

PD#4 PROJECT DRAWINGS

- Management
- Envelope
- Solar thermal and plumbing
- Monitoring and automatization
- Mechanical
- Electrical and PV
- 3rd semester
- Experts in team
- Structural engineer

**1 GENERAL (GE)**

- GE-001 Cover sheet
- Sheet List. (This is the "table of contents" or "index". It is not too useful in a bookmarked PDF, but it is essential in printed copies.)
- GE-101 General Symbols. (Define symbols and list notes used throughout the entire drawing set.)
- GE-201 General Abbreviations. (List of abbreviations used throughout the entire drawing set).
- GE-301 Exterior Renderings.

**2 ARCHITECTURAL (AR)**

- AR-001 Villa Solar Plan. (Site plan including the lot location inside the "Villa Solar").
- AR-011 Site Plan. (Showing Solar Envelope and Architectural Footprint compliance).
- AR-021 Floor Plan
- AR-031 Roof Plan
- Reconfigurable features.- (Plan showing the exterior moveable components, the solar envelope and the architectural footprint).
- AR-041 Maximum & Minimum Measurable Area. (Show compliance with minimum & maximum measurable area).
- AR-051 Site Elevation. (Site elevations showing Solar Envelope and Architectural footprint compliance).
- AR-101 Building Elevations, sections.
- AR-201 Longitudinal Sections
- AR-211 Transversal Sections
- AR-301 Window Schedule and Details (Included thermal transmittance)
- AR-311 Door Schedule and Details (Included thermal transmittance)
- AR-321 Floor Construction Details (Included thermal transmittance)
- AR-331 Roof Construction Details (Included thermal transmittance)
- AR-341 Wall Sections and Construction Details (Included thermal transmittance)
- AR-351 Partitions Details

**3 BIOCLIMATIC ANALYSIS (BA)**

- BA-001 Bioclimatic drawings (passive design strategies)

**4 INTERIORS (IN)**

- IN-001 Floor
- IN-101 Reflected ceiling
- IN-201 Elevations
- IN-301 Furnishings
- IN-401 Kitchen Plan (Furniture and Appliances)
- IN-411 Kitchen Elevations (Furniture, Appliances and Details)
- IN-501 Bathroom plan (Fixtures and Accessories)
- IN-511 Bathroom Elevations (Fixtures and Accessories)
- IN-601 Interior Renderings

**STRUCTURAL (ST)**

- ST-001 Foundation Plan and Details
- ST-011 Structural Floor Plan(s)
- ST-021 Structural Roof Plan
- ST-101 Structural Longitudinal Sections
- ST-111 Structural Transversal Sections
- ST-201 Structural Blow ups
- ST-301 Structural Details

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	<b>6 FIRE PROTECTION (FP)</b>
FP-001	Fire Protection. (Detection, alarm, suppression and egress).
	<b>7 PLUMBING (PL)</b>
PL-001	Plumbing Plan. Supply and removal (cold and hot water)
PL-011	Grey Water
PL-021	Drain / Waste / Vent
PL-101	Schematic diagram
PL-201	Supply and removal Isometric (cold and hot water)
PL-211	Grey water Isometric
PL-221	Drain/Waste/Vent Isometric
	<b>8 SOLAR WATER HEATING (SW)</b>
SW-001	Plan
SW-101	Isometric
	<b>9 MECHANICAL (ME)</b>
ME-001	HVAC distribution Plan
ME-011	HVAC equipment
ME-021	Heating
ME-031	Cooling
ME-041	Ventilation
ME-101	Mechanical room elevations
ME-201	HVAC System Schematic drawings
ME-211	Heating mode Schematic drawings
ME-221	Cooling mode Schematic drawings
ME-231	Controls
ME-301	Isometric Distribution
	<b>10 ELECTRICAL (EL) Please refer to note 1.</b>
EL-001	Grid interconnection
EL-201	DC wiring diagram
EL-301	Power plan
EL-401	Lighting plan
EL-501	One-line Diagram
EL-601	AC Circuit layout
	<b>11 PHOTOVOLTAIC SYSTEM (PV) Please refer to Note 2</b>
PV-001	Photovoltaic system: general
PV-011	Photovoltaic system: DC circuits
PV-021	Photovoltaic system: AC circuits
PV-031	Photovoltaic system: grounding system
	<b>12 TELECOMMUNICATIONS AND BUILDING AUTOMATIZATION SYSTEM (BAS)</b>
BAS-001	Wiring plan
BAS-101	Schematic diagram
BAS-201	Equipment
	<b>13 SDE INSTRUMENTATION DRAWINGS (ID) Please refer to Note 3</b>
ID-001	Site plan
ID-101	Floor Plan
	<b>14 SITE OPERATION (SO) Please refer to Note 4</b>
SO-001	Outside Logistic. Villa Solar
SO-101	Inside Logistic. Approximation
SO-201	Load / Unload
SO-301	Assembly / Disassembly
	<b>15 HEALTH AND SAFETY (HS) ) Please refer to Note 5.</b>
HS-001	Health and Safety in the lot and surroundings
HS-101	Health and Safety during the Outside Logistic
HS-201	Health and Safety during the Inside Logistic
HS-301	Health and Safety during load / unload.
HS-401	Health and Safety during assembly / disassembly.
	<b>16 PUBLIC TOUR (PT) Please refer to Note 6</b>
PT-001	Site accessibility
PT-101	House tour floor plan
PT-201	House Tour General Information



**Notes:**

- 1 The ELECTRICAL (EL) drawings must include electrical layouts, a detailed electrical components information and complete electrical diagrams of the conventional electrical installation showing all elements and protections (including those of the interface between the Photovoltaic system and the electricity distribution network).
- 2 The PHOTOVOLTAIC SYSTEM (PV) drawings must include electrical diagrams describing all components (equipments), wiring and protections. The general diagram of the photovoltaic system (PV-001) shall include the interface with the electrical installation of the house and the electrical distribution network. See PV Chart (Rule 36.5)-
- 3 The INSTRUMENTATION DRAWINGS (ID) must show the location of all the sensors, meters and dataloggers of the SDE Monitoring System and indicate the wires routes and the feed-throughs to pass the instrumentation wires from the interior to the exterior of the house. Also must include the location of the house appliances and electronic devices (clothes washer, clothes dryer, dishwasher, TV, computer, DVD, refrigerator, freezer, oven and house workstation) as well as technical room or closet, and the electrical panel.
- 4 The SITE OPERATIONS (SO) shall describe graphically or textually the following aspects (see Rule 45):
  - Outside logistic. Villa Solar: Brief description of the Villa Solar using the drawings that will be given to the contestants, the intrinsic conditions of the villa and the way to solve them will be identified.
  - Inside logistic. Approximation: detailed process of approximation of transport vehicles, up to their arrival at the lot. Indicating: Type and number of vehicles, order of entry, dimensions and load per axle of each vehicle, turn ratios, characteristics and dimensions of the load to be transported (with the weight of all the elements), way to proceed with the unloading, etc.
  - Load/ Unload: Execution plan of loading and unloading operations. The lot, accesses, loading and unloading area, elements and materials stock area and footprint of the house in its final position will be signposted graphically.
  - Assembly/ disassembly: Plan for the assembly and disassembly. It will include graphics with the assembly and disassembly phases, work units, persons that will take part, necessary machinery, auxiliary resources, necessary timing, etc.
- 5 HEALTH AND SAFETY (HS) shall describe graphically or textually the following aspects (see Rule 46):
  - Use of the project drawings of each house, representing: the lot limits, the collective protections, the signposting, or in case the circulations or type locations of possible auxiliary machinery, bigger machines and trucks, clearly indicating the accesses.
  - Description of each assembly phase, indicating the collective protections, individual protection resources and the safe working procedures, for each one of them. Concerning machinery and auxiliary resources, teams will prove to be applying the safe working procedures specified by its manufacturers.
  - Graphic representation of: the lot, the house footprint in its final position, accesses, load and unload area, elements and materials stock area, assembly phases and work units, number of people taking part, necessary machinery, auxiliary resources, estimated timing, etc.
- 6 PUBLIC TOUR (PT) Illustrate the tour in detail, marking objects, furniture, obstacles during the tour and how will they be solved (dimensions, distances, ramps percentage, turning circle, heights). If there are any movable elements which are going to be shown to the visitors, include a sketch of the moving mechanisms and measures adopted to assure the safety of the visitors