1) House address.

English name.	Spanish name.	English meaning.
32, Mistral St.	Calle Mistral, 32.	Number & Street name.
Wind Cottage.	Cortijo del Aire.	Urbanization's name.
Albolote.	Albolote.	Town's name.
Granada.	Granada.	Province's name.
18.820.	18.820.	Zipo code.

32, Mistral St.
Cortijo del Aire.
Albolote.
Granada – 18.820.

2) Design parameters.

The house was designed to achieve four objectives:

2.1) Security, privacy and intimacy for residents.
2.2) To be independent of external supplies, especially energy and water.
2.3) Presence of all services for absolute comfort.
2.4) Energy efficiency, integrating solar energy as main or alternative source (according to owner's settings and season).

It could be described as a brand new, spacious, modern, detached, 4-storey building, located in a residential area on the outskirts of Albolote (north from Granada capital city, Andalucia, Spain), built in 2.008.

3) Location and services.

The lot is located north from Granada city, inside a residential area called "Cortijo del Aire", belonging to the Albolote municipality.

The main roads are the A44 motorway (direct access from the urbanization "Cortijo del Aire") and A92 motorways (7 minutes time from the exit of urbanization).

Albolote is the main city in the surroundings. It is fitted with all necessary services regarding elementary & high schools and shops. The industrial areas of Juncaril (adjoining to Albolote) and Asegra (adjoining to Peligros city) ensure the supply of spare parts and maintenance professionals if necessary.

The minimum times of arrival required to certain destinations are listed below:

3.1) To Granada airport: 23 minutes.
3.2) To motorway A44: 3 minutes.
3.3) To Jaén capital and north of main olive trees area: 30 minutes.
3.4) To motorway A92: 7 minutes.
3.5) To Granada city: 15 minutes (variable depending on traffic).
3.6) To "Sierra Nevada" Ski resort: 45 minutes + 15 minutes for parking & ticket booking.

General view of Sierra Nevada taken at the entrance of the residential area "Cortijo del Aire", about to reach motorway A44.

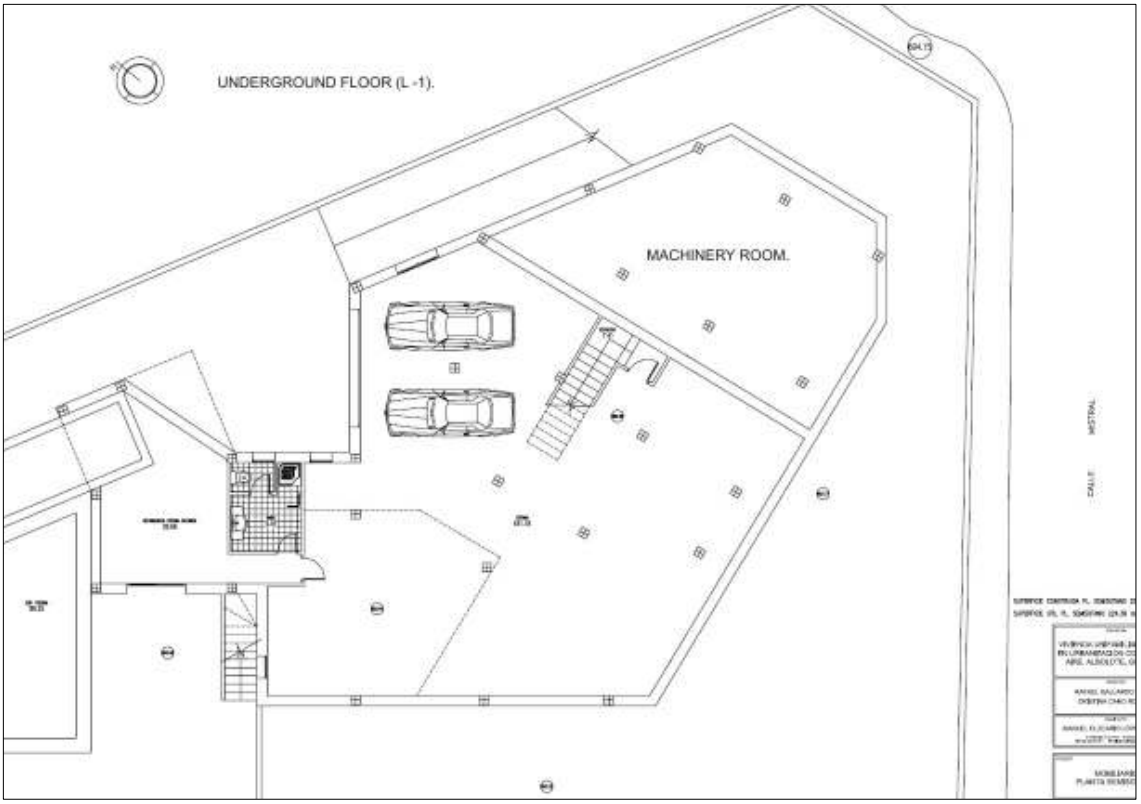
View of El Veleta and Borreguiles area (sky resort Sol y Nieve) in Sierra Nevada from chairlift.

4) Surface area and general distribution.

	Square metres.	Square feet.
Lot:	1,100.	11,836.
Areas:		
Basement:	250.44.	2,694.73.
Ground floor:	282.39.	3,038.52.
Upper floor:	174.61.	1,878.8.
Tower:	12.16.	130.84.
Total:	719.60.	7,742.9.

Distribution:

→ Underground level (L -1): basement (cinema area, gym, general storage, machine room and secondary garage / workshop), bathroom, foyer for swimming pool, elevator and flight of stairs to upper floors.



Machine room. Foreground: Boiler & solar heat exchanger for sweet water, fumes chimney, temperature probe, pipings & valves. Behind (not visible), solar panels circulators for pools heating & steam expansions tanks. Background: isolated tree-phase electrical generator (30KVAr), fumes evacuation and automatic control panel.

Machine room. Foreground: Double walled oil tanks (Dehoust ®), total capacity up to 5.000 litres. Background right: pipes for boiler & generator fuel supply. Background left: solar heat exchanger for radiant floor (winter season), pipes, valves, temperature probe & circulator.

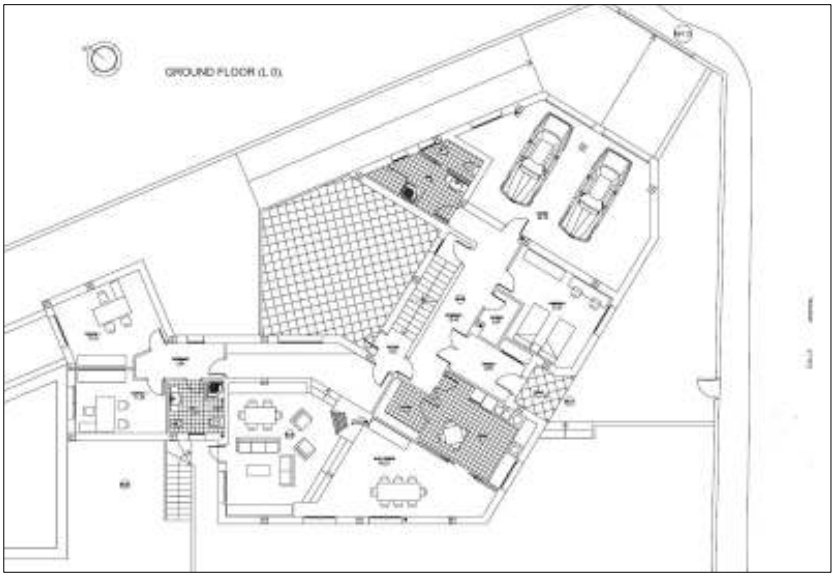
Machine room. Main fresh water supply area, portraying storage tank (1 Ton), water softener (dry brine type), pump & pressure stabilizer, pipings & valves for water well exploitation & distribution.

Machine room. Foreground: 3 of 8 control panels. Left to right: water well, main machinery room & solar automaton panel. All breakers and switches are of top quality (Schneider Electric ®).

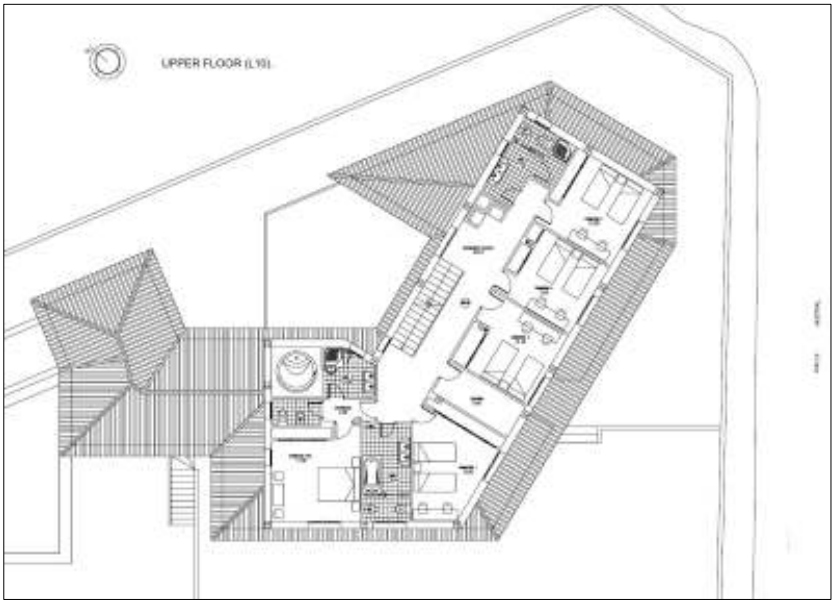
→ Ground floor (L 0):

- East Wing: main garage (two vehicles), elevator, bathroom, bedroom / office, hallway with access leading to upper floors, porch, hall, cleaning & storage room, kitchen with built-in pantry. Bedroom without built-in wardrobe.

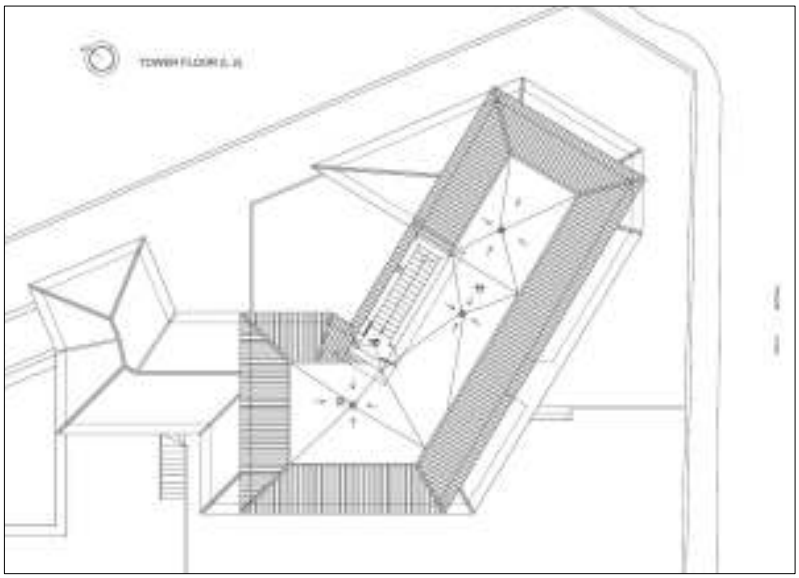
- West Wing: hall, living room on two levels (first one linked to kitchen through sliding door, second with a fireplace in the corner), bathroom, two bedrooms / offices. Bedrooms with built-in wardrobe.



→ Upper floor (L 1): private master bedroom with en-suite bathroom, four bedrooms, cleaning & storage room, two bathrooms, elevator, hallway and stairs to level 2. All bedrooms with built-in wardrobe.



→ Tower plant (L 2): lobby and access to machine and installations.



5) Outdoors.

North limit: boundary with adjoining property. It has a descending ramp leading to secondary garage in L -1 and swimming pool areas.

East limit: boundary to Mistral St. and roundabout. It has two swinging doors (access to main garages in L 0), the main gateway for pedestrians and wheelchair ramp, and a big sliding door (entrance to south terrace / parking area).

South limit: boundary with adjoining property. The south terrace with capacity for up to 6 vehicles is its main feature, leading to a flight of stairs for accessing pools & second level of the living room.

West limit: it is open to an unbuildable area, according county regulations of Albolote municipality. It contains the pool area, filter & electrical systems management room and underground room for electrical underwater lighting, distribution pipelines and compensation tanks.

Northwest view. Foreground bottom: swimming pool. Right bottom background: recreation pool, flight of stairs leading to main living room (level O) or transition to south terrace (sliding gate and outdoor parking). Bottom left: north ramp to level O and Mistral St, with swinging automatic door for vehicles access. Center: West wing side, in the bottom intermediate swimming hall, in the middle offices / bedrooms. Perimeter: double sided decorative block wall, sand color.

North ramp. Close-up bottom right: night lights automatically lit when swinging motorized door opens for vehicles entrance (foreground up).

6) General features.

6.1) Ceilings: suspended ceiling in the entire house (lowered about 40 cm. from each slab), allowing easy and quick access to installations running along the whole building. It's composed of aluminium tees (grey silver coated) and 60x60 cm. ersatz cherry wood / beech tiles (levels 0, 1 and 2). Lkiewise, there's a suspended ceiling in garages and L -1, this time with aluminium white tees and 60x60 cm. plaster board.

Close-up to suspended ceiling, showing silver aluminium tees and cherry wood tiles. Laterally, the ceiling perimeter is surrounded by a recessed groove for a better coupling to the wall's plaster and beautiful lighting effect.

6.2) Windows: high quality double reinforced aluminium frame, with internal thermal break to eliminate heat transfer. Ersatz oak coated. Double glazed-pane (6 mm. exterior, 4 mm. air isolating chamber, 6 mm. interior). PVC ersatz oak coated shutters, all of them motorized for remote domotic control (optional).

http://www.grupolaminex.com/
http://www.grupolaminex.com/productos.php?ids=1&idc=16&idsubc=92&idprod=34
(not available in English).

6.3) Bathrooms: all bathrooms but one with reserved space for toilet and bidet. Double / single screened shower depending on the exact room. Double / single sinks. Number of tubs: 1. Number of hydromassage cabins: 1. Number of jacuzzis: 1. Colour: Oyster white (RAL colour chart: RAL 1013; http://www.ralcolor.com/).

Bathroom located in level 1. Double sink over suspended vanity. Bottom: reserved back area for toilet and bidet. Woodwork: cherry shaded combined with metallic tones.

6.4) In-door woodwork: combined shades of beech and cherry wood.

6.5) Floors: porcelain tile in various finishings, predominating faux cherry wood.

6.6) Interior walls: over plaster primer, double coat of washable paint. Colour: crème (RAL colour chart: RAL 9001; http://www.ralcolor.com/).

6.7) Roof flights: Borja tile, model TB-4 Quattro®, colour slate.

(http://www.tejasborja.es/).
http://www.tejasborja.es/en/catalog/formats/tejas/tb_4_quattro__roof_tile-1

6.8) Exterior walls: double cladding with exterior brick layer built with in hydrofuged brick (Malpesa, salmon tone, sealed with projected polyurethane), air chamber and inner layer heet of double hollow brick.

http://www.malpesa.es/en/index.jsp
http://www.malpesa.es/en/detalle_producto_nivel_1.php?idc=1&ids=3

http://www.paredesdeladrillo.com/reportaje.asp?id_rep=20

6.9) Illumination: built-in ceiling, mainly composed of halogen spotlights (levels 0, 1 & 2) and 60x60 brand Vilaplana fluorescent panels (level L -1 and garages).

West wing corridor. Background centre: access to offices / bedrooms. Bottom left: access to bathroom. Top: suspended ceiling with recessed halogen lights. Right: aluminium ersatz oak coated windows & shutters, opening to north terrace.

6.10) Pools: There are two independent pools, each one with its own reinforced hydrofuged concrete slab and walls.

The recreation pool has a trapezoidal shape, with dimensions 8.8 m (length) x 7.5 m (width) x 1.8 m (depth).

The swimming pool has an elongated shape, with dimensions 22 m (length) x 2.3 m (width) x 1.4 m (depth).

Both pools are finished in specific tile for swimming pools, Exagres brand, and comply with specific rules for anti-slippery surfaces and underwater lighting.

http://www.exagres.es/catalogo-tecnico_eng.html

Recreation pool, trapezoidal, during late spring season in preparation for bathing season. Bottom left: western lot boundary and wall. Bottom right edge: northern lot boundary and wall. Perimeter overflow conveying gutter opened for maintenance and cleaning.

7) Installations and facilities.

7.1) Electricity: three-phase power from utility company (domestic type is usually based on single or double phase type). See “autonomous facilities”.

7.2) Water: from utility company. See “autonomous facilities”.

7.3) Solar panels: they collect solar energy for heating heat exchangers located in various services. Number of panels: 20. Ariston brand (previously Merloni). Model: Top. By engineering design, they provide enough solar coverage of 87% needs in hot water, 58% in pools heating, and 30% for radiant floor. The latter system has been enhanced by the incorporation of an additional Grundfoss circulator for spring, as a transitional season.

7.4) Lift: technically named “elevator for people with reduced mobility”, it grants access to plant P-1, 0 and 2. Elesser brand, model EHE30-2.

7.5) Air conditioning: radiant floor (main) and fan coil air (secondary). Enables the delivery of hot or cold air according to user’s settings through a local thermostat in each room.

7.6) Heating: Tifell brand mixed boiler, model Eurofell, with internal accumulator tank (120 liters). It’s supported by the solar panels according user’s preferences through the solar automaton settings.

7.7) Cooling: Carrier brand mixed chiller / heat plant, model 30RH (three-phases), managed by local or remote control.

7.8) O'Bio heat exchanger: capacity 1,000 liters, to convey the solar heated fluid into the radiant floor circuit.

7.9) BS1S Chaffoteaux heat exchanger: capacity 400 liters, to convey the solar heated fluid into the hot water circuit.

7.10) Heat exchangers, Mecalia brand, model 23-7: to convey the solar heated fluid into the swimming pools, extending bathing season and / or eliminating the heat excess.

7.11) 1,000-liter tank, Reyde brand: to accumulate water inside the house circuit, preventing water outages due to utility company failures.

7.12) RBS-24ED Robosoft softener (dry brine type): to remove calcium carbonate excess out of the drinking water.

7.13) Pumping group of drinking water: formed by mixed pump (Alsina brand, model Nice 100/4M, with an added pressure controller device, Wilo brand, model Fluidcontrol).

7.14) Pressure washer (three-phases), Karcher brand, model H9/19M: connected to an exterior double circuit, dedicated to outdoor cleaning and general maintenance.

Maintenance prior to bathing season. Recreation pool empty. Cleaning using Karcher pressure washer, connected to the exterior circuit (running over surface).

7.15) Pool maintenance: using saline chlorination by electrolytic dissociation. Purification by perimeter overflow conveying gutter, water being collected and circulated again through underground buffer tanks. Visual effect: endless overflow.

7.16) Autonomous facilities:

7.16.1) Water well: integrated with the building's general installations net, for private use. Built in 230 mm2 / 0.35650in² pipe, with total depth of 83 meters / 272ft.

7.16.2) Three-phase Himoinsa 35 KVA Generator: measured and aimed at the complete support of building's needs, so it can be run independently from external supplies. It is equipped with fumes ventilation and sound insulation.

7.16.3) 5 diesel tanks Dehoust brand (serial): double certified container, supplying to boiler and Himoinsa generator. Capacity: 5.000 liters of diesel C.

7.16.4) 7 pre-installed diesel tanks, Dehoust brand: to store A/C diesel, depending on user selection.

7.17) Programmable Management Automaton (DVP 1455): adjustable by the user, with six positions and three temperature settings (thermostat programmer AKO 14 716), optimizing at all times the house's energy balance, in accordance with needs and season.

7.18) Grundfoss solar heating circulator pump: which allows not to use diesel in the period between January and April, until the arrival of spring (late May).

7.19) Telecommunications: All rooms have an access point (RJ45 category 6) to wired net (doubled in offices and living room), avoiding need for wireless (WiFi). It's also available in machine room for eventual domotic remote management. Additionally, there is satellite TV and telephone access.

Satellite dish for satellite and DTT located in level 2 (roof).

7.20) False ceiling: Although not an actual installation by itself, it is mentioned in this chapter, as all facilities are running inside the suspended ceiling, allowing immediate access to any pipe or recess. Preventive / repairing maintenance is much easier and cheaper this way, as well as the future and possible developments. Empty, redundant conductions, lines and boxes have been provided for this purpose, covering the entire dwelling.

8) Security.

Two types of security systems are available, active and passive; they are structured in three integrated subsystems.

8.1) Passive protection:

→ Reinforced steel armoured doors, numbering 10, certified by international manufacturer to withstand an assault rifle caliber 7.62 x51. They cannot be charred due to their internal steel structure, covered with laminate wood.
→ Grilled windows (all), squared section and finished in faux oak with anti-cut internal device, attached to marble frame by blind inviolable bolts. Certified by international manufacturer.
→ Wired data network throughout the building, avoiding wireless access points (no WiFi) that could be intercepted from the outside and used for electronic intrusion, deactivating active protection.

8.2) Active protection:

→ Peripheral system for early detection of intruders, so the warning sent to the user occurs before the assailant's contact with passive systems, allowing different types of defensive response.

→ Television camera system, continuous recording, with comprehensive monitoring of all lot and house angles (four outside cameras on the outside are constantly watching the east and west boundaries).

→ Cameras server with remote access, so you can verify the condition of the house from the outside of the plot before entering, using PDA device or smartphone (required Microsoft compatible system, Windows Mobile or similar type).

→ Alarm reception central, 24 hours, with continuous pulse transmission (anti tamper) and redundant transmission.

→ Fire alarm central, with detector in sensitive areas.

→ Confidential rooms accessible only to final owner. Important warning: NOT included in any visit to **potential** buyer.

→ Absolute absence of external cleaning personnel, so any foreign staff is not privy to sensitive information like time schedules, movements, rooms, home dwellers and any other confidential data.

Total technical details are only available to ultimate owner. SPECIFICALLY, brand and model of any devices are not detailed here.

9) Outdoors.

They can be considered divided into two levels, following the decline of the natural terrain.

First level: Mistral Street on east boundary, with vehicle access to south terrace, garage and north ramp granting access to the second level.

Second level: private state in northern boundary, with two pools, pool distribution hallway and stairs.

There is no established vegetation. The existing one was in flower beds and pots with platforms which will be withdrawn.

Surface pressure cleaning circuit, built on half-inch steel pipe run (200 atmospheres certified), with elastic parts to absorb backlash pressure blows. It is connected to Karcher HD9/19M pressure washer located in the machine room. Divided in two separated zones for better pressure concentration. It has 6 mounting points for fast coupling of steel lance and hose, making the cleaning of floors, vehicles and others almost effortless, allowing correct use of all available space.

There are several water points distributed for perimeter irrigation.

10) Vehicle accessibility.

Level 0 (street level): Two swinging doors and two overhanging doors to access the main garage. One big sliding door without upper lintel, allowing big maintenance / delivery vehicles to enter the state, keeping privacy all the times.

Level -1 (down north ramp): one overhanging door to enter the secondary garage / workshop. All doors are motorized and controlled remotely.