of 16 hydrants, up to 11 multi-use water points within a radius of 2 kilometres suitable for helicopter loading and a very extensive network of private swimming pools throughout the urbanization.

It is considered necessary to signpost the network of hydrants and other water points existing in the urbanization.

CODE	NAME OF THE ACTION
010	Water point signage
DESCRIPTION OF THE ACTION	
The action consists of vertical signage for hydrants ( <b>Royal Decree 513/2017 of 22 May, approving the regulation of fire protection installations</b> ) and two water points for multiple use existing inside the urbanized area.	
LOCATION OF THE ACTION	
Las Ramblas road network	
ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES	
Yes	Spatial Plan for Forest Fire Risk Legislative Decree 1/2021 of the Council approving the Law on territorial planning, urban planning and landscape
PERIOD OF EXECUTION	VALIDITY OF THE MEASURE
Year: 1	Unlimited
EXPECTED COST OF THE ACTION	
TBD	
OWNERSHIP/AVAILABILITY OF LAND	
Public	
EXPECTATION OF FINANCING OF THE PERFORMANCE	
TBD	
FOLLOW-UP	
Tracking indicator: No. of marked water points	

**CODE                      NAME OF THE ACTION**

011	Review and maintenance of the hydrant network
-----	-----------------------------------------------

**DESCRIPTION OF THE ACTION**

Water is the main element used in forest fire extinguishing operations, therefore, ensuring its availability is essential for extinguishing teams.

In the current case of urbanization, the most prominent Defence infrastructure in urbanized areas is the network of hydrants for use with fire trucks in the event of a forest fire.

In this sense, if the number of hydrants present is sufficient, their state of conservation and functionality must be ensured. Therefore, a period will be established prior to the start of the forest fire season, aimed at checking the state of each and every one of the existing water points in the urbanization. Renewing or repairing them, where appropriate, prior to the start of the forest fire campaign.

For a correct functioning of the network of hydrants present in the urbanization, it is proposed to review and/or maintain them, at least once a year and before the period of greatest risk (April-May). At least the review will include the following actions:

1. Check accessibility.
2. Check the signage. This signage must comply with the UNIX 23033 standard.
3. Remove the outlet covers, grease the thread and check the condition of the fitting joints.
4. Grease the drive female or fill the chamber with oil from it.
5. Open and close the hydrant, checking the correct functioning of the main valve and the drainage system.
6. Check the condition of the complementary material to the water points (hoses, spearheads and forks)
7. Check pressure.

The provisions of Royal Decree 513/2017 of 22 May, which approves the regulations on fire protection installations, will be followed.

**LOCATION OF THE ACTION**

Las Ramblas residential complex.

**ACTUACIÓN RECOGIDA EN DOCUMENTOS DE PLANIFICACIÓN APROBADOS Y/O REDACTADOS POR LA CONSELLERÍA COMPETENTE EN MATERIA DE PREVENCIÓN DE INCENDIOS FORESTALES**

No	
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**PERIOD OF EXECUTION                      VALIDITY OF THE MEASURE**

Year: 1-10	Throughout the term of the Plan.
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**EXPECTED COST OF THE ACTION**

At no cost, this service must be carried out by the water supply and sewerage company of the municipality of Orihuela,

**OWNERSHIP/AVAILABILITY OF LAND**

Public

**EXPECTATION OF FINANCING OF THE PERFORMANCE**
**FOLLOW-UP**

Tracking indicator: No. of water points checked

## 6 ECONOMIC AND TEMPORAL PROGRAMMING

CODE	ACTION NAME	UNITS	COST	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
1.	Adaptation to the NT of barbecues		S.R.E.	█									
2.	Updating of Internal Rules			█									
3	Distribution Autoprojection Plan	2	?	█									
1.	Dissemination of tips for prevention and action in the event of fire			█									
2.	Fire Drill	4		█			█			█			█
		1/5											
3.	Organization of internal circulation and signalling	Report/ Signals		█									
4.	Vegetation treatments next to roads			█									
		ha											
5.	Vegetation treatments, Perimeter protection strips	HA		█									
9	Vegetation treatments - private land	S.R.E.		█									
10	Water point signage	Vertical sign		█									
11	Review and maintenance of the hydrant network	S.R.E.		█									

## 7 ACTION PLAN IN THE EVENT OF AN EMERGENCY SITUATION

### 7.1 RESPONSIBILITY AND MEMBERS OF THE SELF-PROTECTION PLAN

The management of the plan is responsible for coordinating and leading all actions related to civil protection and risk management in this area.

The following table shows the organisational structure that makes up this Self-Protection Plan and is responsible for its implementation, review/updating and the execution of internal information tasks in the event of an emergency situation.

CHARGE	Person	Contact
Director/a		
Alternate Direction 1		
Alternate Direction 2		
Alternate Director 3		
UBI Surveillance Manager		
UBI Communications Manager		
Responsible for reception of external media and contact with PMA.		

## 7.2 ALARM DETECTION AND TRANSMISSION

### **1. Observation of the fire and notification to the Emergency Coordination Center.**

The person who detects the situation of a possible forest fire, will immediately notify the Emergency Coordination Center (CCE) by calling 1·1·2, he could also communicate it to the Local Police of Orihuela and to the person responsible for the application of this Plan. In any case, the Local Police must notify the person responsible for the implementation of the Self-Protection Plan as soon as possible in order to start the chain of messages to alert neighbours and especially people with special needs.

The person who receives the alert will obtain the necessary information from the caller that will allow him to determine the type of emergency, the scope and severity, location, and the actions that have been carried out so far. He will inform the Emergency Manager or the director of the Plan. And in the event that it has not been carried out, it will notify the CCE 112 of the Generalitat Valenciana.

### **2. Activation of the Municipal Territorial Plan and activation and integration of the Self-Protection Plan of the Las Ramblas Residences area.**

Once the notice has been received from the Emergency Manager or the Director of the Plan, the following measures will be adopted:

- It verifies the veracity and nature of the incident and makes an estimate of the means necessary for control.
- Inform those responsible that they will be part of the Control Center so that they can be launched as soon as possible.
- The security and emergency services provided for in the higher-ranking Plan will be notified, if necessary, clearly indicating the characteristics of the emergency, the location, estimated damage assessment, number of people involved and means deemed necessary to deal with the emergency.
- In the event of a fire, the Intervention Units (if any) will be immediately mobilised to ensure rapid action on the emergency or taking precautions.

Inform the rest of the Units (if any) that they will be ready to act.

### 7.3 RECEIPT OF EXTERNAL AID

The director of the Plan, Head of Emergencies or the person delegated by him, will be responsible for receiving the external aid. The latter will make itself available to those responsible for these services, will provide a copy of the Plan and the information they need, the information transmitted to them by the components of the Emergency Units that are intervening and any other relevant information.

On arrival of the higher-level emergency services, they will report the following information:

- Location of the incident.
- Characteristics of this.
- Critical infrastructures present.
- Number of users and their location.
- If there are injured and/or trapped and/or people with reduced mobility.
- Area enabled for emergency coordination.
- Access to the fire area.
- Location and characteristics of the infrastructures and means for extinguishing present in the area.

### 7.4 ACTION AND PROTECTION MEASURES

Within the Self-Protection Plan it is necessary to establish the different actions that the means have to carry out in the event of an emergency due to forest fire or any other emergency that may occur in the urbanization.

It should be noted that the aspects related to the organisation and procedures for intervention in forest fire emergencies and the resources and services (the ownership of which correspond to the local and regional administration), must be established within the Local Action Plan against the risk of forest fires.

As stated in the Special Plan Against the Risk of Forest Fire of the Valencian Community, the protection measures for the population will only have to be considered from level 1 forest fires.

Preventive evacuations may be carried out due to the existence of abundant smoke in the area. The order of confinement, distancing or evacuation shall be

given by the director of the PEIF (GVA, 2017) at the proposal of the director of the WFP or the mayor, or it will be given by the latter under his or her full responsibility.

The person who gives the order shall verify that all the previous ones are aware of it. The transfer of the order will be from the director of the WFP to the person in charge of the Coordination of the Basic Security Unit. The notification to the population of the order, its subjection and the direction and execution of the same, will be assumed by the Basic Security Unit, with its own resources, local resources or requested from the CCE Generalitat.

In the event of a threat of imminent danger to homes or populated areas, protection measures may be ordered by the director of the WFP or by the person in charge of the Coordination of the Basic Security Unit, with immediate notification to the director of the WFP. In this case, the director of the WFP will inform the director of the PEIF and the mayor of the municipality as soon as possible about the measures adopted. In the absence of members of the Basic Security Unit, the director of the WFP shall order the protection measures, with the means at his disposal.

## 7.5 EVACUATION / DISTANCING / CONFINEMENT

In the event of a forest fire, the usual protection measure is confinement. Only in the event that the authorities consider that the confinement does not take place in minimum safe conditions is distancing or evacuation ordered. In the event that it occurs, it must be carried out from the buildings to the safe area isolated from the forest mass at risk.

In this section, it is possible to differentiate exactly the different possible options in the event of a forest fire:

- Confinement: this measure consists of the population taking refuge in their own homes, enclosures or nearby rooms at the time the adoption of the measure is announced. This measure must be complemented by personal self-protection measures.
- Distance: consists of the transfer of the population from exposed positions to safe places, generally not far away, using their own means.
- Evacuation: consists of the transfer of the population that is in the risk area to safe areas. This is a definitive measure, which as a general rule will be prolonged over time, so accommodation and care for the affected population will have to be foreseen. It is justified only if the danger to which the population is exposed is great. When deciding on an evacuation, it is necessary to

evaluate the specific conditions of the claim and assess the advantages against the disadvantages that it entails.

The order of confinement, distancing or evacuation will be given by the Director of the PEIF at the proposal of the Director of the WFP or the mayor, or it will be given by the mayor under his or her sole responsibility. The one who gives the order shall verify that all the previous ones are aware of it.

In Document II Cartography, a Plan of preferential Distance/Evacuation routes is included.

### 7.5.1 Safe area isolated from the forest mass

The different urbanizations of Las Ramblas are surrounded by forest areas or with forest vegetation, so in the event of a fire it will depend on the area in which it occurs and the wind conditions to determine a safe area. That is why this Plan will identify different safe areas that will be used depending on the conditions of the emergency that occurs and by order of the Plan's management.

Id	Location	Coord X	Coord Y
ZS 01	Residencial Altamira	695377	4199009
ZS 02	Club Las Ramblas Golf	695806	4198885
ZS 03	Avd. Ramblas de Oleza	695593	4199639

Table 11. List of safe assembly areas in case of emergencies.

### 7.5.2 Preferential routes of distance/evacuation and their hierarchy

The distance/evacuation will take place through urban streets, starting from the areas closest to the forest mass, so as to avoid possible collapses of the evacuation route to the safe area.

Given the very configuration of the urbanization and its surroundings, it is expected that in the event of a distance/evacuation it will take place by vehicle, especially taking into account the capacity and space of the internal road network, discarding the methodology of walking. This must be carried out in an orderly manner, using as few vehicles as possible, following the traffic rules and with the vehicle's lights on. The passage of the extinguishing operation will be prioritized.

Since Las Ramblas only has one entry and exit route, this will be the one used as an exit route, residents will go from their homes to Avenida Ramblas de Oleza so that in an orderly manner and directed by the personnel of the Security unit in command of the operation they can carry out the movements of distance or evacuation.

### 7.5.3 Distancing/evacuation protocol

In the event of an emergency and in accordance with the order of the director of the Plan at the proposal of the director of the WFP or under his direct responsibility, the evacuation order of the urbanizations of Las Ramblas may be given. This evacuation may be partial or total:

Partial evacuation: it is called partial evacuation when it affects only a part of the urbanization.

General evacuation: this is called general evacuation when it affects all housing estates, even if it is carried out in a staggered manner or in phases.

Partial evacuation involves the order to transfer people who are in the emergency zone to a safe place, while general evacuation involves the transfer of all people living in the different housing estates (complete evacuation).

In the event of a threat of immediate danger to homes or populated areas, the protection measures will be ordered and carried out by the Control Centre, which will order the protection measures, with the means available.

## 7.6 PUBLIC WARNING SYSTEMS

Their purpose is to alert the population and inform them about the most appropriate action in each case and about the application of the aforementioned protection measures: confinement, distancing and evacuation.

Warnings regarding pre-emergency and/or emergency situations will be notified to the population through the mobile public address system installed in the patrol cars of the Local Police or Civil Protection. It will also be able to inform the population of the protection measures of imminent application, by WhatsApp instant messaging system through the internal information groups of the urbanizations.

### **Pre-emergency**

A fire has started in the municipality of ..... [Municipality Name] in the area of ..... [Area Name]. Please stay tuned to updates from authorities and official sources, in case an evacuation or shelter-in-place order becomes necessary. Remember to stay away from the affected area.

### **Distancing/Evacuation**

A fire has started in the area ..... [Area Name]. If you live in or are in the Las Ramblas residential area, please follow the instructions in the Self-Protection Plan and go to the meeting point located at “.....”. Please remain calm and follow the instructions of the authorities.

## **Confinement**

A fire has started in the area ..... [Area Name]. Authorities have ordered residents to stay indoors. If you live in or are in the Las Ramblas residential area, please remain calm and follow the advice in the Self-Protection Plan and from the authorities for a safe lockdown.

### **7.7 Personal self-protection measures**

The management of forest fires in Urban-Forest Interface areas is very complex because the agents involved are more numerous (human lives, material goods and forest).

The protection of human lives and material goods prevails over the protection of forest areas, which significantly conditions the defence strategies and the protocols of action of the means of extinction.

The people who live in these areas should be aware that living in them implies an added risk to be taken into account and they should be aware of personal self-protection measures, simple measures that can be carried out by anyone and that contribute significantly to the management of the emergency. These recommendations do not guarantee your survival.

This section provides for personal self-protection measures, knowing that in the event of a forest fire, the main thing is to attend to the emergency services and immediately follow evacuation orders.

#### **7.7.1 Detecting a fire**

- Stay calm
- Call 1·1·2 immediately and provide as much information as possible. Rapid detection of the incipient fire is a key factor for the success of its immediate extinguishing. Your call to 1·1·2 should convey the information in a clear and concise way, with short, easy-to-understand sentences:
  - Indicate what is happening, be precise.
  - What is burning (trees, scrub, grass, gardens, houses,...).
  - Where is the fire (in which municipality, nearby roads, nearest place...).
  - What colour, shape and density is the column of smoke (Do you see flames?,
    - How many bulbs are there?, size...)

- It indicates if it threatens any town, urbanization, housing, campsite, industrial activity, gas station or other property.
- If this is the case, notify your neighbours, using the means provided or available:
  - First of all, the Director of the Self-Protection Plan.
  - Activate the centralized alarm signal, if it exists.
  - By mobile public address system or warning sirens.
  - By phone.
  - Door to door.
  - Bell Ringing.



Image 24. Guide to characterizing a fire according to the column of smoke it produces.

### 7.7.2 Attack of a detected outbreak

After notifying 112 and potential neighbours, ask yourself if you are trained and trained and if you have the tools to do so. If so, it is appropriate:

- Stay calm.
- Gather extinguishing tools such as a fire extinguishing backpack, hose, shovel to suffocate with soil, fire blanket, etc.
- Go to the place and always position yourself downwind, feeling the wind on your back, never against.
- Don't act without seeing another person or without your being seen. The rule of seeing and being seen must be observed.
- Don't act without identifying a safe escape route.
- Aim for the base of the fire in case of a powder extinguisher, fire carrier or tool-dug soil.
- Verify its extinction and report it to 112 and the neighbourhood.

### 7.7.3 If you're in a house and the fire is coming

- Dress appropriately: Avoid burns by covering as much of the body as possible. Wear long-sleeved cotton clothing, closed shoes, and a damp, wrung out mask or handkerchief. Avoid synthetic fabrics!
- Close everything: Close doors, windows and openings (chimney, vents, etc.), gas, diesel and other fuel stopcocks. Disconnect the automatic door opening and closing mechanisms. Place wet towels under doors.
- It is advisable to have tools and utensils ready, which can help fight the fire (hoses, water pumps, shovels, etc.), without putting its integrity at risk.
- Store water. Gather buckets and containers and fill them with water. Fill the bathtub and sinks as well. Keep hoses connected to the water mains. Water is very precious in the event of a fire: don't waste it.
- When the fire is close to your home, soak the roof and sensitive items closest to the flames.
- Activate the sprinklers and automatic irrigation system just moments before the fire arrives to prevent a drop in pressure in the community's water network.
- Remove combustible material: Both from around the house (furniture, tarpaulins, buckets...) and from inside the house, especially those close to doors and windows (curtains, blinds, furniture).
- Incipient foci: Immediately smother embers and sparks with hoses, buckets of water, branches or soil.
- Vehicles: Place them in a protected position with respect to the direction of advance of the fire. Remember to keep an eye out for evacuation orders.

### 7.7.4 If you find yourself in a car and you find yourself surrounded by fire

- It is recommended not to drive without visibility due to smoke (turn on lights and indicators). In this case, look for a place free of vegetation as far away from the fire as possible to stop.
- Not driving under a dense smoke environment can lead to the car drowning and the engine stalling (choking effect) and you can be trapped in a risk area. In case of entrapment, the car is not a refuge as a building can be.
- Try to close windows and all ventilation points in the vehicle. It is advisable to stay crouched in the lowest areas of the car.
- Turn on your headlights and hazard lights
- In the event of having to leave the vehicle, it is recommended to cover your entire body with clothing, avoiding direct contact of radiation with the skin.
- It is advisable not to park obstructing the roads, the means of extinguishing and authorities may need to pass

### 7.7.5 If you walk in the mountains and there is a fire in the vicinity

- Avoid places with high fuel accumulation or located upside from the fire. Remains on bare or burned ground.
- Move along contour lines, moving away from the direction of the fire forward, looking down the slope for the tail of the fire.
- Don't go up the hill, unless you know there's a safe place there.
- Do not attempt to cross the flames unless you can clearly see what is behind them.
- If you are surrounded, protect yourself from radiation: lie down on the ground behind a large rock, a log, or in a depression and cover yourself with dirt or sand; take refuge in swimming pools or streams; Avoid elevated water reservoirs (they will heat up due to the fire).

### 7.7.6 In case of confinement

When evacuation is not possible due to lack of time and/or safety is not guaranteed, confinement will be carried out inside the home, always following the advice of the authorities. In this case, follow the instructions below to make the home a safer place in the event of a forest fire.:

- Communicate your situation to the authorities through 112 indicating how many people are with you.
- Remove flammable objects from around the house (furniture and garden objects).
- Turn on the irrigation system or fire defence infrastructure (if available).
- Wet vulnerable spots (doors, windows, porches, eaves, etc.).
- Disconnect the gas and put the butane cylinder in the house or throw it in the pool.
- It is recommended to disconnect the power.
- Have a separate light source (flashlight, telephone, etc.) on hand, the power supply may fail.
- It is advisable to use some means to keep in touch (mobile phone) and receive information (radio).
- Staying in the home without locking the lock.

- It is advisable to close doors and windows, and lower the blinds, and place towels or damp cloths under doors and on windows to prevent smoke from entering.
- It is recommended to close interior doors, the chimney draft, to generate interior stability and avoid air flows and drafts.
- Remove curtains, carpets, carpets in the most exposed areas (where the fire comes from), wet them if possible.
- Fill the bathtub and buckets with water (water may be needed).
- Tall buildings are more suitable for smoke-based confinement.
- It is advisable to have a fire extinguisher and/or fire extinguishing devices (sprinklers) to combat possible indoor sources.
- In the event of confinement, the least unsafe place is the home itself.
- Prior preparation and drills/rehearsals are important.

#### 7.7.7 After the fire

- Make sure of the health of your neighbours and relatives. Notify emergency health services if necessary. Report your status to the media present in the area.
- In the property, go through the interior of the house in search of broken windows, smoking carpets or any other element that has burned, apply water until you make sure it is off.
- Carry out a reconnaissance of the exterior of the house, check the lower part of your house, the roof, gutters and drain downspouts, windowsills, eaves or any place where burning material could accumulate that could cause new fires.
- Refresh and extinguish all the embers you find.
- Keep an eye on hot spots and stay alert for the next few days.
- If you find injured or deceased animals, notify them and/or take them to the competent services.
- Trees with at least 50% of their canopy green may have a chance of surviving. Burnt trees are dangerous due to their structural instability, so they must be cut down.
- Take the opportunity to convert your garden with pyro-gardening and it will be more resistant to the passage of fire.

## 8 IMPLEMENTATION AND MAINTENANCE OF THE PLAN

### 8.1 IMPLEMENTATION

First, the PAU will be presented to the Orihuela City Council for approval in the municipal plenary. After its incorporation into the Municipal Action Plan against forest fires, it will be sent to the General Directorate responsible for emergencies and firefighting of the Generalitat Valenciana to be incorporated into the Regional Register of emergency plans at local level.

Specifically, in the following three months, an annual plan of activities to be carried out will be established, both in terms of infrastructure provision, dissemination and drills, as well as the updating and periodic review of the same.

For this PAU to be operational, it is necessary that the personnel involved have knowledge of the mechanisms and actions planned and assigned.

### 8.2 INFRASTRUCTURE VERIFICATION

Prior to the implementation of the PAU, the person in charge will verify the existence and suitability of functionality of the basic infrastructures necessary for its operation.

### 8.3 TRAINING OF THE PERSONNEL INVOLVED

After the approval of the PAU by the communities of owners, of the different areas that make up the R1 Las Ramblas Sector, and its presentation to the Orihuela City Council, the programming for the development of the phases of implementation of the same among the personnel involved will begin:

- Plan Director.
- Personnel assigned to the plan to carry out surveillance, communication and/or support operations for emergency services.
- Staff of the Local Operational Coordination Center or CECOPAL and personnel of the Basic Units.

The implementation of the PAU among these staff will follow the following phases:

- Sending a copy of the same to CECOPAL staff and informative meeting in order to clarify possible doubts.
- Dissemination of the PAU to personnel who may join the Basic Units.
- Training and training courses.

- Carrying out exercises and drills.

## 8.4 INFORMATION TO THE POPULATION

Within the implementation phase, an information policy must be followed with a view to disseminating the PAU to the population, in order to facilitate its familiarisation with the protection measures contemplated in this document.

This information policy will be aimed at providing information:

### 1º. On the risk of forest fires

- It will be preventive information and in line with achieving popular awareness.
- In this letter, the population must be informed about the self-protection measures and how to act in the event of a forest fire (including the form of warning to the population, the meeting point and the evacuation routes, etc.).
- Likewise, it will be informed through which means the information will be transmitted in the event that the emergency occurs and could affect people.
- It will be guided in the form of periodic campaigns aimed at different population groups. The periods most likely to occur will be used to report on it.

### 2º On the emergency when a forest fire has already occurred

- This information will be provided when the emergency has already occurred and immediate action is necessary. Information will be transmitted to the population and to the media, all through the Information Office attached to the Management Committee.
- The population must be given clear information on what to do and avoid at all times contradictory information that could provoke negative reactions.
- Information will be provided about:
  - Real situation of the fire at all times.
  - Protective measures.
  - Forecast on developments.

The end of the emergency will be communicated to the population by the means used during the emergency phase.

## 8.5 MAINTENANCE

### 8.5.1 Update and review

The PAU will be periodically updated and reviewed periodically, in order to maintain its validity and operability, incorporating any modification of people, means and resources included in the PAU to it. The responsibility for updating and reviewing will be the Director of the PAU.

The Special Plan against Forest Fires of the Valencian Community (PEIF) establishes that annually, before the start of the campaign for the prevention and extinction of Forest Fires, a review and update of the Plan will be carried out.

Those aspects that, after carrying out the drills, prove not to be effective, will be modified, and such variations will be incorporated into the text of the PAU at the same time as they will be notified to the Directorate-General responsible for emergencies and firefighting.

### 8.5.2 Continuing education

The training of the personnel involved, contemplated in the implementation phase, must be a continuous task since it is a living document, subject to constant revisions and updates.

The responsibility for this permanent training falls on the Director of the PAU, contemplating the carrying out of periodic drills for this purpose.

### 8.5.3 Forest fire prevention infrastructures

Annually, as mentioned above, before the start of the Forest Fire Prevention and Extinction campaign, a review and update of the Plan will be carried out. It will assess the need or not for the maintenance of these prevention infrastructures provided for in this Plan, in relation to the water network, silvicultural treatments in this case and the road network.

Special attention will be paid, through information campaigns for residents, to make responsible use of communication routes, to ensure at all times the possibility of circulation of large vehicles that need a minimum street width of 3 meters free and an adequate area to change direction.

## 9 TELEPHONE DIRECTORY

The following table shows the list of people responsible for the implementation and execution of the PAU, as well as people or entities attached to the Plan and the telephone numbers of external aid.

TELEPHONE DIRECTORY		
ASSIGNED TO PAU	Location	Phone
Director		
Communications Manager		
Informant external help		
Responsible Las Ramblas Golf Club		
<b>EXTERNAL</b>		
Emergencies	GVA	1·1·2
Orihuela Local Police	Orihuela	965 30 02 04
Civil Protection	Orihuela	965 30 41 37
Guardia Civil (Police)	Torreveija	965 71 01 13 680 41 62 05
Firefighters 1	Torreveija	966 70 44 33
Firefighters 2	Orihuela	965 30 32 41
Firefighters 3	Almoradí	966 78 22 85

## **ANEXO 1 PERSONAS CON MOVILIDAD REDUCIDA**

## ANNEX 2 RECOMMENDATIONS FOR LANDSCAPING

To reduce the damage caused by fires in areas of urban forest interface, it is essential to plan garden areas both in homes and in common spaces in residential areas.

Planning a garden in a wildfire risk area, also known as "**Pyro-landscaping**" or "**Firebreak Gardening**," goes beyond choosing plants; it involves strategic design and ongoing maintenance.

Here are a series of key recommendations for the planning of landscaped spaces in urban-forest interface areas, based on the zoning strategy and the characteristics of the Mediterranean climate:

### 1. Zoning Design and Safe Distance

- **Ground Zero (0-3 meters):** This immediate strip must be a non-combustible area.
  - Uses mineral materials: gravel, pavement, stone slabs, cement or concrete.
  - Prohibited: Completely avoid any flammable vegetation, hedges, wood, organic mulch (bark mulch or straw) or firewood. If you plant something, make sure they are low flammability, such as very small, spaced succulents.
- **Horizontal Discontinuity:** Plan that the tops of trees and shrubs never touch each other, or the façade or roof of the house. A minimum separation of 3 meters between the crowns is recommended.
- **Vertical Discontinuity:** Removes any low vegetation (shrubs or dry debris) directly under the branches of large trees. Make sure the lowest tree branches are pruned at least 2 meters from the ground to prevent surface fire from rising to the crown.

### 2. Choice of Species and Materials

Always prioritize species with **low flammability** (high water content and low resin)).

- **Avoid Flammable Species (High-Risk Fuel)):**
  - **Resinous:** Pines, Cypresses (*Cupressus*), Thujas, Juniper.
  - **Volatile Oils:** Eucalyptus, some aromatic if dry.

- **Dry Leaf Accumulators:** Avoid plants that accumulate a lot of dead leaf inside (such as dense cypressaceae hedges).
- **Prioritizing Low Flammability Species (Low Risk Fuel):**
  - For Mediterranean climate: Holm oak, Carob, Olive, Durillo, Laurel Cherry, Oleander, Succulents (Agaves, Aloes).
  - Enclosure Materials: Avoid fences, lattices or dry wood pergolas. Use stone walls, brickwork, non-combustible metals, or hedges of low-flammability species.

### 3. Garden Maintenance

The best garden design fails without rigorous maintenance.

- **Regular Pruning and Clearing:**
  - **Remove weeds:** Clear and mow herbaceous vegetation (grass, grasses) so that they do not exceed 10 cm in height, especially in the strip of the first 10 meters.
  - **Pruning:** Remove dry or dead **branches, leaves, and wood** from all trees and shrubs immediately.

- **Water Control:**

Keep essential plants well hydrated, especially in summer. A healthy, moist plant burns much more slowly than one stressed by drought.

Having an **effective irrigation network** and water points (hydrants, pools or ponds that are easily accessible) for extinguishing equipment is a key measure.

- **Plant Debris:** Never accumulate large amounts of **firewood, pruning branches or dry debris** near the house. If you store firewood, it must be more than 10 meters from the house and covered.

The following table shows some species of low flammability that can be used in landscaping:

Recommended	Species
Woodland	<b>Carob</b> ( <i>Ceratonia siliqua</i> ) <b>Olive</b> ( <i>Olea europaea</i> ) <b>Morera</b> ( <i>Morus alba</i> ) <b>Álamo</b> ( <i>Populus</i> sp.) <b>Fresno</b> ( <i>Fraxinus</i> sp.9) <b>Pomegranate</b> ( <i>Punica granatum</i> )
Shrubs	<b>Durillo</b> ( <i>Viburnum tinus</i> ) <b>Cherry Laurel</b> ( <i>Prunus laurocerasus</i> ) <b>Japanese Pythosporus</b> ( <i>Pittosporum tobira</i> ) <b>Lantana</b> ( <i>Lantana camara</i> ) <b>Oleander</b> ( <i>Nerium oleander</i> ) <b>Mastic</b> ( <i>Pistacia lentiscus</i> ). <b>Strawberry tree</b> ( <i>Arbutus unedo</i> ) <b>Agapanthus</b> ( <i>Agapanthus africanus</i> ). <b>Rosemary</b> ( <i>Salvia rosmarinus</i> ) <b>Rose</b> ( <i>Rosa</i> sp.) <b>Aloes and Agaves</b>

# DOC. 2.- PLANS

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## INDEX

1. Location plan.
2. PAU Topographic map of the scope of application.
3. PAU Orthophoto of the scope of application.
4. Road network classification
5. Domino Emergencies.
6. Defence Measures and Infrastructures.
7. Escape routes and safe areas.
8. Proposed policy measures.