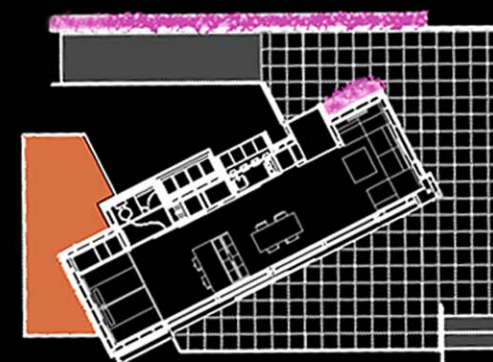
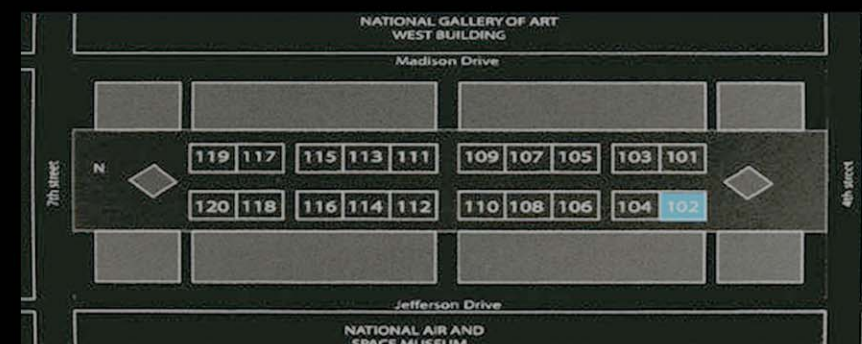




The starting point for the UPM design team is the concept of integration between technology and design in order to achieve an optimum relationship between beauty and performance.

Some of the principles that led the design of the house were the high benefits of energetic efficiency connected to habitability. We understand that the house must be attractive, comfortable and energy-efficient. Its constructive method is other factor that must contribute to the popularization's use of solar power.

CASA SOLAR



The architectural goal is to achieve the perfect balance between beauty and performance, understanding "performance" as both, energy efficiency and quality of life. Le Corbusier's "machine a vivre" inspires the spirit of this project which demands the integration of the best technology with the most detailed design in order to express the new challenges of habitability, sustainability and energy efficiency.



SOLAR
DECATHLON
2007



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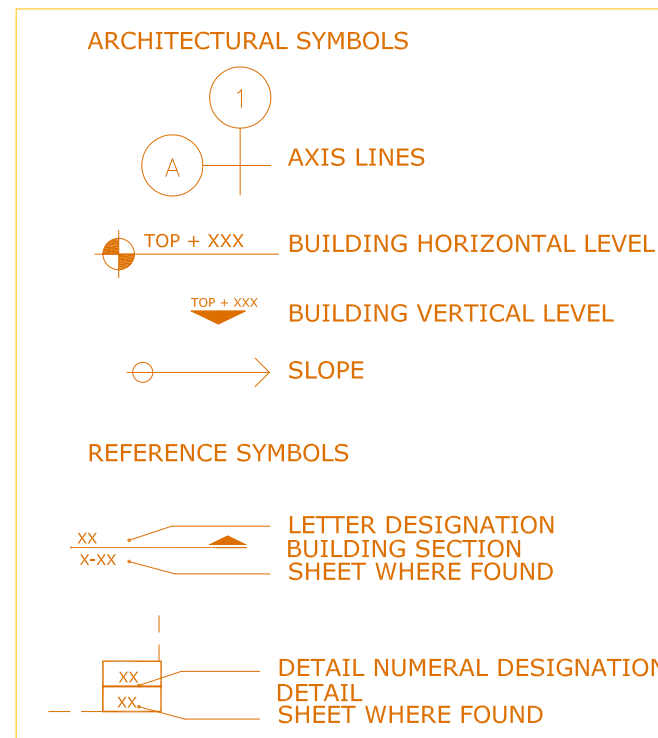
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ALFONSO GARCIA SANTOS
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DECATHLETES

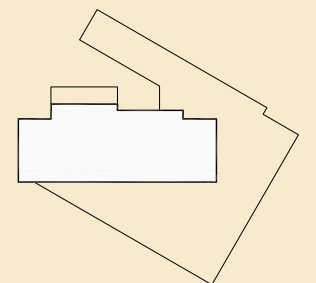
CARMEN GIMÉNEZ

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BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE:

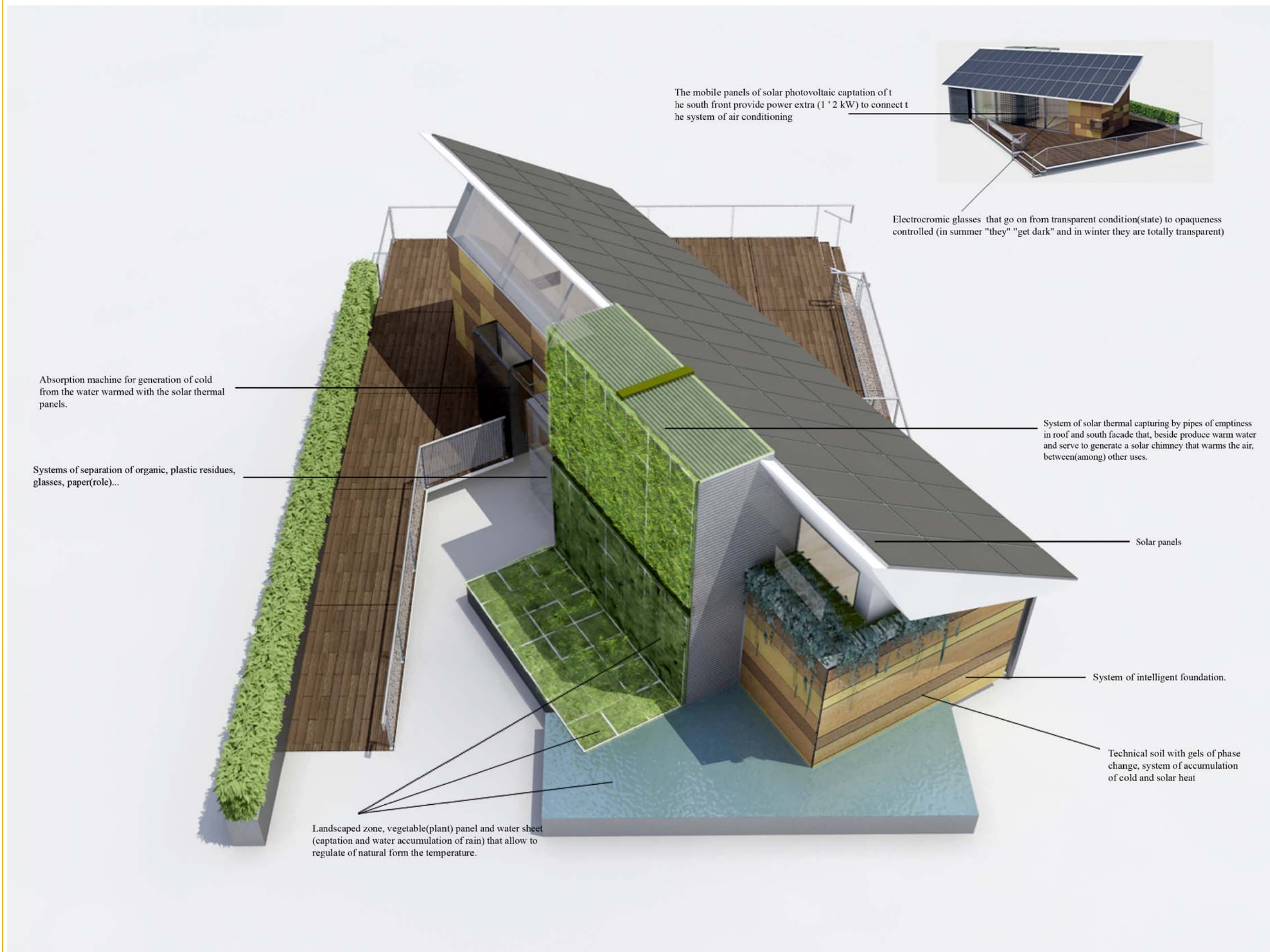
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INDEX OF DRAWINGS

JANUARY 2008



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COORDINATOR

SERGIO VEGA SANCHEZ
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ALFONSO GARCIA SANTOS
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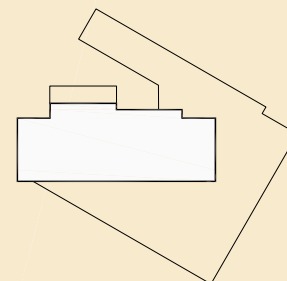
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EDWIN RODRIGUEZ
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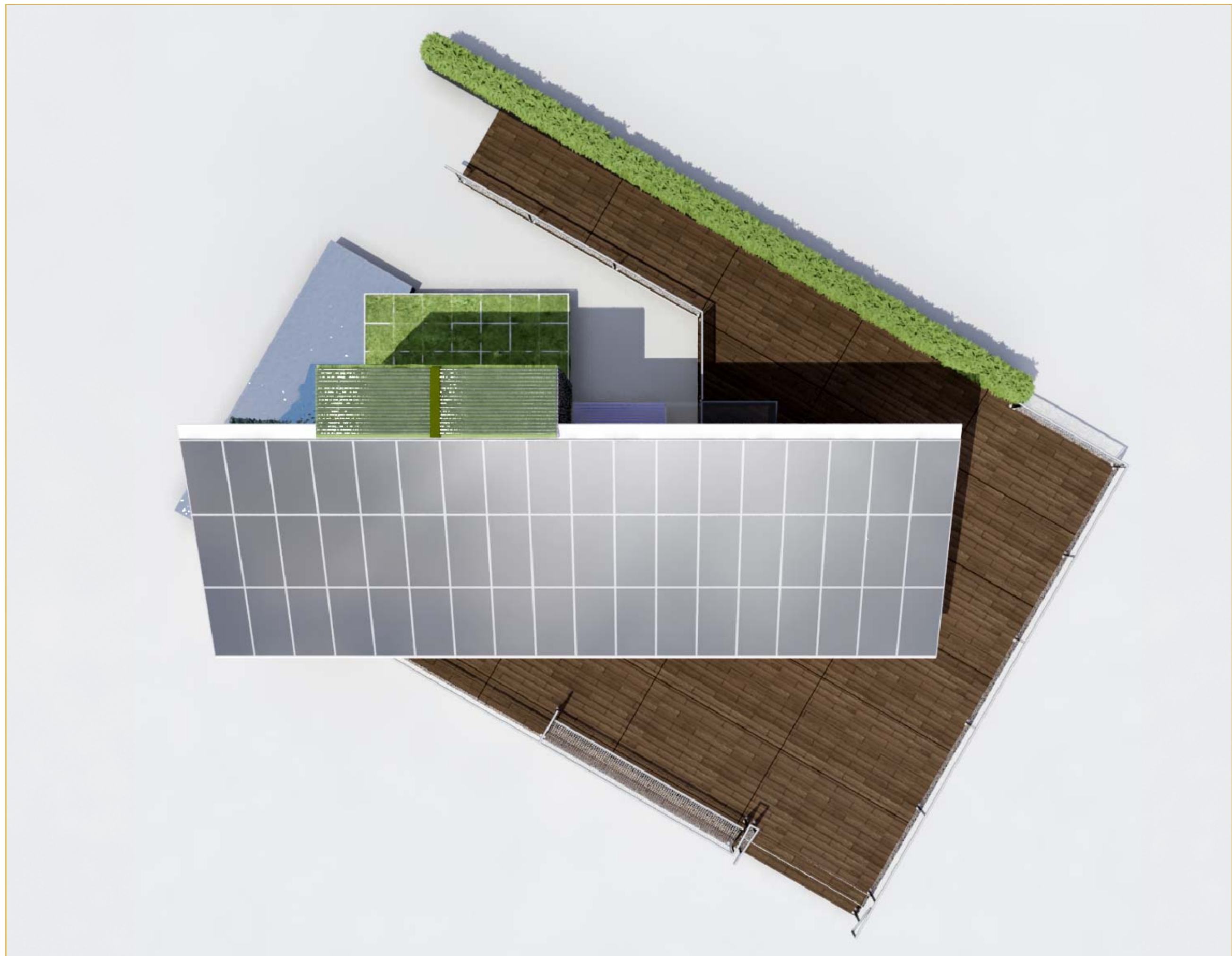
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RENDERING

JANUARY 2008



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SCALE:

TITLE

RENDERING

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R.02
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KEY PLAN



SCALE:

TITLE

RENDERING

JANUARY 2008



R.03

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COORDINATOR

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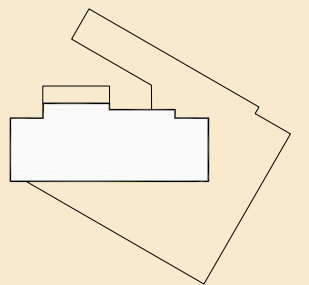
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KEY PLAN



SCALE:

TITLE

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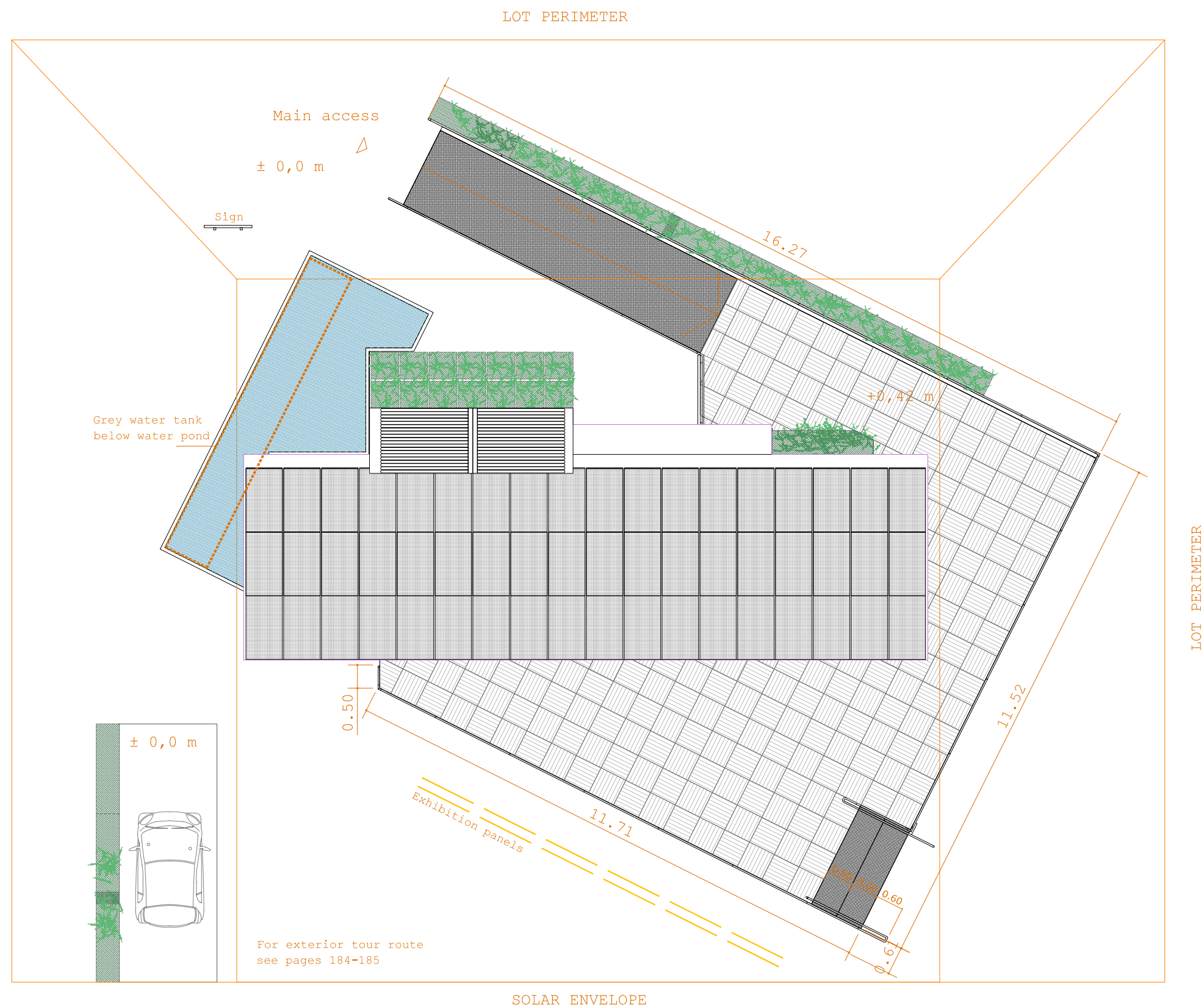
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SITE PLAN AND ENVELOPED

SE.01
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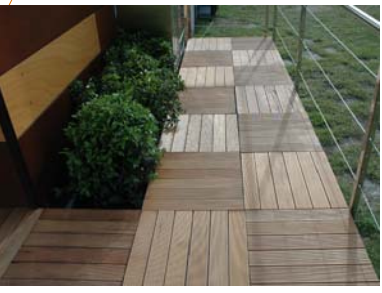


A.01

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A large, rectangular vertical garden wall is mounted on the side of a building. The wall is densely covered with various green plants, including leafy greens and small flowers. The plants are arranged in a grid-like pattern, with some larger plants and some smaller ones. The wall is made of a dark material, possibly metal or plastic, and is attached to a light-colored building facade. The ground in front of the wall is covered with grass.



DECK
WOOD TILE
n X 600 mm



ISO FOTON-SAINTE GOBAIN
DIMENSIONS: 800 mm X 1600 mm



COORDINATOR

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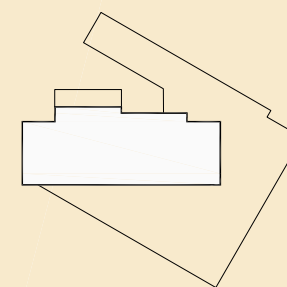
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KEY PLAN



SCALE: 1/75



TITLE

FLOOR PLAN
WITH DECK

JANUARY 2008

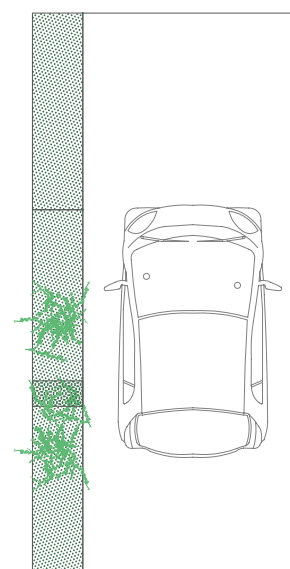


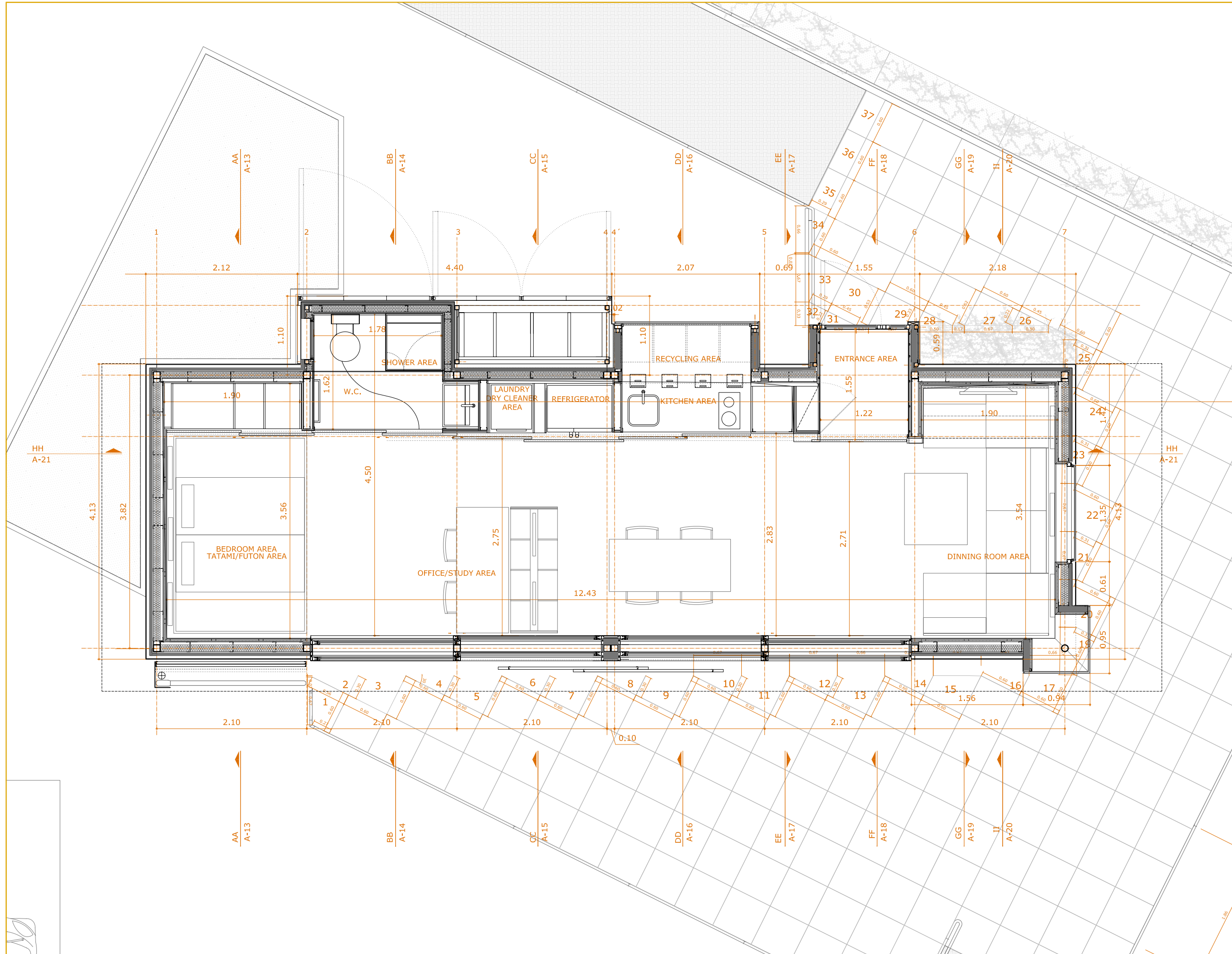
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THE SHAPE OF THE
POND HAS CHANGED

THE VEGETAL PANELS THAT
WERE PLACED ON THE FLOOR
HAAVE BEEN TAKEN OFF.

THE POSITION OF THE STAIRS
HAS CHANGED, IT HAS ROTATED
90°, FROM SOUTH-EAST TO
SOUTH-WEST ORIENTATION.







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KEY PLAN



SCALE: 1/50



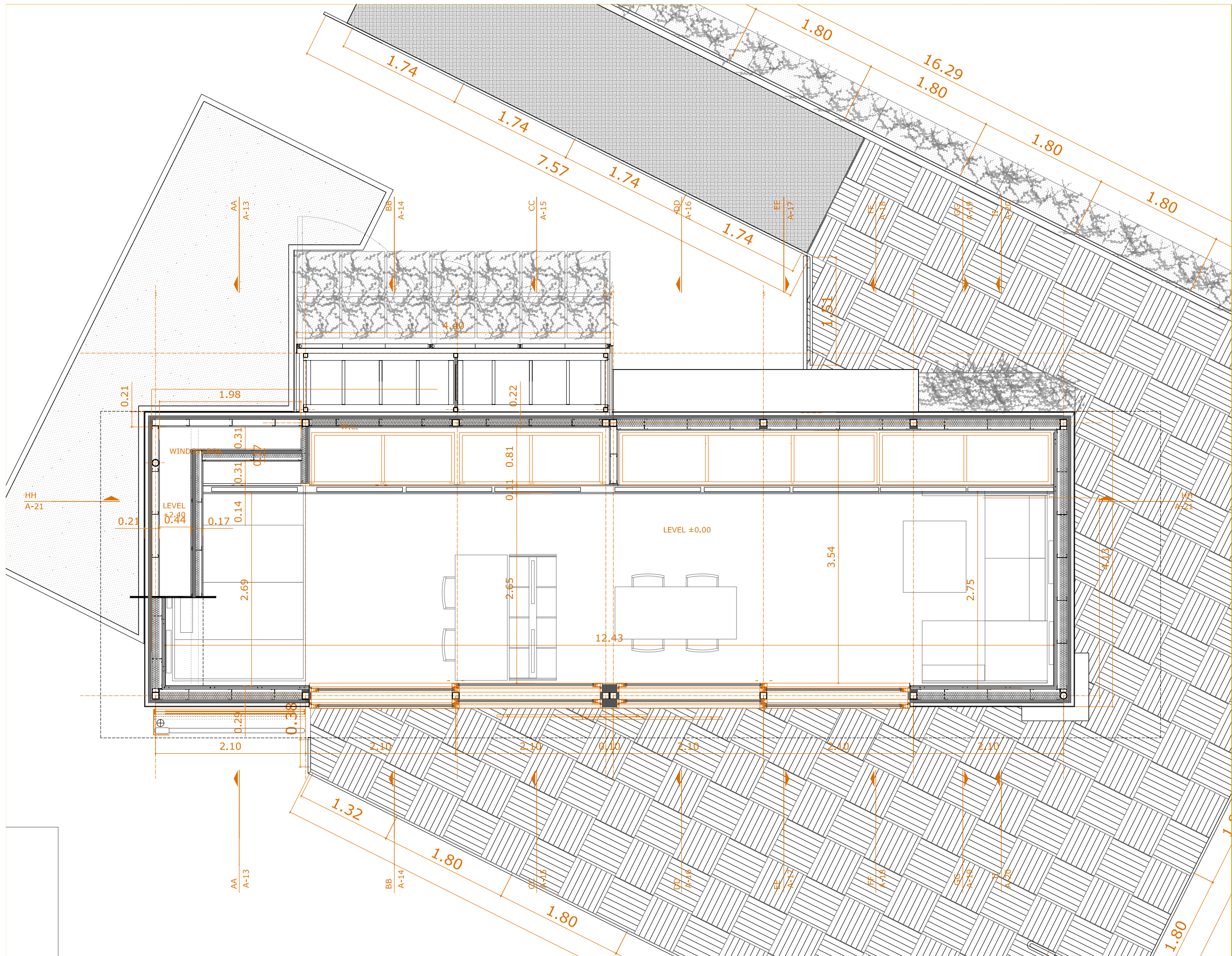
TITLE

ARCHITECTURAL PLAN

JANUARY 2008




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EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



TITLE

PLAN LEVEL +2.40

JANUARY 2008



A.04
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SOUTH ELEVATION



NORTH ELEVATION

COORDINATOR

SERGIO VEGA SANCHEZ
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ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

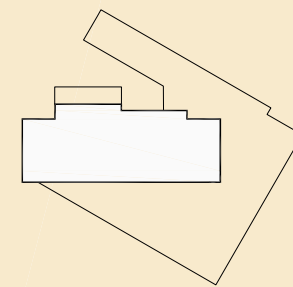
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DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

TITLE

SOUTH AND NORTH
ELEVATION

JANUARY 2008



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EAST ELEVATION



WEST ELEVATION



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

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ARCH. & CONST. MANAGER

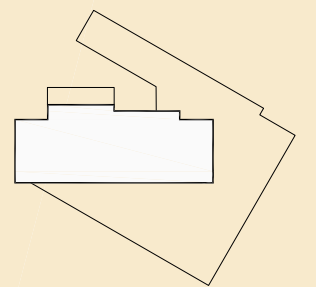
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EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

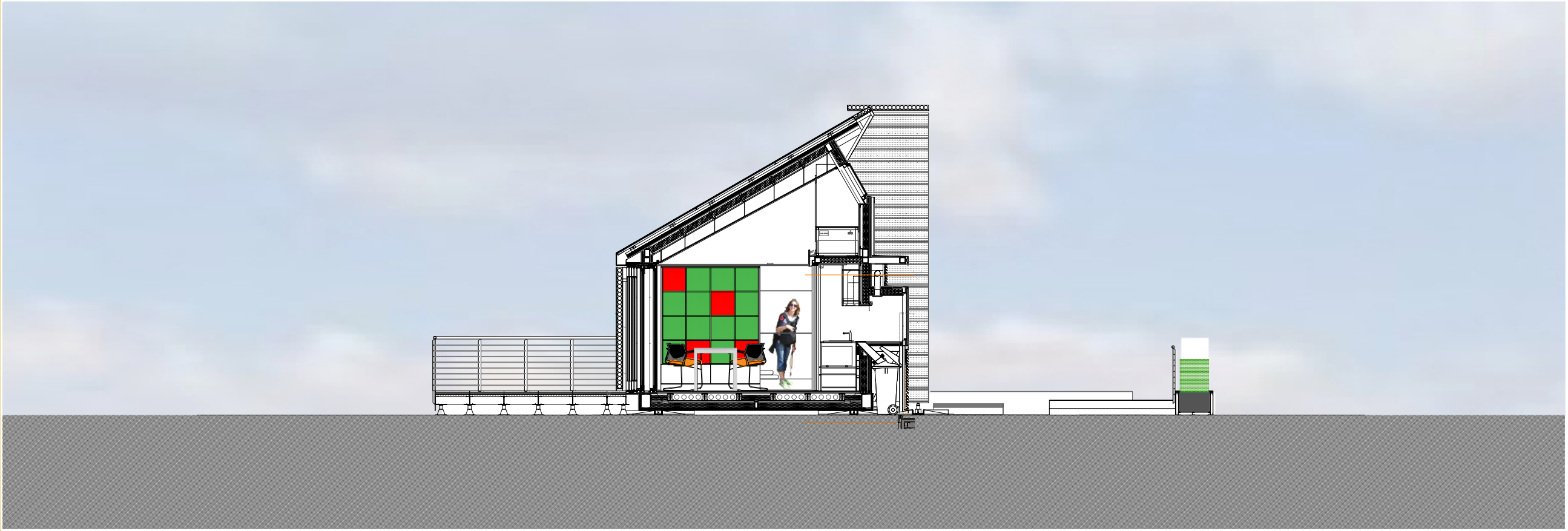
TITLE

EAST & WEST
ELEVATION

JANUARY 2008



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COORDINATOR

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ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

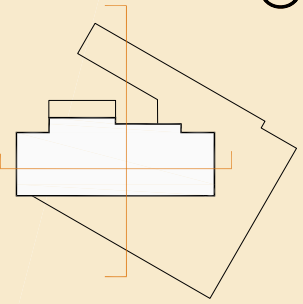
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JOARA CRONENBERGER
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/75

0	75	150	225	300 CM
0"	30"	60"	90"	120"

TITLE

SECTIONS

JANUARY 2008

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

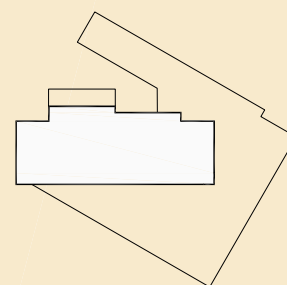
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TEAM DESIGNERS

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DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



TITLE

NORTH ELEVATION

JANUARY 2008



A.08
15 OF 53



1 _Metal panels.

2 _Photovoltaic panels.

3 _Evacuated tubes.

4 _Aluminium and glass window.

5 _Exterior wood panels (ventilated systems).

6 _Vegetal panels.

7 _Metal louvers.

8 _Steel Overhang .

9 _Steel Door .

10_Metal handrail.

11_Sliding solar shading devices with PV cells.

NORTH ELEVATION



SERGIO VEGA SANCHEZ
PROJECT MANAGER

LETICIA ROJO
-
TEAM DESIGNERS

EDWIN RODRIGUEZ
GENERAL COORDINATOR

A horizontal scale bar with two rows of markings. The top row is labeled in centimeters (CM) with markings at 0, 25, 50, 75, and 100. The bottom row is labeled in inches (") with markings at 0, 10, 20, 30, and 40. The bar is divided into segments by vertical lines corresponding to these markings.

SECTIONS A.A.

A.13
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COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

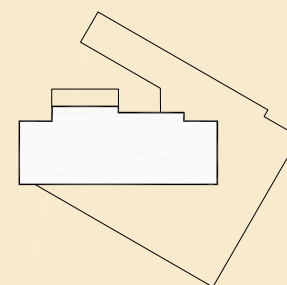
DECATHLETES

JOSUE CARDENAS
JOARA CRONEMBERGER
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



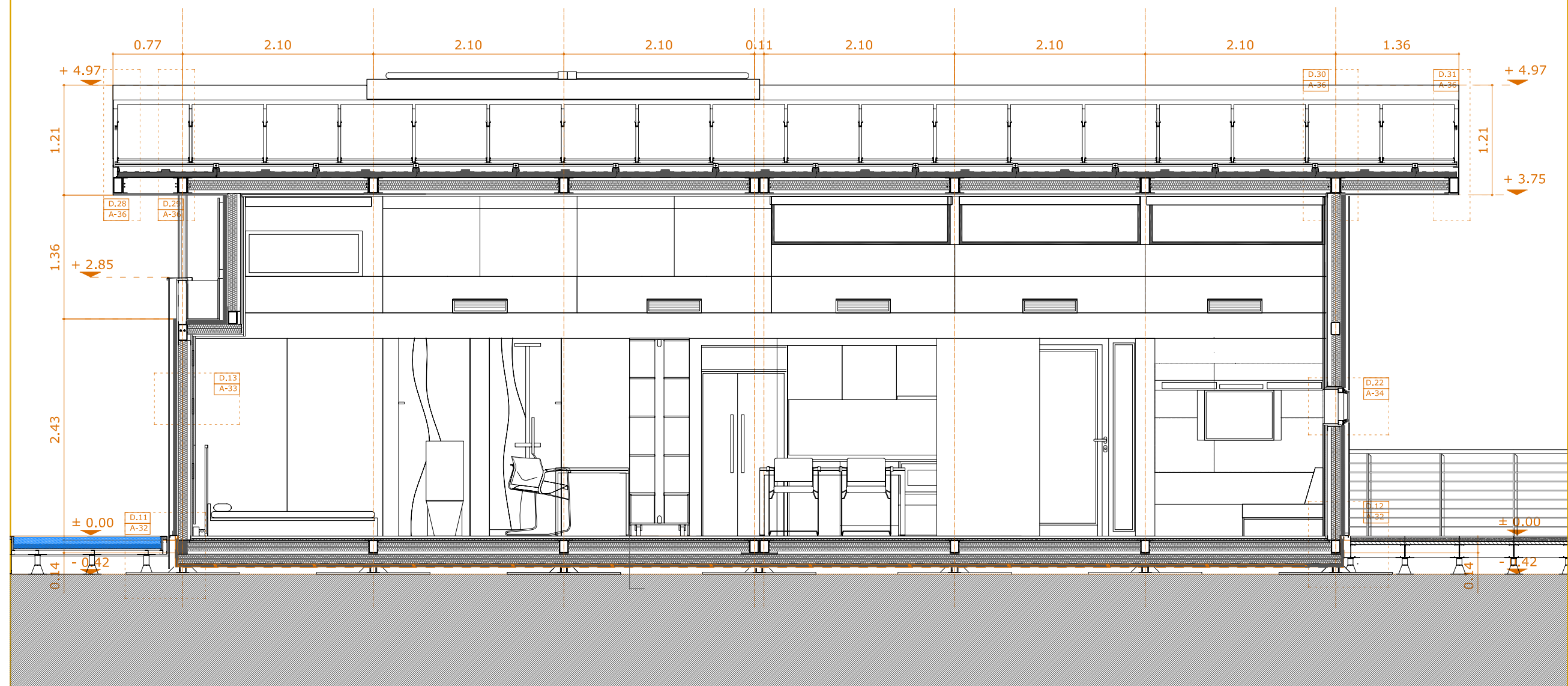
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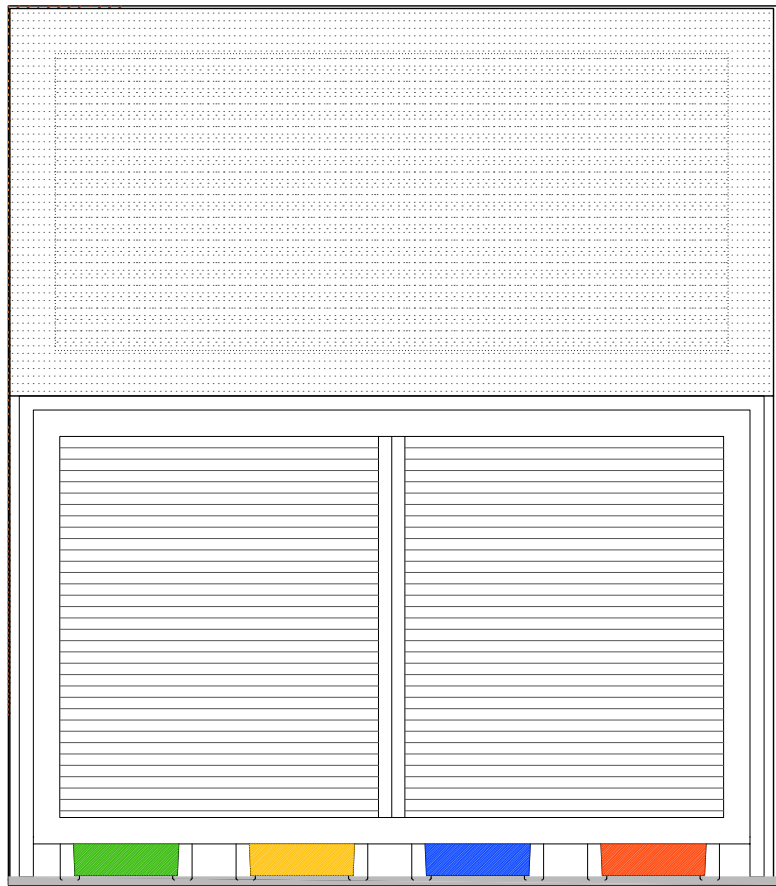
SECTIONS H.H.

JANUARY 2008



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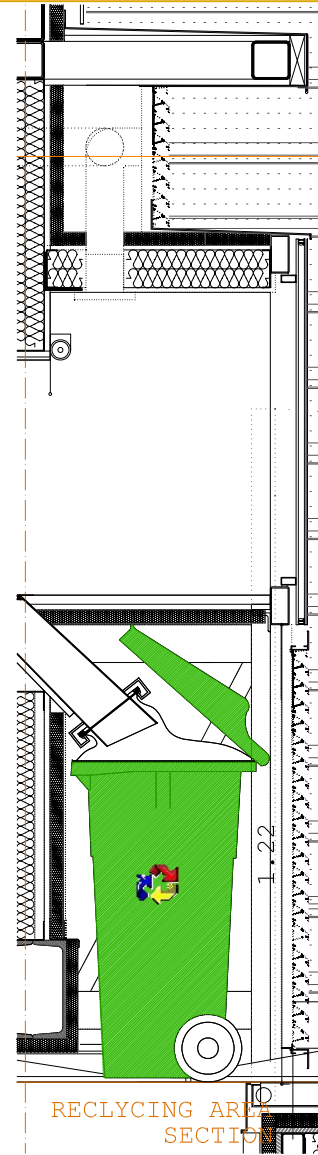




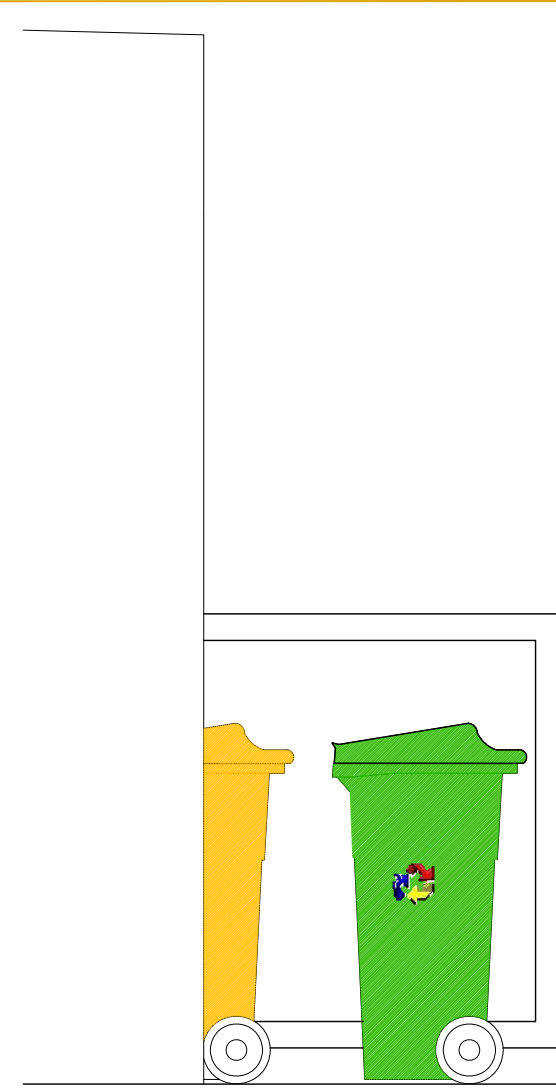
RECLYING AREA
CLOSED ELEVATION



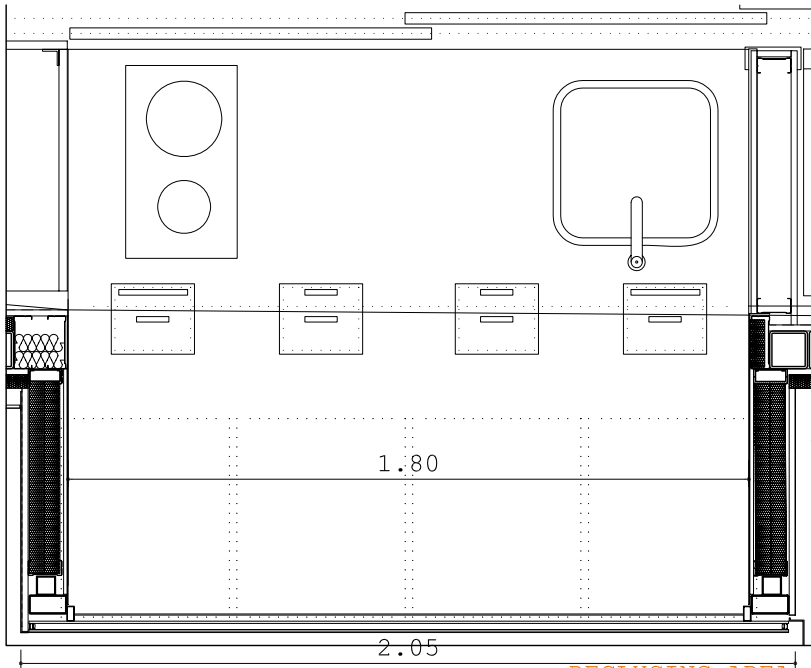
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OPENED ELEVATION



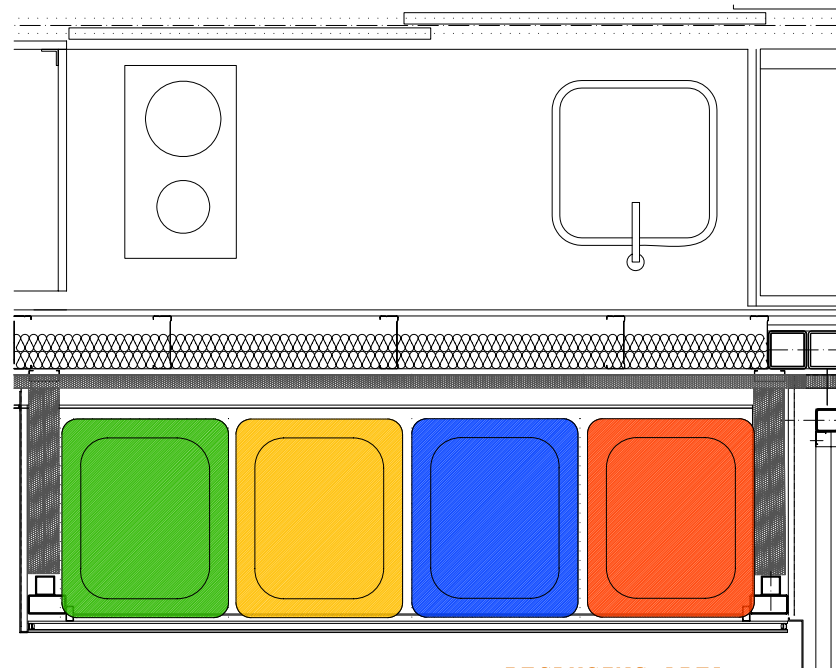
RECLYING AREA
SECTION



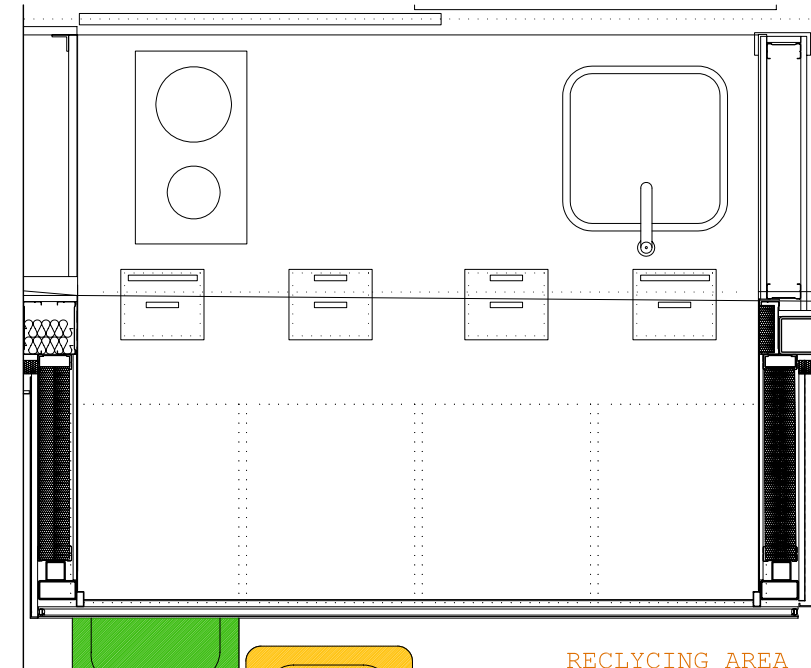
RECLYING AREA
EAST ELEVATION



RECLYING AREA
CLOSED PLAN



RECLYING AREA
INTERIOR PLAN



RECLYING AREA
OPENED PLAN

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

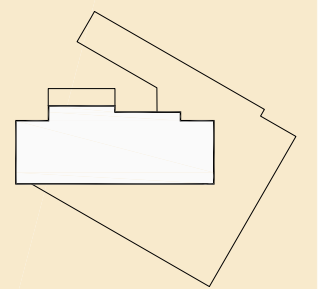
DECATHLETES

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BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/20



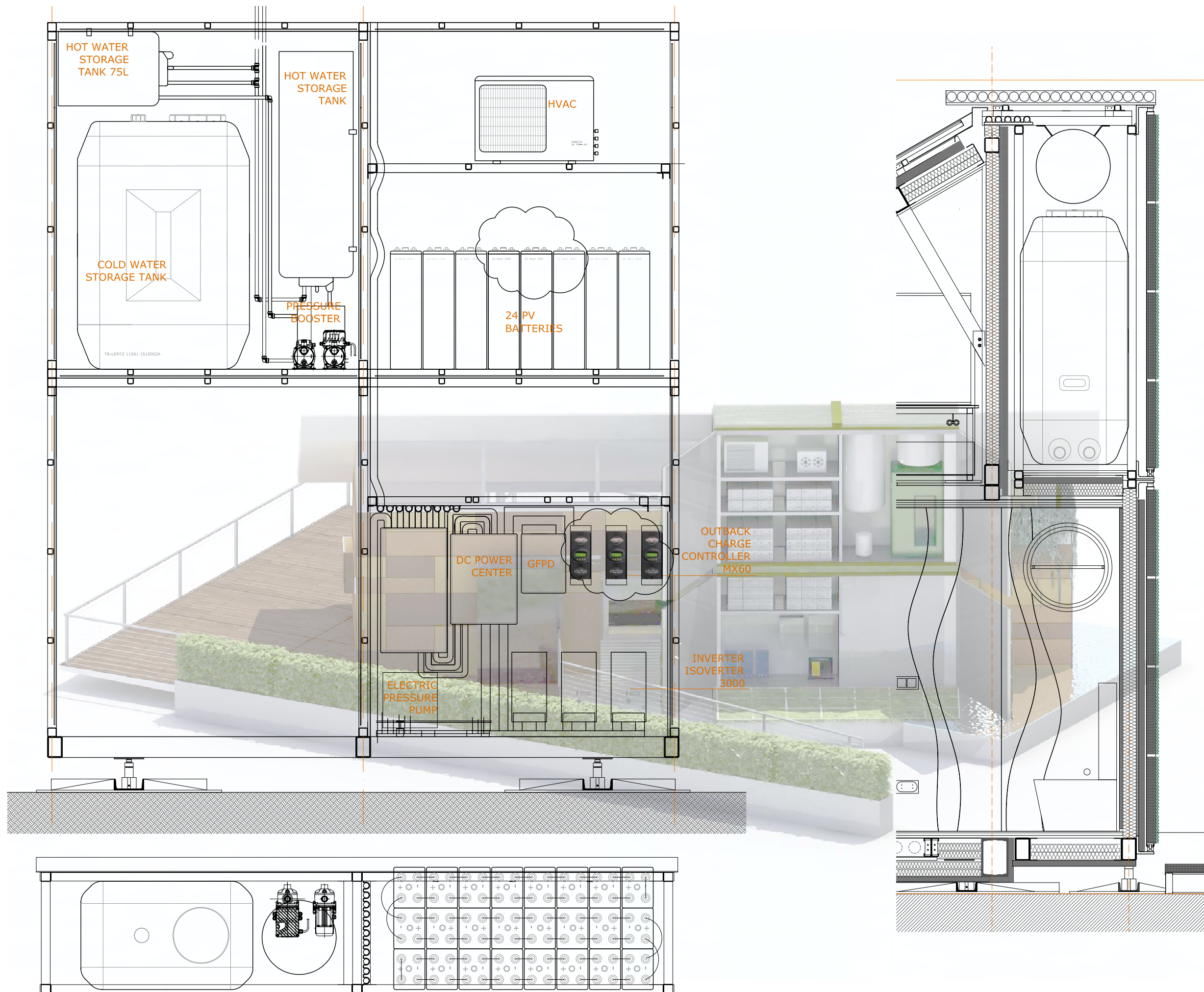
TITLE

RECLYING
SYSTEM

JANUARY 2008



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COORDINATOR

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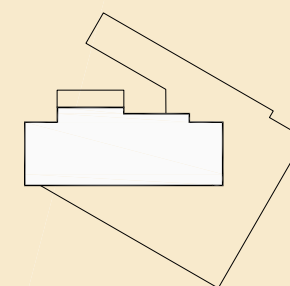
CARMEN GIMÉNEZ

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GENERAL COORDINATOR

KEY PLAN



SCALE: AS SHOWN

TITLE
TECHNICAL PANNIER

JANUARY 2008



A.24
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COORDINATOR

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ARCH. & CONST. MANAGER

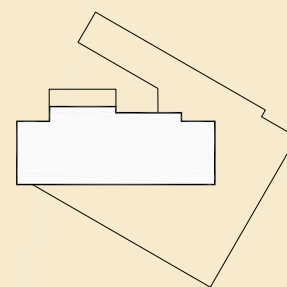
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EVA GÓMEZ APARICIO
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DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50
0 50 100 150 200 CM
0" 10" 20" 30" 40" 50"

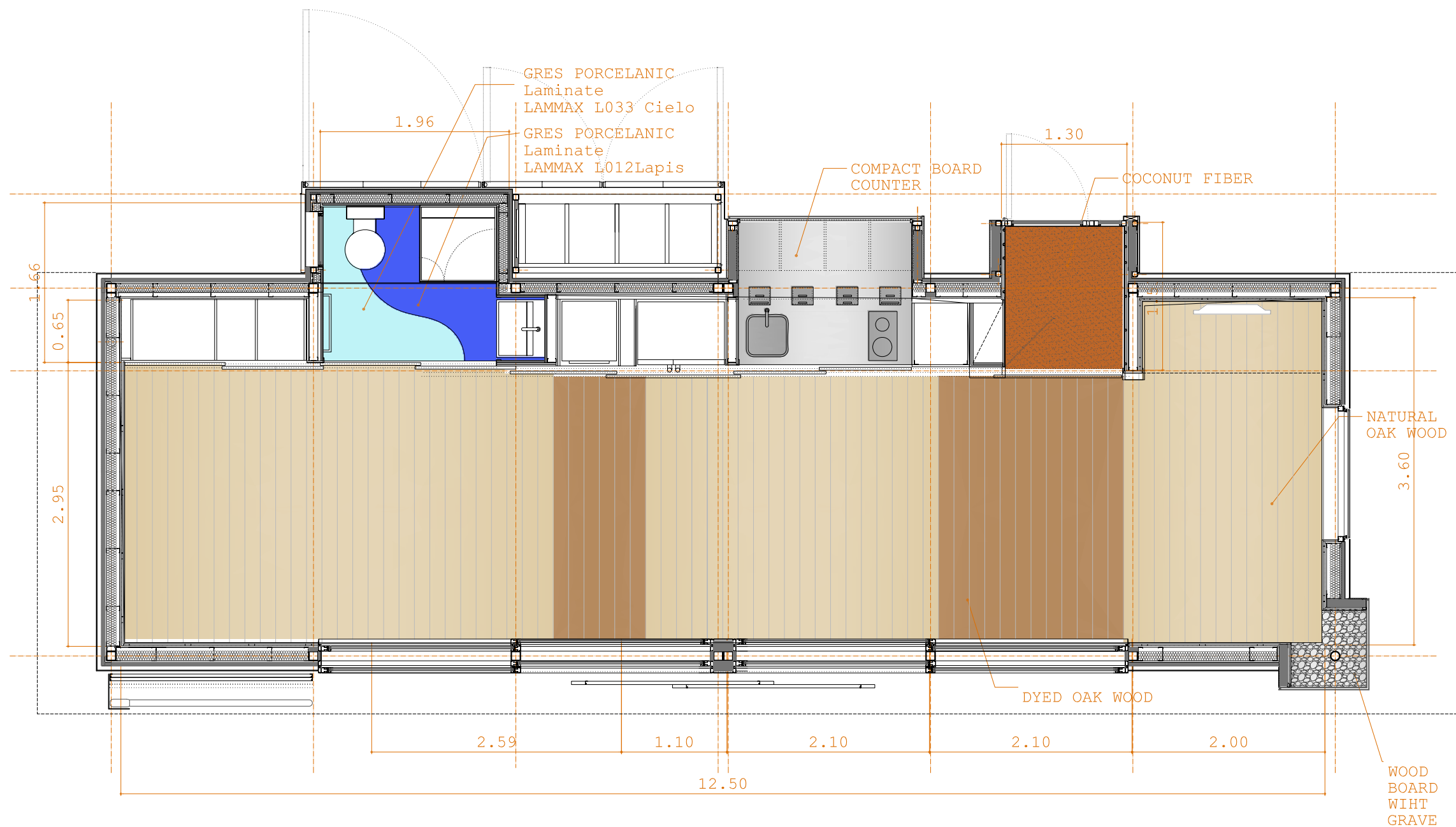
TITLE

FINISHES FLOOR PLAN

JANUARY 2008



I.02
20 OF 53





COORDINATOR

SERGIO VEGA SANCHEZ
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ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

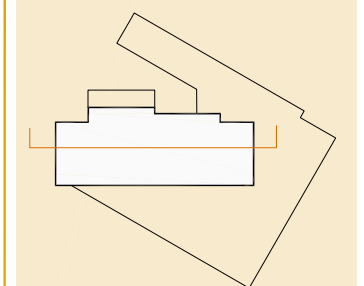
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TEAM DESIGNERS

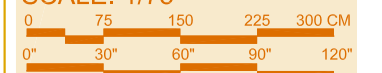
BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/75



TITLE

INTERIOR FINISHES
NORTH ELEVATION:
TEXTURES

JANUARY 2008



1.04
21 OF 53

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

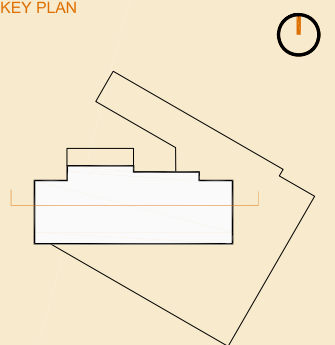
DECATHLETES

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LETICIA ROJO MARA
TEAM DESIGNERS

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DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



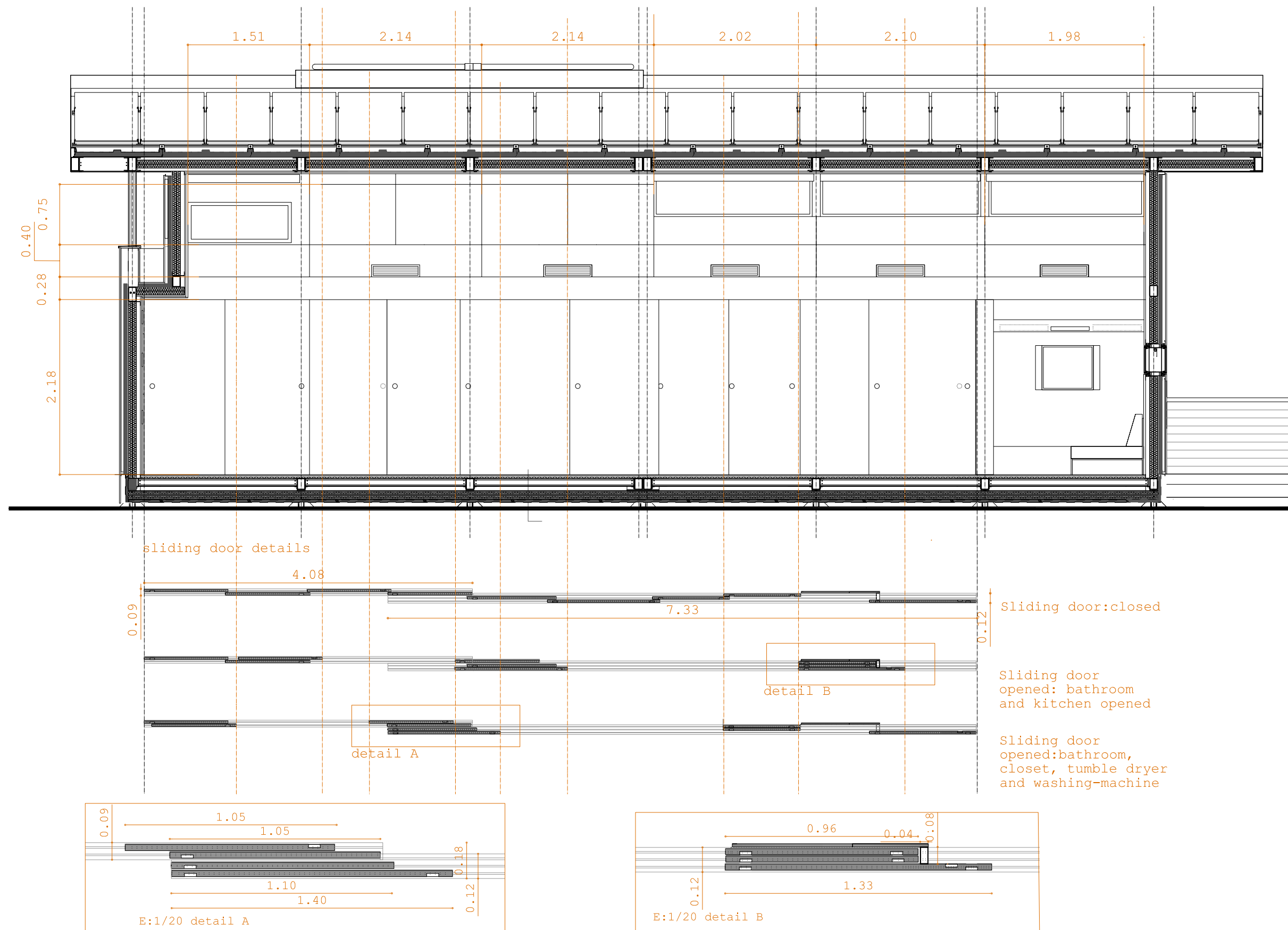
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SLIDING DOORS DETAILS

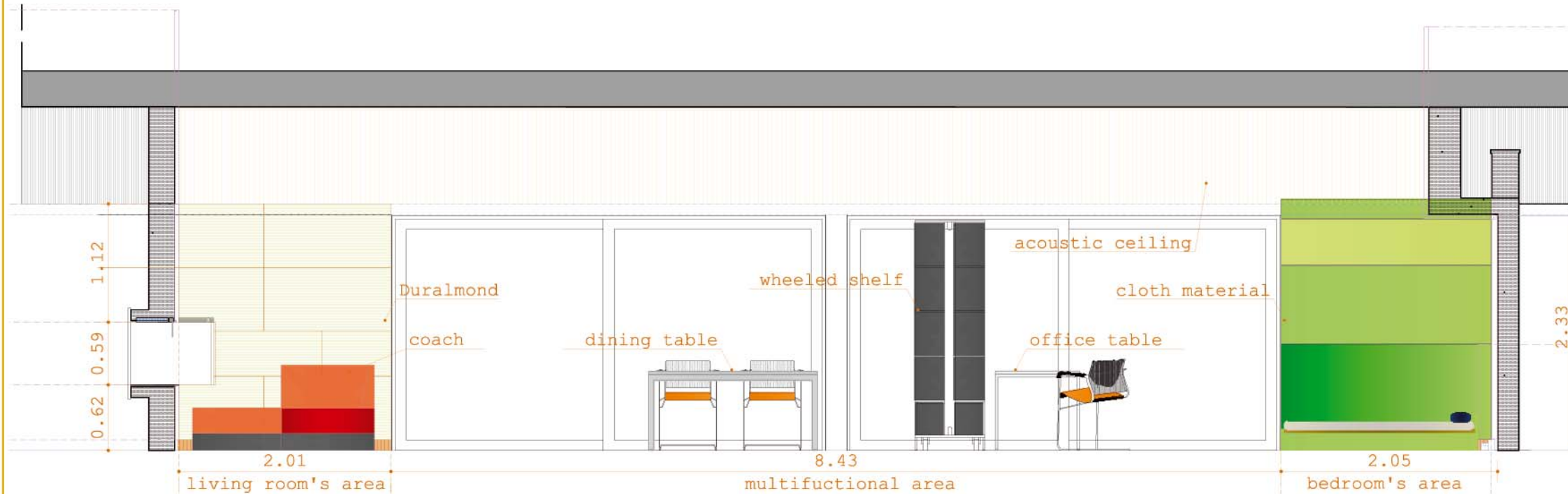
JANUARY 2008



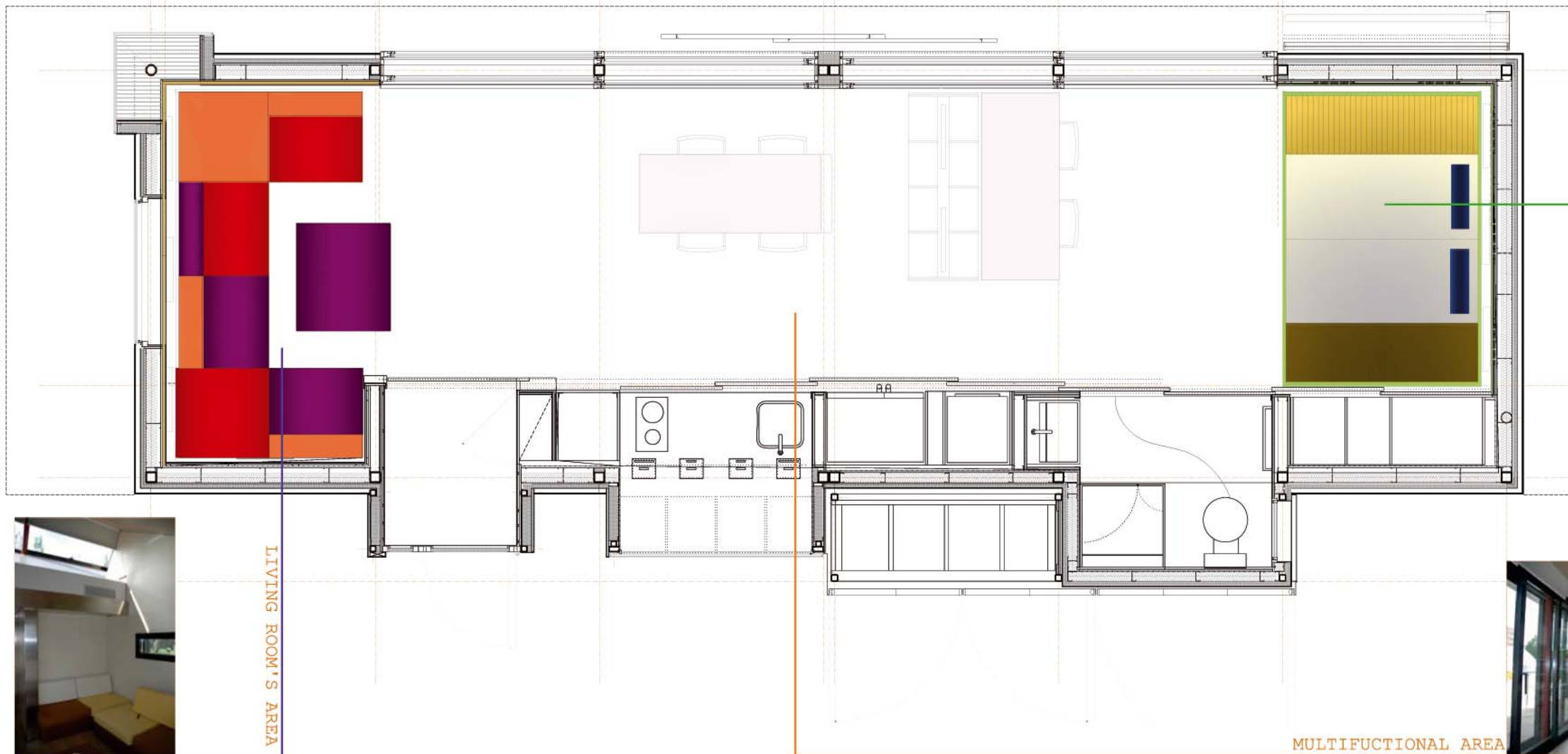
I.06
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SOUTH'S INTERIOR FINISH



FURNITURE LAYOUT



BEDROOM'S AREA



LIVING ROOM'S AREA



MULTIFUNCTIONAL AREA

COORDINATOR

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PROJECT MANAGER

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ARCH. & CONST. MANAGER

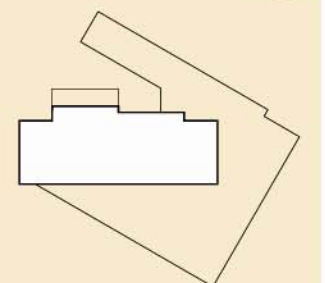
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DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



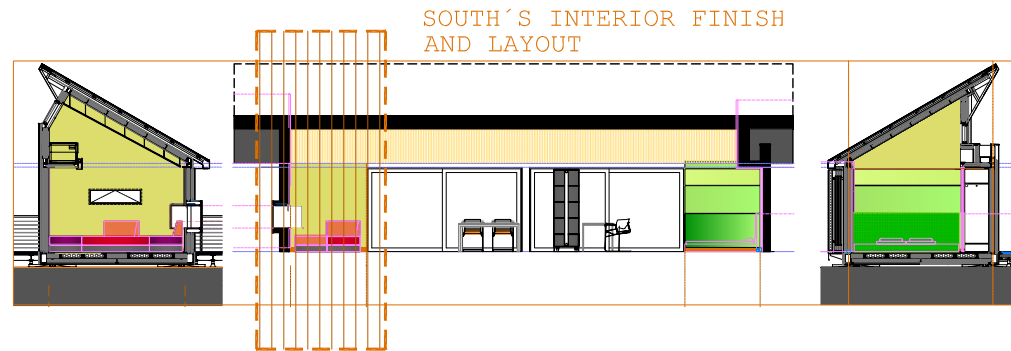
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INTERIOR FINISHES.
SOUTH ELEVATION

JANUARY 2008

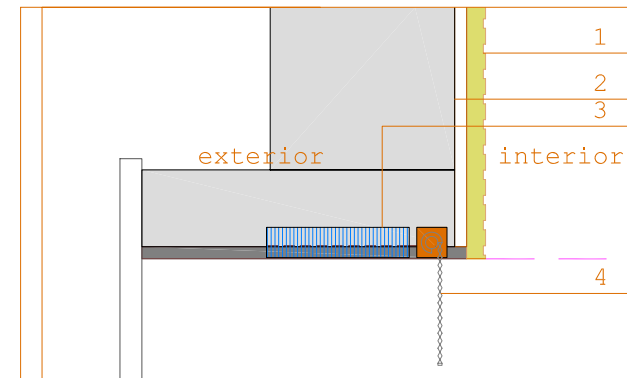


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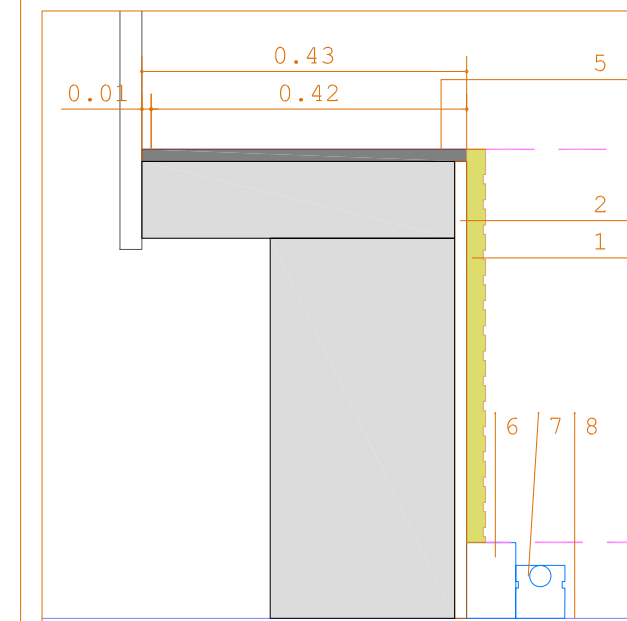


WINDOW AND INTERIOR
FINISH CONECTION
E:1/10

- 1.INTERIOR EAST CLADDDING-25MM DURALMOND PANEL.
- 2.CLADDING SECONDARY STRUCTURE-16MM OSB BOARDS.
- 3.WINDOW LIGHTING
- 4.BLINDS. 5.TREATED 16MM OSB BOARD. 6.INSTALLATION LONGITUDINAL UNIT. 7.LINEAR CONDUCTED FLOOR-CEILING LIGHT. LED'S. 8.INTERIOR GROUND FLOOR LEVEL



DETAIL 1

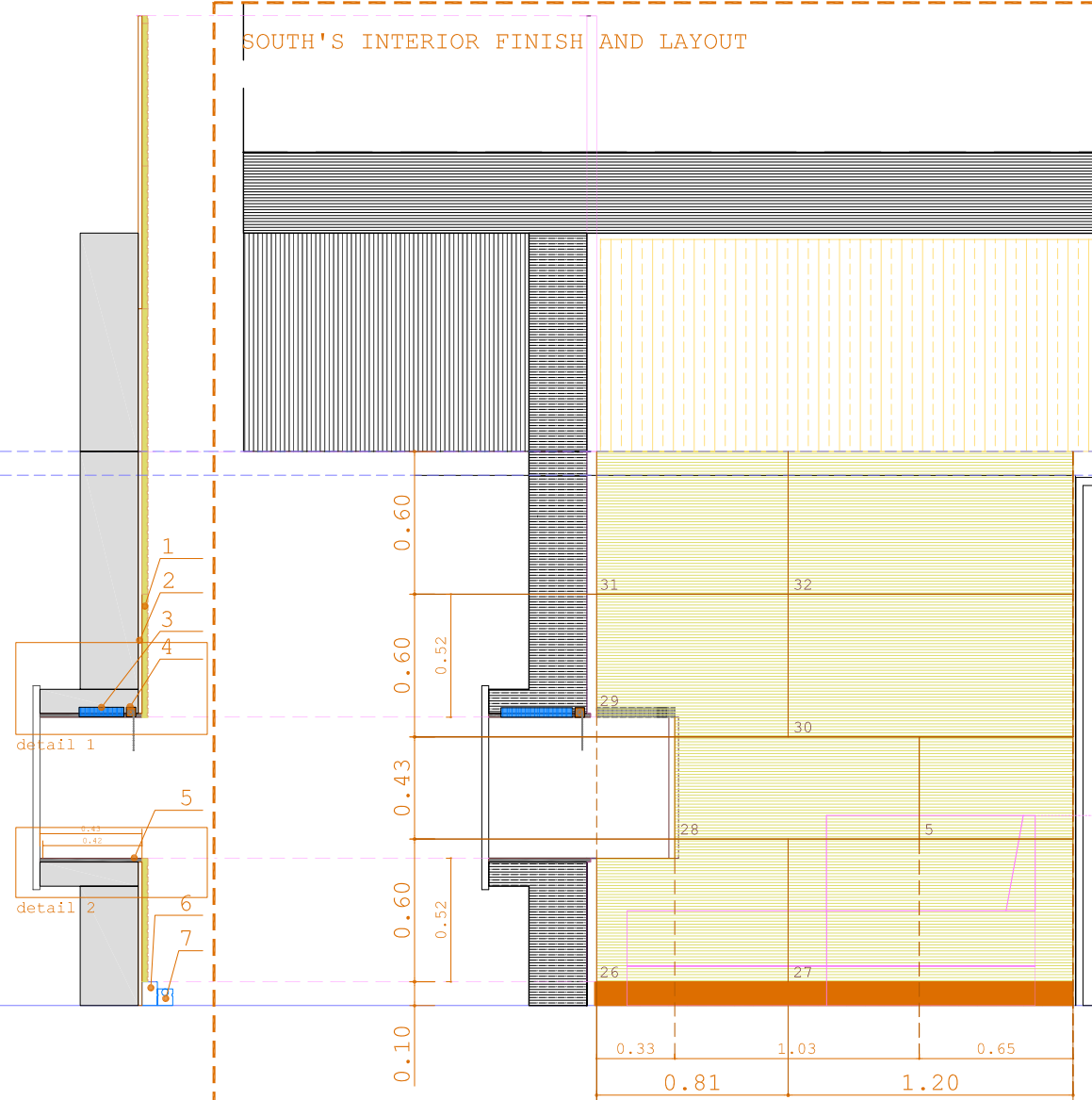


DETAIL 2

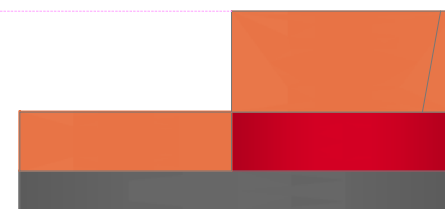
Structural Roof
Partition

Interior Ground
Level

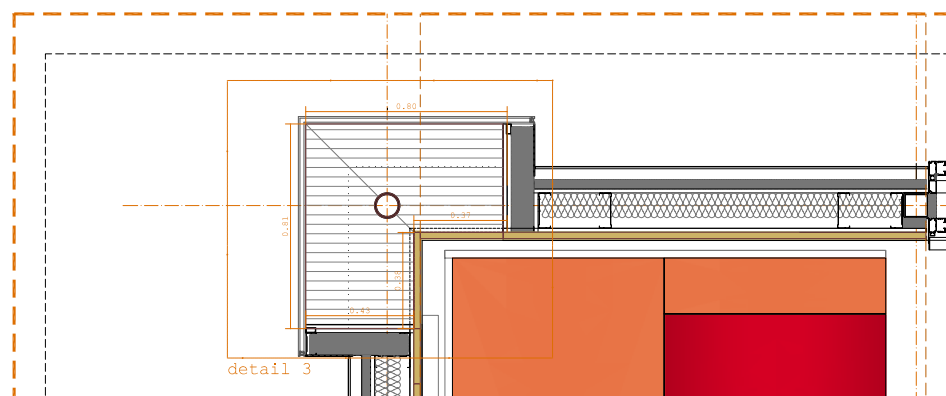
SOUTH'S INTERIOR FINISH AND LAYOUT



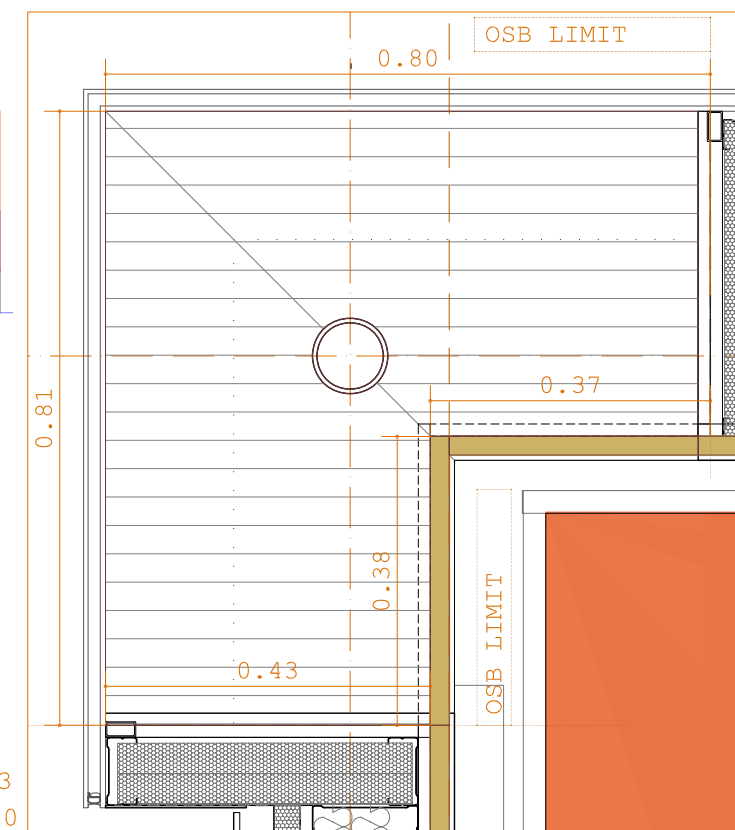
SOUTH'S COUCH LAYOUT



WINDOW AND LIVING
ROOM'S SOUTH PLAN
LAYOUT



DETAIL 3
E:1/10



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

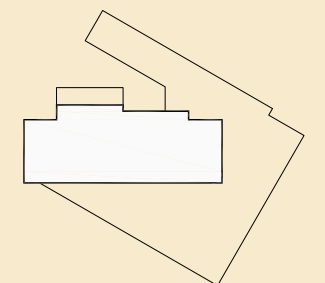
DECATHLETES

LETICIA ROJO BERMÚDEZ
EVA GÓMEZ APARICIO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/30



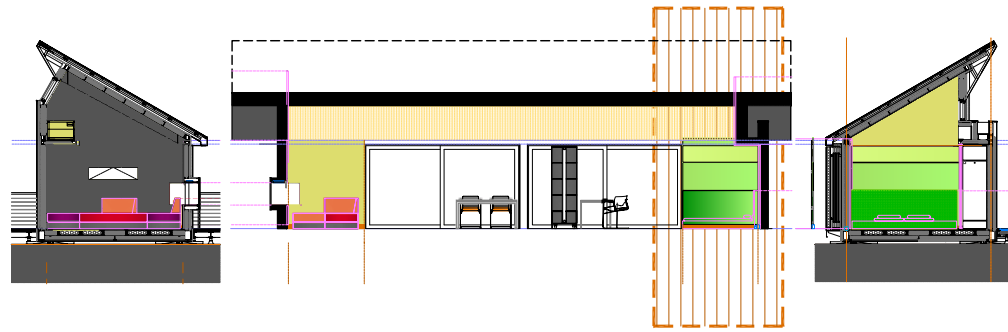
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INTERIOR FINISHES.
SOUTH ELEVATION

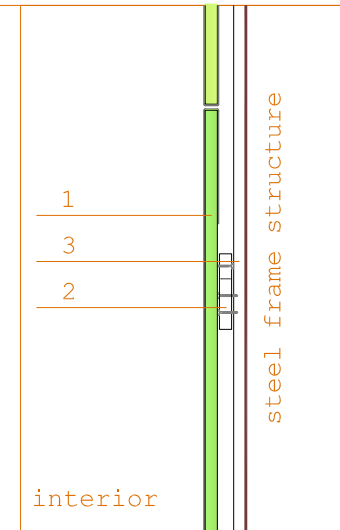
JANUARY 2008



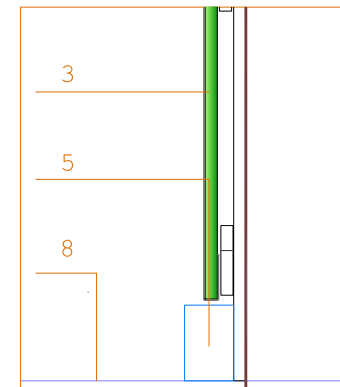
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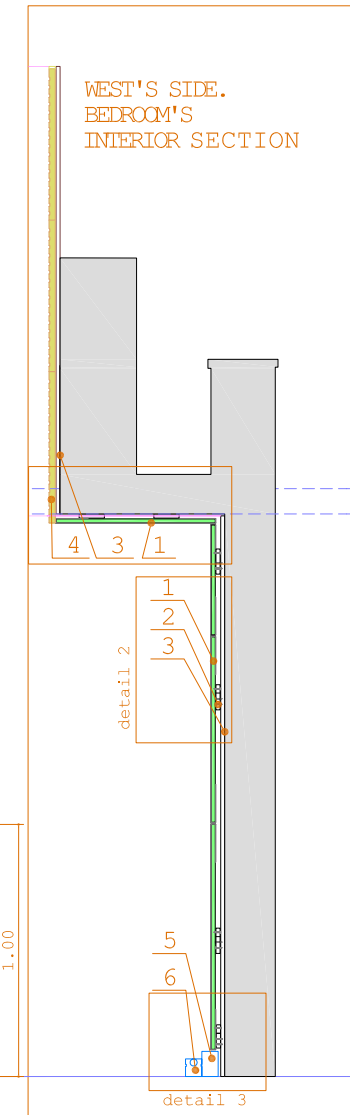
SOUTH'S INTERIOR FINISH DETAILS
E11/10



interior
DETAIL 4



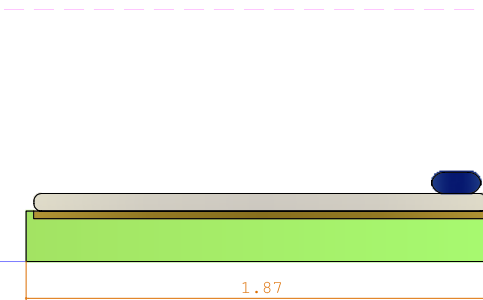
DETAIL 5



WEST'S SIDE.
BEDROOM'S
INTERIOR SECTION

see detail specifications
on plan I.13

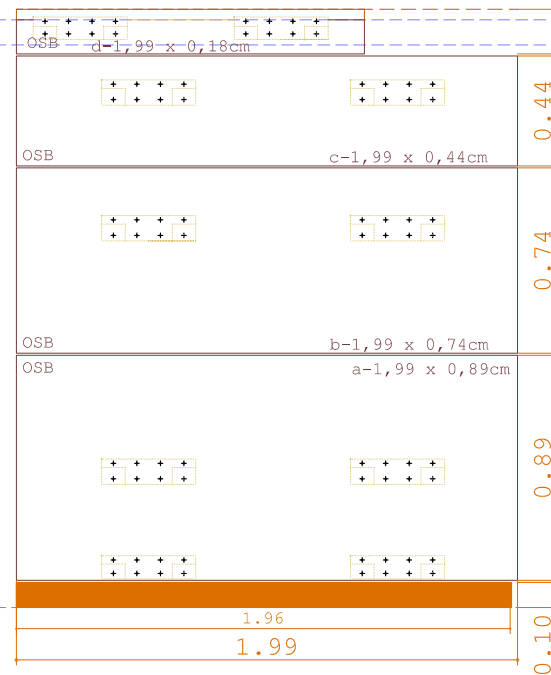
BED'S LAYOUT



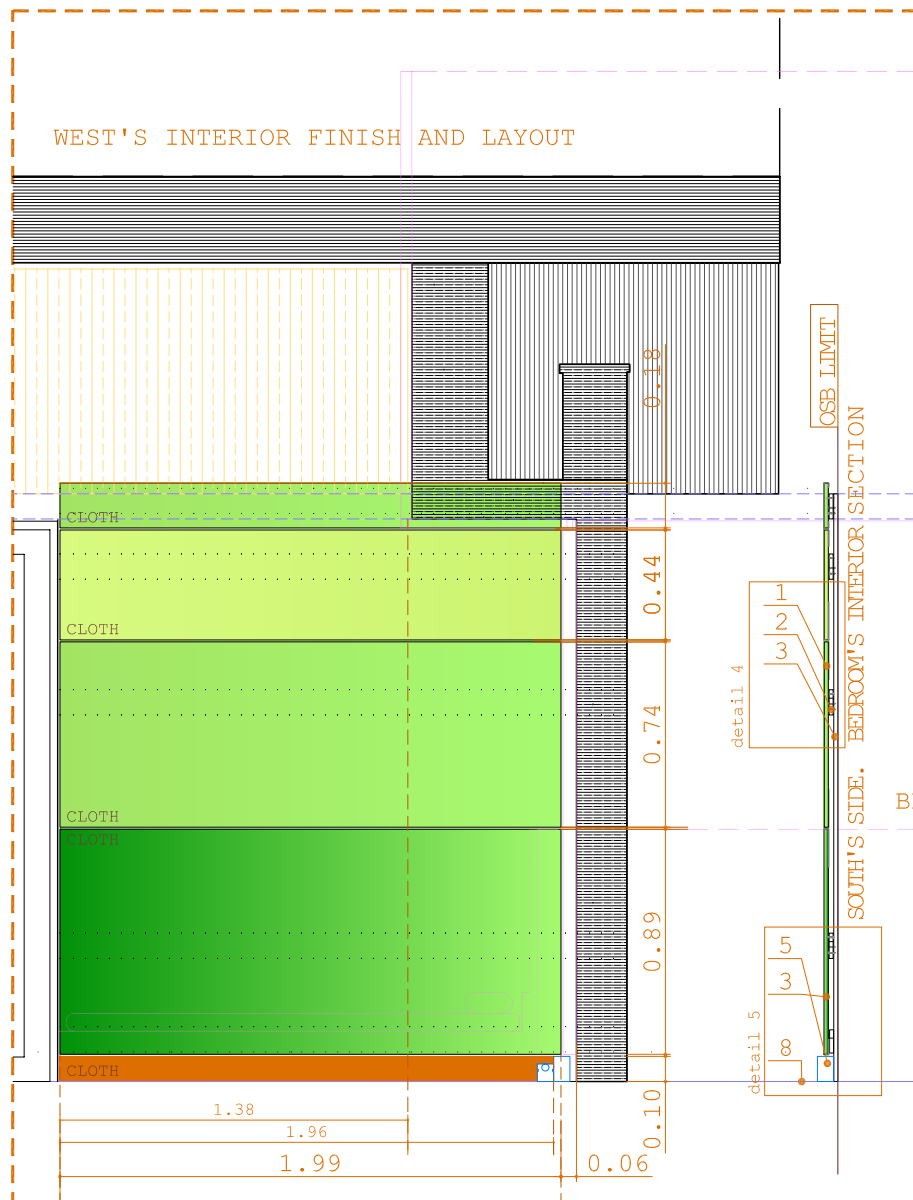
Structural Roof
Partition

Interior Ground
Level

BEDROOM'S SOUTH SIDE.
CLOTH'S OSB STRUCTURE

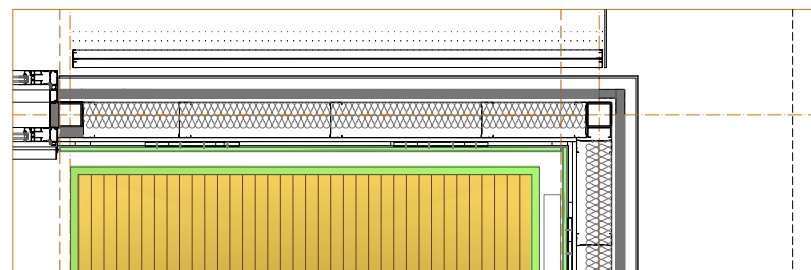


WEST'S INTERIOR FINISH AND LAYOUT



SOUTH'S SIDE. BEDROOM'S INTERIOR SECTION

BEDROOM'S SOUTH
ELEVATION LAYOUT



- 1.INTERIOR CLADDDING-16MM OSB BOARD + 100% GREEN COTTON CLOTH.
- 2.SECONDARY STRUCTURE-16MM LONGITUDINAL OSB BOARDS + SCREWS.
- 3.16 MM OSB BOARDS.
- 4.UPPER WEST CLADDDING-25MM DURALMOND PANEL.RECYCLABLE GROUND ALMOND-SHELL.
- 5.INSTALLATION LONGITUDINAL UNIT.
- 6.LINEAR CONDUCTED FLOOR-CEILING LIGHT.LED'S.
7. STRUCTURAL ROOF PARTITION.
8. INTERIOR GROUND FLOOR LEVEL

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

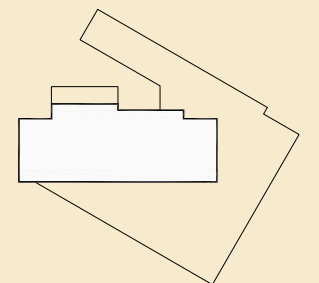
DECATHLETES

LETICIA ROJO BERMÚDEZ
EVA GÓMEZ APARICIO
TEAM DESIGNERS

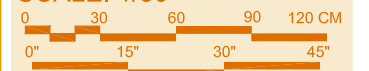
BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/30



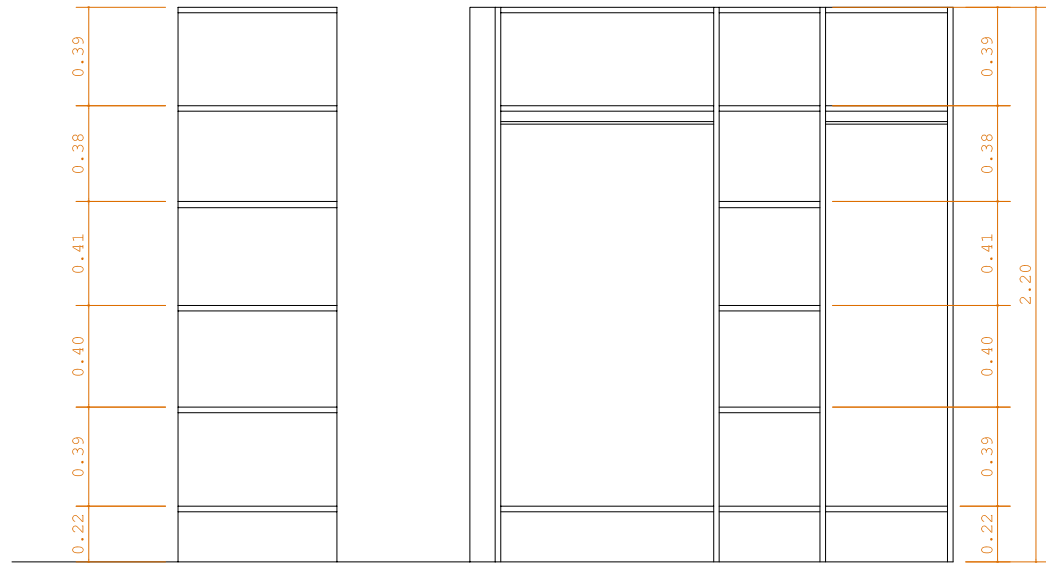
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INTERIOR FINISHES.
SOUTH ELEVATION

JANUARY 2008

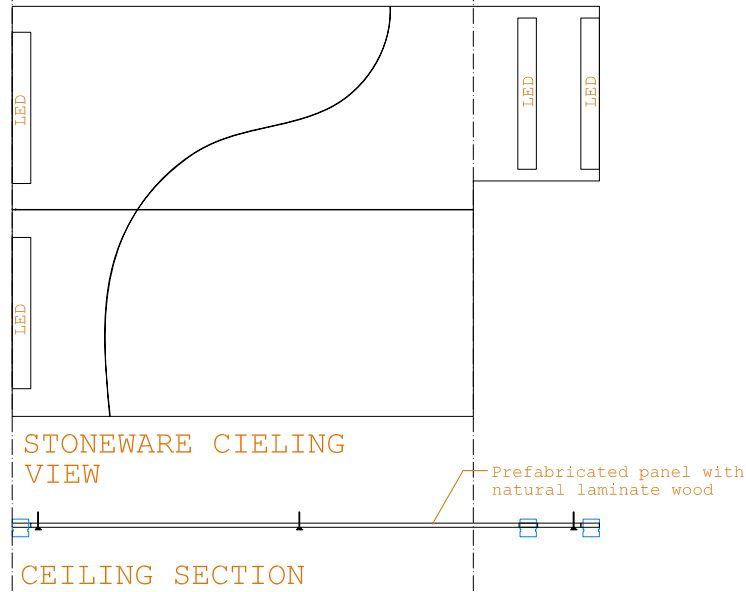


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25 OF 53



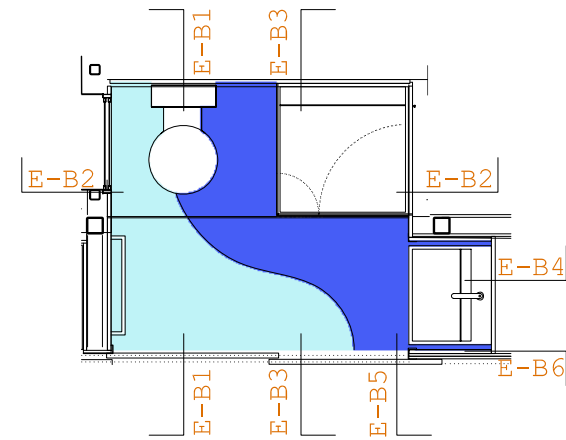
SECTION

CLOSET ELEVATION

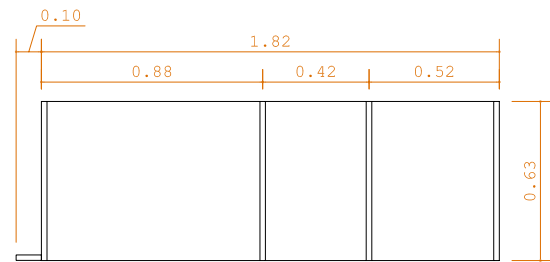


STONEWARE CIELING VIEW

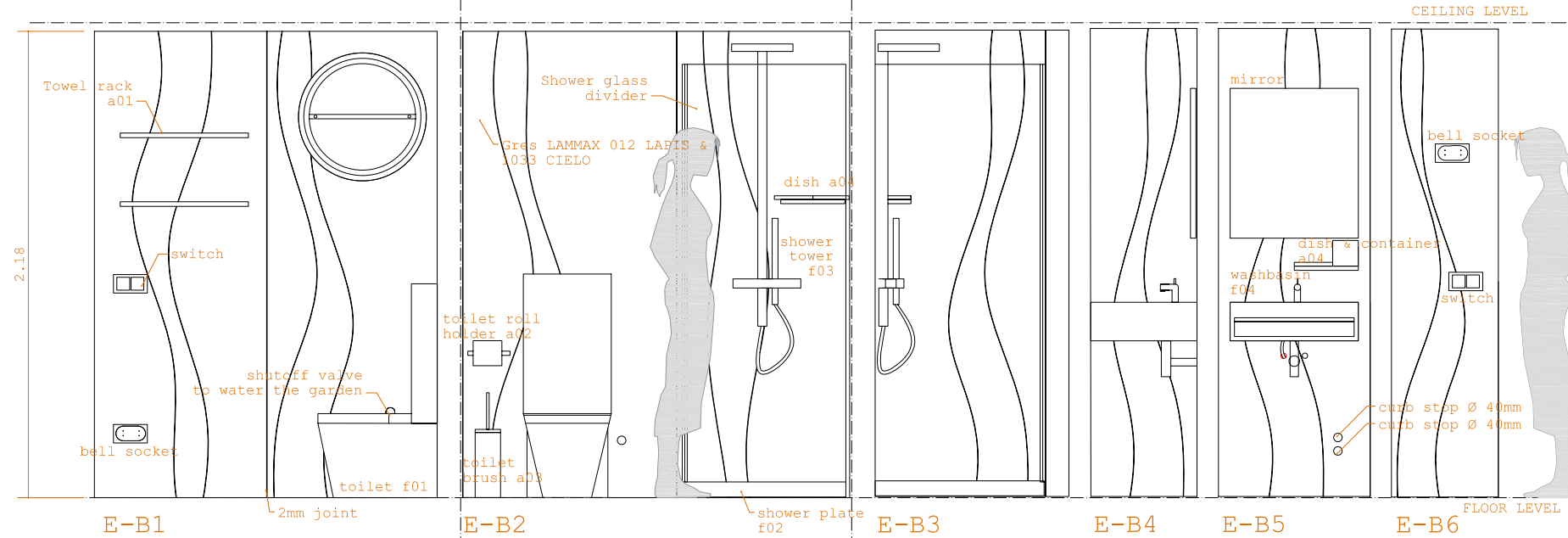
CEILING SECTION



KEY PLAN



CLOSET PLAN



E-B1

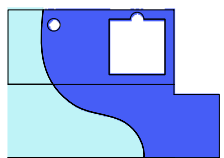
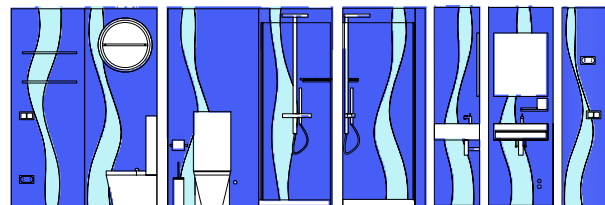
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E-B3

E-B4

E-B5

E-B6



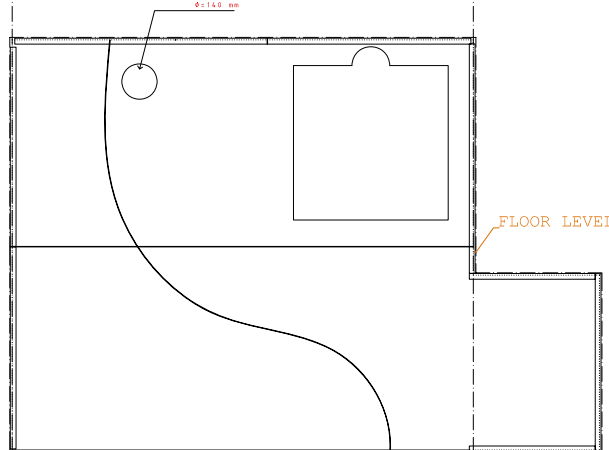
ELEVATIONS COLOR MAP

BATHROOM FURNITURE & ACCESORIES

f01 TOILET by DURAVIT Starck 2 #016301 735 x 340 mm 40 kg Sanitary ceramics with the special WonderGliss surface finish will remain clean and attractive-looking for a long time to come

f02 SHOWER TRAY by COSMIC 739 05 19 Dimensions:900x900mm White shower tray made o Bathstone, aluminum hydroxide and synthetic resin

f03 SHOWER TOWER by GROHE Rainshower® System thermostat with control Aquadimmer integrated metallic force arm 1,75 m minimum caudal 71./ min. chrome



STONEWARE FLOOR PLAN

f04 WASHBASIN by COSMIC Liquid series Capacity: 6kg. Dimensions: 600x500x130mm

a01 TOWEL RACK by COSMIC 229 01 64 Dimensions: 600x85x20mm chrome

a02 TOILET ROLL HOLDER 229 01 58 Dimensions: 160x85mm chrome

a03 PAPER HOLDER 229 01 58 Dimensions: 160x85mm chrome

a04 DISH 229 05 33 Dimensions: 180x120 m

COORDINATOR

SERGIO VEGA SANCHEZ PROJECT MANAGER

ALFONSO GARCIA SANTOS ARCH. & CONST. MANAGER

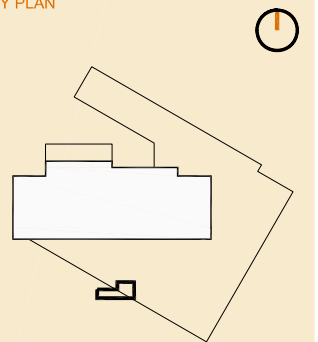
DECATHLETES

EVA GÓMEZ APARICIO TEAM DESIGNERS

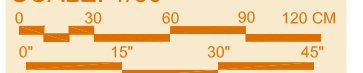
BEATRIZ ARRANZ DESIGN COORDINATOR

EDWIN RODRIGUEZ GENERAL COORDINATOR

KEY PLAN



SCALE: 1/30



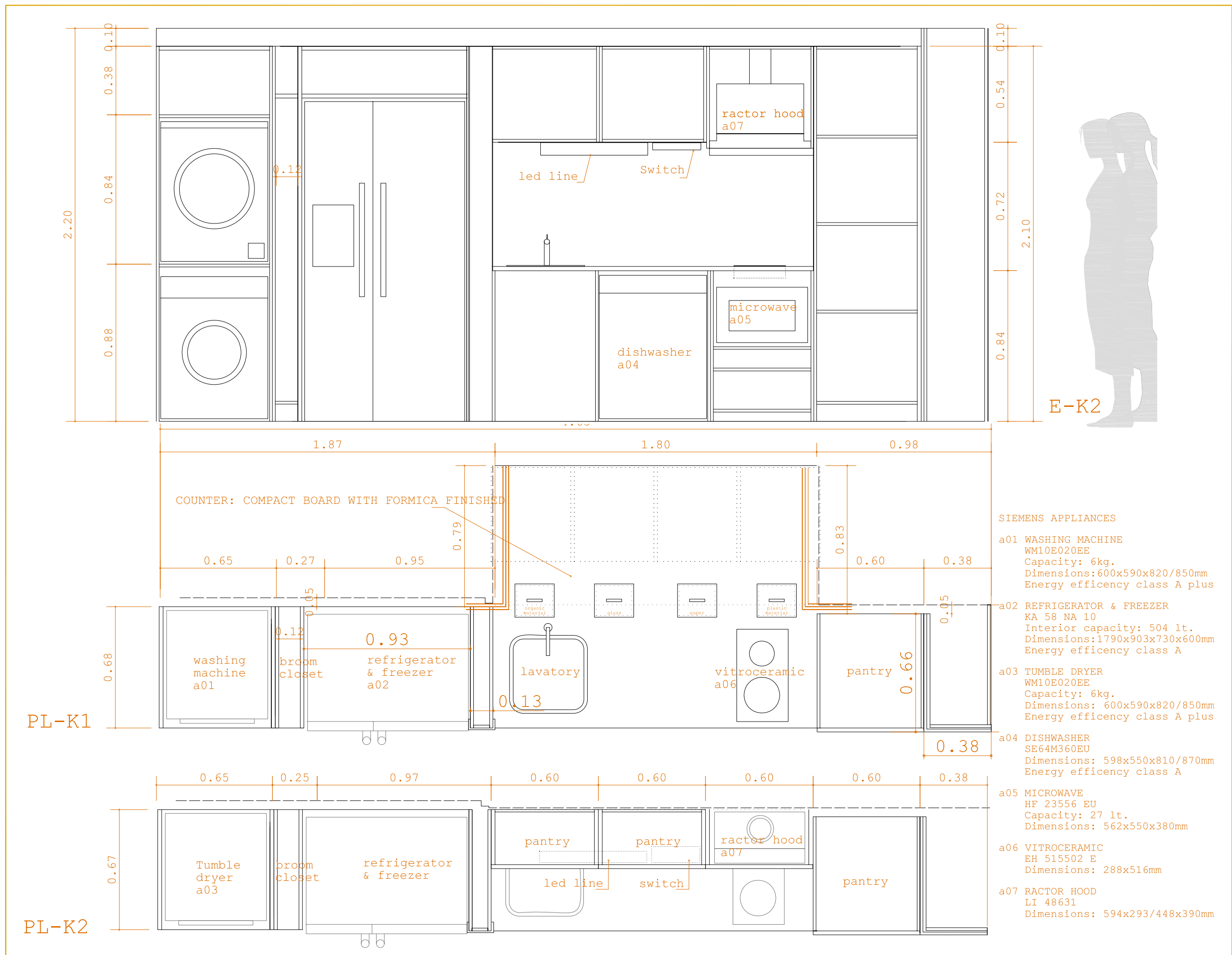
TITLE

BATHROOM & CLOSET FINISHES & DETAILS

JANUARY 2008



I.18 27 OF 53



UPM
SOLAR DECATHLON 2007

Universidad Politécnica de Madrid

COORDINATOR
SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES
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EVA GÓMEZ APARICIO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

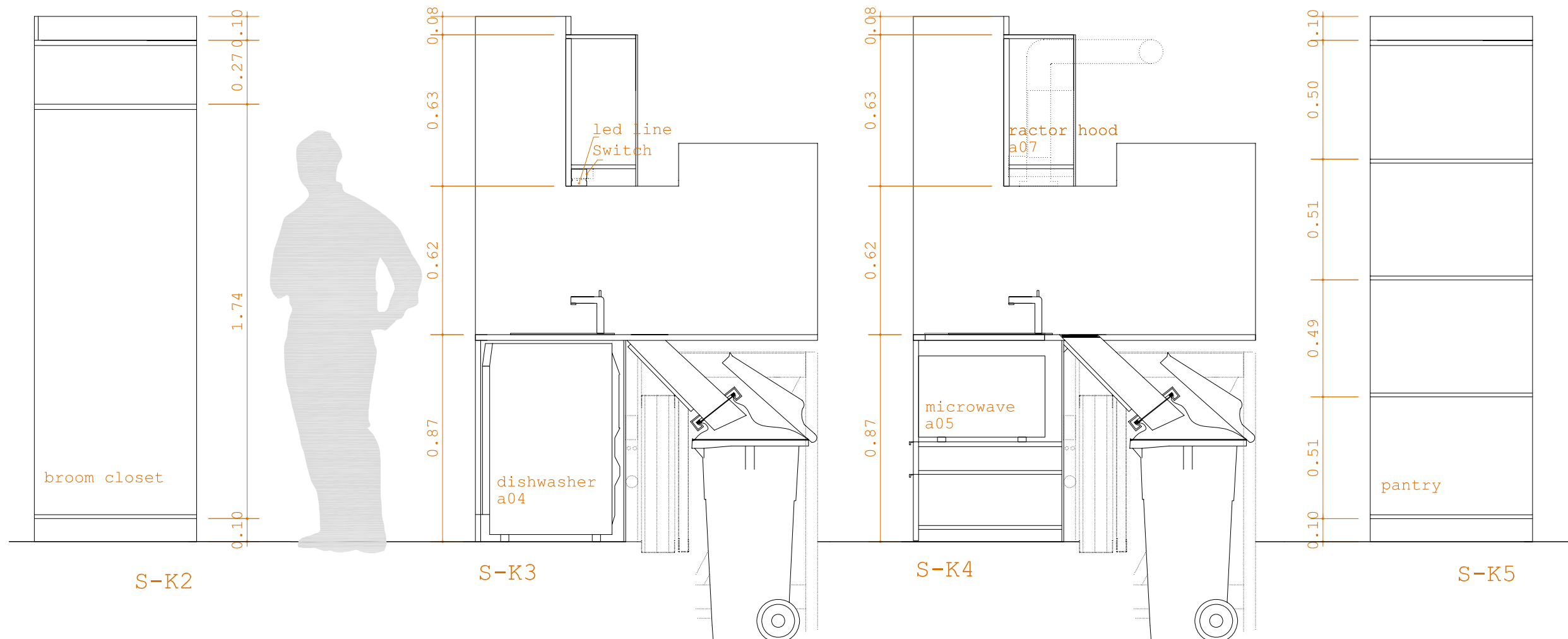
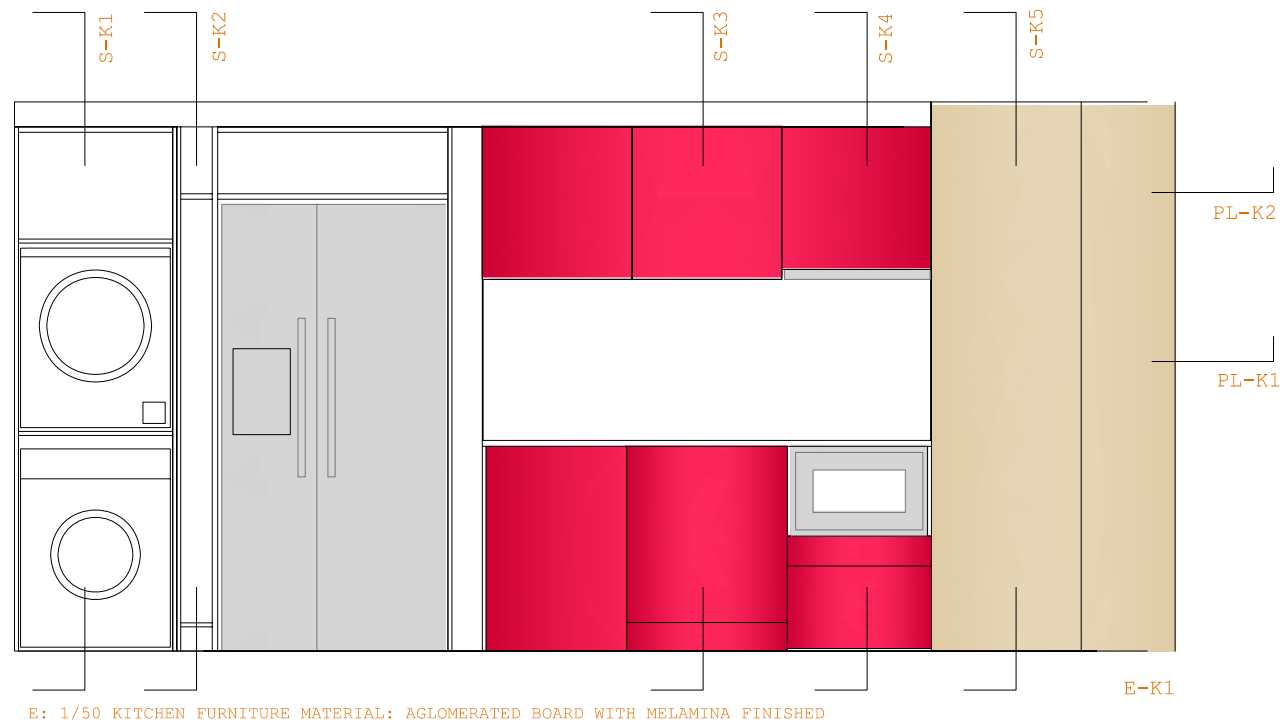
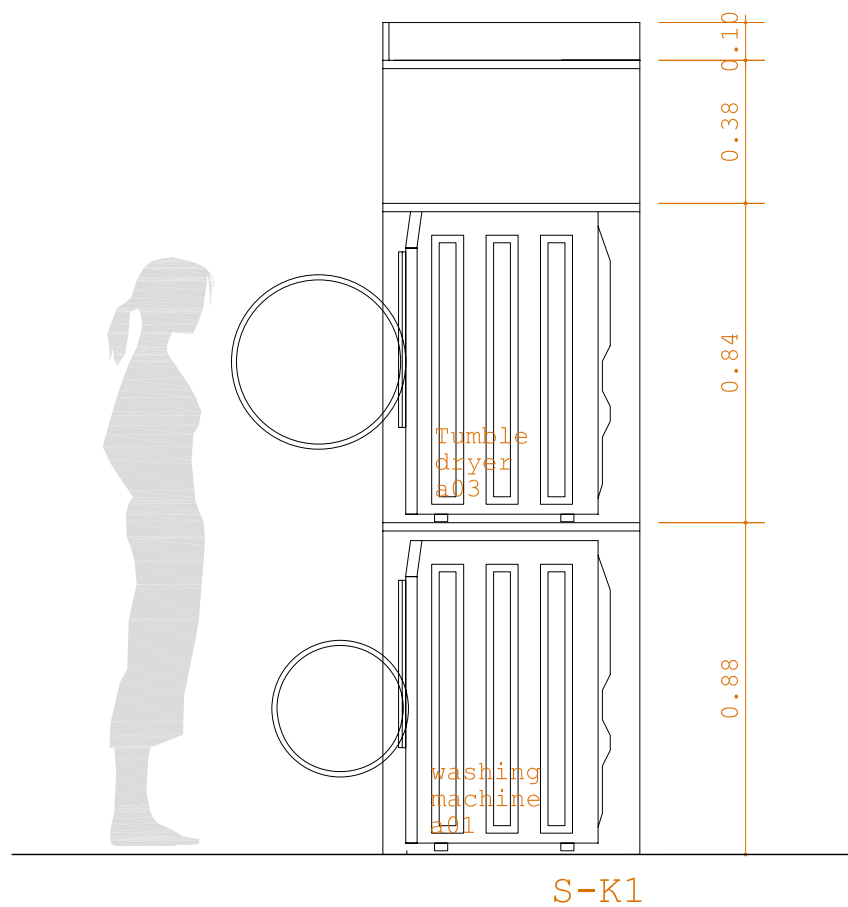
KEY PLAN

SCALE: 1/20
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0" 10" 20" 30"

TITLE
KITCHEN 1

JANUARY 2008

1.20
28 OF 53



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

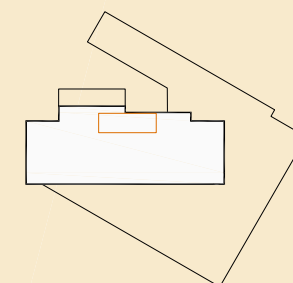
DECATHLETES

EVA GÓMEZ APARICIO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/20



TITLE

KITCHEN 2






















JANUARY 2008












1.21
29 OF 53

STRUCTURAL LEGEND

HOUSE










A	2 UPN 260		BEAM
B	150x100x6		BEAM STEEL TUBE
C	150x100x5		BEAM STEEL TUBE
D	100x100x5		BEAM STEEL TUBE
E	120x60x4		BEAM STEEL TUBE
F	180x100x6		BEAM STEEL TUBE
G	160x120x5		BEAM STEEL TUBE
H	Ø 100x5		PILLAR STEEL TUBE
I	100x100x6		STEEL ANGLE
J	50x50x6		STEEL ANGLE
K	25x25x4		STEEL ANGLE
L	80x80x8		STEEL ANGLE
M	300x180x8		STEEL ANGLE
N	160x100x6		STEEL PLATE
O	200x100x10		STEEL PLATE
P	0,05mm		TILT SADDLES, CAT-10
Q			HYDRAULIC JACK
R	U 140/50x1.2mm		STEEL FRAME
S	U 125/50x1.2mm		STEEL FRAME
T	C 125/50x1.2mm		STEEL FRAME
U	C 140/50x1.2mm		STEEL FRAME

TECHNICAL PANNIER

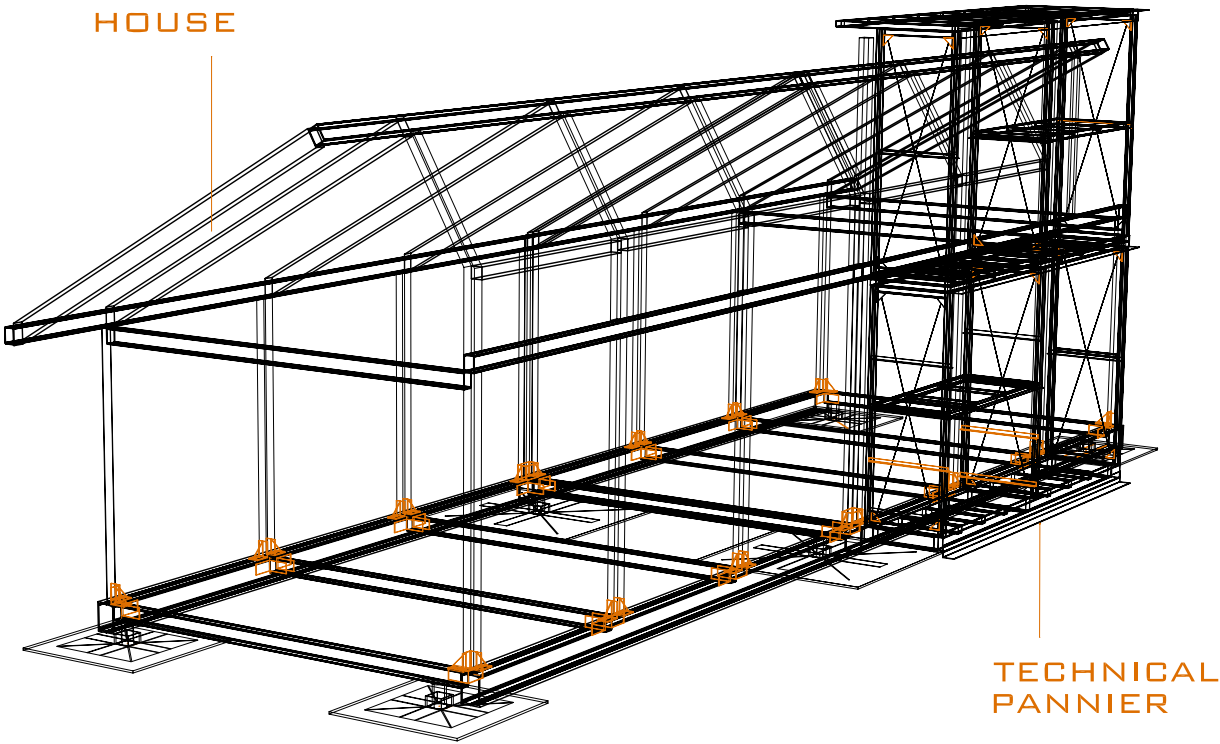
V	60x60x5		BEAM STEEL TUBE
W	60x60x3		BEAM STEEL TUBE
X	60x60x2		BEAM STEEL TUBE
Y	40x40x3		BEAM STEEL TUBE
Z	80x80x3		BEAM STEEL TUBE
A'	150x100x6		BEAM STEEL TUBE
B'	40x40x4		STEEL ANGLE
C'	50x25x5		STEEL ANGLE
D'	150x100x10		STEEL PLATE

NOTE:
ALL DIMENTIONS ON MILIMETERS

TECHNICAL PANNIER

V	60x60x5		BEAM STEEL TUBE
W	60x60x3		BEAM STEEL TUBE
X	60x60x2		BEAM STEEL TUBE
Y	40x40x3		BEAM STEEL TUBE
Z	80x80x3		BEAM STEEL TUBE
A'	150x100x6		BEAM STEEL TUBE
B'	40x40x4		STEEL ANGLE
C'	50x25x5		STEEL ANGLE
D'	150x100x10		STEEL PLATE

NOTE:
ALL DIMENTIONS ON MILIMETERS



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

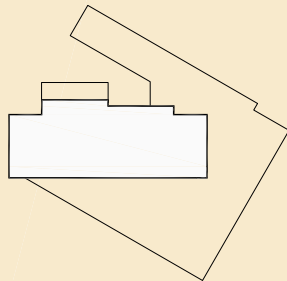
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

TITLE
STRUCTURAL
LEGEND

JANUARY 2008



S.00
30 OF 53

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

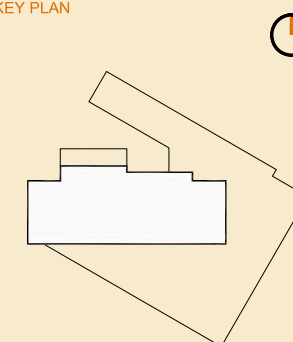
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



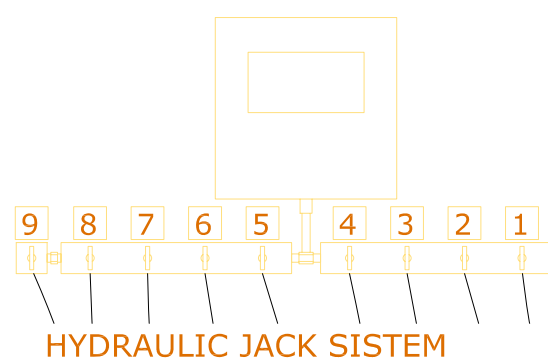
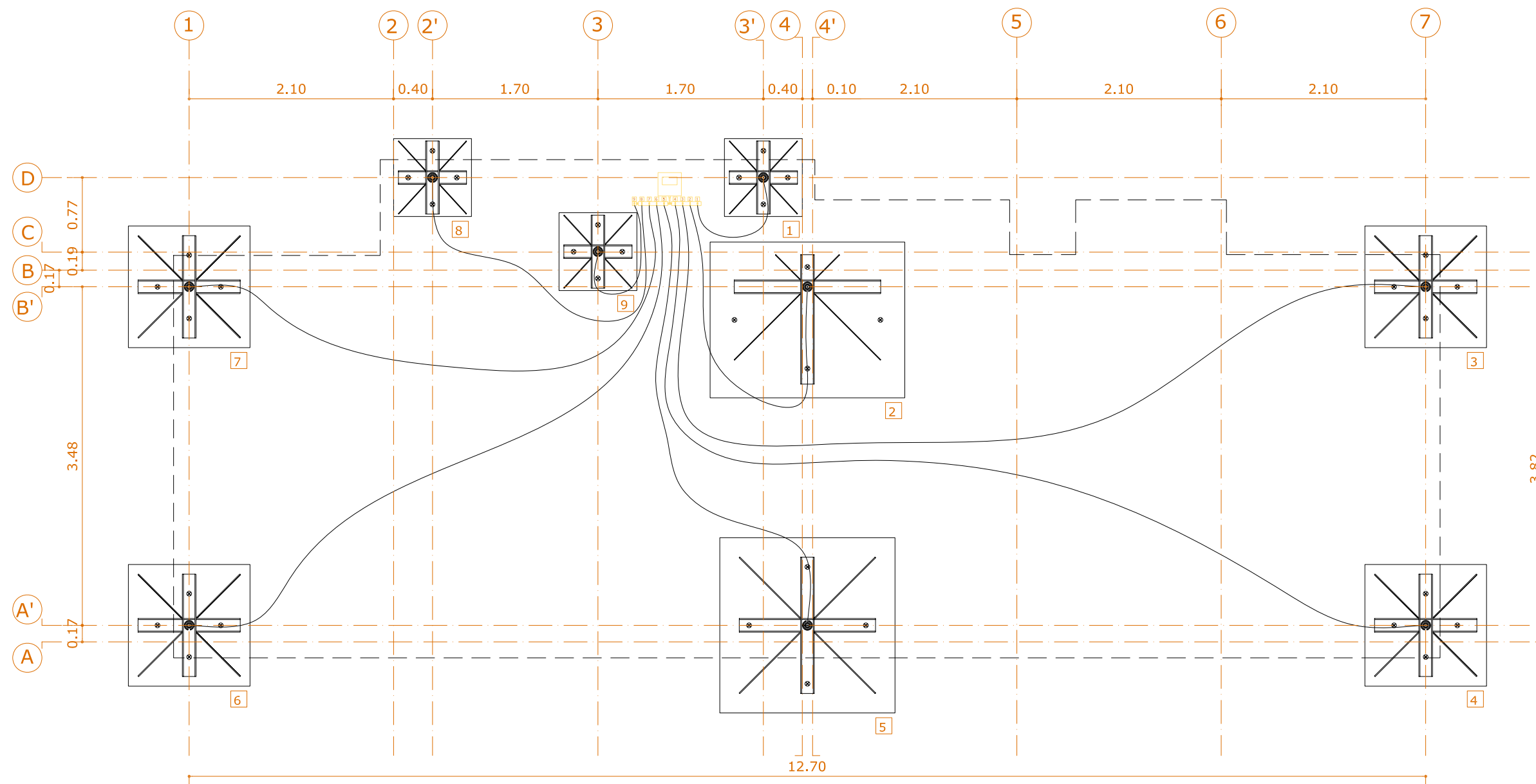
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HYDRAULIC JACK
SISTEM

JANUARY 2008



S.02
31 OF 53



ELECTRIC PUMP



GAUGE ACCESSORIES



HIDRAULIC JACK

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

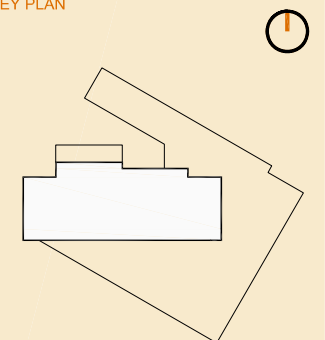
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/5



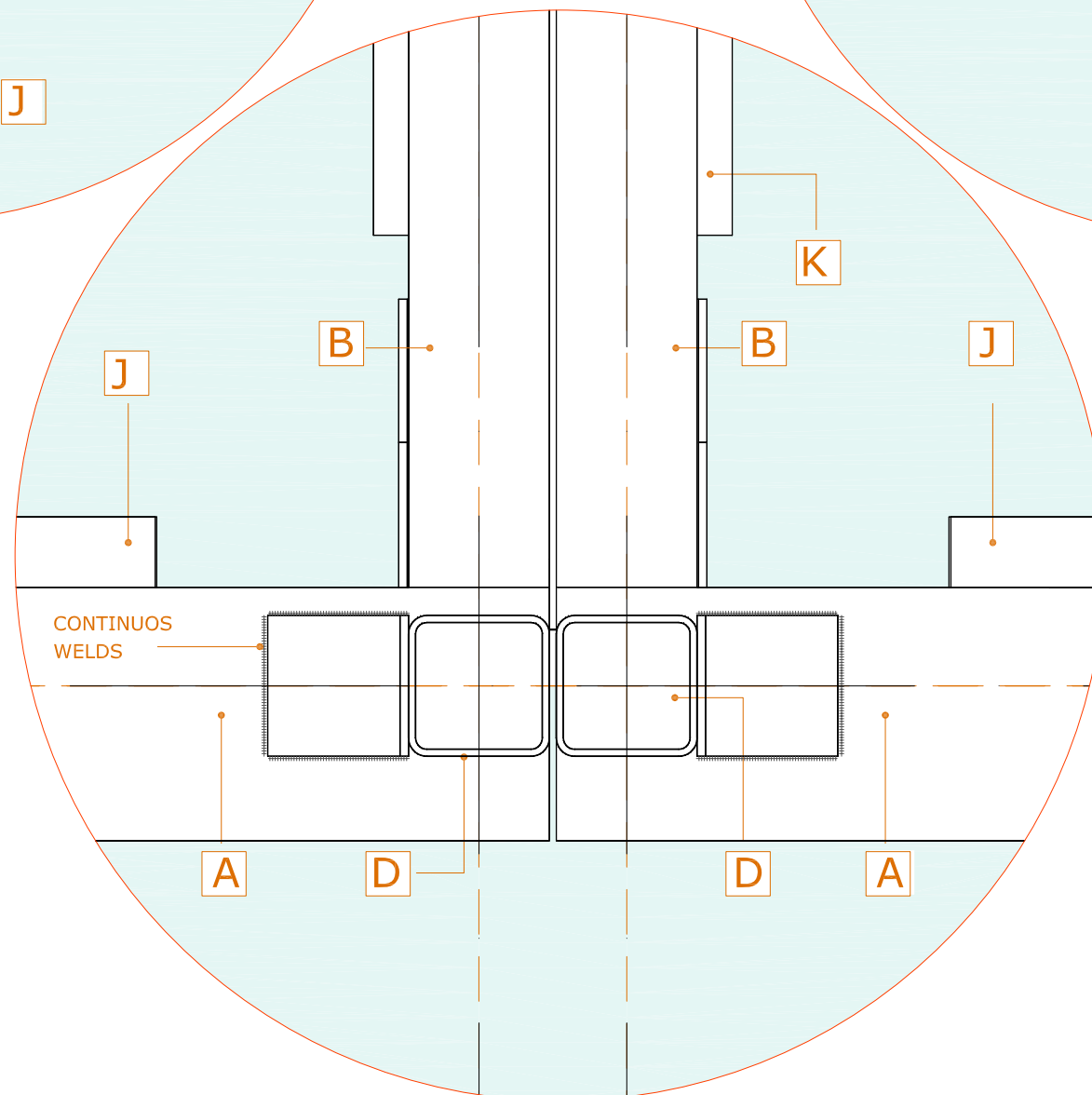
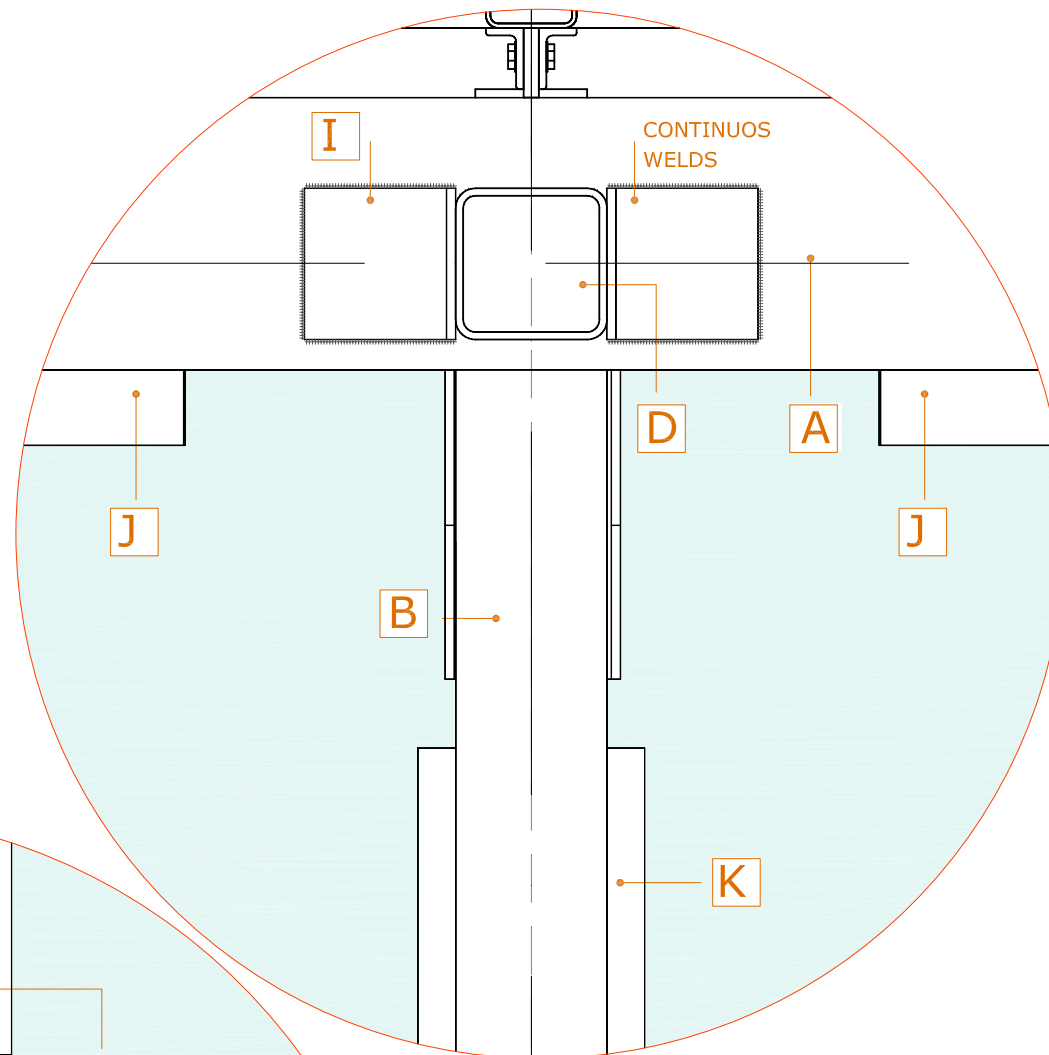
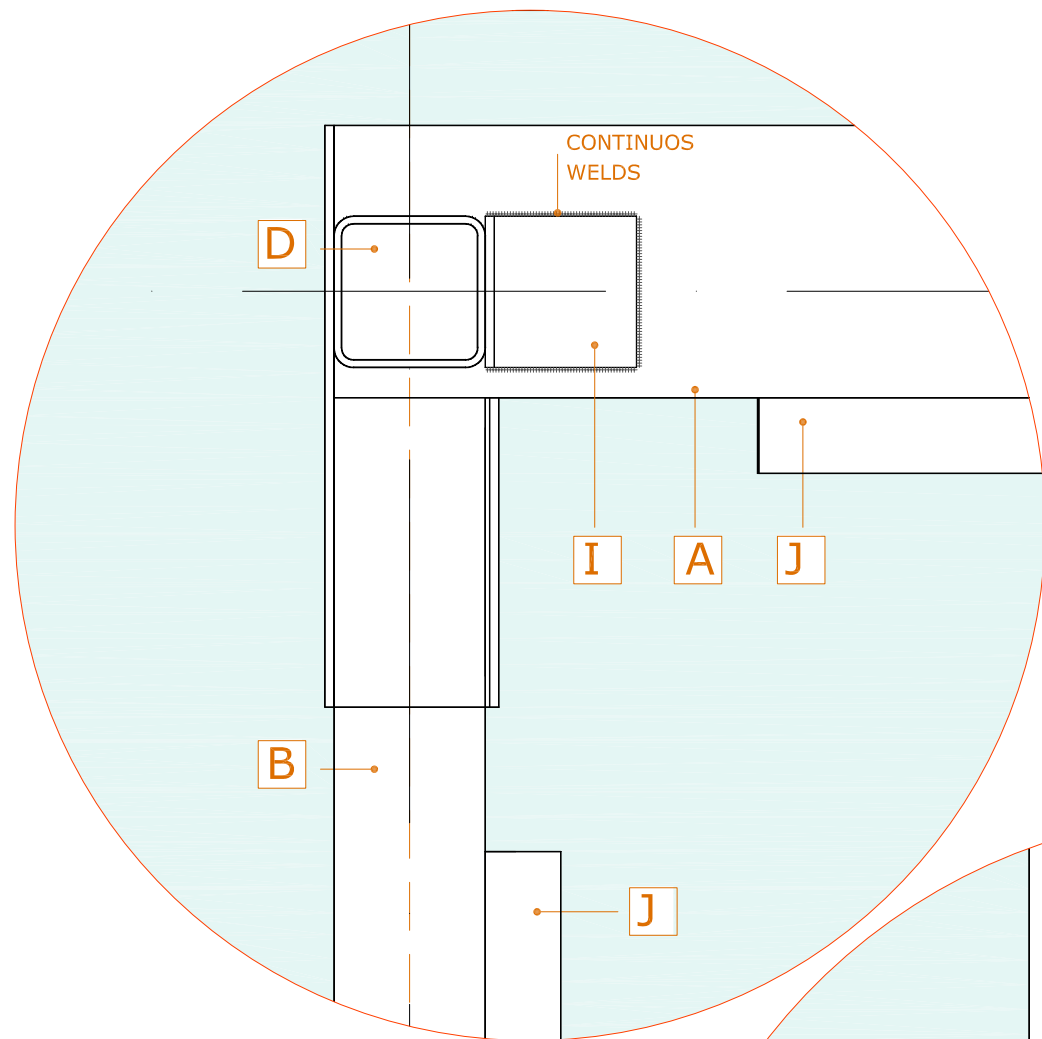
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FLOOR MAIN
STRUCTURE DETAIL

JANUARY 2008



S.05
32 OF 53



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



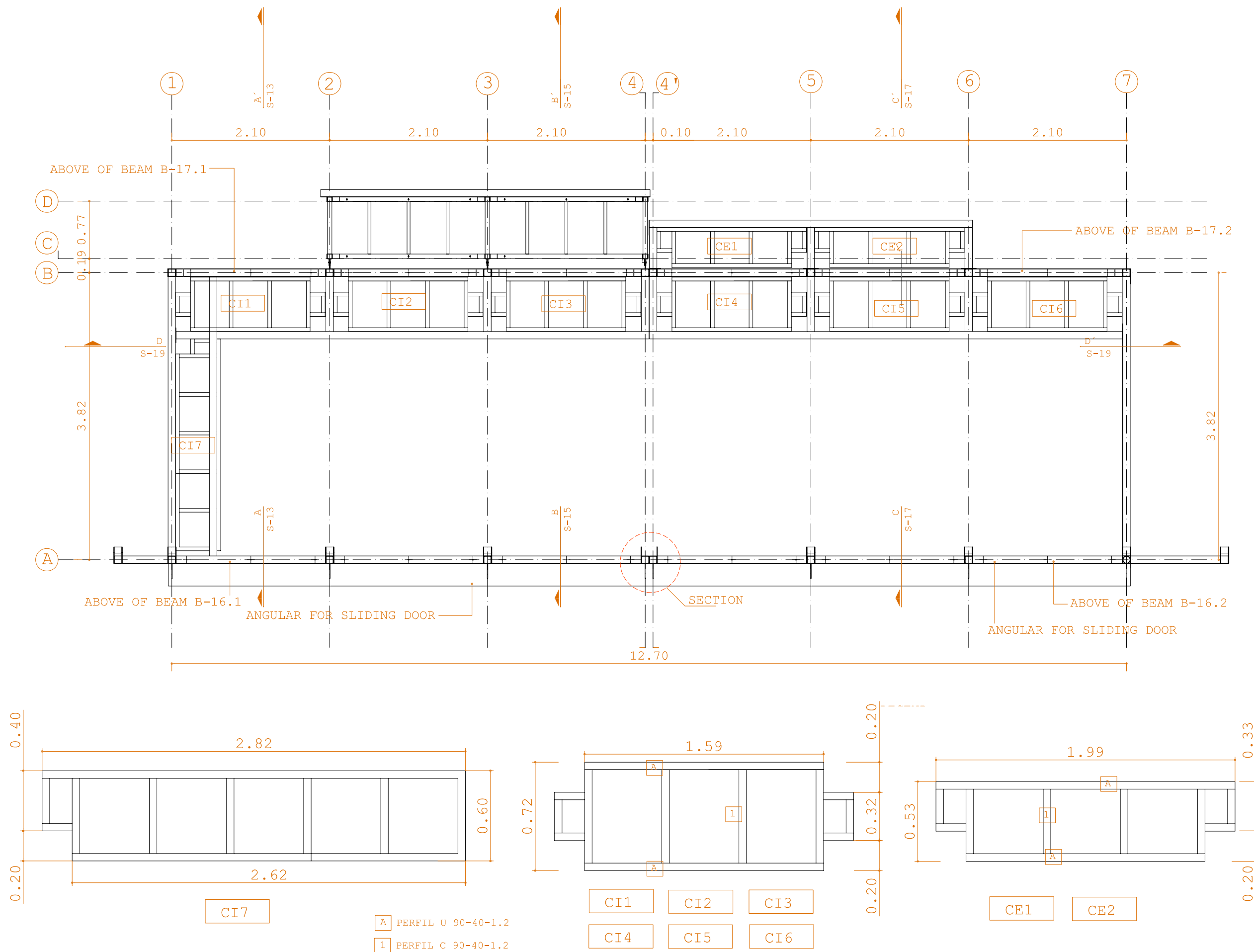
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LEVEL 2.4 MTS
STEEL FRAME

JANUARY 2008



S.09
33 OF 53



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



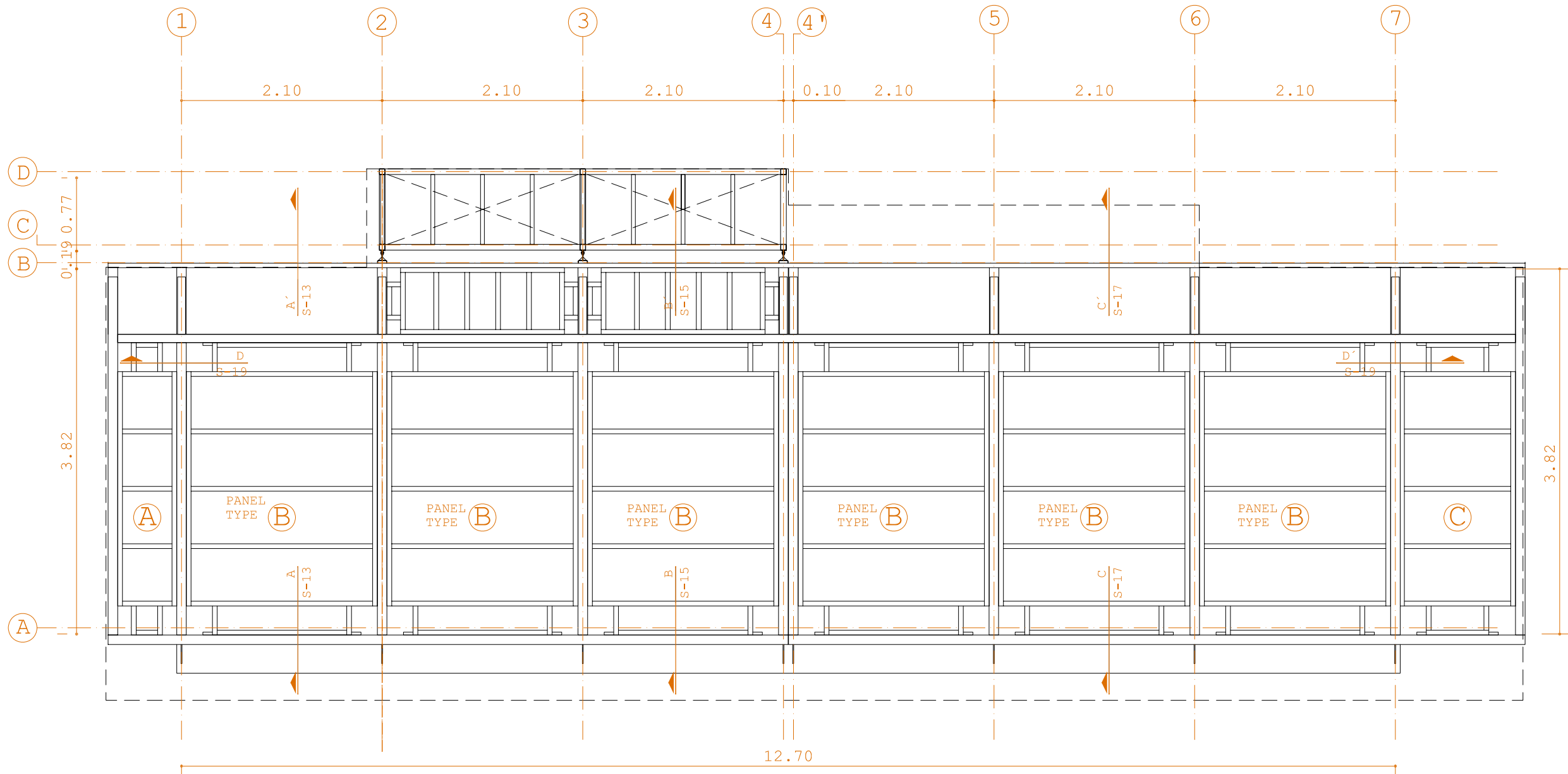
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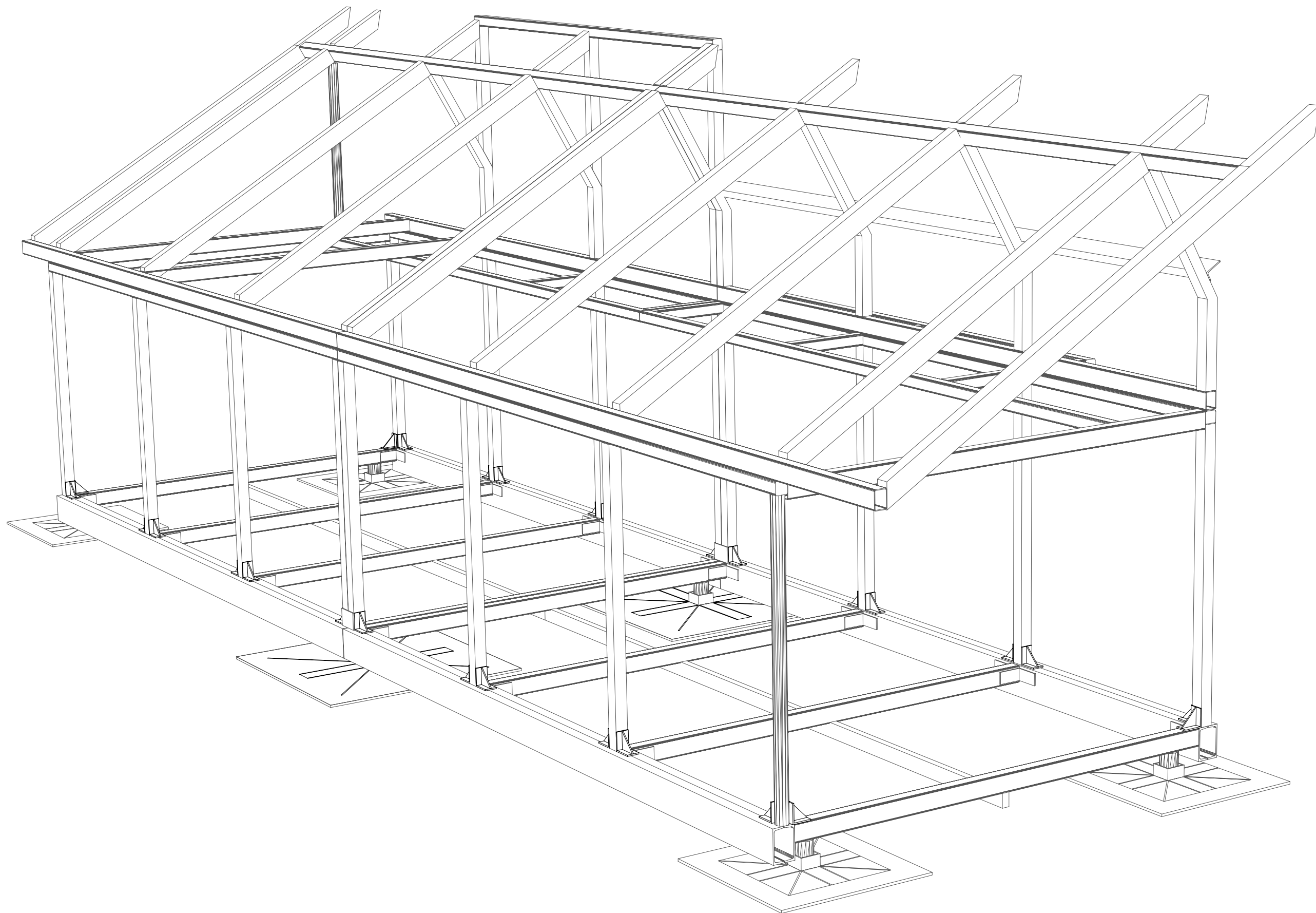
ROOF FRAMING
PLAN

JANUARY 2008



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34 OF 53





COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

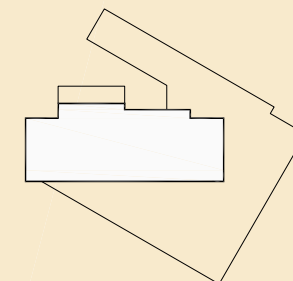
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



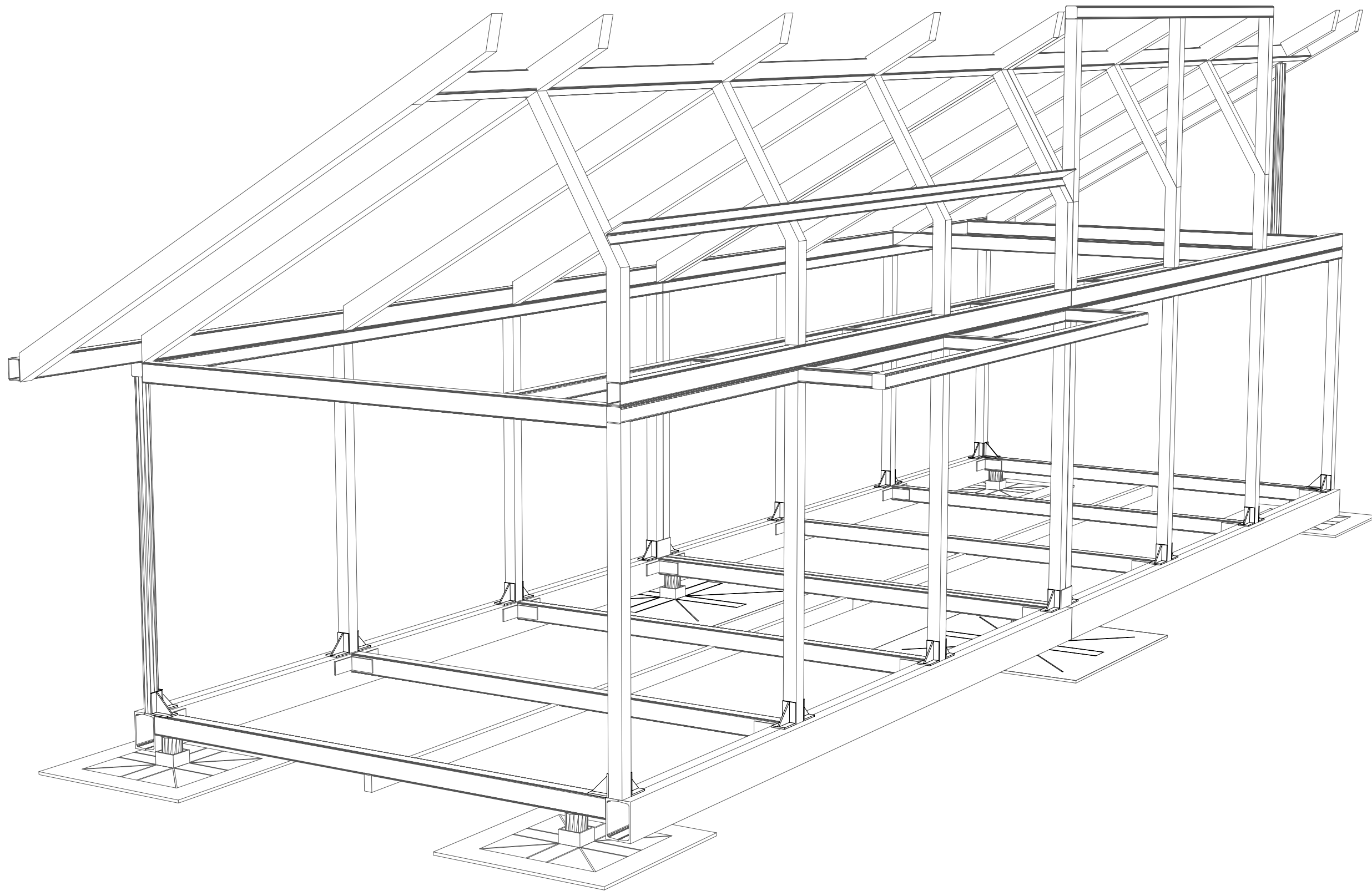
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ISOMETRIC

JANUARY 2008



S.23
35 OF 53



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

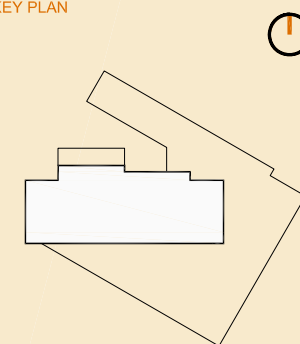
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



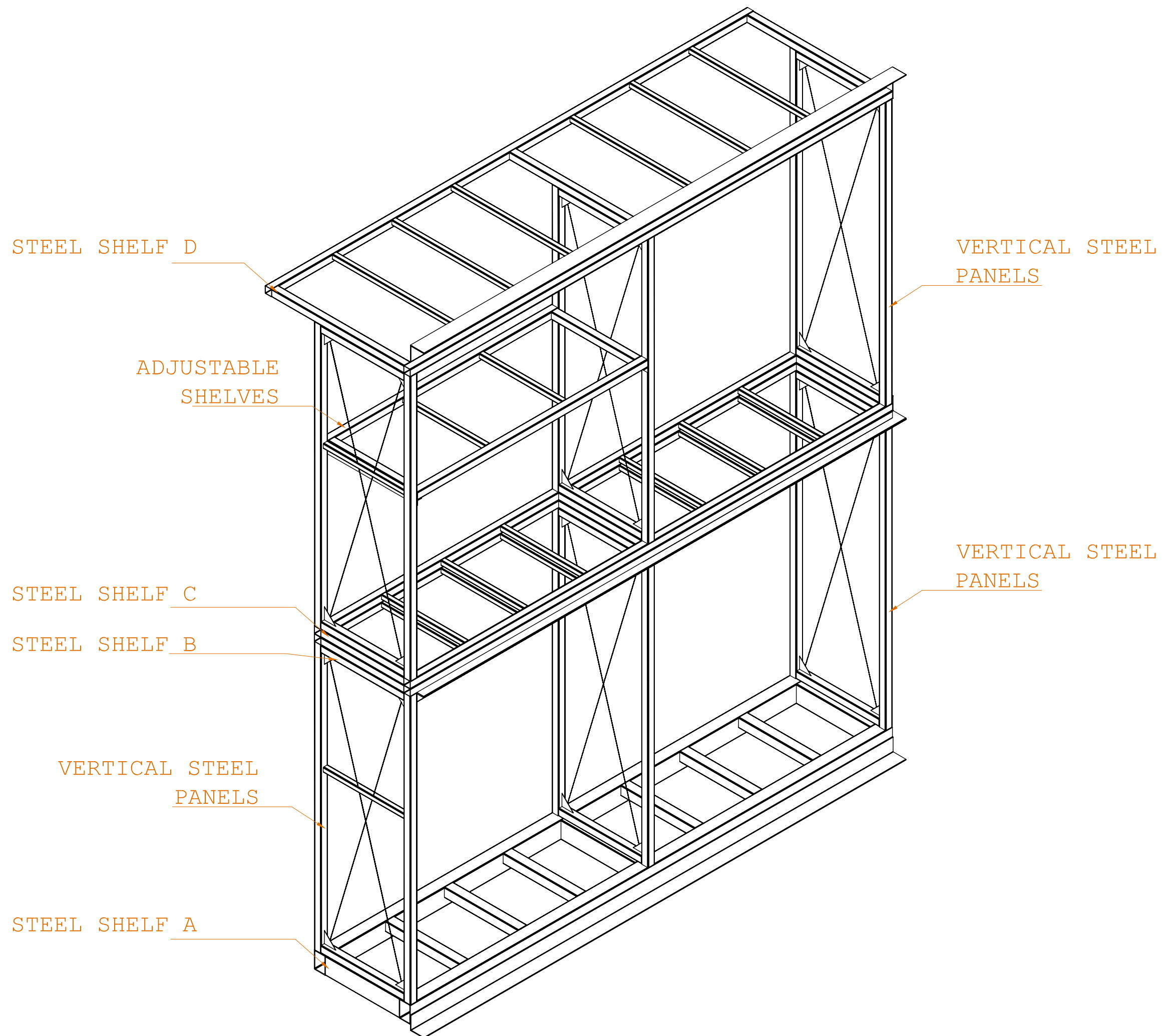
SCALE: NOT TO SCALE

TITLE
ISOMETRIC

JANUARY 2008



S.24
36 OF 53



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

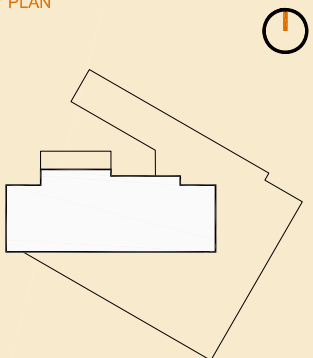
DECATHLETES

JOSUÉ CÁRDENAS
LETZAI RUIZ VALERO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/25

0	25	50	75	100 CM
0"	10"	20"	30"	40"

TITLE
TECHNICAL PANNIER
ISOMETRIC

JANUARY 2008

SERGIO VEGA SANCHEZ
PROJECT MANAGER

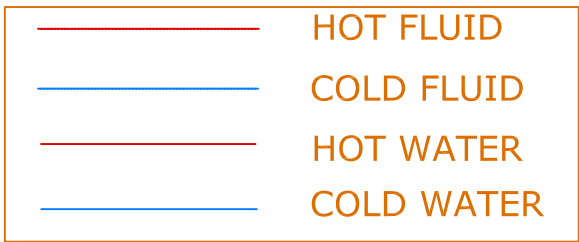
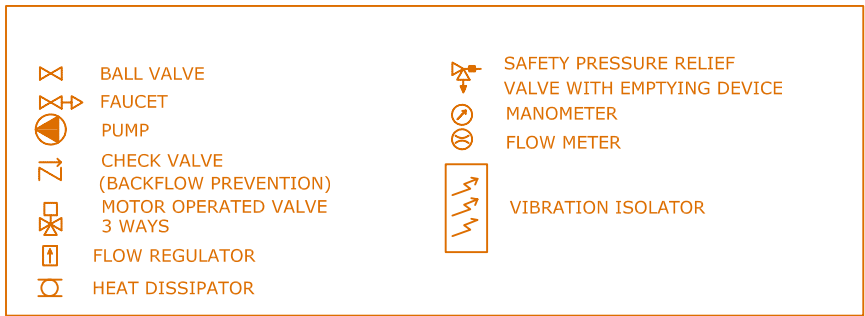
LUCIA LUCAS
TEAM DESIGNERS

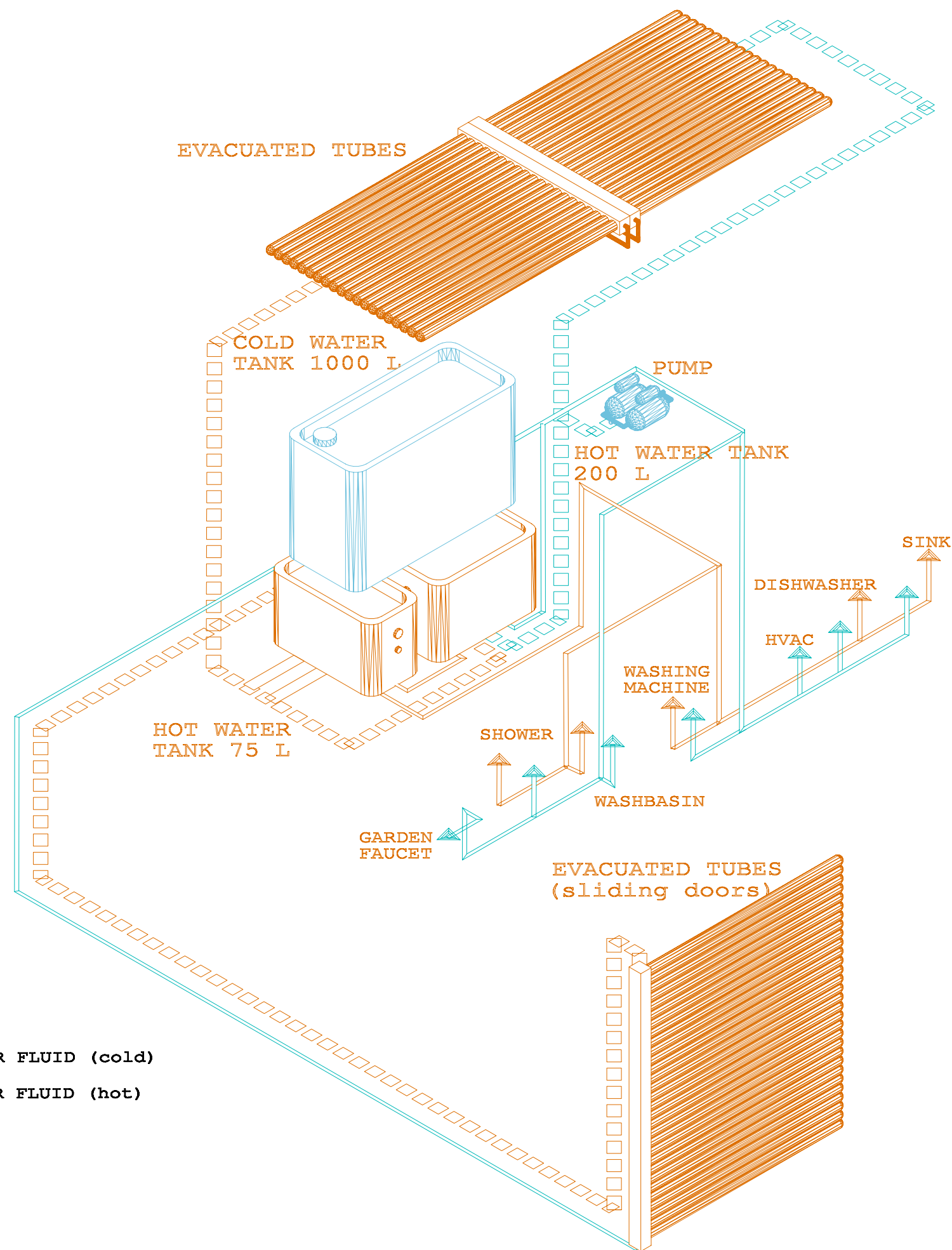
EDWIN RODRIGUEZ
GENERAL COORDINATOR



PLUMBING LAYOUT PLAN

P.01
38 OF 53





- LEGEND**
- HEAT TRANSFER FLUID (cold)
 - HEAT TRANSFER FLUID (hot)
 - COLD FLUID
 - HOT FLUID

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

ANA M. CLIMENTS
FERNANDINA FERNANDEZ
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN

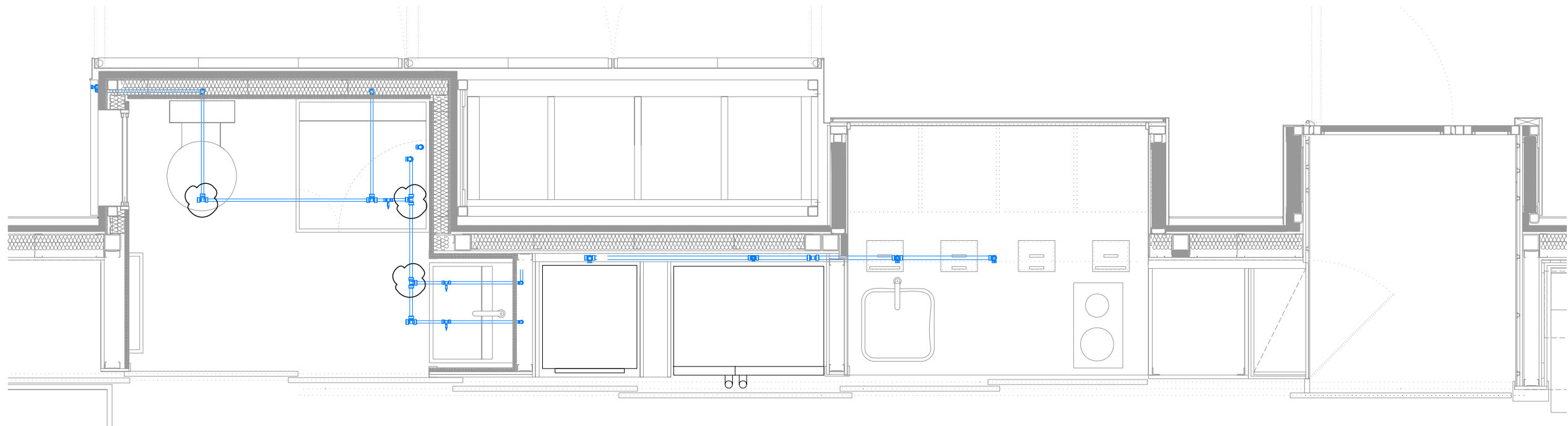
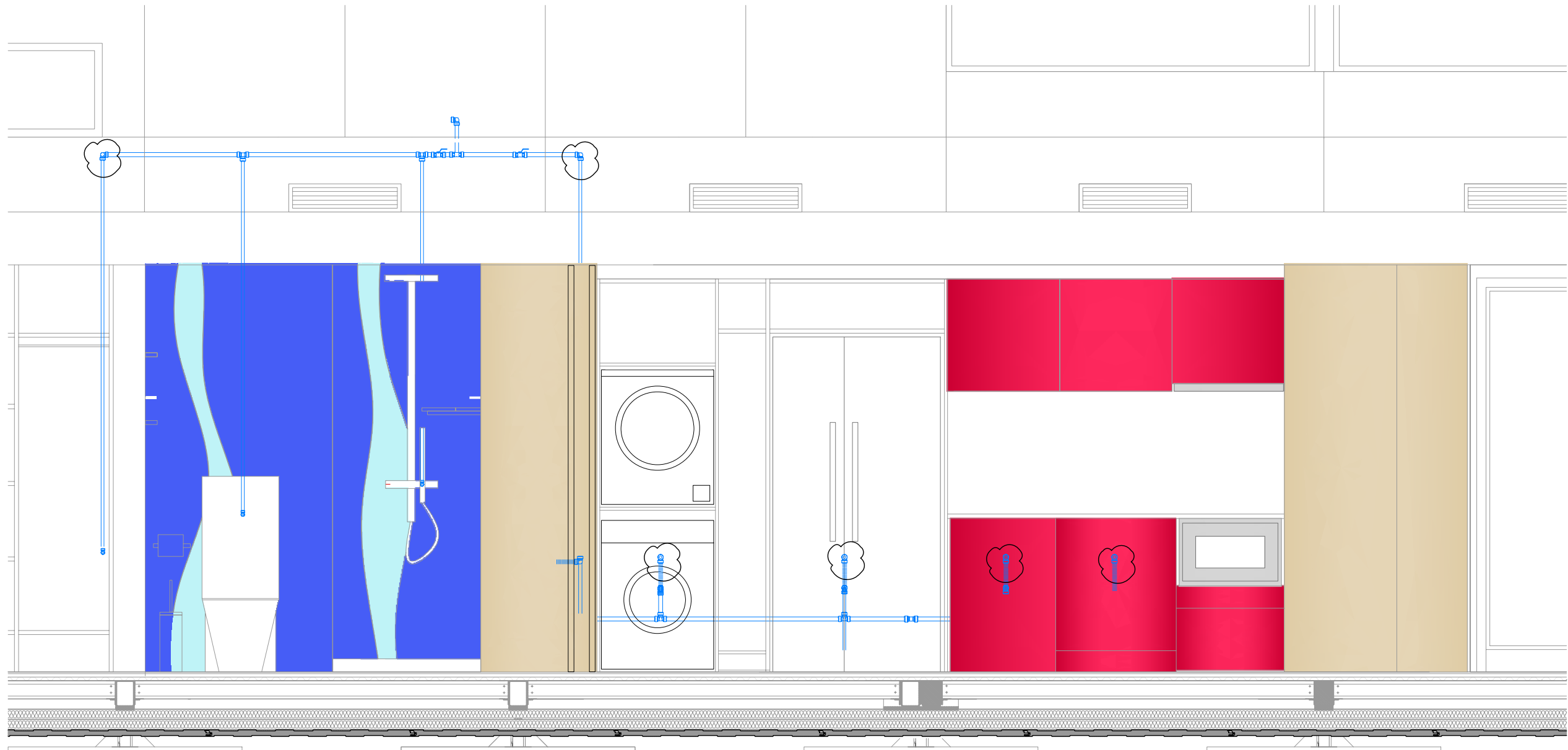


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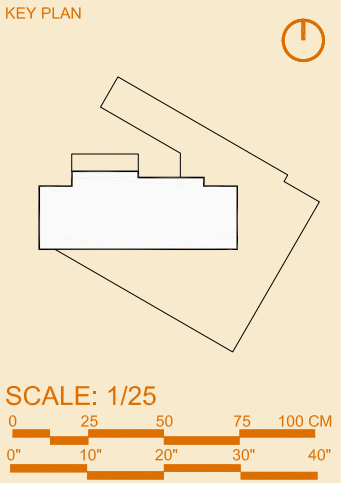
TITLE

ISOMETRIC DIAGRAM

JANUARY 2008

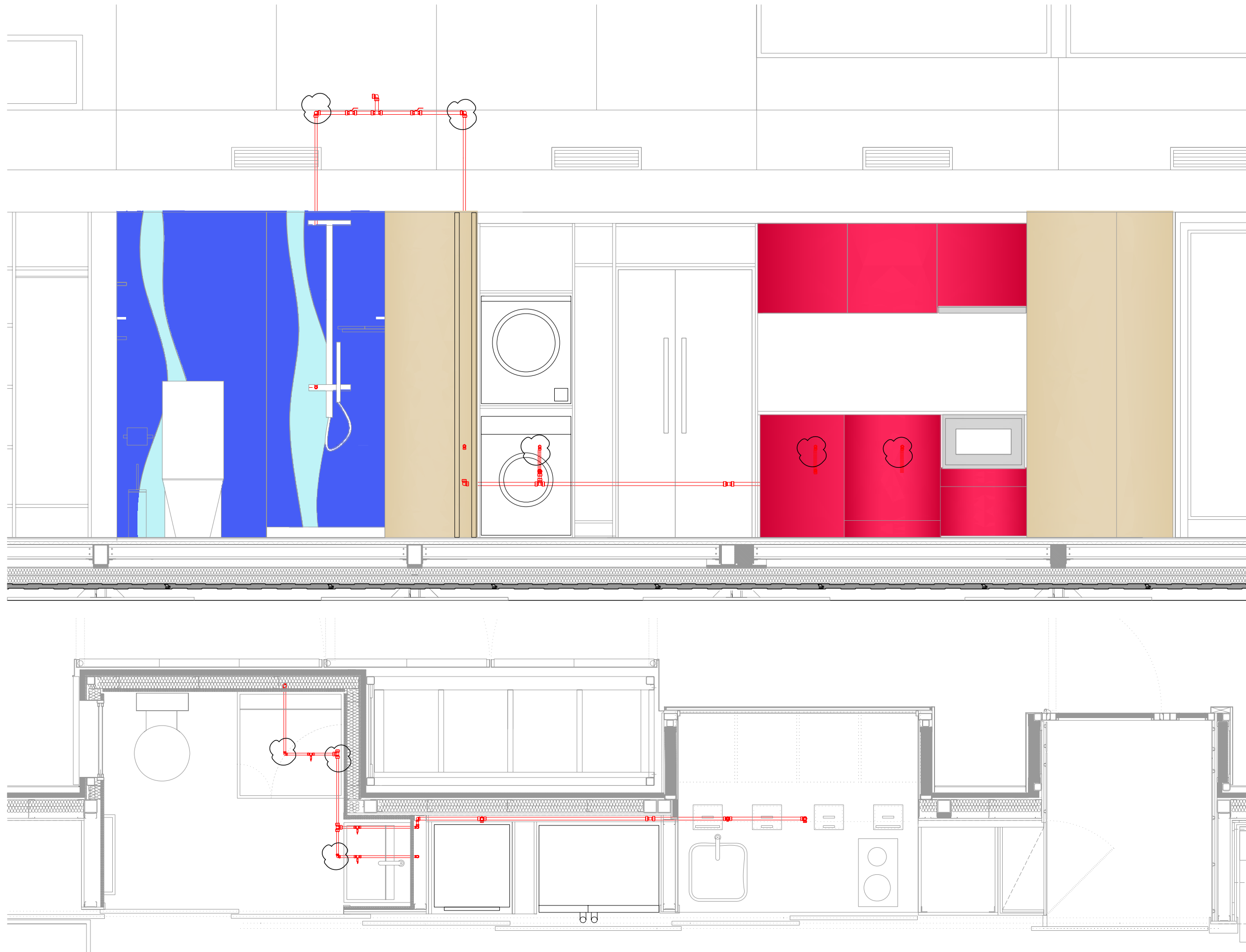


COORDINATOR
SERGIO VEGA SANCHEZ
PROJECT MANAGER
ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER
DECATHLETES
CARMEN GIMÉNEZ
TEAM DESIGNERS
BEATRIZ ARRANZ
DESIGN COORDINATOR
EDWIN RODRIGUEZ
GENERAL COORDINATOR



TITLE
COLD WATER
DISTRIBUTION PLAN

JANUARY 2008



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

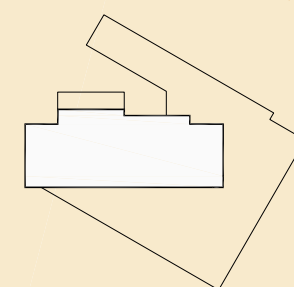
CARMEN GIMÉNEZ

TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/25

0 25 50 75 100 CM
0" 10" 20" 30" 40"

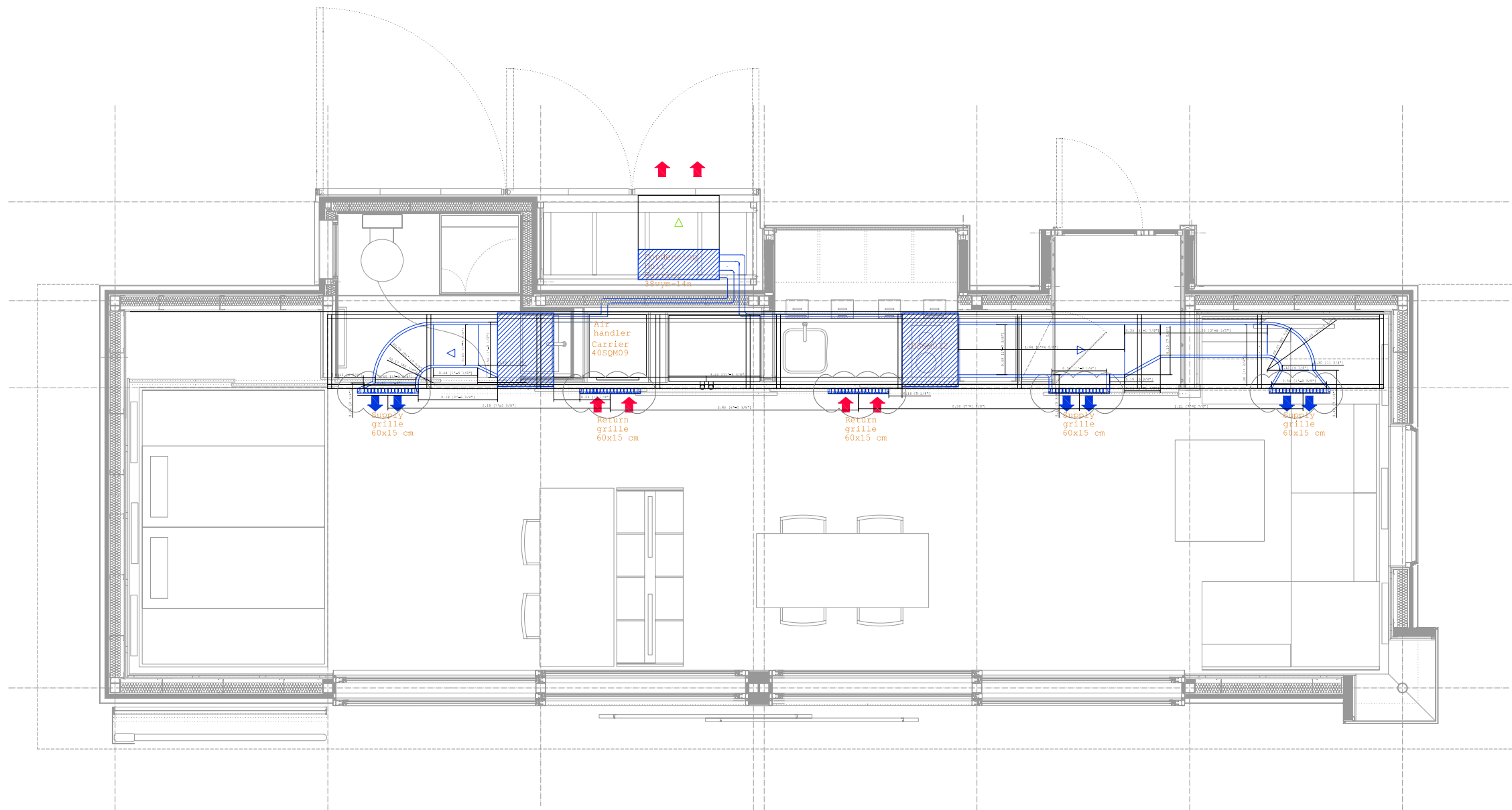
TITLE

**HOT WATER
DISTRIBUTION PLAN**

JANUARY 2008



P.07
41 OF 53



☁ the disposal of the grills has changed



UPM
SOLAR DECATHLON 2007

Universidad
Politécnica
de Madrid



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

CARMEN GIMÉNEZ
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



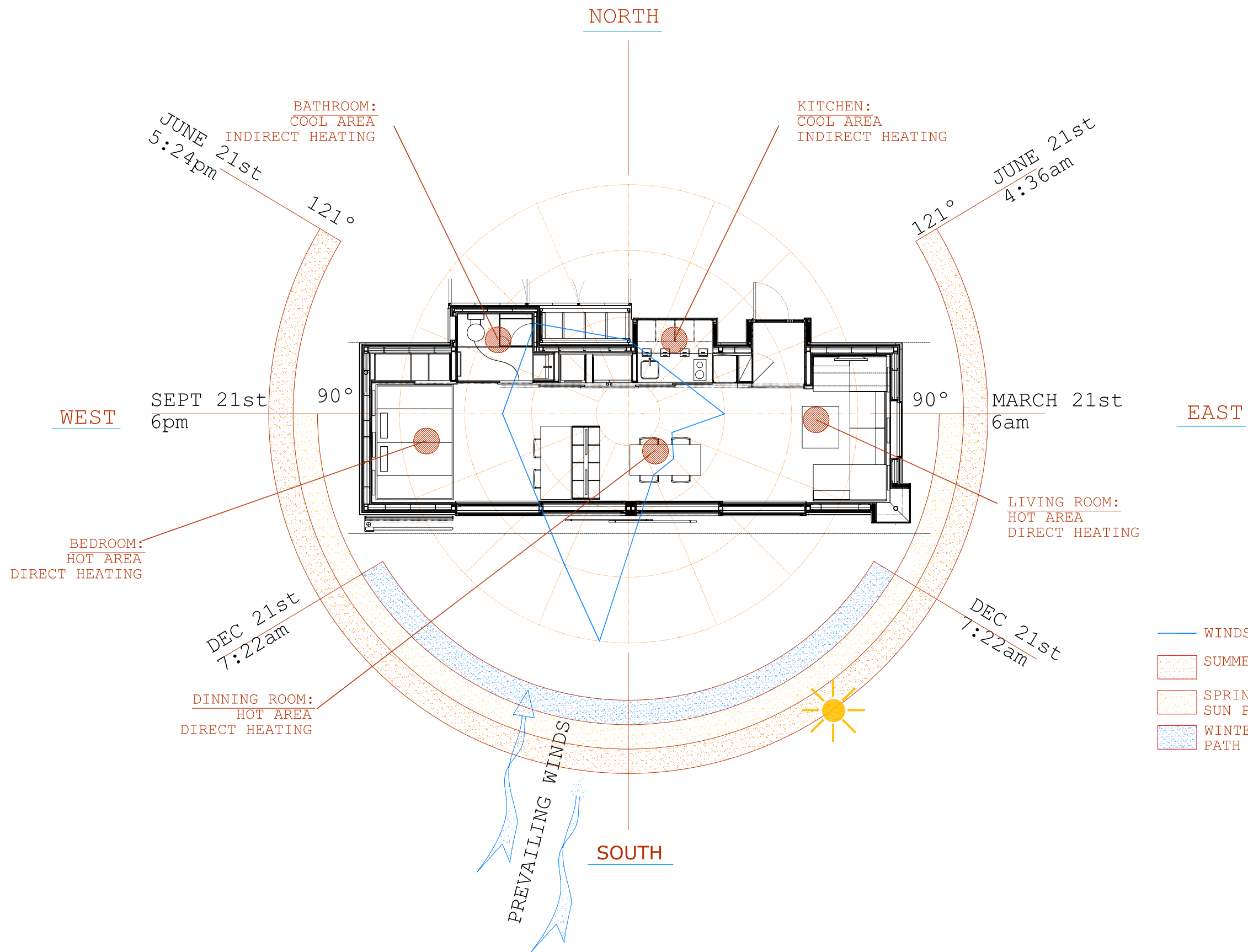
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HVAC SYSTEM
LAYOUT

JANUARY 2008



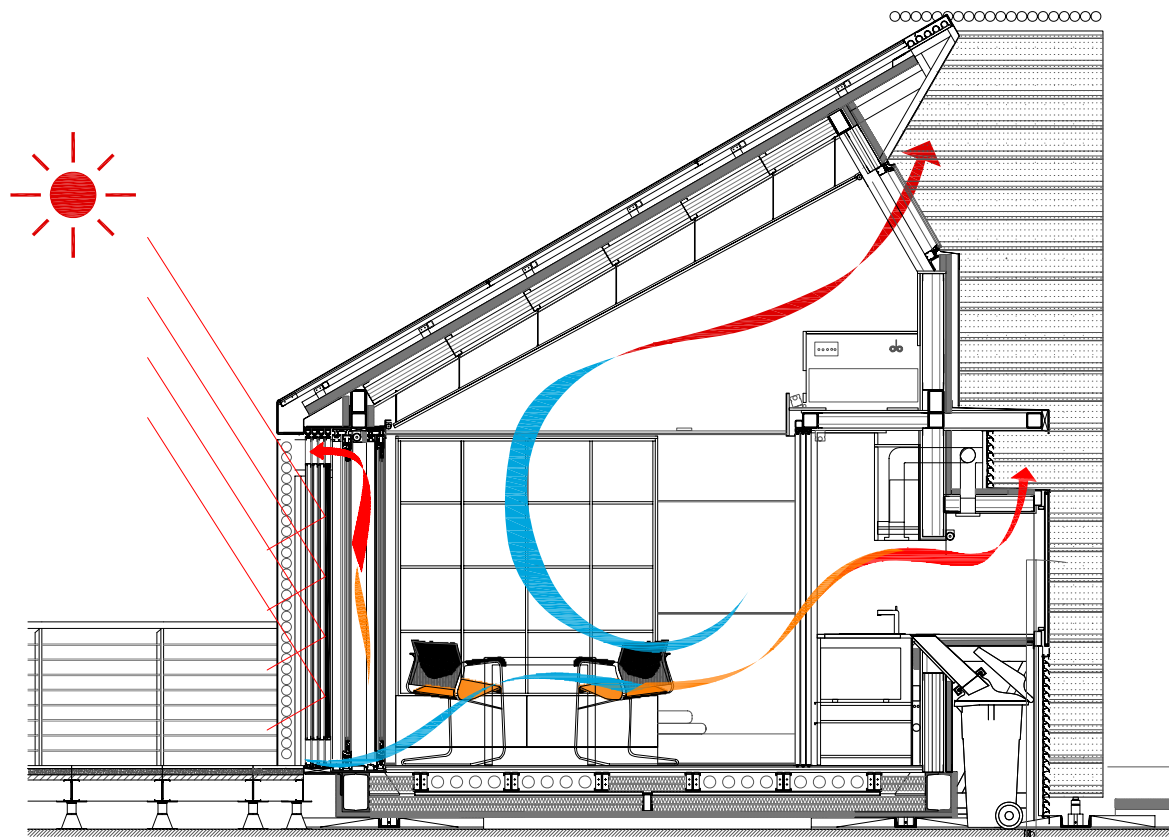
H.01
42 OF 53



COORDINATOR
SERGIO VEGA SANCHEZ
PROJECT MANAGER
ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER
DECATHLETES
CLAUDIA ZEVALLOS
TEAM DESIGNERS
BEATRIZ ARRANZ
DESIGN COORDINATOR
EDWIN RODRIGUEZ
GENERAL COORDINATOR

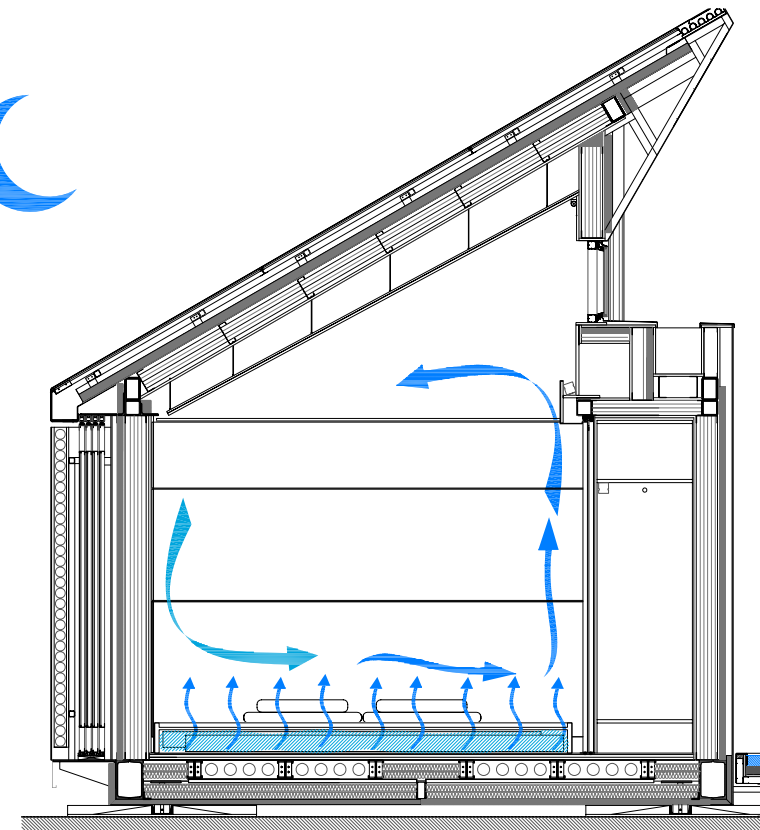
KEY PLAN
SCALE: NOT TO SCALE

TITLE
BIOCLIMATIC
ANALYSIS PLAN
JANUARY 2008



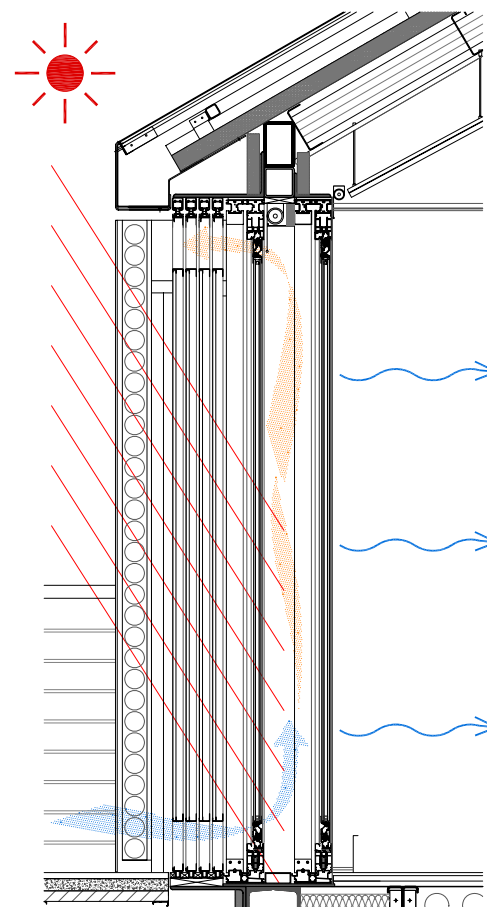
SUMMER DAY: VENTILATION

The house opens the windows on the north to promote the cross ventilation. Acting like a "vent stack" operable windows at the top to expel the warm air, while cooler air enters the house from grilles in the floor close to the south facade.



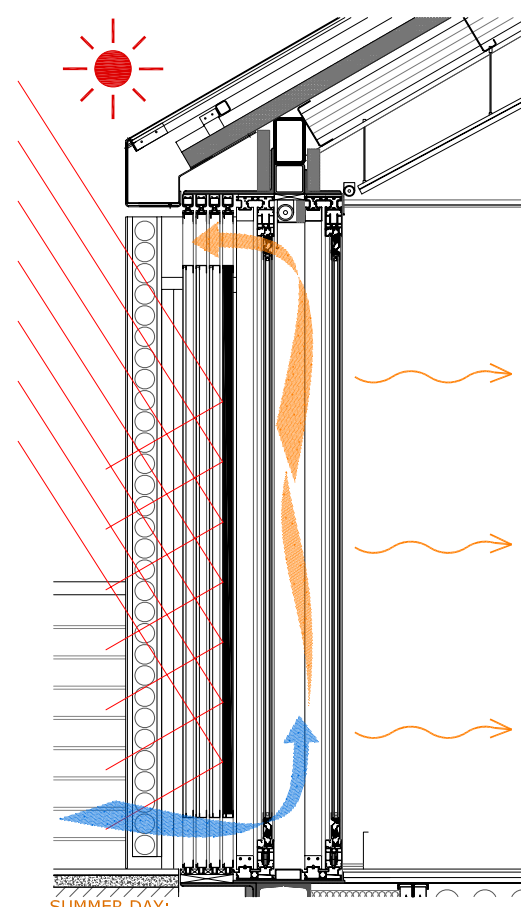
SUMMER NIGHT:

The phase-changing gels helps to refrigerate the house at night. The house opens to the exterior promoting the night ventilation cooling down the house.



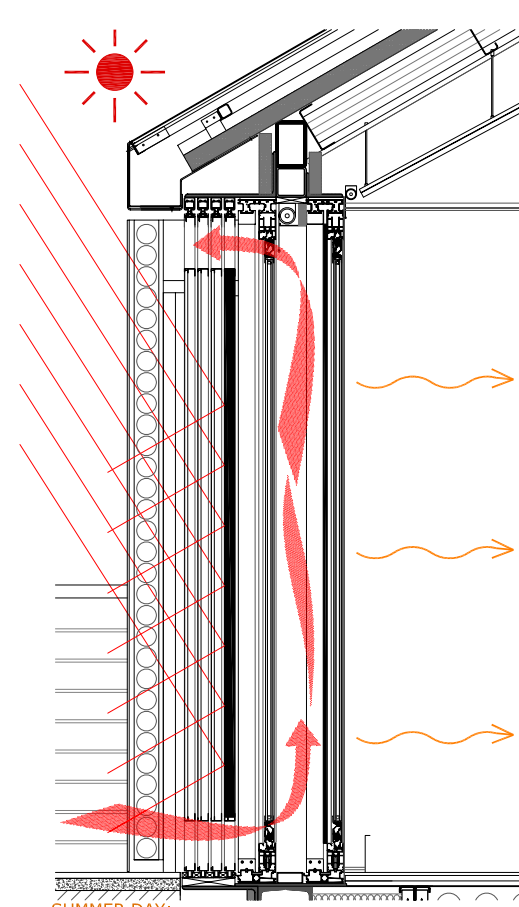
SUMMER DAY: EARLIEST HOURS

The fresh air in the morning enters between the glass sliding doors.



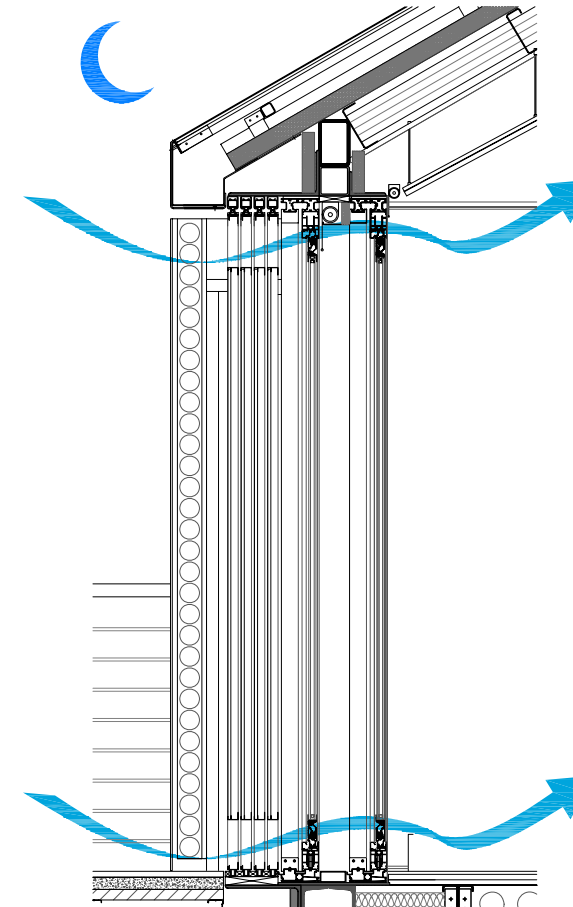
SUMMER DAY:

The south facade is protected from direct radiation by sliding PV panels, these panels capture the direct radiation using it to cool down the house



SUMMER DAY:

A system of curtains avoid the loss of accumulated energy inside the house



SUMMER NIGHT: VENTILATION

The house opens the sliding doors at south to promote ventilation and cooling of the house.

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

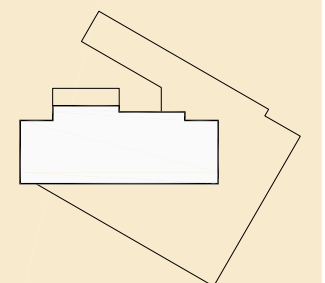
DECATHLETES

CLAUDIA ZEVALLOS
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

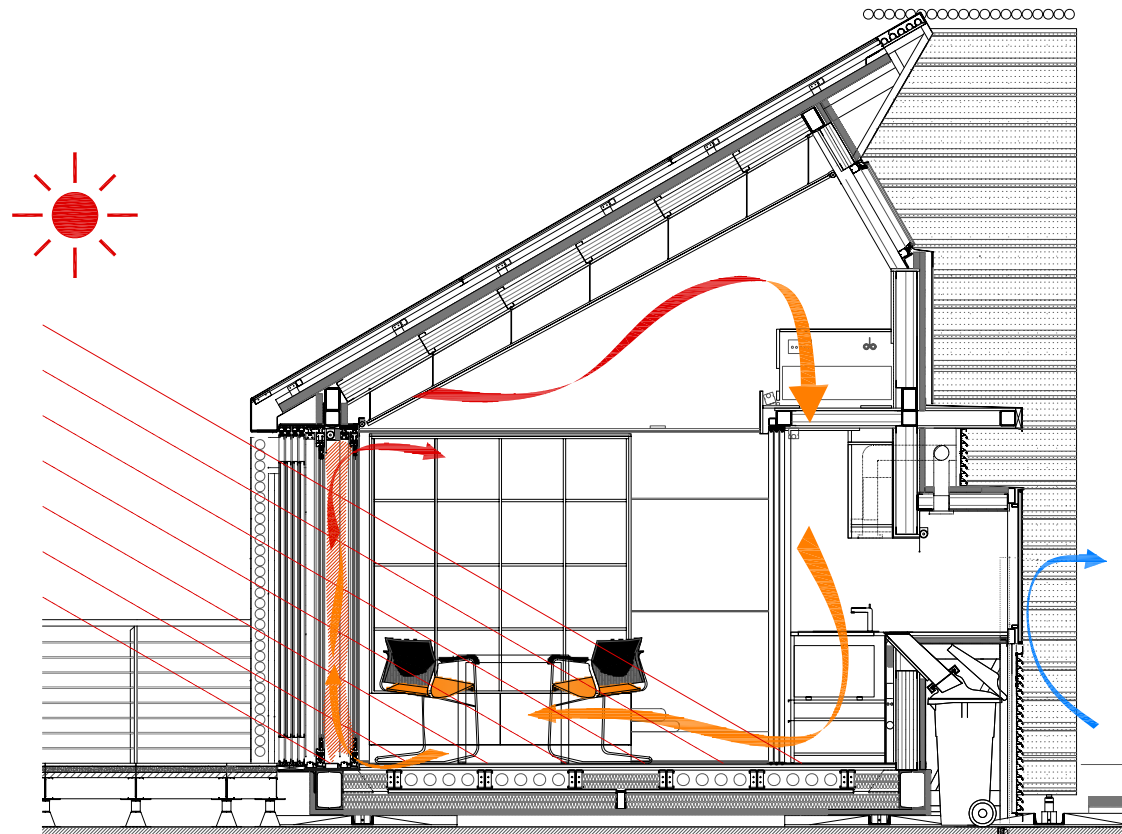
TITLE

SUMMER
STRATEGIES

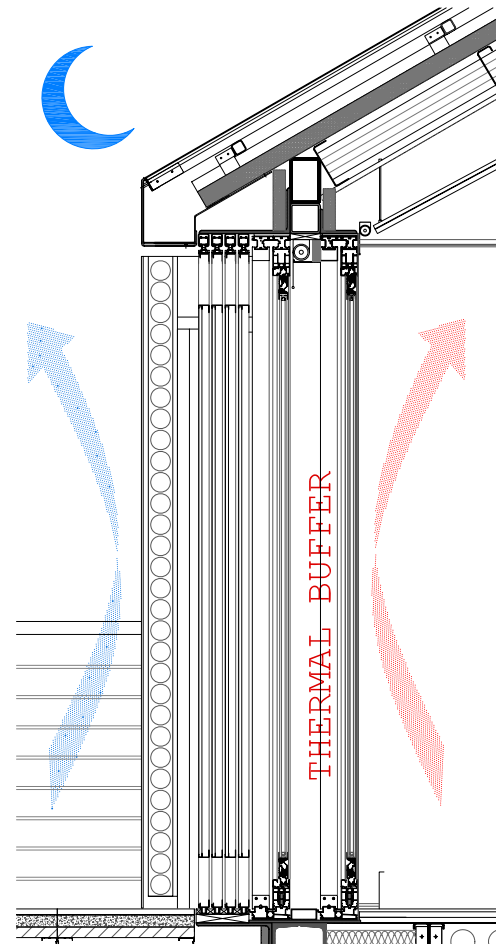
JANUARY 2008



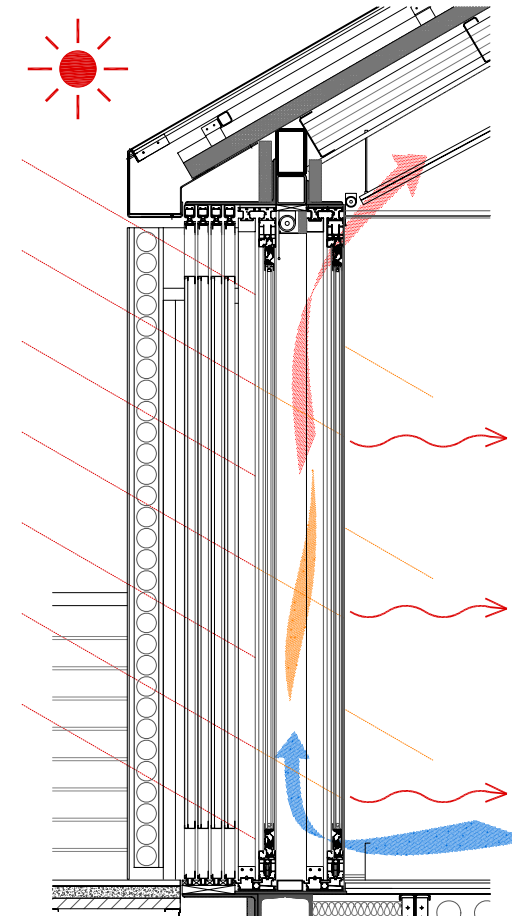
H.04
44 OF 53



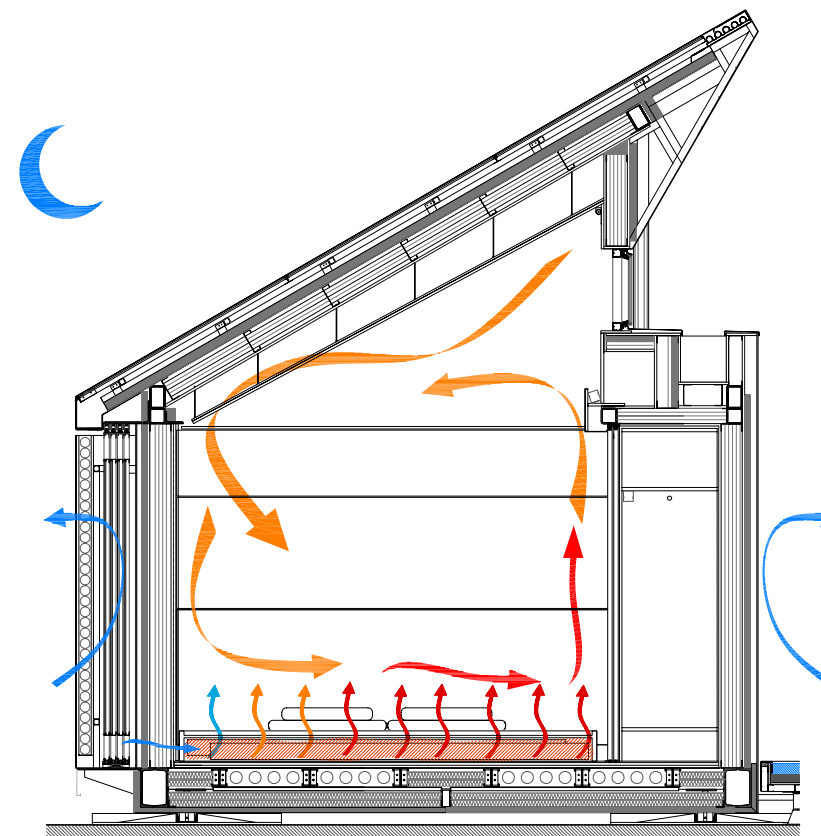
WINTER DAY: DIRECT SOLAR CAPTURE
The space between the sliding doors produces a Green house effect, heating the air passing into the house from the grilles above producing a closed-circuit. The solar radiation is accumulated by the phase-changing gel acting like a heat storage



**WINTER NIGHT:
NIGHT INSULATION**



WINTER DAY:
Winter sunlight enters to the house, allowing to reduce the heating loads. Sunlight passes through the south glazing area, and heat is trapped by the thermal mass of the house.



WINTER NIGHT:
Phase changing gels help to heat the interior letting the energy accumulated during the day go out and heat the air. Otherwise, the house closes to the exterior keeping the heat inside.

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

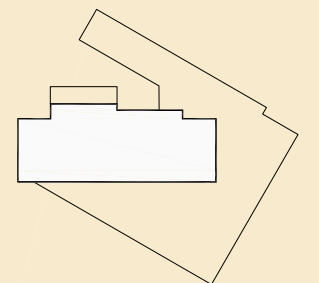
DECATHLETES

CLAUDIA ZEVALLOS
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

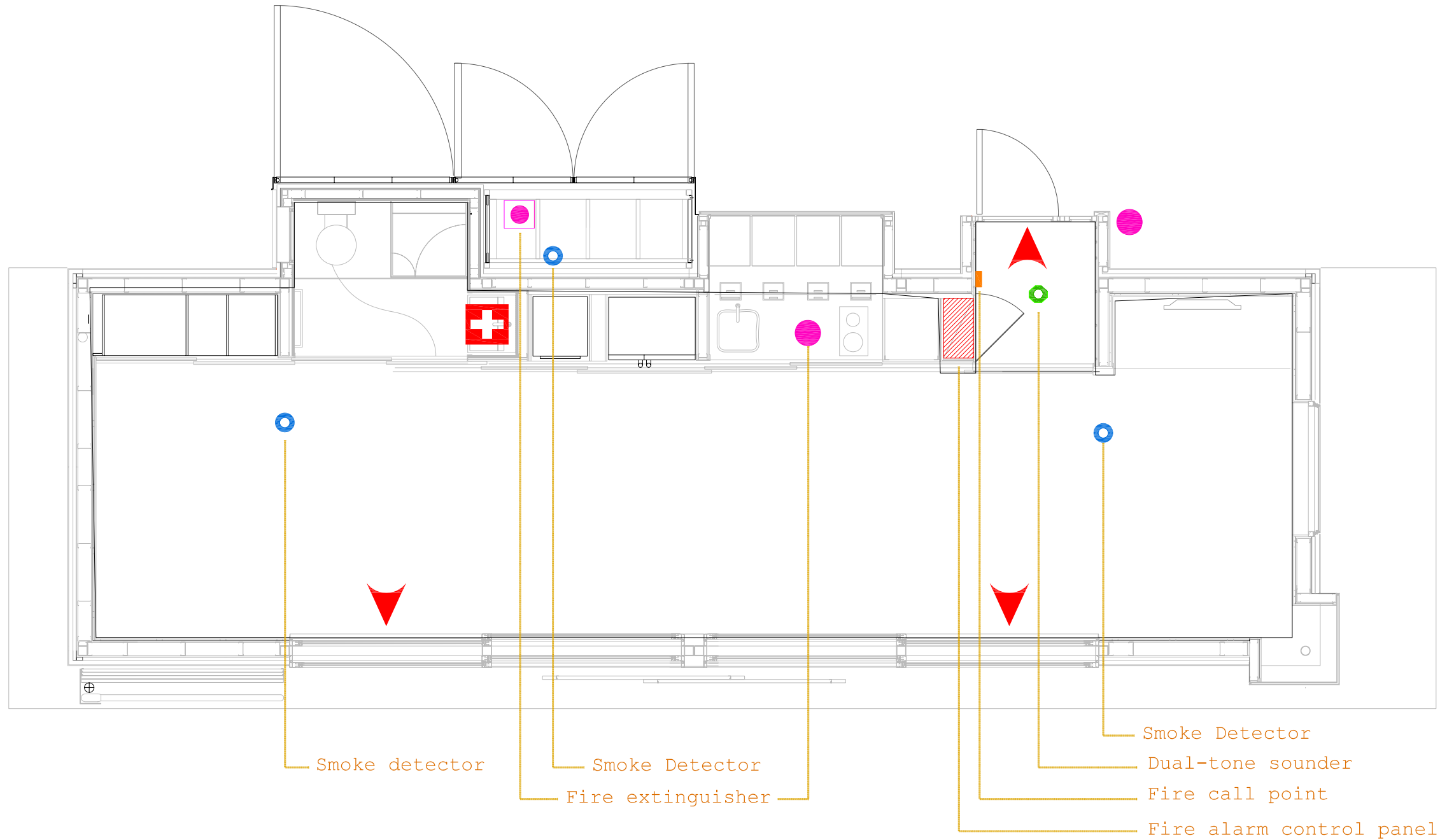
TITLE

WINTER STRATEGIES

JANUARY 2008











H.05
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SECURITY PLAN

LEGEND

-  FIRE CALL POINT
-  DUAL TONE SOUNDER
-  SMOKE DETECTOR
-  FIRE EXTINGUISHER (ELECTRICAL + CHEMICAL)
-  FIRE EXTINGUISHER (ABC TYPE)
-  FIRE ALARM CONTROL PANEL
-  FIRST AID KIT
-  EXIT

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

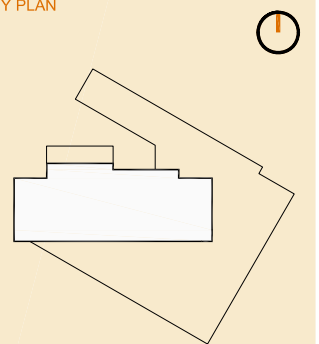
DECATHLETES

EDWIN RODRIGUEZ UBIÑAS
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50
0 50 100 150 200 CM
0" 10" 20" 30" 40" 50"

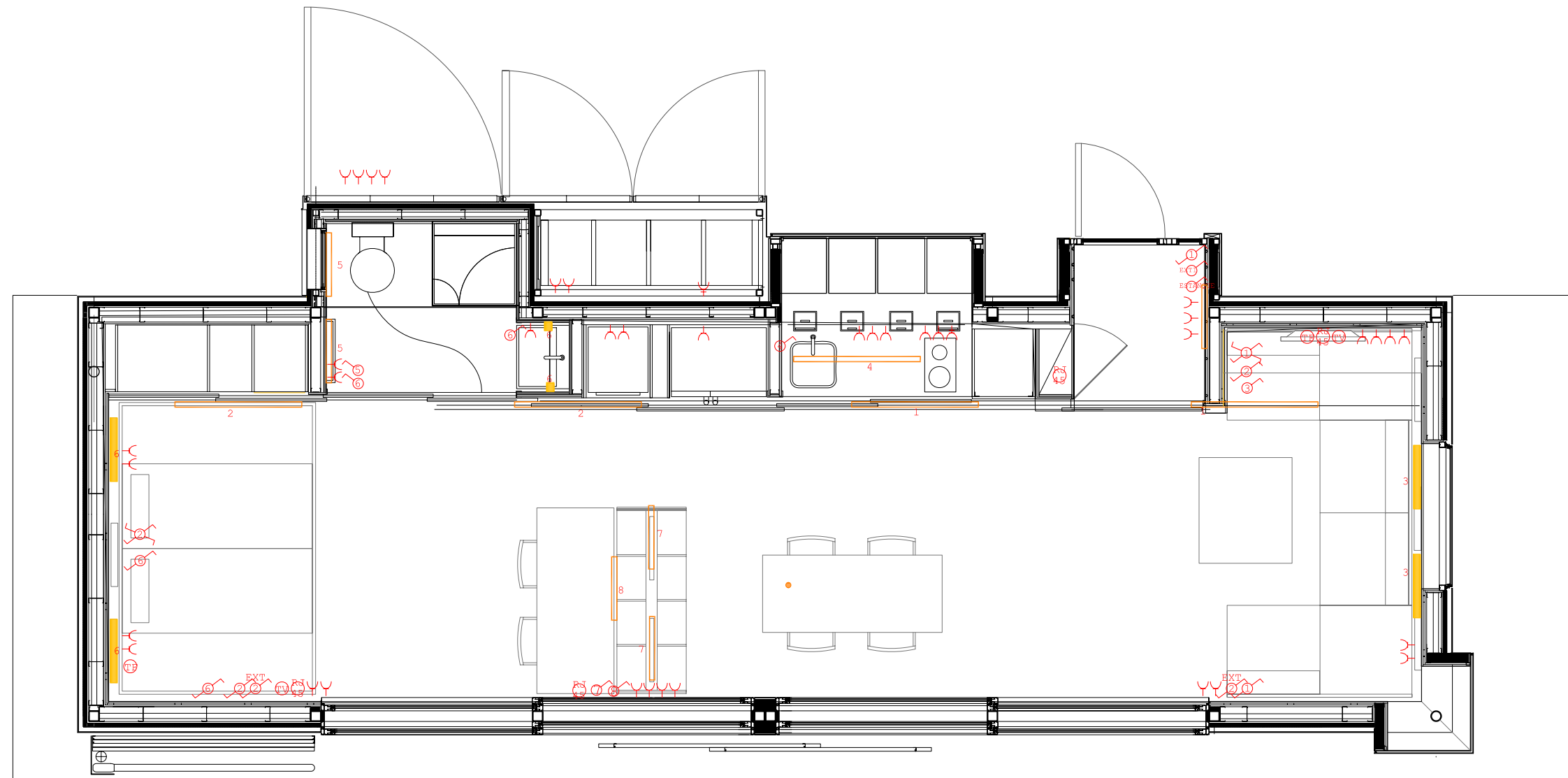
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







FIRE PREVENTION PLAN






JANUARY 2008



F.01
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-  SIMPLE POLE SWITCH
-  DOUBLE COMBINATION SWITCH (0,50m AFF)
-  TRIPLE COMBINATION SWITCH (0,50m AFF)
-  SOCKET OUTLET 10/16A
-  SOCKET OUTLET 20A
-  OUTDOOR SOCKET OUTLET 20A
-  SOCKET OUTLET 25A
-  TV
-  COMPUTER
-  TELEPHONE

-  LED LINE
-  LED UNDERWATER PROJECTOR
-  FLEXIBLE LED TUBE
-  FLUORESCENT 60cm 18W
-  FLUORESCENT 120cm 36W

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

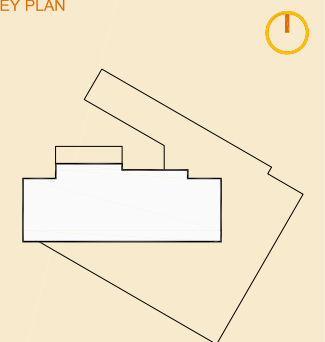
DECATHLETES

CARMEN GIMÉNEZ
ANA CLIMENT ALCALA
TEAM DESIGNERS

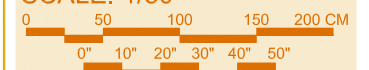
BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



TITLE

ELECTRICAL
LAYOUT PLAN

JANUARY 2008



E.01
47 OF 53

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

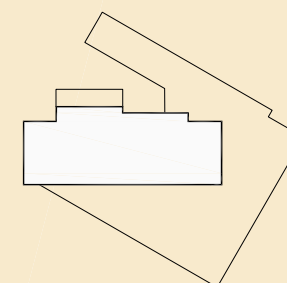
DECATHLETES

CARMEN GIMÉNEZ
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



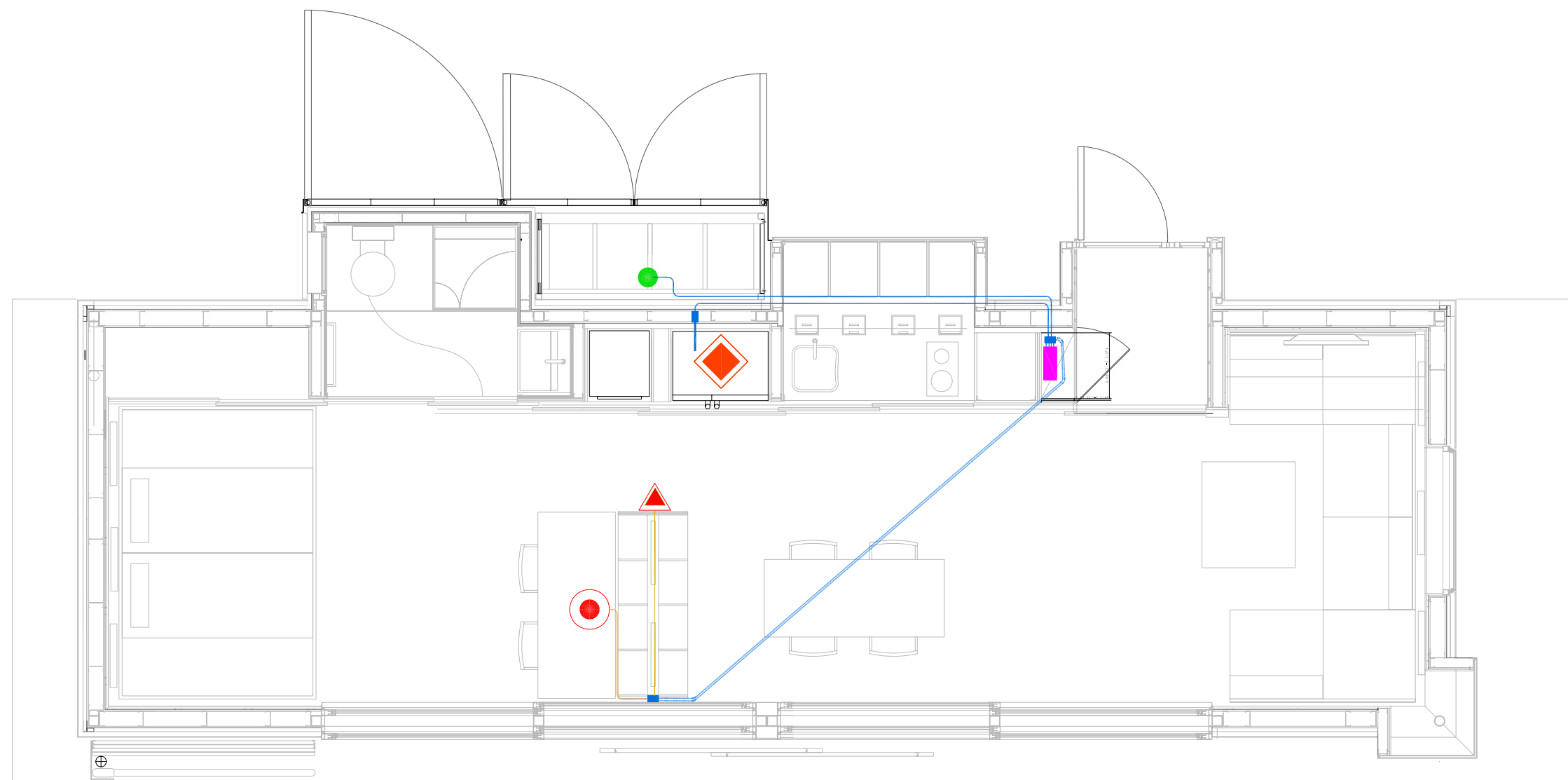
TITLE

MONITORING
& CONTROL SYSTEM
DATALOGGER UPDATE

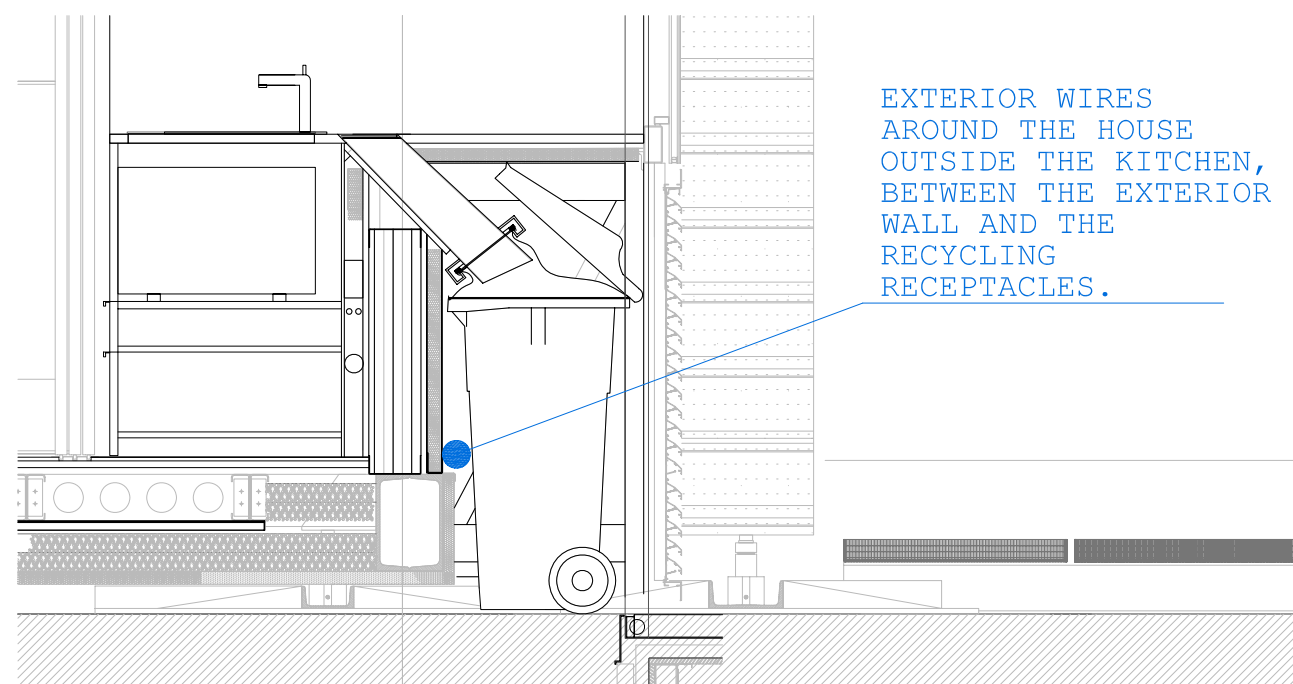
JANUARY 2008












E03
48 OF 53

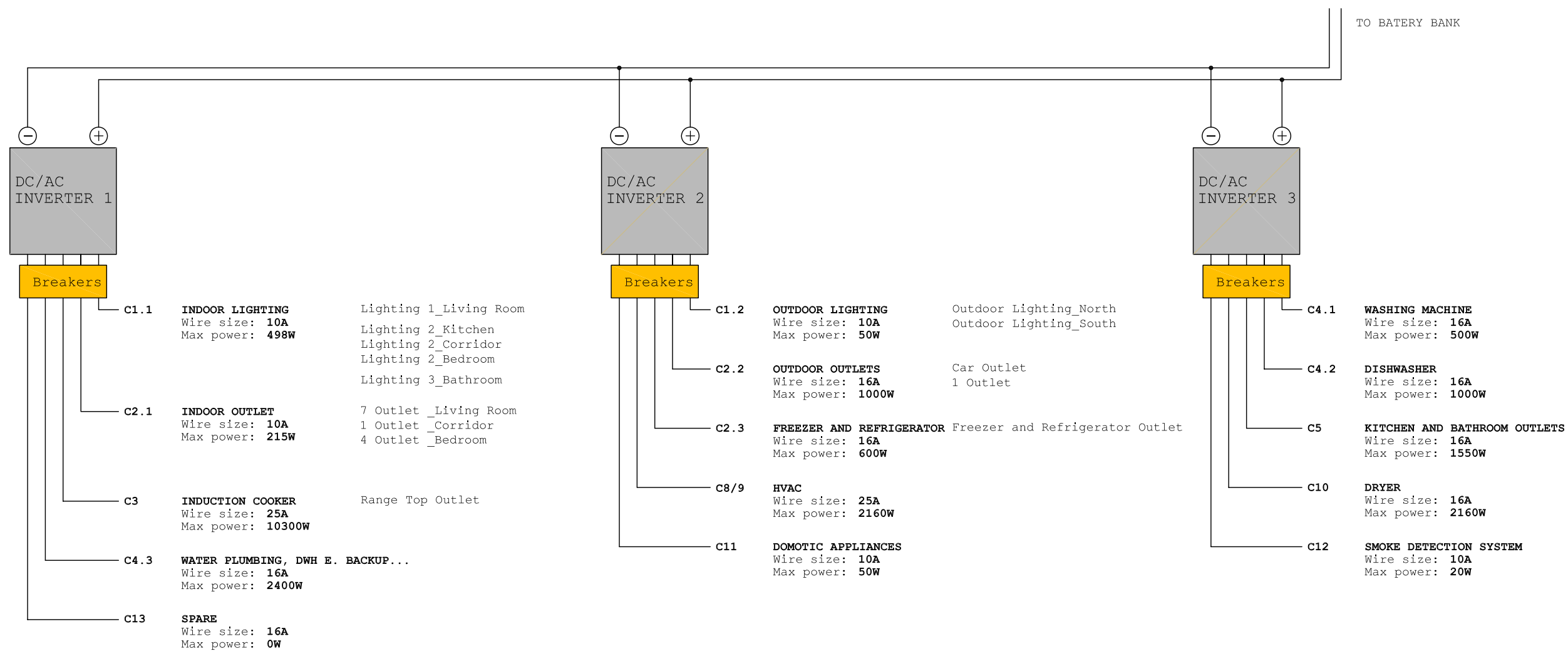


MONITORING AND CONTROL SYSTEM PLAN UPDATE



LEGEND

-  DATALOGGER W (36cm) H (41cm) D (20cm)
-  BATTERY SHUNT
-  LIGHT SENSOR
-  TEMPERATURE AND HUMIDITY SENSOR
-  THERMOCOUPLES (REFRIGERATOR & FREZER)
-  INTERIOR WIRES
-  EXTERIOR WIRES UNDERNEATH THE HOUSE
-  EXTERIOR WIRES AROUND THE HOUSE
-  FEED-THROUGHS



Circuit	Loads	Wire size	Max power	Inverter 1	Inverter 2	Inverter 3
C1.1	Indoor lighting	10 A	498 W	498 W		
C1.2	Outdoor lighting	10 A	50 W		50 W	
C2.1	Indoor outlets	10 A	215 W	215 W		
C2.2	Outdoor outlets (car included)	16 A	1000 W		1000 W	
C2.3	Freezer and refrigerator	16 A	600 W		600 W	
C3	Induction cooker	25 A	10300 W	10300 W		
C4.1	Washing machine	16 A	500 W			500 W
C4.2	Dishwasher	16 A	1000 W			1000 W
C4.3	Water plumbing, DWH el. Backup...	16 A	2400 W	2400 W		
C5	Kitchen and bathroom outlets	16 A	2700 W			2700 W
C8/9	HVAC	25 A	2048 W		2048 W	
C10	Dryer	16 A	3000 W			3000 W
C11	Domotic appliances	10 A	50 W		50 W	
C12	Smoke detection system	10 A	20 W			20 W
C13	Spare	16 A	0 W	0 W		
				13413 W	3748 W	7220 W

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

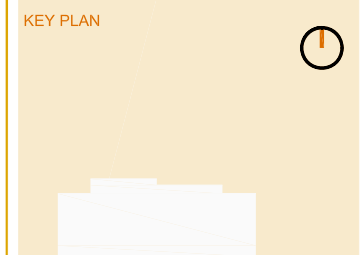
ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

CARMEN GIMÉNEZ
ANA CLIMENT ALCALA
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

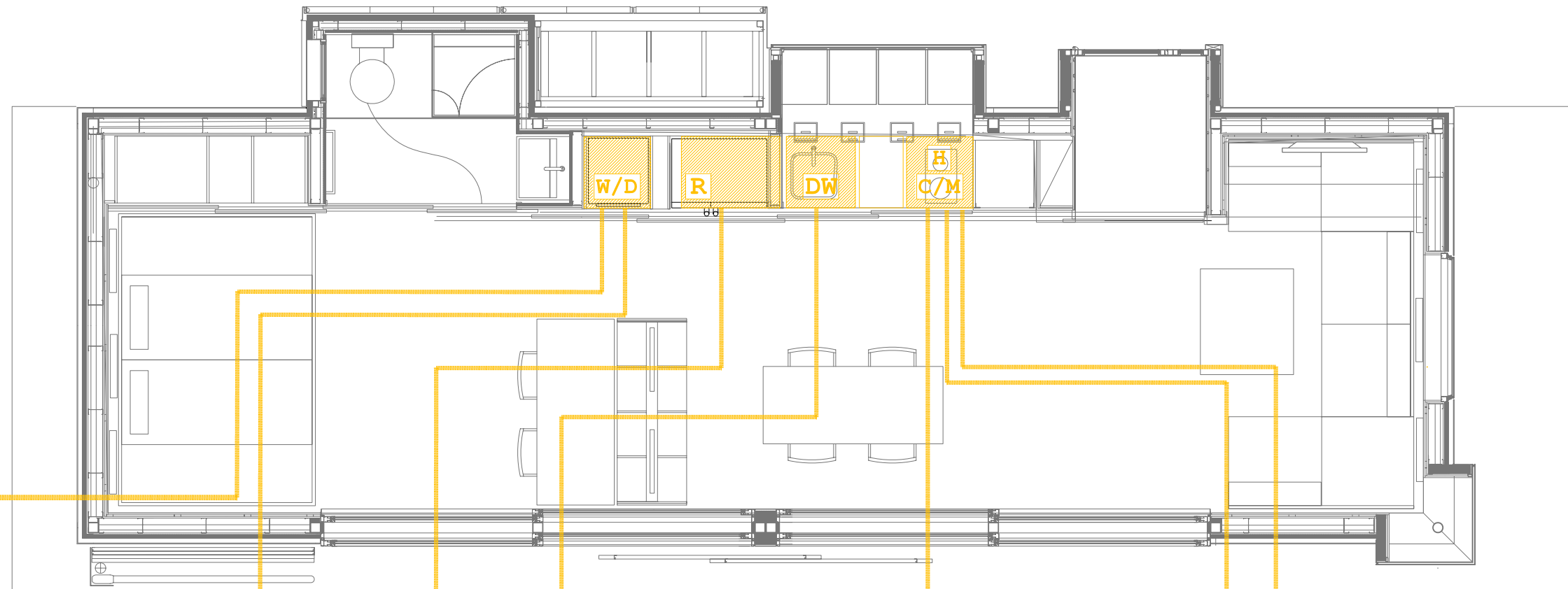


SCALE: NOT TO SCALE

TITLE

ELECTRICAL CIRCUITS
AND DIAGRAM

JANUARY 2008



Electric Dryer
WT 46 S
EAN 4242003380642

Drying Performance
Total Cycles 11
High Air Velocity Drying
3-Dimensional Drying Motion
Digital Humidity Sensor

Dry Cycles
Timed Dry (minutes) 20, 40, 60
Air Fluff (No Heat)
Regular/Cotton Damp Dry,
Regular Dry,
Very Dry,
Extra Dry
Permanent Press

Efficiency
Insulation System
Lint Filter Indicator
Silence Rating (IEC)



Washer
WM 10 E
EAN 4242003382851

Washing Performance
Specialty Cycles 8
Total Cycles 15
Internal Water Heater for
Guaranteed Temperatures
Automatic Water Level Adjustment
(Load Size Sensor)
Automatic Detergent Residue Removal
(Sudsing Sensor)
Wash Water Soil Sensor (Auto Rinse)
Automatic Load Balancing
Detergent Efficiency System
with 3 Dispenser Chambers
Spin Speed 1200 rpm



Dishwasher
SE 64 M 360 EU
EAN 4242003382356

Washing Performance
99.9% Bacteria Free Dishes
(NSF Certified Wash Cycles)
Flow-Through Water Heater
triStep™ Self-Cleaning
Filtration System
Five-Level Wash
hydroDry™ Sanitized Drying

Efficiency
Sound Level 50 dBA
Quiet Two-Pump Suspension Motor
Energy Usage 315 kWh
Wash Water Soil Sensor
Auto Rinse Aid Optimization

Lower Rack
Half Flip-Down Rows 8
Configurable Silverware Basket
Silverware Basket Cover
Mezzanine Rack

Convenience
activeLight™ Wash Status
Indicator
Tall Stainless Steel Tub
Nylon Coated Racks



Hood

LI 48631
EAN 4242003312506

Performance
Three-Speed Fan Control
Fan Power (cfm) 280
Gas, Electric, Induction
Cooktop Compatibility

Convenience
Front Push-Button Controls
Halogen Surface Lights 2-50 W

Easy Cleaning
High-Intensity Dishwasher-Safe
Filters



Microwave
HF 23556 EU
EAN 4242003255407

Performance
Power 1300W
Power Levels 10
Technology Inverter

Convenience
Capacity (cu. ft.) 2.1
Recessed Glass Turntable 15"
Touch Control
Sensor Cook 18 Recipes
Quick Defrost
Smart Sensor Reheat
Auto Reheat Beverages
Sensor Popcorn
Keep Warm



Electric Cooktop

EH 515502 E
EAN 4242003346143

Easy Cooking
touchSlide™ Front Control
Power Levels 17
Kitchen Timer/Auto Shutoff
Timer

Easy Cleaning
Durable Ceramic Glass Surface

Cooking Performance
quickStart™ Elements
(Hot in 5 Seconds)
allZone™ Keep Warm Elements 4
Size-Adaptable Cooktop Elements 1
Bridge Element 1
preciseSimmer™ 10 Levels
rapidHeat™



Refrigerator/Freezer

KA 58 NA 10
EAN 4242003358450

Performance
Refrigerator Capacity (cu. ft.) 12.53
Freezer Capacity (cu. ft.) 7.48
Total Capacity (cu. ft.) 20.01
Electronic Controls
ENERGY STAR® Qualified
quickCool™
quickFreeze™

Convenience
Automatic Full-Filtered Internal Ice Maker
Easy-to-Change Ice Maker Water Filter
Water Filter Change Indicator
Water/Crushed Ice/Cubed Ice Dispenser
Door Open Alarm

Storage
Refrigerator Door Bins 5
Integrated Gallon Door Storage
Refrigerator Shelves, Adjustable 3
Adjustable Temperature Meat/Fish/Produce Drawer
Pull-Out Freezer Drawer 2
Freezer Door Bins 4
Freezer Shelves, Adjustable



COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

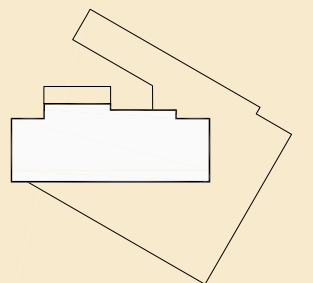
DECATHLETES

ANA CLIMENT ALCALA
JOSUE CARDENAS PRIEGO
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



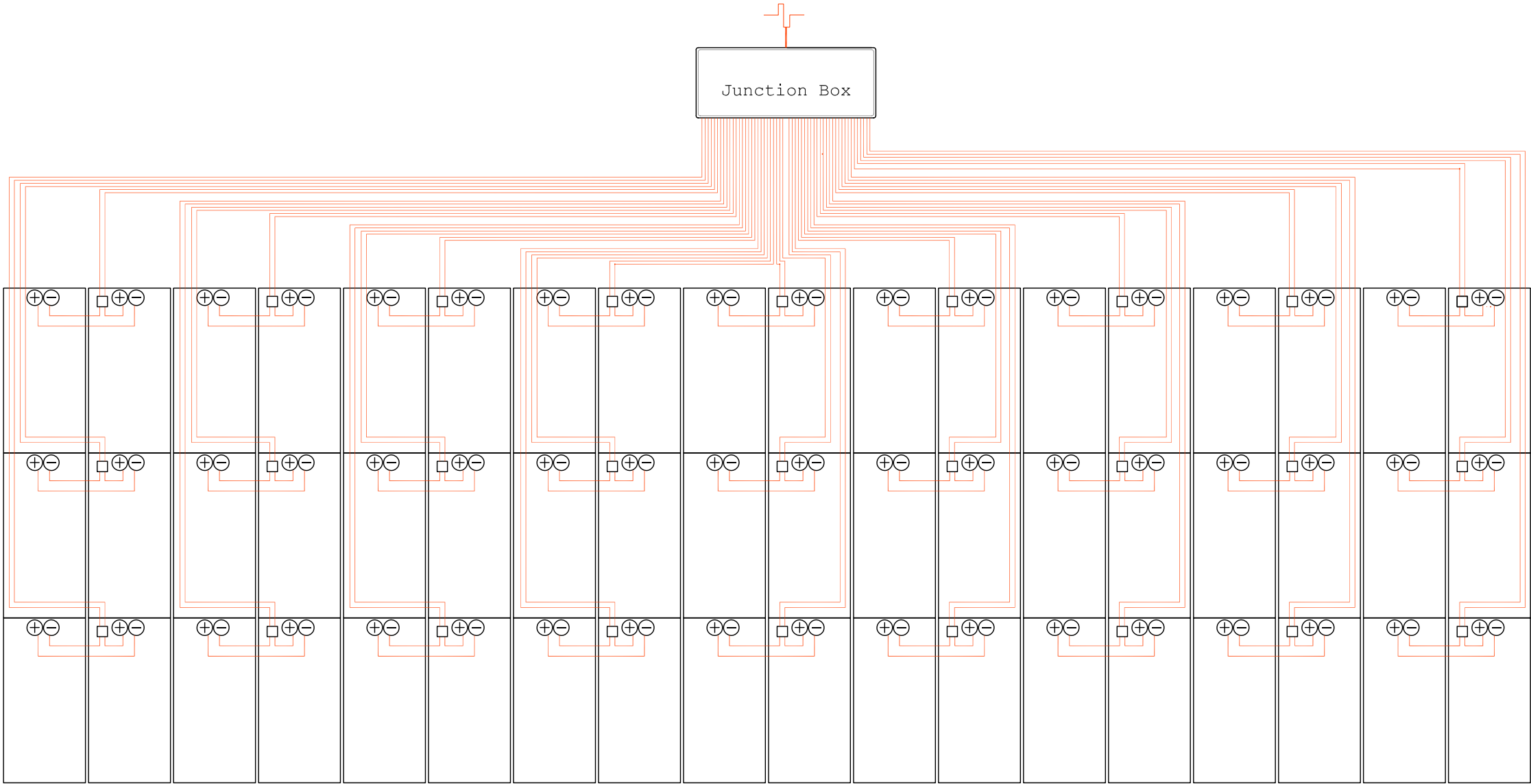
TITLE

**ELECTRICAL
APPLIANCE**

JANUARY 2008



E.08
50 OF 53



PHOTOVOLTAIC SYSTEM MODULATION

Scale: 1/50

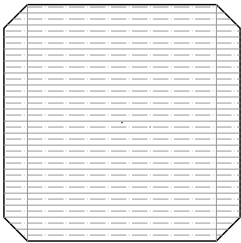
PHOTOVOLTAIC MODULE IS-155 / 24

PHYSICAL SPECIFICATIONS

WEIGHT	14,4 Kg
SIZE	1.590 x 790 x 39,5 mm

ELECTRICAL SPECIFICATIONS (1.000 W / m2, 25° C cell, AM 1.5)

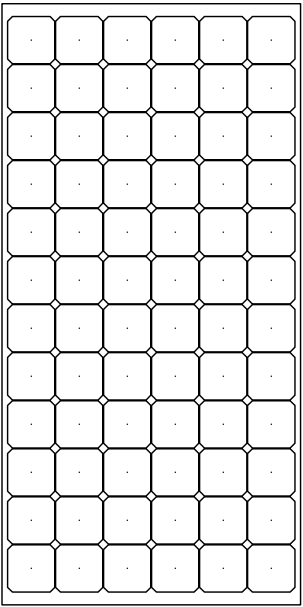
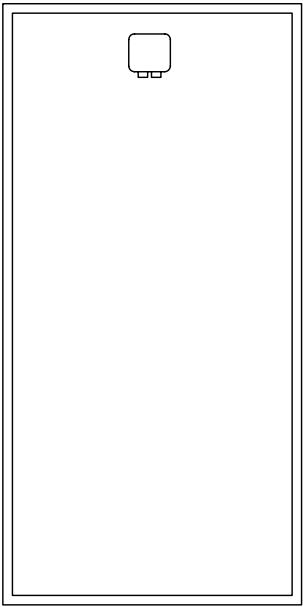
MAXIMUM POWER (PMÁX.)	155 Wp +/- 5%
MAXIMUM POWER CURRENT (IMÁX.)	4,48 A
NOCT (800 W / m2, 20° C, AM 1.5, 1 m / s)	47° C
MINIMUM VALUE OF SERAL FUSE	10 A
OPEN CIRCUIT VOLTAGE (VOC)	43,2 V
SHORT CIRCUIT CURRENT (ISC)	4,7 A
MAXIMUM SYSTEM VOLTAGE	760 V
MAXIMUM POWER VOLTAGE (VMÁX.)	34,6 V



PH CELL_Scale:1/4



BACK_Scale:1/20



FRONT_Scale:1/20

COORDINATOR

SERGIO VEGA SANCHEZ
PROJECT MANAGER

ALFONSO GARCIA SANTOS
ARCH. & CONST. MANAGER

DECATHLETES

FERNANDINA FERNANDEZ
ANA M. CLIMENT ALCALA
TEAM DESIGNERS

BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



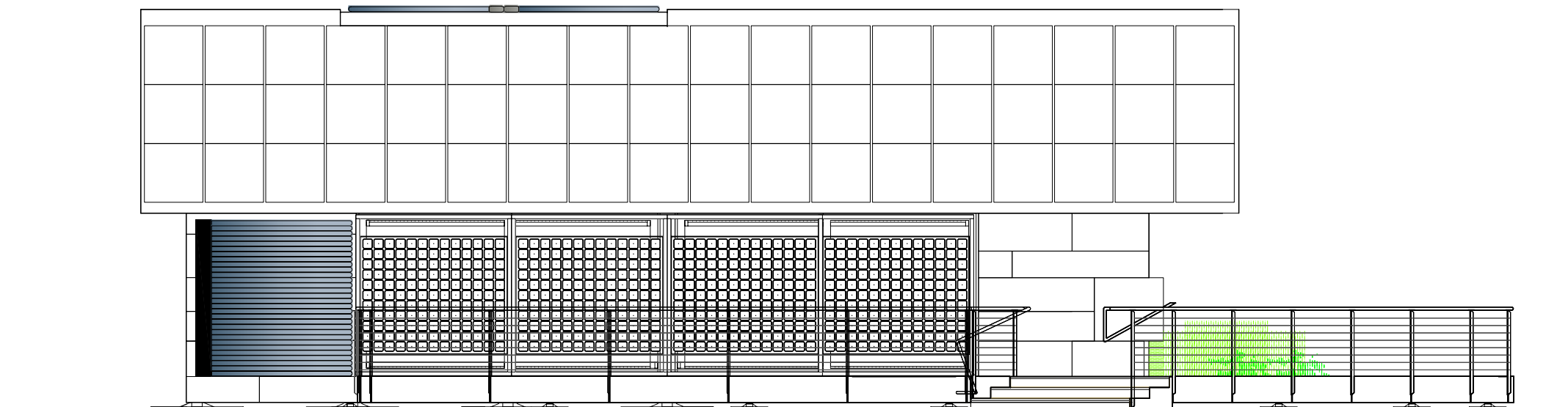
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PHOTOVOLTAIC
SYSTEM MODULATION
AT ROOF

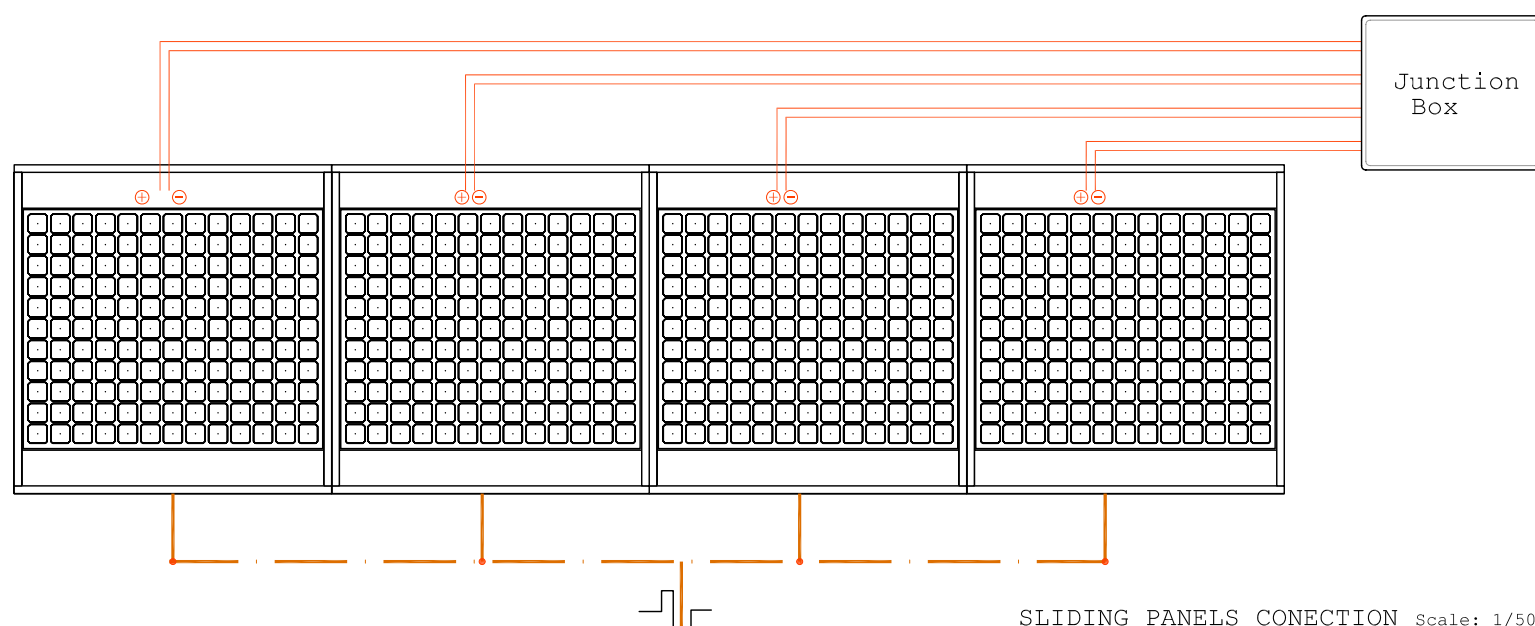
JANUARY 2008



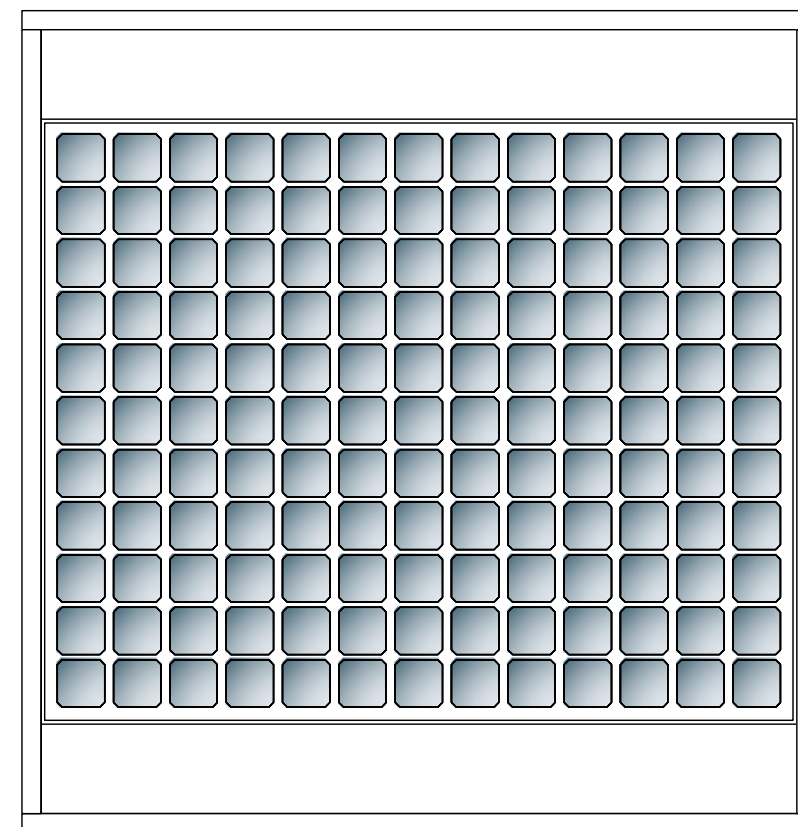
PH.01
51 OF 53



SOUTH ELEVATION_Scale:1/75



SLIDING PANELS CONECTION_Scale: 1/50



SLIDING PANEL_Scale: 1/20

PHOTOVOLTAIC SOLAR PROTECTION

PHYSICAL SPECIFICATIONS

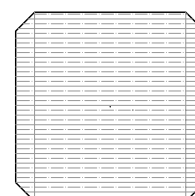
SIZE

2100 x 2200 x 30 mm

ELECTRICAL SPECIFICATIONS (1.000 W / m2, 25° C cell, AM 1.5)

MAXIMUM POWER VOLTAGE (VMAX.)

48 V



PH CELL_Scale:1/5



UPM
SOLAR DECATHLON 2007

Universidad
Politécnica
de Madrid



COORDINATOR

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PROJECT MANAGER

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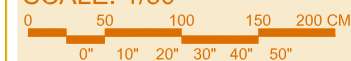
BEATRIZ ARRANZ
DESIGN COORDINATOR

EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: 1/50



TITLE

PHOTOVOLTAIC
SYSTEM AT
SLIDING PANELS

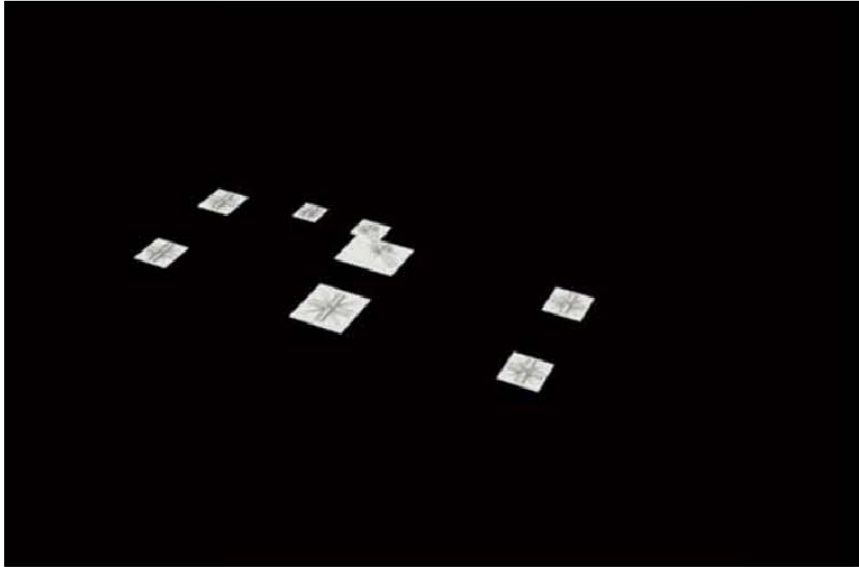
JANUARY 2008



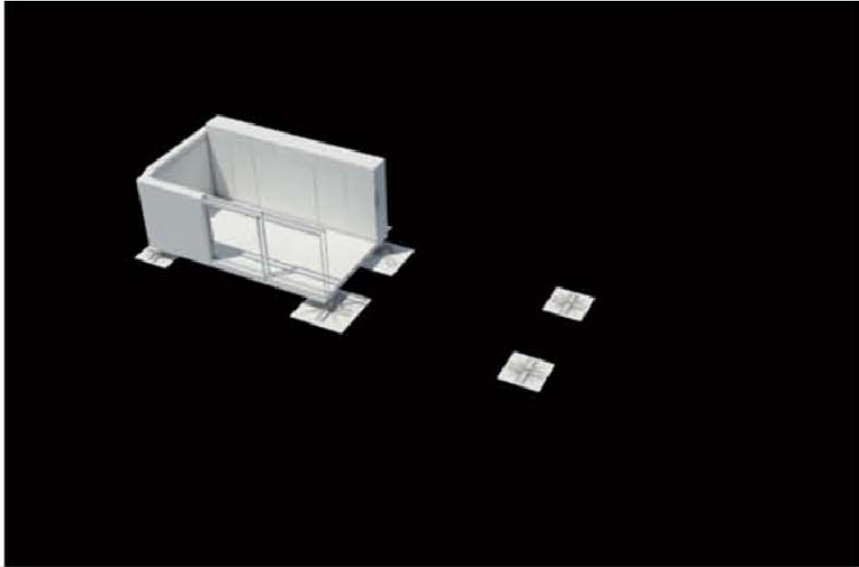
PH.02

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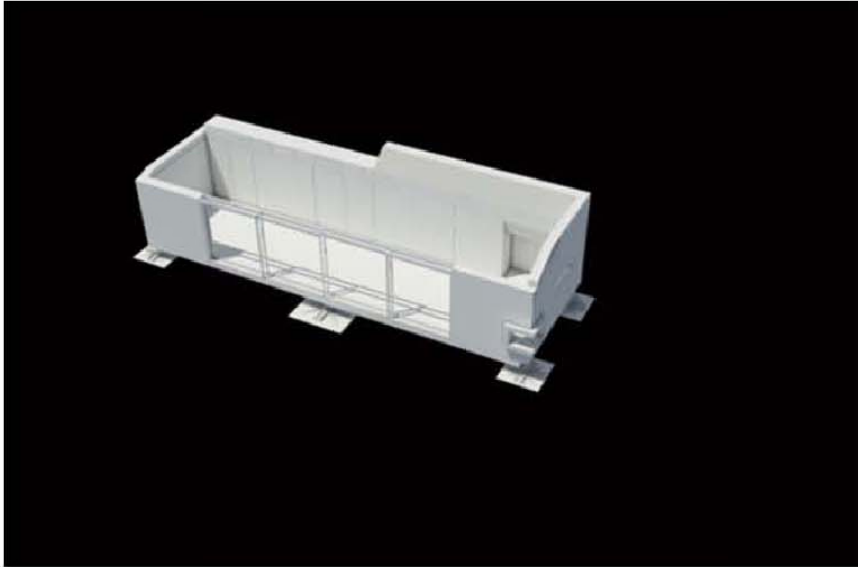
Stage 1



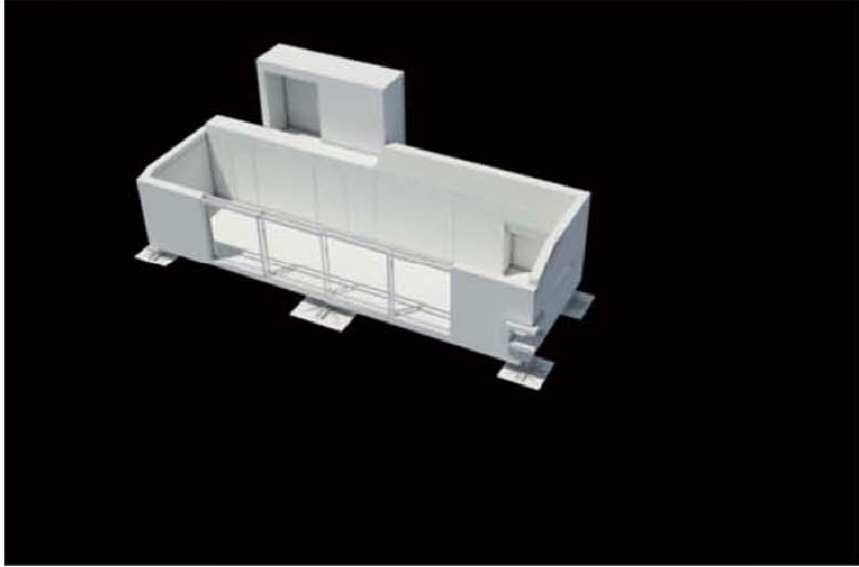
Stage 2



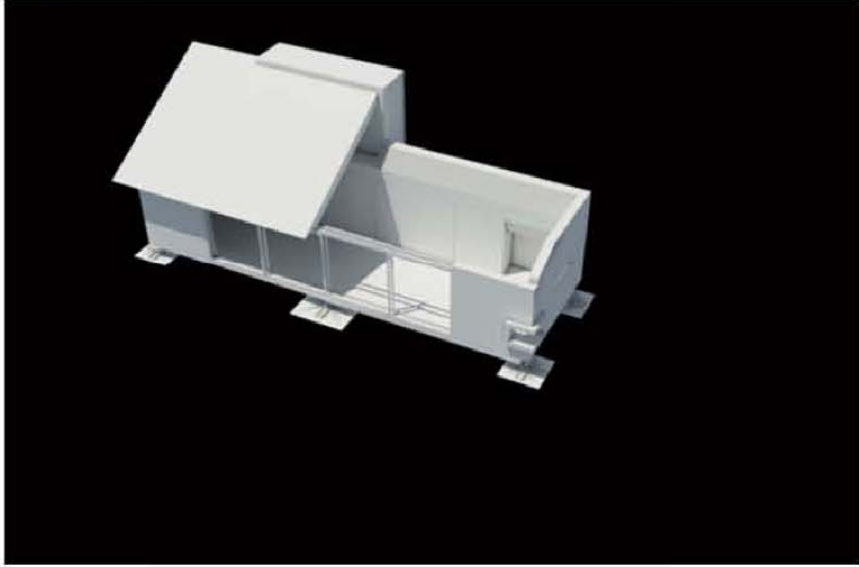
Stage 3



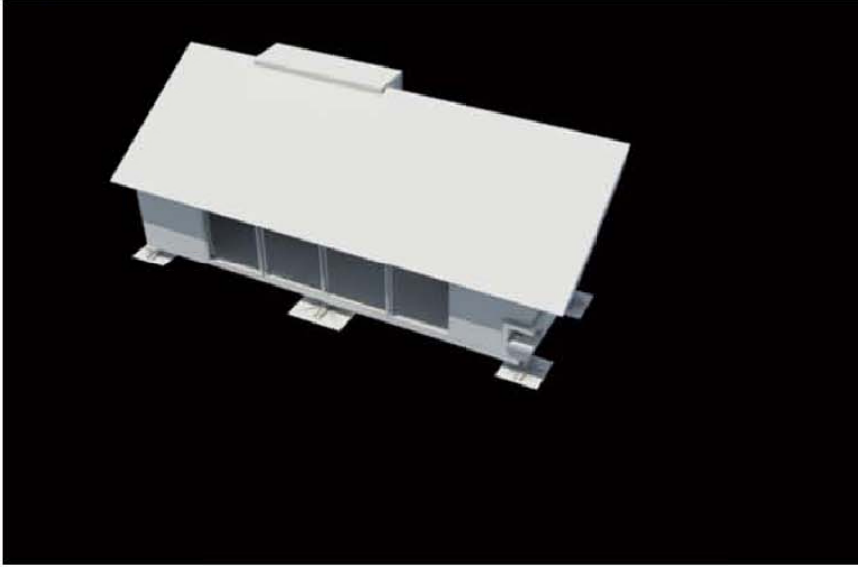
Stage 4



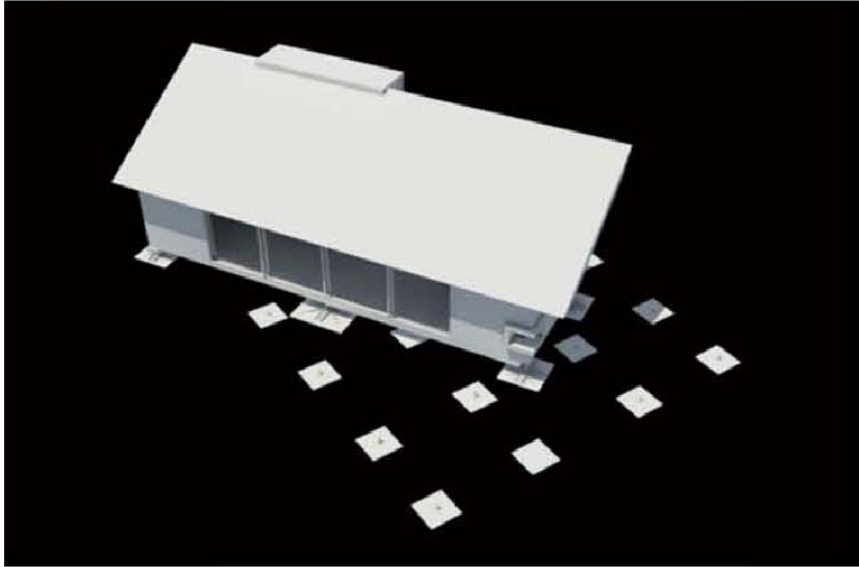
Stage 5



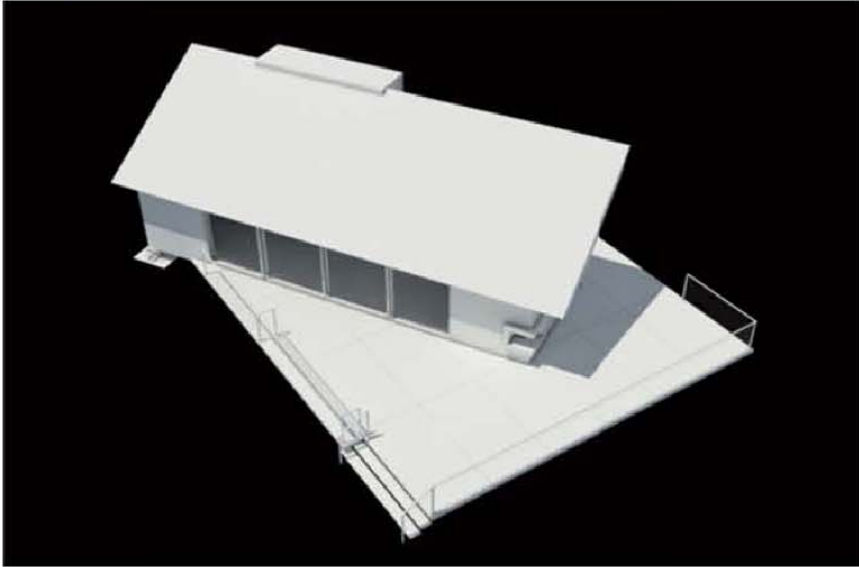
Stage 6



Stage 7



Stage 8



Stage 9



COORDINATOR

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DECATHLETES

GERMAN DE DIEGO
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EDWIN RODRIGUEZ
GENERAL COORDINATOR

KEY PLAN



SCALE: NOT TO SCALE

TITLE

ASSEMBLY PROCESS
RECAP

JANUARY 2008



SO.09
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