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TECHNICAL SPECIFICATIONS

VILLA 6, DiARTE HILLS Residences

INTRODUCTION

BCL PRO Development Ltd offers a luxury energy class A villa in the city of Limassol, with a living area of 160.94 m2, located on a plot of 510.52 m2 with a gentle slope to the south, with stunning views of the city and the Mediterranean Sea, adjacent to the municipal road in the prestigious area of Mouttagiaka district.

This document is a technical description of the project, the work performed and the materials used, and will be attached to the contract of sale.

ARTICLE A: DESCRIPTION OF THE PROPERTY

The property is situated in a distinguished residential sector of Limassol, approximately 1.5 kilometers from the nearest highway and 2.5 kilometers from the sea coastline. Access to the property is facilitated via a municipal road, which intersects the main highway and links the tourist-oriented segment of the Mouttagiaka district with the predominantly residential area characterized by low-rise, detached houses.

This energy class A detached villa is comprised of two distinct levels, each of which is designed for specific functions and purposes, as detailed below:

	Covered indoor area	**Covered veranda**	**Parking (Pergola covered)**	**TOTAL Covered**
Ground Floor(*)	75.67 m^2	15.72 m^2	24.07^2	**91.39 m^2**
First Floor(**)	85.27 m^2	16.5 m^2	-	**101.77 m^2**
TOTALS* **	**169.86 m^2**	**32.22 m^2**		**202.08 m^2**

(*) Entrance hall, Living/Dining room, Kitchen, Guest WC, Storage
(**) Master Bedroom with dressing room and separate bathroom, two Bedrooms, one shared bathroom
(***) Incl. outside auxiliary room and WC

On the ground floor, the architectural design incorporates a generously proportioned kitchen, with storage and laundry room hidden behind (outside and inside doors access), seamlessly integrated with a dining area and living room. Additionally, there is a guest lavatory conveniently situated beneath the staircase. The upper level of the villa also houses a master bedroom, complete with a spacious ensuite bathroom and a walk-in-closet. Complementing this are two additional bedrooms, accompanied by a shared bathroom.

In addition to the aforementioned premises, the external vicinity of the residence encompasses a 7 by 3-meter swimming pool. Adjacent to the pool are a mechanical room and a WC room, equipped with a shower, and a barbecue stand. At the request of the client, additional pergola can be installed by the barbeque stand (a separate arrangement will be made with the Client to perform this service).

ARTICLE B: STRUCTURAL WORKS

1. *Excavations – General Earthworks*

Approximately 350 cubic meters of excavated materials have been systematically categorized into rocks and earth, subsequently utilized for purposes of backfilling and landscaping. The principal locations for backfilling include the areas flanking either side of the villa, as well as the garden situated in front of the pool. This process extends behind the assorted landscaping retaining walls and staircases, continuing down to the front facade of the residence.

2. *Concrete works*

The construction of the building's structure employs an Insulating Concrete Formwork (ICF) system, which incorporates concrete columns and walls of 25 cm thickness composed of vibrated concrete of grade C30/37. The reinforcement framework utilizes steel rods ranging from F10 to F16, placed at 20 cm vertical intervals and interconnected with F8 rods horizontally at equivalent spacing. Furthermore, the structure includes reinforced concrete slabs of grade C30/37, each 25 cm thick, and supplemented by horizontal reinforced concrete beams of varying dimensions. The entirety of the reinforced concrete, inclusive of beams and slabs, is engineered in compliance with seismic standards as outlined in Eurocode 2.8. The concrete employed is of category C30/37, while the reinforcement is categorized under B500C.

3. *Masonry System of the House*

Utilizes Ytong technology.
Benefits include lightweight, thermal insulation, fire resistance, and environmental friendliness.

Performance Characteristics of Ytong Walls

Thermal Insulation: Enhances energy efficiency.
Fire Resistance: Meets safety standards.
Acoustic Performance: Improves sound insulation.
Durability: Resistant to rot, pests, and mildew.
Sustainability: Made from natural, recyclable materials.
Energy Efficiency: Reduces the building's carbon footprint.

External Walls made from Ytong AAC blocks, 25 cm thick.
Features include high thermal insulation, sound absorption, fire resistance, and moisture regulation.
Internal Partition Walls
Comprised of Ytong AAC blocks, 10 cm thick.
Attributes include being lightweight, easy to install, with good acoustic insulation and fire resistance.

Construction Method

Uses special thin-bed mortar for Ytong AAC blocks.
Blocks are laid in a staggered pattern for strength and minimal thermal bridging.
Finishing includes plaster, render, or cladding, based on architectural requirements.

4. *Exterior Façade Insulation and Finish*

Insulation Material:

The building employs an Baumit external thermal insulation system, featuring an 8-cm layer of polystyrene, ensuring robust thermal insulation.
This thickness and material choice effectively prevent thermal bridging, a critical aspect in maintaining consistent insulation. The insulation is applied directly to the outside walls and then finished with a modern thin coat thermal render system giving to the house a facelift.

Reinforcement and Adhesion:
A 1-mm layer of plastic net is applied over the polystyrene.
Special acrylic glue is used for adherence, providing additional structural integrity and durability to the insulation layer.

Finishing:
Areas not covered by decorative cladding (by HPL panels) are finished with colored Baumit acrylic plaster.
The plaster color is chosen based on the architect's specifications, allowing for aesthetic customization while maintaining the integrity of the insulation. Decorative HPL panels is used for cladding of certain external walls of the villa in accordance with the design.

Thermal Bridging Prevention:

The continuous layer of insulation minimizes thermal bridges, critical for energy efficiency and reducing heat loss.
Roof Insulation and Finishing
Insulation Material:

Roofs are thermal insulated using EPS-30 polystyrene, a high-density material chosen for its excellent insulation properties and durability.
The EPS-30 grade indicates a specific density and strength, making it suitable for roof applications where load-bearing and weather resistance are crucial.

Waterproofing:
After the application of EPS-30 polystyrene, a waterproofing layer is added. We utilize the MAPEPROOF FBT Synthetic fully-bonded waterproof sheet membrane, laminated with non-woven fabric for waterproofing underground structures.
This layer ensures that no water penetrates the insulation, crucial for preventing damage and maintaining thermal efficiency.

Gravel Stone Covering:
The final layer consists of gravel stone, which provides additional protection against environmental elements.
Gravel stone is a durable and effective covering, also contributing to the building’s aesthetic.

5. *Insulation & Waterproofing*

All retaining walls and concrete surfaces, as well as all roof-tops and terraces are insulated with polyurethane MAPEPROOF FBT Synthetic fully bonded waterproof sheet membrane, laminated with non-woven fabric for waterproofing underground structures coatings and further protected by EPDM drainage membranes wherever there is fillings. Interior wet surfaces such as bathrooms and kitchens also be insulated with polyurethane membrane coatings.

6. *Floor Finishes*

Three following floor finishes are used throughout the property:

- Interior lounge areas and bedrooms are finished with either parquet planks adhered to screed with elastic bonding glues or moisture-resistant floating laminate flooring.
- Interior and exterior circulation areas and bathrooms are finished in large slabs of ceramic tiles (90 x 90 cm/120 x 120 cm/120 x 60 cm) with glossy and/or matte finish for slip-resistance and imperceptible joints with 1.5 mm of grouting. All tiles are Italian or Spain-made.
- Exterior circulation areas like pathways and stairways are finished in slabs of local stone with cement joints.
- The driveway to the garage is finished by monolithic decorative flooring - granostone.
- The flooring area surrounding the swimming pool is surfaced with composite decking.
- Indicative price 30EUR per sq.m for tiling and 40EUR per sq.m for parquet (indicative for client upgrades)

7. *Wall Finishes*

Three different wall finishes be used throughout the property:

- Painted matte smooth finishes on dry wall surfaces using water-based and solvent-free ecological acrylic paints.
- Veneered wooden panels in the same tone as the timber flooring used in bedrooms and living rooms.
- Ceramic tiles (120 x 60 cm) with a glossy and/or matte finish in bathrooms.
- Indicative price 30EUR per sq.m for tiling (indicative for client upgrades)

8. *Ceilings & Pergolas*

Interior ceilings are plasterboard, fixed or hung, finished in a matte smooth colour using water-based and solvent-free ecological acrylic paints. Various ceiling features, such as coves and recesses, are designed to conceal lighting fixtures and enhance the aesthetic look of the surfaces.

Ceiling heights: living areas minimum 2.98m, bathrooms and corridors 2.85m (hidden AC units installed), clean state height 3.18m

Exterior parking pergola are aluminium beams arranged horizontally along the main ceiling dimensions.

Ceiling features include decorative drapes, panels, chandeliers and other items, whose positions and weights are anticipated to ensure proper suspension,

9. *Doors*

The main swing access gate to the house is made of an aluminum frame with built-in spacers. The opening mechanism is a durable sliding mechanism controlled by remote control.

The main entrance door is made of a high quality metal frame covered with finishing material in accordance with the interior design with durable recessed hinges and a triple lock.

All interior doors are solid-section timber frames covered by wood-tone panels matching the colour of the flooring. Hinges are concealed, 3 per frame, while casings also by solid timber with architraves and frames.

10. *Windows and Balcony Doors*

All windows, whether fixed-frame, pivoting, sliding or opening, are built out of high-quality aluminum with thermal gaps between interior and exterior frames and are electrostatically painted. The manufacturer is Rabel Systems.

For sliding balcony doors, we use the model Rabel 50 Slim Super Thermal:
The Rabel 50 Slim Super thermal is based on a thermal middle mullion of 26 mm. A multiple-locking system is fitted as standard.
The threshold is designed at a low height of 42mm, making it possible to have a fully floor-submerged step. The water extraction is facilitated through pipes directly installed on the track so that a drainage gutter is no longer required.
The Thermal Transmittance EN ISO 10077-2 (Uw):…..≥1.4 W/(m2K)
For all the rest windows we use the Rabel 8400 Minimal / Super Slim Casement System
The Rabel 8400 is a very slim / Minimal super thermal casement window system complementing the aesthetics of slim sliding in minimalistic buildings. Having an outer visible face width measuring 31mm, it was possible to create an invisible opening window.
Through its innovative design, a hidden drainage system has been achieved, thus eliminating visible holes or plastic caps on the face of the profiles. The system is supplied with a concealed mechanism and handles as a standard. All common typologies have been accommodated, and they are available in square design.
All openings are equipped with retractable mosquito netting in the same color finish of the frame. The Thermal Transmittance EN ISO 10077-2 (Uw) ≥1.4 W/(m2K)

11. *Glass Panes*

All glass panes used in the project are thermal- and sound- insulating double window panes with a 6-mm vacuum between two 3+3mm laminated window panes. The exterior laminated pane features a solar-heat reflecting membrane (“Heat-mirror”), while the interior laminated pane feature a UV-absorbing membrane.

12. *Joinery*

All joinery, whether shelving, closets, or walk-in closets is bespoke and built locally with high-quality medium-density fiberboard with factory-varnished veneers throughout, matching the shades of the flooring. All hinges is heavy-duty with softly closing mechanisms. All hanger rails is illuminated, while those in the higher closets is pull- down, so as to allow for easy access. The design includes a variety of compartments for different clothing types, shoes, accessories, etc.

13. *Kitchen (countertops, fittings, and equipment)*

The modern design of a corner kitchen includes a block of wall and floor cabinets 4m long on one side, complemented by a block of tall cabinets hiding a built-in refrigerator and storage space for kitchen utensils, dishes and non-perishable food items. The built-in oven is located below the stove, above which the hood is located. The color scheme of the cabinets and countertops was carefully chosen by our interior designer. Countertops are crafted from premium composite stone and carefully crafted to ensure seamless integration with stainless steel sinks and associated fixtures. All door hinges are designed to be strong and durable, and each drawer features the Blum Tandem Soft-Close system for increased functionality and durability. The kitchen is equipped with appliances from the respected Bosch brand, providing a harmonious combination of style and efficiency.

14. *Bathrooms (countertops, fittings, and equipment)*

The design of the bathroom is of a modern aesthetic, characterized by surfaces adorned with tumbled ceramic tiles and washbasin countertops produced from high-quality composite stone. Bathroom equipment from Villeroy & Boch and/or Duravit (or similar). Complementing these features are the stainless steel fittings, encompassing an array of amenities such as towel heaters, towel hangers, make-up mirrors, paper holders, bathrobe hangers, waste receptacles, and other ancillary elements, all contributing to the bathroom's functionality and sophistication.

15. *Service Areas*

The villa offers a space for service areas. It includes the garage in connection with an engineering room, as well as a laundry area on the 1st floor accompanied with linen storage. All surfaces of these premises are finished in anti-slip ceramic tiles. In connection with the garage is a storage area for garden furniture, and umbrellas have also been created for the period when the villa is not in use.

16. *Landscaping*

The villa's landscaped zones are situated on sides of the residence, featuring a meticulously maintained lawn adjacent to the swimming pool and BBQ zone, complemented by a variety of ornamental plants bordering the pathways throughout the property. In the rear section, an assortment of tall trees and dense shrubbery has been planted to reduce the necessity for frequent irrigation. The pathways across the estate are constructed from reinforced concrete and are surfaced with natural stone sourced locally, reflecting a commitment to both durability and aesthetic appeal. Moreover, the vicinity of the pool and barbecue area is adorned with composite decking boards, enhancing the overall elegance and functionality of these recreational spaces.

ARTICLE C: MECHANICAL & ELECTRICAL WORKS

17. Plumbing:

-Fresh water supply: The villa is supplied with fresh water from the municipal mains. The consumption is measured by a volumetric meter device. The reserve tank for cold water is 850 L capacity and situated on the roof of the villa.
-Hot water supply: Hot water is produced locally with an integrated air-water cylinder heatpump (200-270l volume by Panasonic and/or Aristo or similar brand).
-Water-supply network: The network is constructed by multilayer flexible PEX pipes of the latest technology. On each floor there is a system of distribution manifolds that distributes incoming water from reserve tanks to the end points of water consumption.
-Sewage piping network: The sewage network is constructed of PPR (polypropylene) pipes with elastic rings.
-Rainwater piping network: The rainwater pipes is of standard 6-atm PVC (polyvinylchloride), and is concealed from view and sound-insulated, guiding the water outside the building envelope.

18. Heating/Ventilation

Air-conditioning of all areas of the villa (living room, dining room, bedrooms) is achieved by VRV type highly efficient concealed indoor units by DAIKIN and/or Mitsubishi with a very low noise level (22dB at the lowest operating setting) and cooling external unit located at the roof. Indoor A/C units are concealed within false ceilings. Each unit is autonomous and controlled by an automatic thermostat, which allows the selection of temperature as well as fan speed. Water floor heating by integrated heat pump is separated into zones (1-2 ground floor and 3-4 on the first floor).

The air flexible ducts are required for the concealed units. The ducts arrive at plenums and then supply aesthetically designed slot air grills, depending on room size and architectural limitations. All ducts are insulated with polyethene foam, 0.5cm thick.
All flexible ducts are self-insulated with glass-mineral wool.

AC units composition: 3 split units first floor; split 1 or split 2 units ground floor. All bathrooms are equipped with ventilation extractor fans.

19. Electrical
-Power supply: The villa is supplied with standard European 400V/50Hz electricity mains, locally distributed to 230V/50Hz power circuits throughout the premises, except where high-power rated machinery is operated (such as kitchen stoves or water pumps).
- Photovoltaic panels: photovoltaic panels will be installed on the roof and will produce a minimum of 7.5 kW of electricity (the energy produced will be deducted from EAC bills)
-Lighting: All lighting is by low-power LED and Fluorescent fixtures. Every room has its own power lines. All lighting cables is single-phase 3x1.5mm2 protected with 1x10Amp fuses. Cables to the external areas, bathrooms, or in general to areas of moist environments is protected with 2x10Amp fuses, therefore isolating the neutral pole as well as the phase. Dimmers are used throughout in order to achieve the optimal lighting effect according to the users' preferences.
-Power sockets by brand "Legrand" (or similar): The power sockets are distributed according to technical drawings. Typical sockets locations: at each side of the beds, multiple sockets in the kitchen working surfaces and TV & home-cinema areas. Special sockets for the shaver 115/230 V – 20 VA – 50/60 Hz are placed in the bathrooms.

-Provisions for electric curtains (whether rolling or sliding) will be installed according to the technical drawings.

20. Electronics

- Fire detection: Fire detectors are positioned according to Cyprus regulations and automatic alarm connections with the local fire department can also be installed.
- Internet external connection: internet cable lines connect to the villa's own terminal and thence to an outside line. Internet lines are distributed throughout the building and standard sockets.
- Television: All bedrooms and living rooms have television outlets.
- Lighting control: Exterior lighting is connected to light-sensors and timers, so that no energy is wasted on unnecessary lighting but with the option of changing the lighting effects if the client so requires (e.g. During a party).
- At the request of the client, some selected systems in the house (for example, alarm system, heating, cooling, pool heating, outdoor lighting, etc.) can be connected and controlled by a smart home system. A separate arrangement will be made with the Client to perform this service.

ARTICLE D: SWIMMING-POOL & BBQ

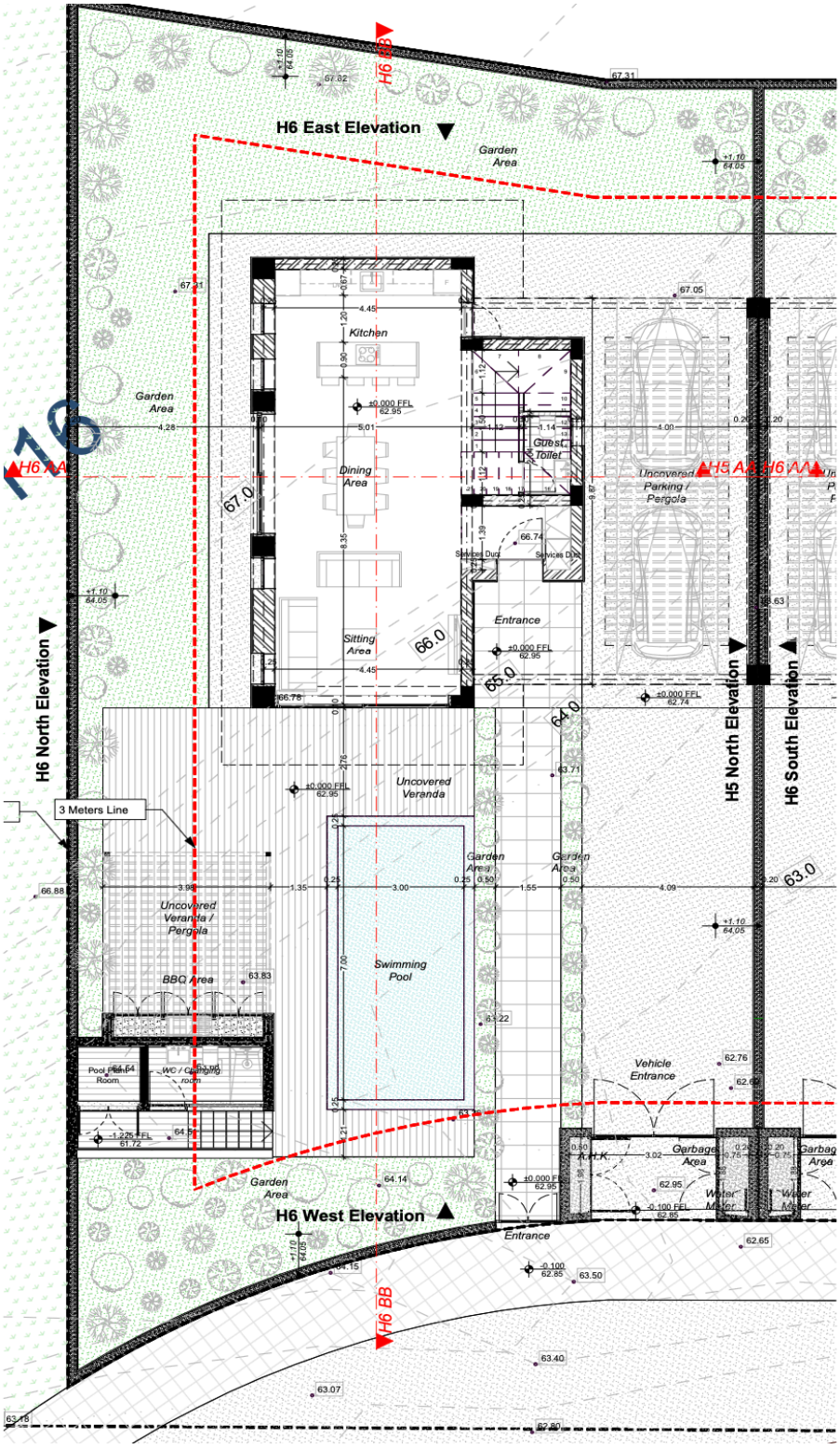
Swimming pool.
A swimming pool measuring 7 by 3 meters and a depth of 1.2 to 1.5 m was built in front of the house. The internal surfaces of the pool are decorated with ceramic mosaics. The pool is equipped with a reserve water tank with a capacity of 1000 liters, stored underground.

Pool water purification consists of a circular pump and a sand filter. If necessary, additional chlorine treatment is carried out in the form of solid chlorine tablets (cyanuric base).

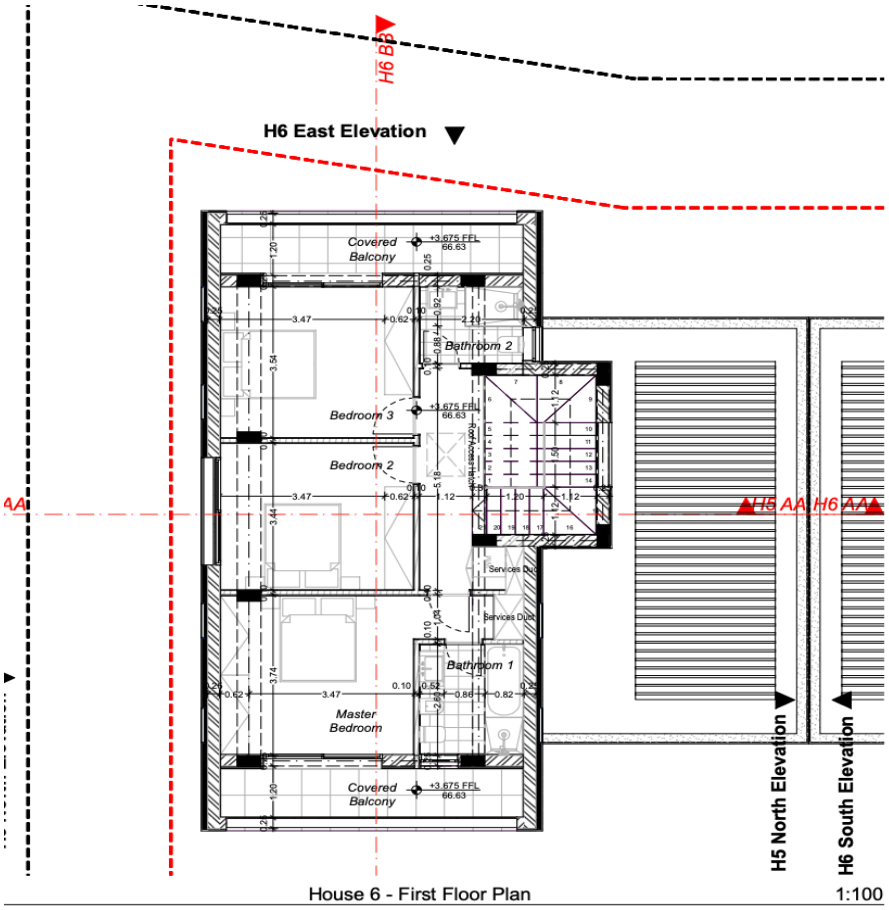
Next to the pool there is a technical room and a bathroom with a shower; this room is combined with a barbecue area. At the client's request, an additional aluminum or wooden pergola can be installed near the barbecue stand (this service must be agreed upon separately with the client).

ARTICLE E: ARCHITERCTURAL AND INTERIOR DESIGN FLOOR PLANS

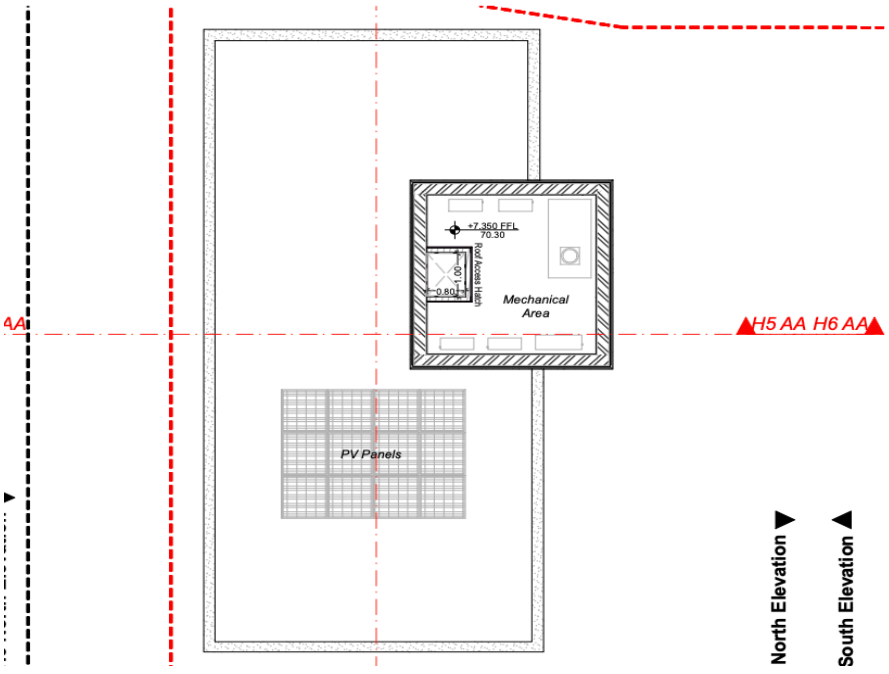
ARCHITECRTURAL DESIGN
GROUND FLOOR



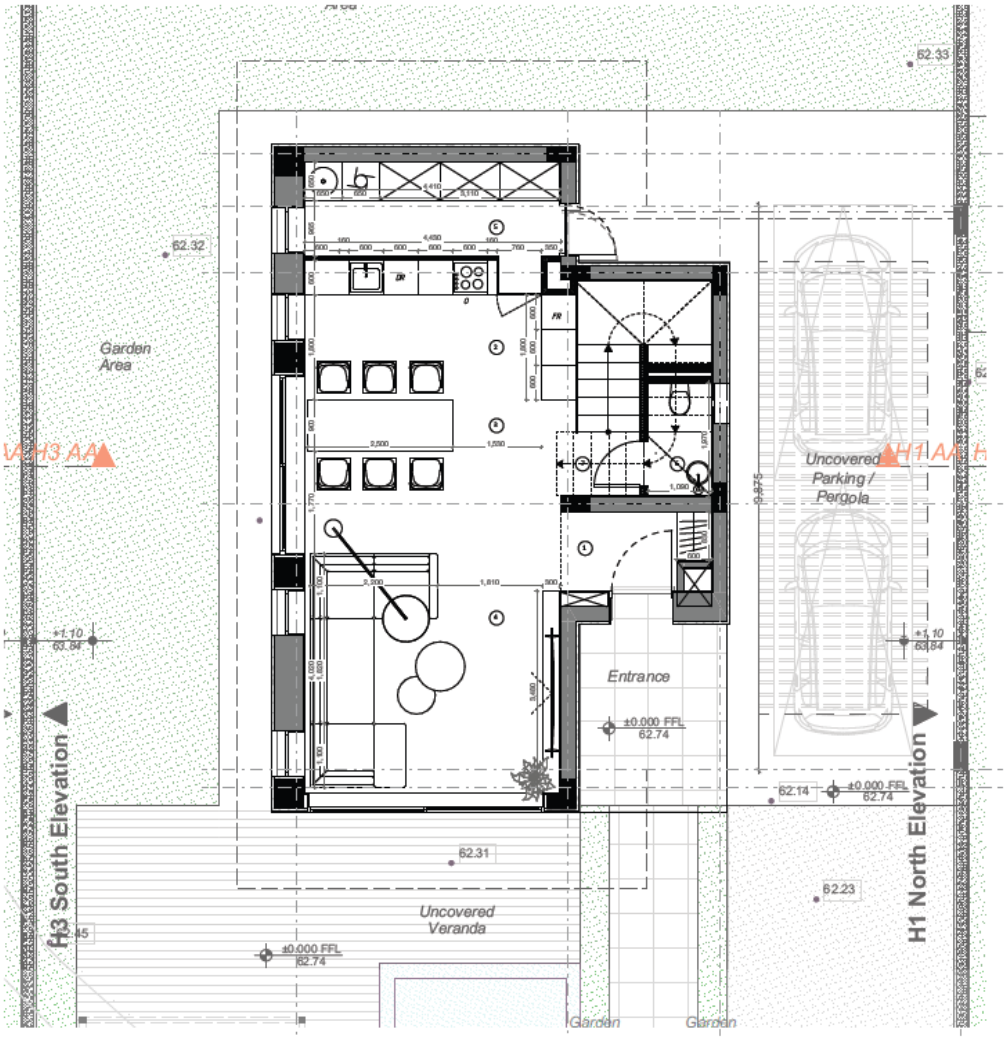
ARCHITECRTURAL DESIGN
1st FLOOR



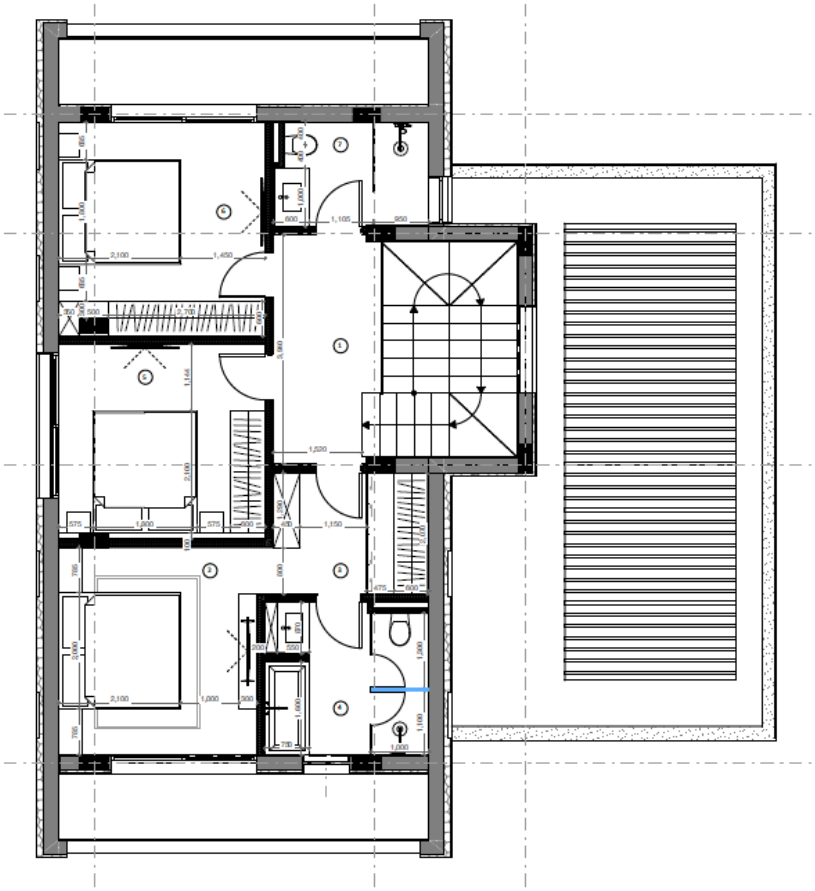
House 6 - First Floor Plan 1:100



INTERIOR DESIGN (OPTIONAL)
GROUND FLOOR



INTERIOR DESIGN (FREE OF CHARGE)
FIRST FLOOR



MASTER PLAN

3D VIEWS

ENERGY EFFICIENCY A (APC calculation extract)

SBEMCY Main Calculation Output Document

Mon Dec 11 19:01:07 2023

Building name

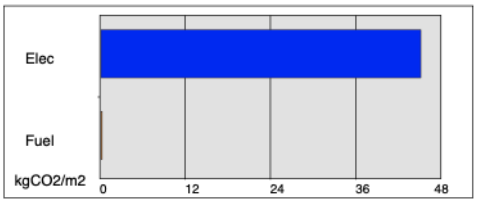
DiArte Hills Residences H_6

Building type: Dwelling

SBEMCY* is an energy calculation tool for the purpose of assessing and demonstrating compliance with Building Regulations and to produce Energy Performance Certificates in Cyprus. Although the data produced by the tool may be of use in the design process, **SBEMCY is not intended as a building design tool.**

*SBEMCY is based on SBEM, an energy calculation tool developed by BRE for CLG (UK) for the purpose of assessing the energy performance of buildings.

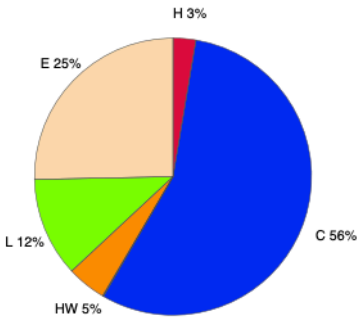
Building Energy Performance and CO2 emissions



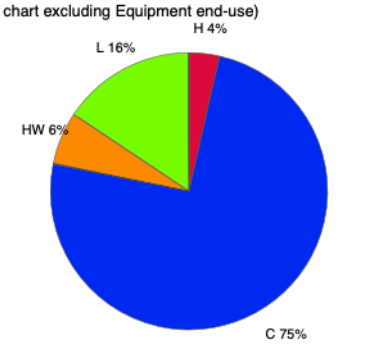
33 kgCO2/m2 displaced by the use of renewable sources.

Building area is 140.41m2

Annual Energy Consumption



(Pie chart excluding Equipment end-use)



(*) Although energy consumption by equipment is shown in the graphs, the CO2 emissions associated with this end-use have not been taken into account when producing the rating.