para/to:BCN SUITS
date/fecha:1Nov2017

To Stalher Group and to d388: Thanks again for inviting to add some complementary description to our sandCLOCK proposal. Several aspects of the project can only be assessed with the very specific Stalher KNOW-HOW.
a_Funtional and organizational variations
b_Technical and cost related variations of see faccing façades.
c_Technical and cost related iterations of Atrium Spaces and attrium façades
d_Technical and cost related to energy management.

This PPT foresees few items and exposes the mutability and improvement that is only possible through a joint effort and compromise. We are including technical references and cost estimates derived from our previous built experiences and from information given from national and international providers and consultants.

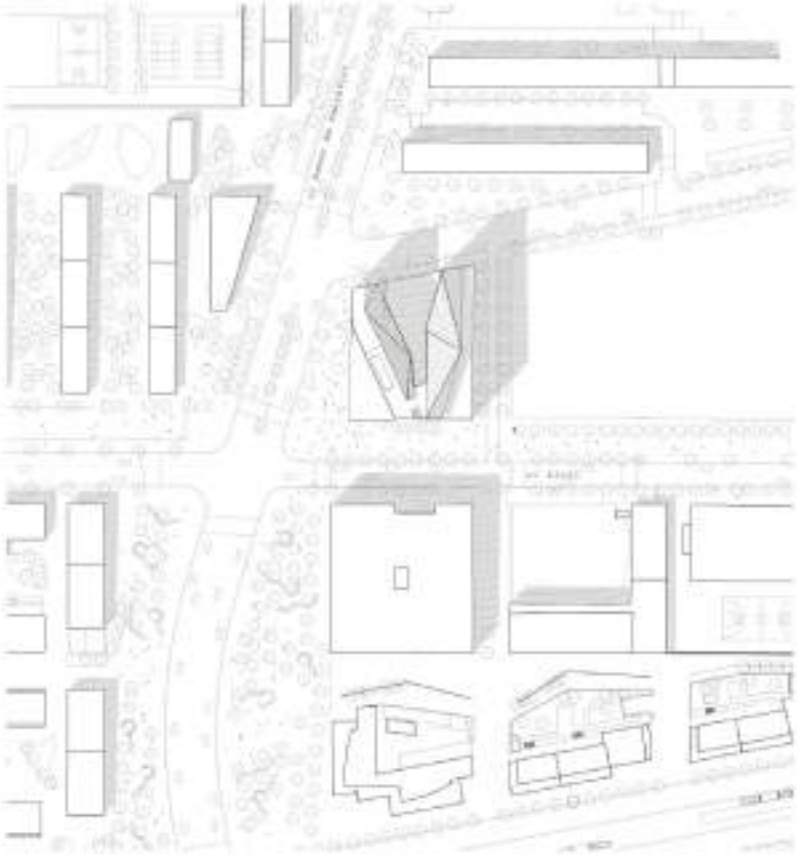
…tempering time.

(a)Funtional and organizational variations:

- _Change location for Fitness facility from Ground Flor to First Floor.
- _Change Restaurant location from first floor to ground and entry level.
- _Ajustments on waiting parking areas and entry to Parking spaces.
- _Revision of rates and percentages of 1, 2, 3 Bedroom apartments
- _...

sandCLOCK

aSZ / HYBRIDa



b_Technical and cost related variations of Mediterraneum facing façades.

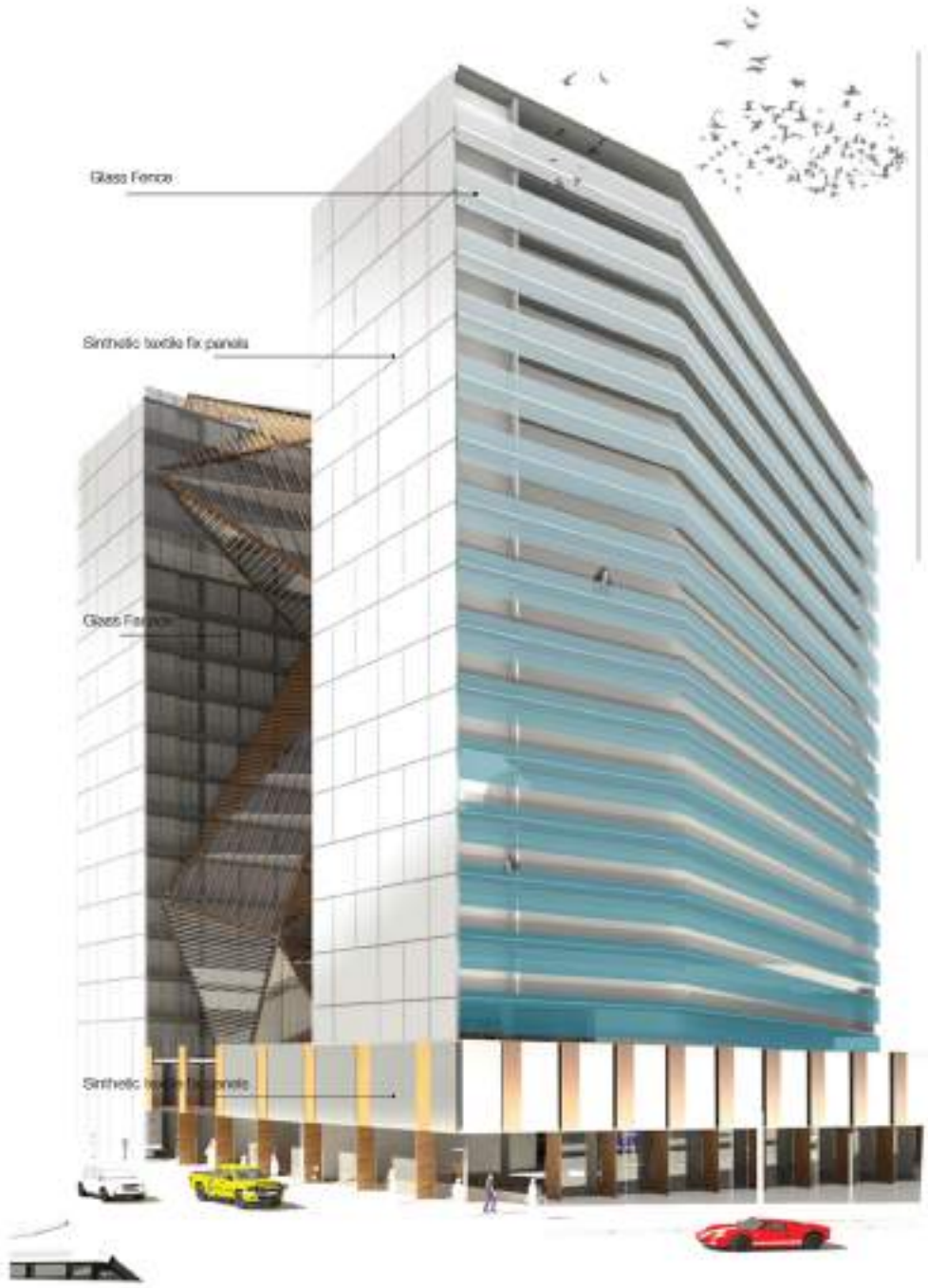

aSZ / HYBRIDa


aSZ / HYBRIDa


aSZ / HYBRIDa

Facade Option 1

Synthetic textile rolling interior blinds and glass fence



Total Supi Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

Total cost fac 1-2:
Total cost fac 3-4:

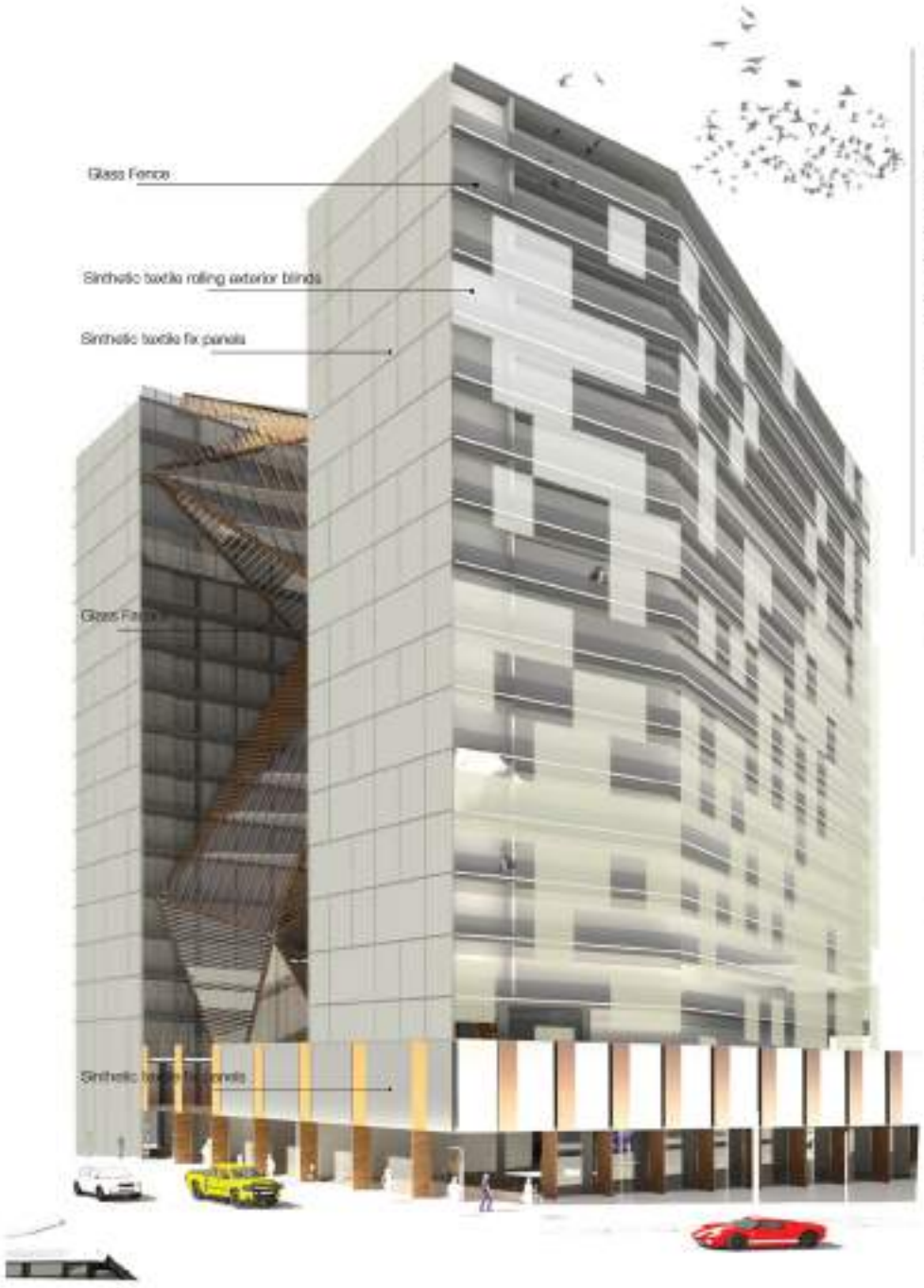
F 1: 3096 F 2: 2388

F 3:1200 F 4: 1083

aSZ / HYBRIDa

Facade Option 2

Synthetic textile rolling exterior blinds and glass fence

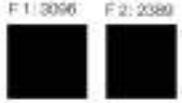


Total Sup Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

Total cost fac 1-2:
Total cost fac 3-4:

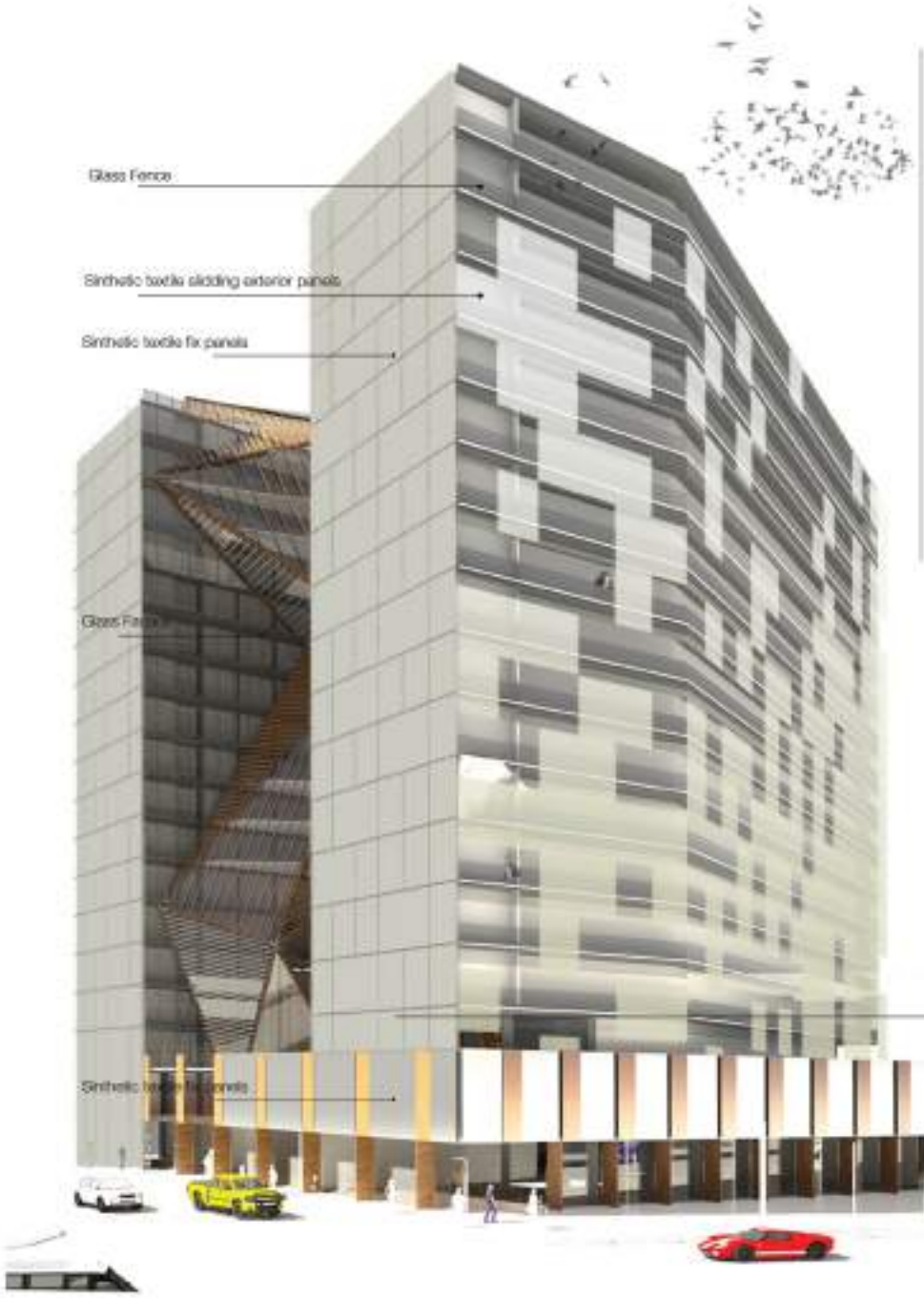
F 1: 3096 F 2: 2388



F 3:1200 F 4: 1083

Facade Option 2

synthetic textile screening pannels and glass fence



Total Supi Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

Total cost fac 1-2:
Total cost fac 3-4:

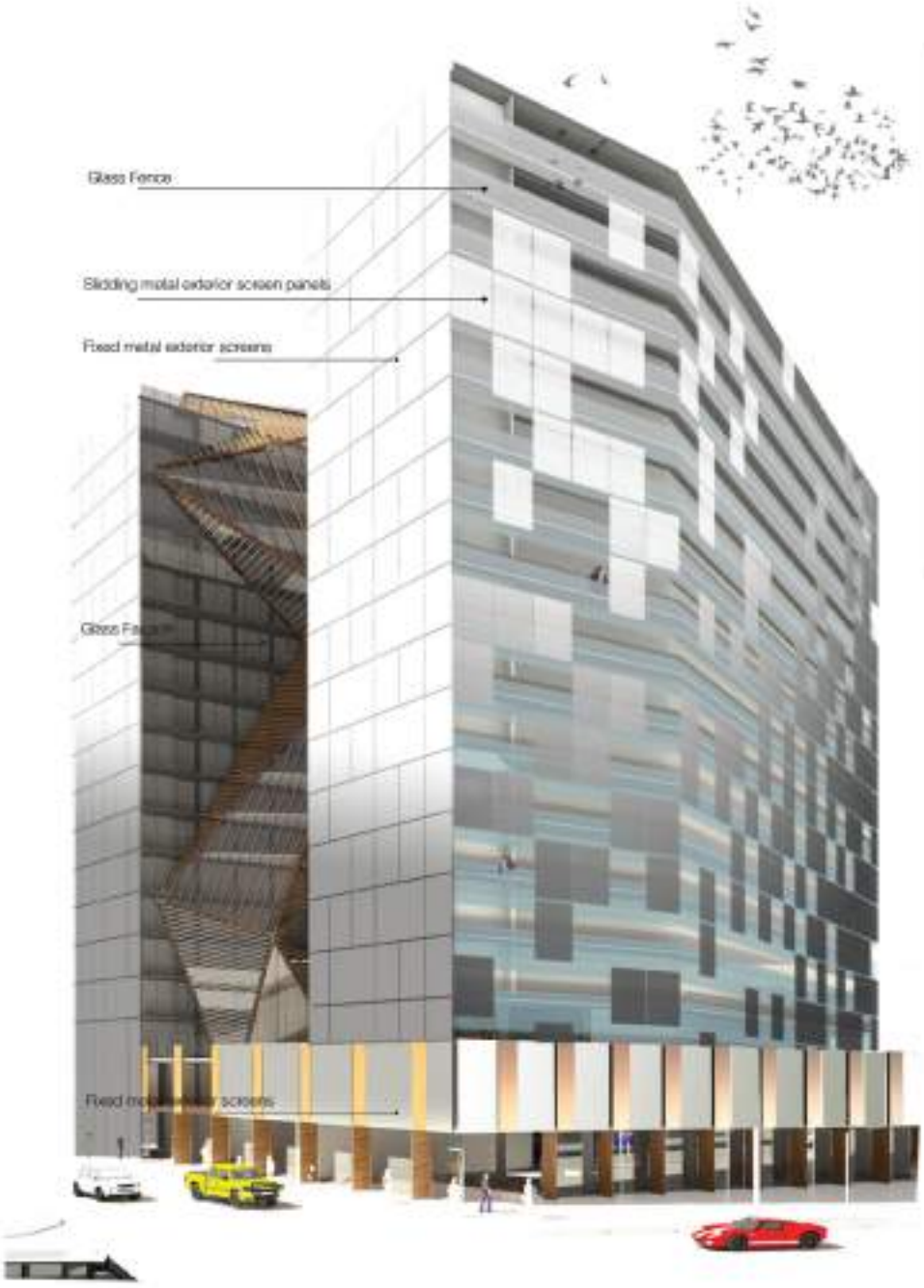
F 1: 3096 F 2: 2388

F 3:1200 F 4: 1083

aSZ / HYBRIDa

Facade Option 3

Fixed metal exterior screen blinds and glass fence

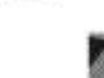


Total Sup Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

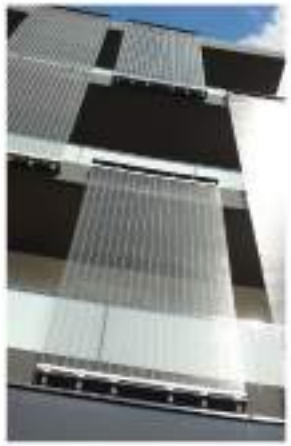
Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

Total cost fac 1-2:
Total cost fac 3-4:

F 1: 3096 F 2: 2388

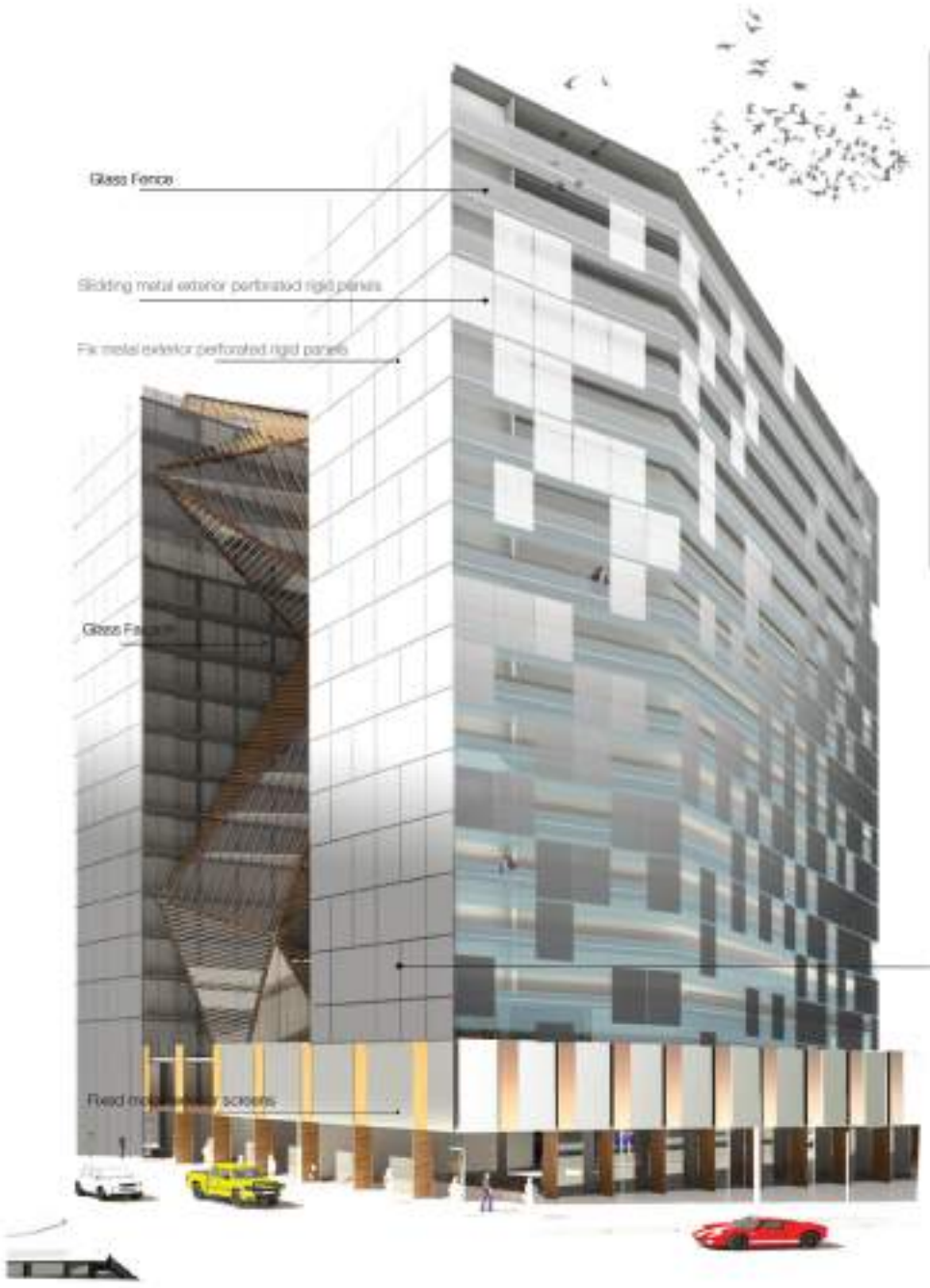


F 3:1200 F 4: 1083



Facade Option 1

Fixed or sliding metal exterior perforated rigid panels and glass fence



Total Supi Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

Total cost fac 1-2:
Total cost fac 3-4:

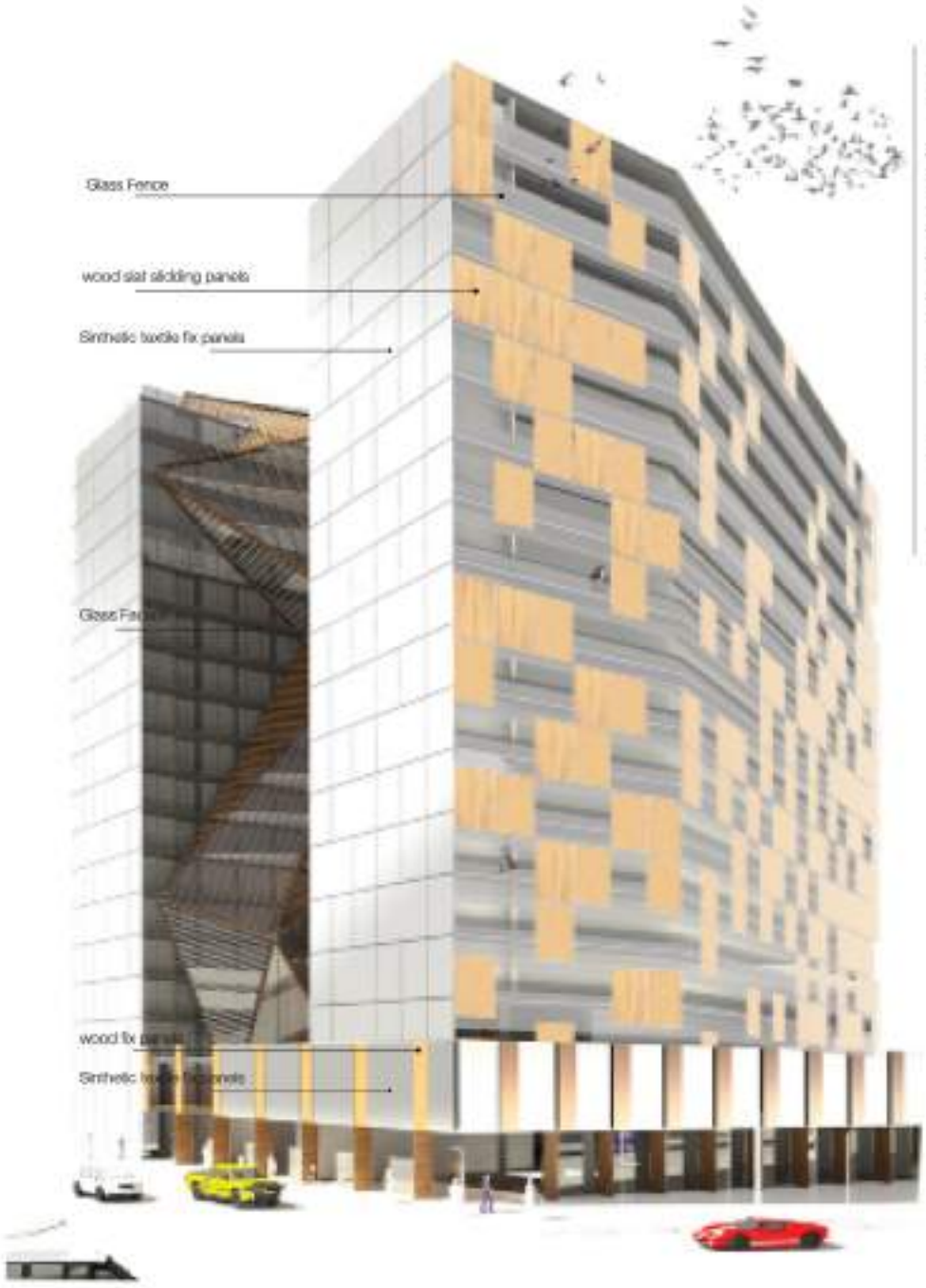
F 1: 3096 F 2: 2388

F 3:1200 F 4: 1083

aSZ / HYBRIDa

Facade Option 1

Fixed or sliding wood slat exterior panels and glass fence

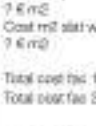


Total Sup Fac 1: 3096m2
Total Sup Fac 2: 2388m2
Total Sup Fac 3: 1200m2
Total Sup Fac 3: 1083m2

Cost m2 rolling textile screen
? € m2
Cost m2 fix metal mesh
? € m2
Cost m2 perforated panel
? € m2
Cost m2 slat wood boards
? € m2

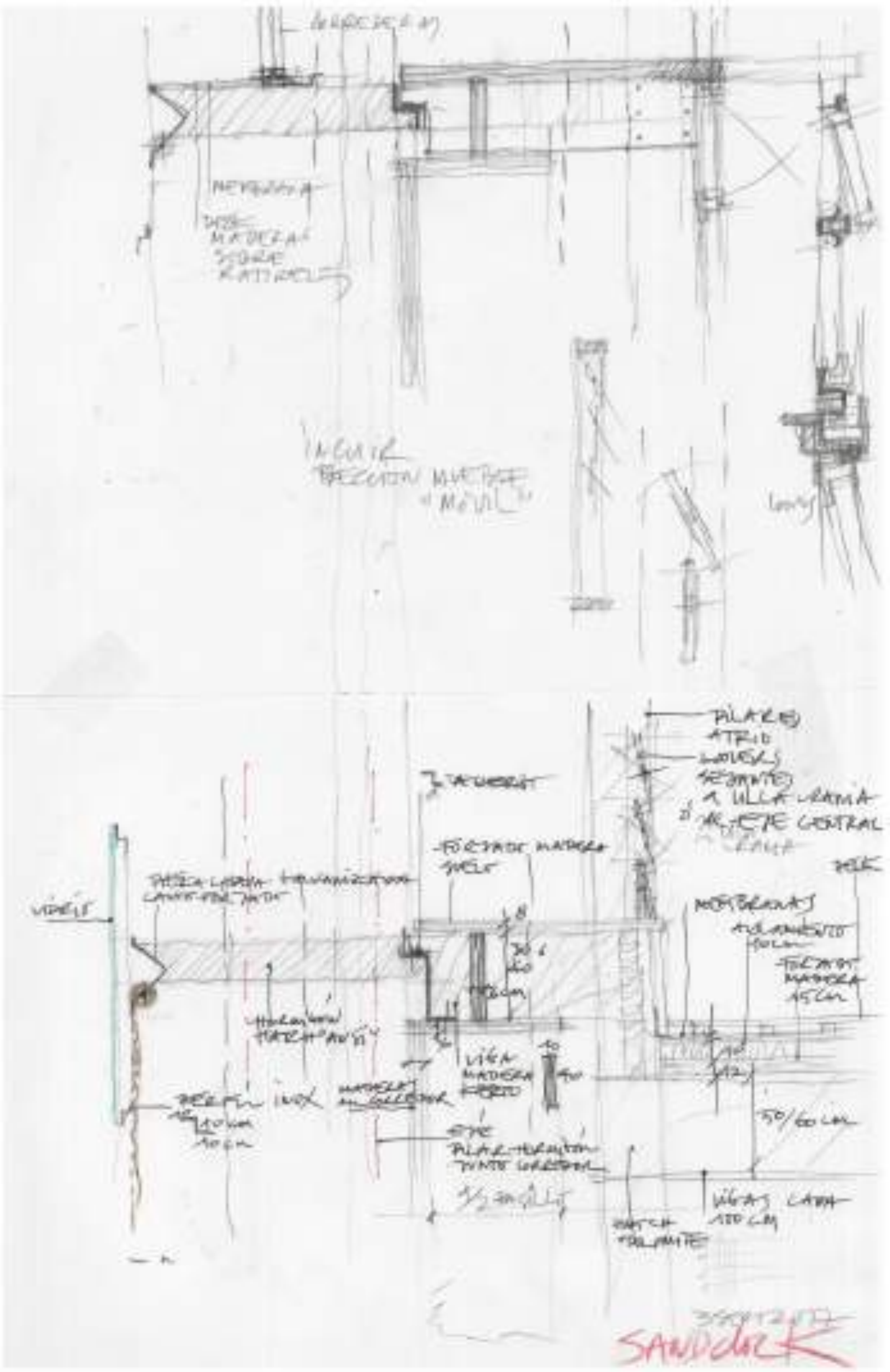
Total cost fac 1-2:
Total cost fac 3-4:

F 1: 3096 F 2: 2388



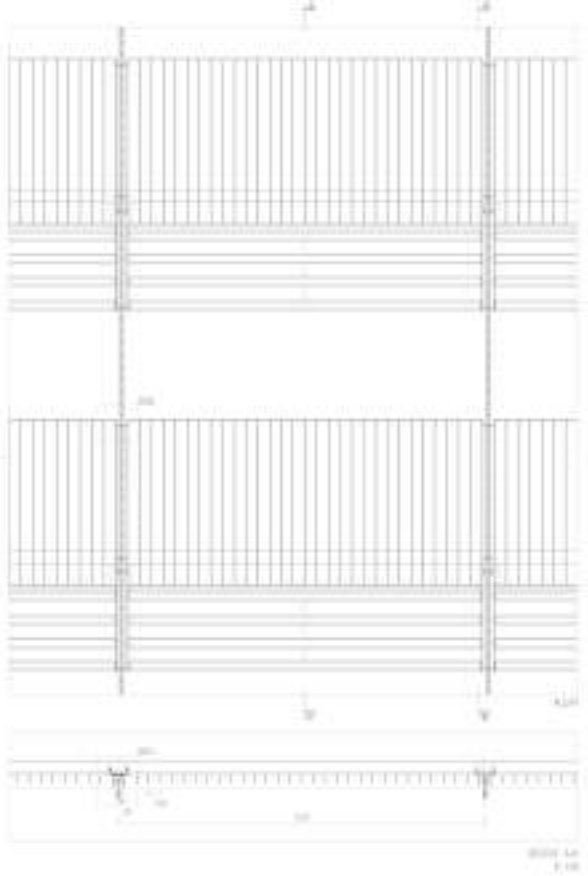
F 3:1200 F 4: 1083

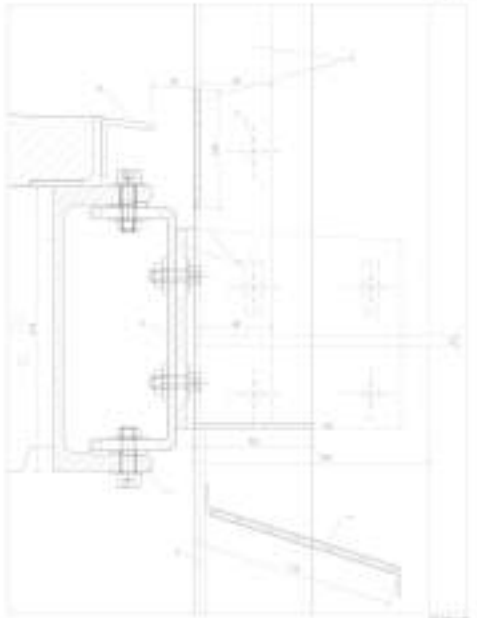
aSZ / HYBRIDa

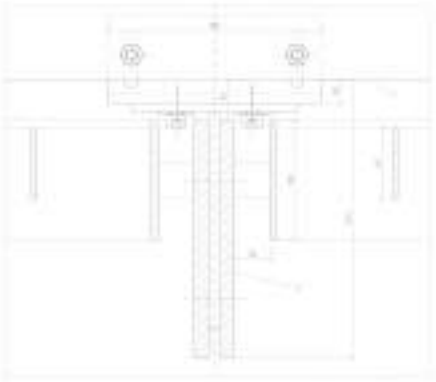


MEMBRANA
PILARES ATRIO
FORJADO MADERA SUELO
MEMBRANAS
VIDRIO
PERFIL INOX
50/60 CM
VIGAS CADA 100 CM


Can Gomar, Barcelona Cost Estimate: 31.000.000€ Construction Cost: +1%







RENOVAL INMOBILIARIA S.A.

PROJECTE EXECUTIU

D-15-DET BARANA

A3Z

PROYECTO EJECUTIVO DE 3 EDIFICIFIOS CON 137 VIVIENDAS, LOCALES COMERCIALES Y APARCAMIENTOS EN CAN GOMAR DE L'HOSPITALET DE LLOBREGAT. BARCELONA.
RESUMEN DEL PRESUPUESTO
Proyecto : Hospitalet - Can Gomar para Ferrovial

0100			733.244,03
01	INFRASTRUCTURA Y PRELIMINARES	733.244,03	
0201	MOV. TIERRAS GENERALES		295.140,10
0202	MOV. TIERRAS PARA CIMIENTOS		39.755,00
02	MOVIMIENTOS DE TIERRAS	334.895,10	
0301	PILOTES Y ENCEPADOS		538.402,12
0302	MUROS PANTALLA		244.411,35
03	CIMIENTOS	782.813,47	
0400			168.548,95
04	MUROS DE CONTENCION	168.548,95	
0500			137.233,65
05	SOLERA DE BASE	137.233,65	
0600			2.705.230,43
06	ESTRUCTURA	2.705.230,43	
0700			509.825,94
07	CUBIERTAS	509.825,94	
0800			501.368,92
08	FACHADAS Y ACABADOS DE FACHADAS	501.368,92	
0901	DIVISIONES CERAMICAS		258.446,50
0902	DIVISIONES DE PLADUR		697.692,15
0903	PAVIMENTOS		773.567,57
0904	ACABADOS DE PAREDES		567.593,26
0905	ACABADOS DE TECHOS		257.986,69
0906	MARMOLES		85.841,38
0907	PINTURAS		227.334,52
09	DIVISIONES INTERIORES Y ACABADOS	2.868.462,07	
1000			74.323,82
10	AYUDAS DE ALBAÑILERIA	74.323,82	
1101	CARPINTERIA DE MADERA		604.517,66
1102	CARPINTERIA DE ALUMINIO		741.144,61
1103	CERRAJERIA		606.933,54
1104	CERRAJERIA DE FACHADA		1.561.728,07
11	CARPINTERIA	3.514.323,88	
1201	EQUIPAMIENTOS COCINA		6.565,73
1202	EQUIPAMIENTOS BAÑOS		10.440,57
1203	EQUIPAMIENTOS ZONA COMÚN		12.828,30
12	EQUIPAMIENTOS	29.834,60	
1300			228.726,94
13	ASCENSORES	228.726,94	
1401	AJUDES INSTAL.LACIO DE CONDUCCIO		40.860,18
1402	INSTAL.LACIO DE CONDUCCIO D'AIGU		102.063,40
1403	INSTAL.LACIO DE CONDUCCIO D'AIGU		2.530,11
1404	INSTAL.LACIONS DE CONDUCCIO D'AI		74.201,30
14	FONTANERIA	219.654,99	
1501	AJUDES INSTAL.LACIONS D'EVACUACI		5.106,59

clave	uni	descripción	medición	precio unitario	importe
110405	ud	ELEMENTO METALICO EM5. ELEMENTO METALICO MODULAR DE BALCONERAS EN FACHADAS DE DIMENSIONES 295 X 215 CM COMPUESTO POR: - BARANDA DE ACERO GALVANIZADO PINTADA CON COLOR RAL 9006, PREVIA IMPRIMACION. - PARASOL DE ACERO GALVANIZADO PINTADO CON COOLR RAL 9006, PREVIA IMPRIMACION. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	440,00		
110406	ud	ELEMENTO METALICO EM5C. ELEMENTO METALICO MODULAR DE BALCONERAS EN FACHADAS DE DIMENSIONES 295 X 386 CM COMPUESTO POR: - LAMAS EN " Z " DE ACERO GALVANIZADO PINTADAS CON COLOR RAL 9006, PREVIA IMPRIMACION. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	40,00		
110407	ud	ELEMENTO METALICO PERIMETRAL DE CUBIERTA. 2,91m ELEMENTO METALICO MODULAR PERIMETRAL EN CUBIERTAS DE ACERO GALVANIZADO DE DIMENSIONES 291 X 375 CM COMPUESTO POR: - PARASOL DE ACERO GALVANIZADO PINTADO CON PINTURA DE ESMALTE HAMMERITE COLOR PLATA. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	40,00		
110408	ud	ELEMENTO METALICO PERIMETRAL DE CUBIERTA. 2,95m ELEMENTO METALICO MODULAR PERIMETRAL EN CUBIERTAS DE ACERO GALVANIZADO DE DIMENSIONES 295 X 375 CM COMPUESTO POR: - PARASOL DE ACERO GALVANIZADO PINTADO CON PINTURA DE ESMALTE HAMMERITE COLOR PLATA. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	84,00		
110409	ml	SUMINISTRO Y COLOCACION DE ELEMENTO MONTANTE MONTANTE RECTANGULAR 300X50X3 MM, DE ACERO GALVANIZADO ANCLADO AL CANTO DEL FORJADO. SE INCLUYEN LAS JUNTAS DE DILATACION EN CADA PLANTA CON SISTEMA TUBO/CONTRA-TUBO. ANCLAJE CON FORJADO DE APARCAMIENTO CON PIEZA ESPECIAL Y JUNTA COLÍS. SE INCLUYE IMPRIMACION Y PINTURA TIPO HAMMERITE, COLOR 9006. PINTADO EN TALLER Y SECADO EN HORNO.	3.624,38		

clave	uni	descripción	medición	precio unitario	importe
11		CARPINTERIA.			
1104		CERRAJERIA DE FACHADA.			
110401	ud	ELEMENTO METALICO EM1. ELEMENTO METALICO DE ESQUINA DE FACHADA DE ACERO GALVANIZADO COMPUESTO POR: - BARANDA DE ACERO GALVANIZADO PINTADA CON COLOR RAL 9006, PREVIA IMPRIMACION. - PARASOL DE ACERO GALVANIZADO PINTADO CON COLOR RAL 9006, PREVIA IMPRIMACION. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	104,00		
110402	ud	ELEMENTO METALICO EM1C. ELEMENTO METALICO DE ESQUINA DE FACHADA DE ACERO GALVANIZADO COMPUESTO POR: - LAMAS EN " Z " DE ACERO GALVANIZADO PINTADO CON COLOR RAL 9006, PREVIA IMPRIMACION . SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.			
110403	ud	ELEMENTO METALICO EM2. ELEMENTO METALICO MODULAR DE BALCONERAS EN FACHADAS DE ACERO GALVANIZADO DE DIMENSIONES 306 X 215 CM COMPUESTO POR: - BARANDA DE ACERO GALVANIZADO PINTADA CON PINTURA DE ESMALTE HAMMERITE COLOR PLATA, PREVIA IMPRIMACION. - PARASOL DE ACERO GALVANIZADO PINTADO CON COLOR RAL 9006, PREVIA IMPRIMACION. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	384,00		
110404	ud	ELEMENTO METALICO EM2C. ELEMENTO METALICO MODULAR DE BALCONERAS EN FACHADAS DE DIMENSIONES 306 X 386 CM COMPUESTO POR: - LAMAS EN " Z " DE ACERO GALVANIZADO PINTADAS CON COLOR RAL 9006, PREVIA IMPRIMACION. SE INCLUYEN: - TODOS LOS ELEMENTOS NECESARIOS PARA LA SUJECION DEL ELEMENTO AL FORJADO SEGUN PROYECTO. TODO SEGUN DATOS DE PROYECTO.	84,00		

clave	uni	descripción	medición	precio unitario	importe
110410	M2	PREVISIÓN DE ESTRUCTURA DE MONTANTES, BARANDAS Y PARASOLES. INCLUYENDO TODAS LAS PARTIDAS ANTERIORES Y ANDAMIAJE MOTORIZADO.	10.721,00	145,67	1.561.728,07
		TOTAL CAPITULO			1.561.728,07

OBRA: 137 VIVIENDAS EN CAN GOMAR EN L'HOSPITALET

ESTUDIO COMPARATIVO FACHADA " CAN GOMAR"

				CERRAJERIA					ALUMINIO	
			PROYECTO	FOLCRA			INOX 3		C. NOGUERA	M. PLA	NORVENTAL
Nº PARTIDA	UD	DESCRIPCIÓN	PREVISIÓN EN CD	INOX	ALUMINIO REFORZADO EN BARANDAS	MONTANTE ALUMINIO BARANDA INOX	ACERO + CATAF.+ LAMAS ALUMINIO	ACERO GALV + PINT	ACERO + CATAF.+ LAMAS DE ALUMINIO	ALUMINIO	ALUMINIO
		SUMINISTRO Y COLOCACION DE MATERIALES	1.179.310	4.362.596	2.181.056	3.866.136	1.384.623	1.621.008	1.282.923	1.312.063	1.179.310
		PEQUEÑO MATERIAL + AYUDAS	37.264	37.264	37.264	37.264	37.264	37.264	37.264	37.264	37.264
		ANDAMIAJE ESPECIALES.	42.884	42.884	42.884	42.884	42.884	42.884	42.884	42.884	42.884
		TOTAL	1.259.458	4.442.744	2.261.204	3.946.284	1.464.771	1.701.156	1.363.071	1.392.211	1.259.458
		DIFERECIA CON PREVISIÓN	0	**3.183.286**	**1.001.746**	**2.686.826**	**205.313**	**441.698**	**103.613**	**132.753**	**0**
		% DIF. CON PREVISIÓN		**252,75%**	**79,54%**	**213,33%**	**16,30%**	**35,07%**	**8,23%**	**10,54%**	**0,00%**

OBSERVACIONES AL ESTUDIO DE FACHADAS OBRA HOSPITALET.

FACHADA METALICA PROPUESTA POR BIOSCA & BOTEY.

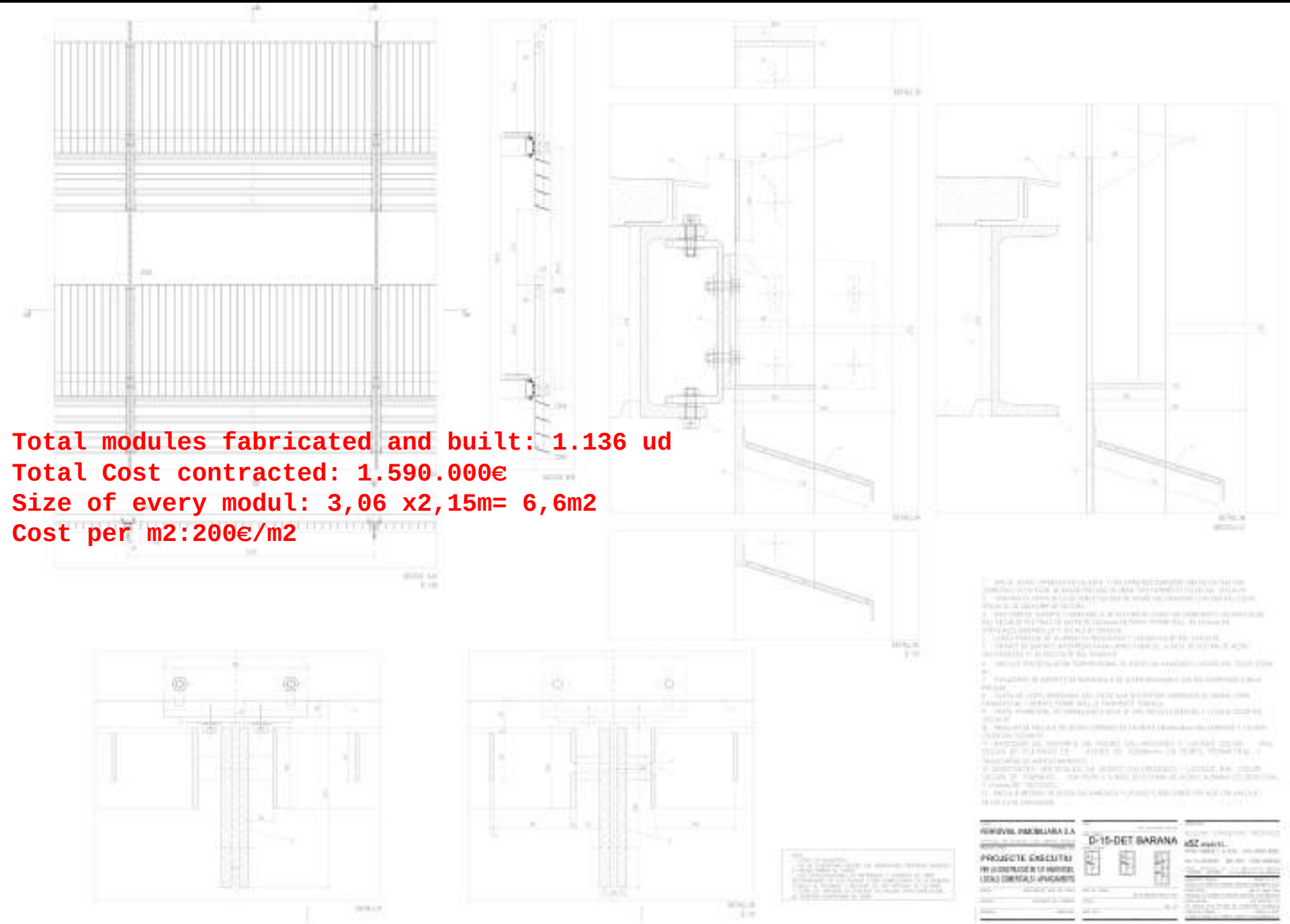
1. Introducción: Se han valorado diferentes opciones para la fachada diseñada por B & B.
   - Acabado en acero inoxidable.
   - Acabado en aluminio reforzado en acero
   - Hibrido montante aluminio baranda acero inox
   - Acabado en acero galvanizado para pintar con pinturas de poliuretano
   - Acabado en acero tratado mediante proceso de cataforesis. 40 micras + 80 micras de acabado en pintura epoxidica en polvo termolacada al horno.

2. Comentarios sobre el diseño en estructura metálica
   - Acabado en inox se dispara de precio.
   - Acabado en galvanizado no se recomienda por las deformaciones del material, el acabado poco fino (resto de otros metales en la cuba de inmersión), cegado de taladros, y dudosa durabilidad de la pintura sobre este material a largo plazo.
   - Observaciones sobre el diseño: Se observa que los montantes verticales que forman la barandilla (pletina de 80*5 de longitud 1.40 no tienen la inercia suficiente, efecto guitarra.) lo mismo pasa con e marco perimetral diseñado en 100*6) se ha recomendado por parte de los industriales gruesos mínimos de 8 para los verticales de barandillas y 10 para el enmarcado.

FACHADA EN ALUMINIO.

Inicialmente y previa a la recepción de los planos de B & B se habían iniciado con diferentes industriales estudios para realizar la fachada en aluminio adonizado estrusionando los perfiles especialmente para esta obra.

Este tipo de solución y por indicaciones de la D.F. no ha prosperado con el proyecto de B & B al rechazarse la solución en aluminio.



Total modules fabricated and built: 1.136 ud
Total Cost contracted: 1.590.000€
Size of every modul: 3,06 x2,15m= 6,6m2
Cost per m2:200€/m2


FUJI RDPII
RDPII 032
FUJI RDPII
FUJI RDPII
Front Maritim Badalona
RDPII 7
RDPII 8
RDPII 9
RDPII 10

PROYECTO EJECUTIVO DE CONJUNTO DE VIVIENDAS, LOCALES Y APARCAMIENTO EN LA MANZANA U.A.2 DEL SECTOR A3 DE LA FACHADA MARITIMA DE BADALONA.

RESUMEN DEL PRESUPUESTO

01#	*INFRAESTRUCTURA Y PRELIMINARES*		*367.925,63*
07#	*CUBIERTAS*		*237.190,29*
08#	*FACHADAS Y ACABADOS DE FACHADAS*		*877.228,24*
09#	*DIVISIONES INTERIORES Y ACABADOS*		*2.046.208,56*
09.01#	DIVISIONES INTERIORES	154.431,63	
09.02#	DIVISIONES DE PLADUR	575.012,17	
09.03#	PAVIMENTOS	844.957,13	
09.04#	ACABADOS DE DIVISIONES	345.068,03	
09.05#	ACABADOS DE TECHOS	139.793,63	
09.06#	PINTURAS Y ESTUCOS	186.945,96	
10#	*AYUDAS ALBAÑILERIA*		*40.214,68*
11#	*CARPINTERIA*		*1.484.200,43*
11.01#	CARPINTERIA DE MADERA	472.882,02	
11.02#	CARPINTERIA DE ALUMINIO	369.856,14	
11.03#	CERRAJERIA	641.460,27	
12#	*EQUIPAMIENTOS*		*26.185,00*
12.01#	EQUIPAMIENTOS COCINAS	6.566,01	
12.02#	EQUIPAMIENTOS DE BAÑOS	8.080,80	
12.03#	EQUIPAMIENTOS DE ZONAS COMUNES	11.538,19	
13#	*MATERIAL SANITARIO*		*133.700,23*
14#	*FINAL DE OBRA*		*29.666,24*
15#	*ASCENSORES*		*140.689,48*
16#	*INSTALACIONES DE EVACUACION*		*112.441,28*
16.02#	AJUDES INSTAL.LACIONS SANEJAMENT	3.839,53	
16.03#	INSTAL.LACIO SANEJAMENT D'HABITATGES	23.348,40	
16.04#	INSTAL.LACIO SANEJAMENT DE LOCALS	380,54	
16.05#	INSTAL.LACIONS SANEJAMENT SERVEIS GENERALS	48.952,49	
16.06#	INSTAL.LACIO SANEJAMENT APARCAMENT	36.240,32	
17#	*INSTALACIONES DE VENTILACIÓN MECANICA*		*9.867,19*
17.01#	AJUDES INSTAL.LACIO DE VENTILACIO	1.800,17	
17.02#	INSTAL.LACIO DE VENTILACIO APARCAMENT	3.966,98	
17.03#	INSTAL.LACIO DE VENTILACIO I EXTRACCIO		
17.04#	INSTAL.LACIO DE VENTILACIO DE LOCALS	4.098,58	
18#	*INSTALACIONES DE CALEFACCIÓN*		*282.200,51*
18.01#	AJUDES INSTAL.LACIO DE CALEFACCIO	23.037,28	
18.02#	INSTAL.LACIO DE CALEFACCIO D'HABITATGES	259.163,23	
19#	*INSTALACIONES DE AIRE ACONDICION*		*91.997,87*
19.01#	AJUDES PREINSTAL.LACIO DE CLIMATITZACIO	91.997,87	
20#	*INSTALACIONES DE FONTANERÍA*		*172.193,76*
20.01#	AJUDES INSTAL.LACIO DE CONDUCCIONS	30.716,57	
20.02#	INSTAL.LACIO DE CONDUCCIO D'AIGUA HABITATGES	54.030,70	
20.03#	INSTAL.LACIO DE CONDUCCIO D'AIGUA LOCALS	910,80	
20.04#	INSTAL.LACIONS DE CONDUCCIO D'AIGUA SERVEIS GENERALS	87.535,69	
21#	*INSTALACIONES ELÉCTRICAS*		*362.600,45*
21.01#	AJUDES INSTAL.LACIONS D'ELECTRICA	48.815,38	
21.02#	INSTAL.LACIO ELECTRICA D'HABITATGES	169.195,55	
21.03#	INSTAL.LACIO ELECTRICA DE LOCALS	355,60	
21.04#	INSTAL.LACIO ELECTRICA ZONES COMUNS	117.151,73	
21.05#	INSTAL.LACIO ELECTRICA APARCAMENT	25.882,19	
22#	*INSTALACIONES DE GAS*		*97.120,31*
22.01#	AJUDES INSTAL.LACIONS DE GAS	3.839,53	
22.02#	INSTAL.LACIONS DE GAS D'HABITATGES	28.424,35	
22.03#	INSTAL.LACIONS DE GAS DE ZONES COMUNS	64.856,43	
23#	*INSTALACIONES CONTRAINCENDIOS*		*31.673,96*
23.01#	AJUDES INSTAL.LACIONS DE PROTECCIO	7.979,10	
23.02#	INSTAL.LACIO CONTRA INCENDIS APARCAMENT	20.638,42	
23.03#	INSTAL.LACIO CONTRA INCENDIS SERVEIS GENERALS	3.056,44	

PROYECTO EJECUTIVO DE CONJUNTO DE VIVIENDAS, LOCALES Y APARCAMIENTO EN LA MANZANA U.A.2 DEL SECTOR A3 DE LA FACHADA MARITIMA DE BADALONA

RESUMEN DEL PRESUPUESTO

24#	INSTALACIONES TELEFONÍA Y TELECOMUNICACIONS		175.690,25
24.01#	INSTAL.LACIO ICT DE RTV I SAT	33.941,49	
24.02#	INSTAL.LACIO PER LA ICT DE TB	13.569,70	
24.03#	INSTAL.LACION DE PORTER ELECTRONIC	46.649,29	
24.04#	INFRAESTRUCTURA DE TELECOMUNICACIONS	69.812,13	
24.05#	AJUDES INSTAL.LACIONS DE COMUNICACIONS	11.518,64	
25#	INSTALACIONES URBANIZACIÓN Z. COMUNITARIA		46.783,08
25.01#	PISCINA	1.330,87	
25.02#	ELECTRICITAT	40.002,67	
25.03#	INSTAL.LACIO DE REG	167,57	
25.04#	INSTAL.LACIO DE SANEJAMENT	5.281,97	
28#	URBANIZACION COMUNITARIA		113.758,01
28.01#	PAVIMENTOS	59.045,67	
28.02#	JARDINERIA	7.213,35	
28.03#	MOBILIARIO URBANO	4.525,00	
28.04#	PISCINA	42.974,09	
29#	OBRA CIVIL ESTACION TRANSFORMADORA		20.123,95
	TOTAL EJECUCION MATERIAL		**7.060.599,49**
	TOTAL PRESUPUESTO CONTRATA		**7.060.599,49**
	TOTAL PRESUPUESTO GENERAL		**7.060.599,49**

Asciende el presupuesto general a la expresada cantidad de:
SIETE MILLONES SESENTA MIL QUINIENTOS NOVENTA Y NUEVE Euros con CUARENTA Y NUEVE Céntimos.

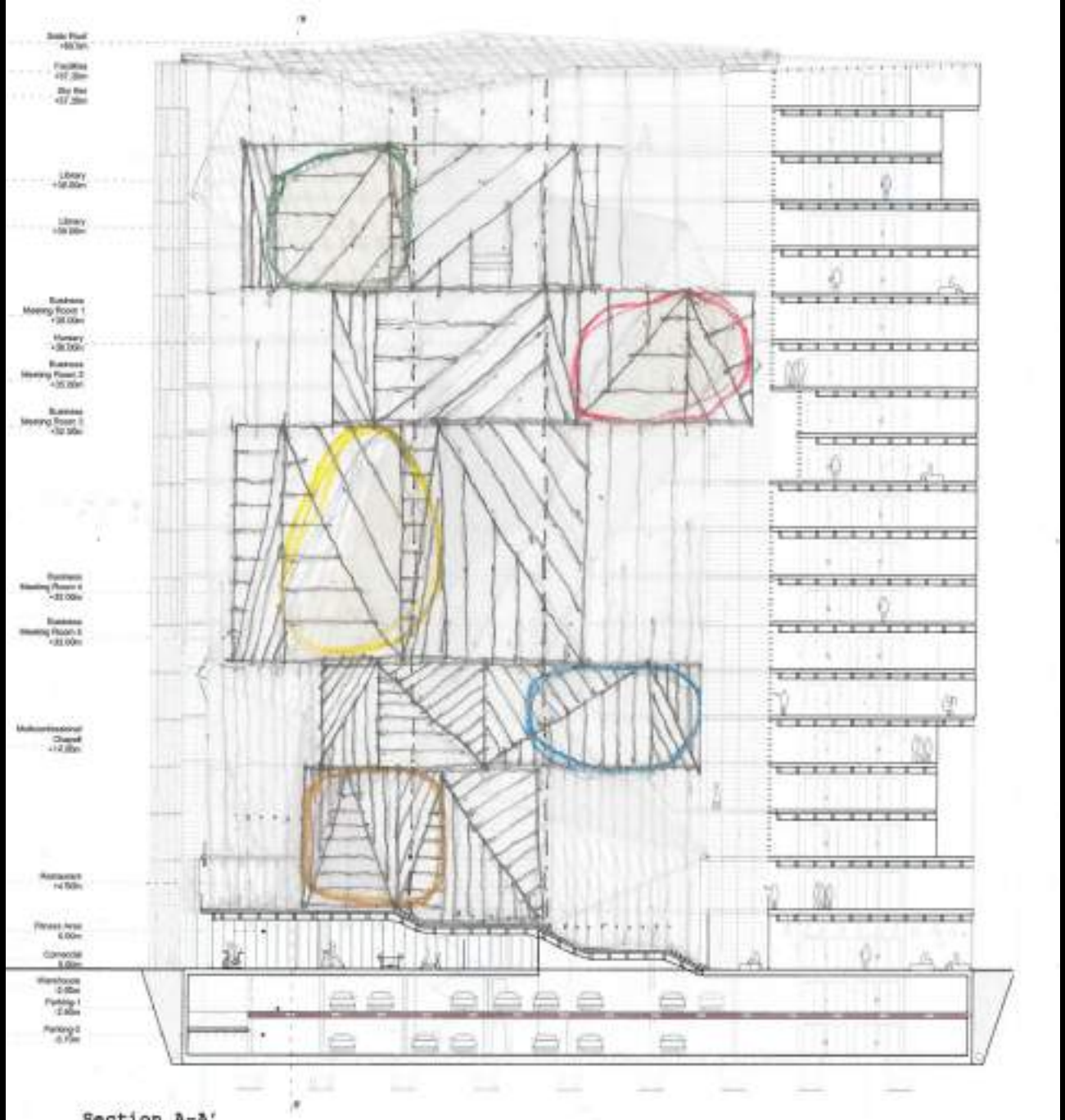
Nota.- Este presupuesto se verá incrementado con el IVA en vigor correspondiente

BARCELONA, a 23 de OCTUBRE de 2.002

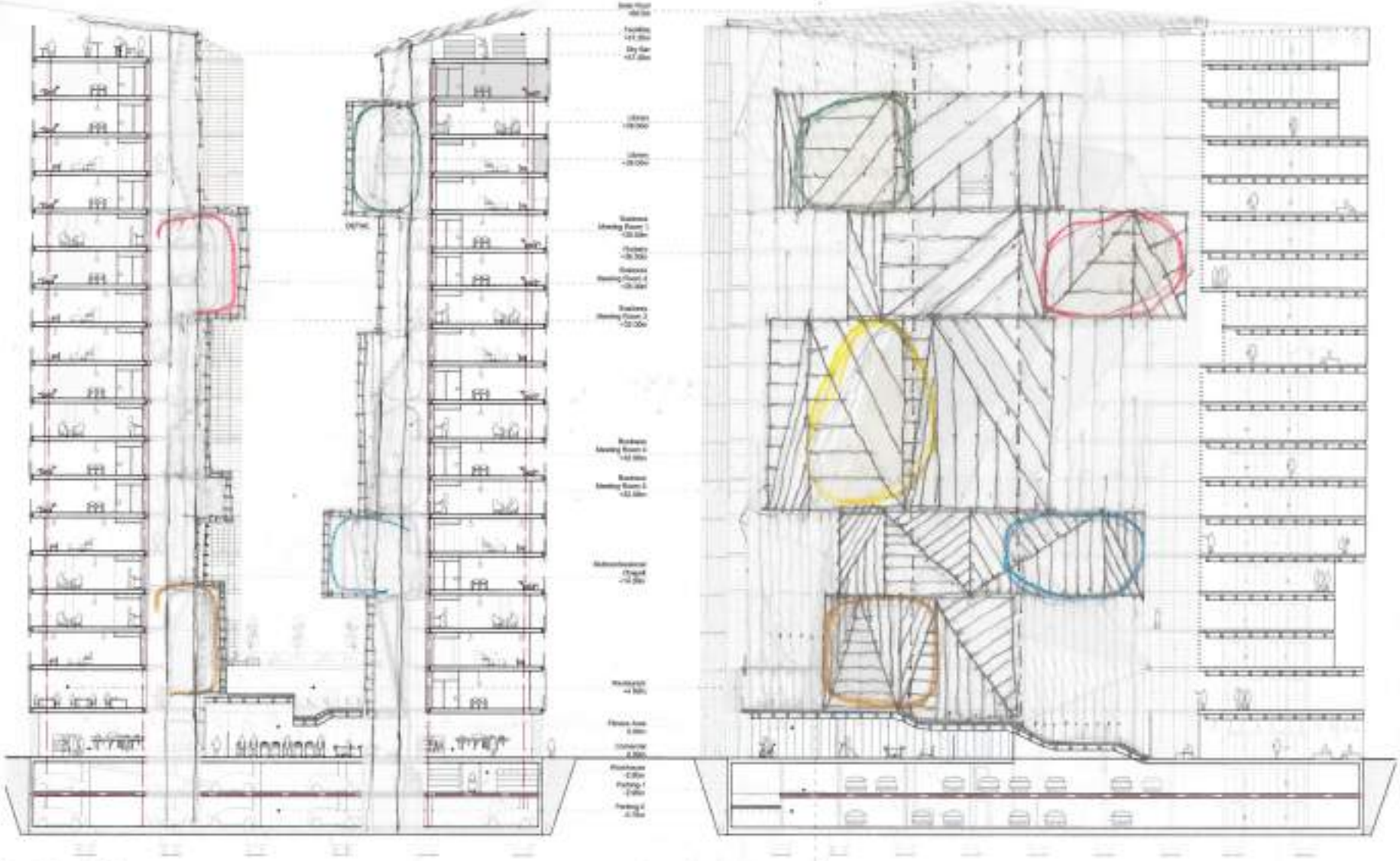
LA PROPIEDAD LA DIRECCION FACULTATIVA

Total construction m2: 15.000m2 (101 apartments, 106 Parkings, 6 comertial spaces
Total Cost of Construction: 7.060.600€
Cost of construction per Habitatge: 70.000€/habitatge.

c_Technical and cost related iterations of Atrium Spaces and attrium façades

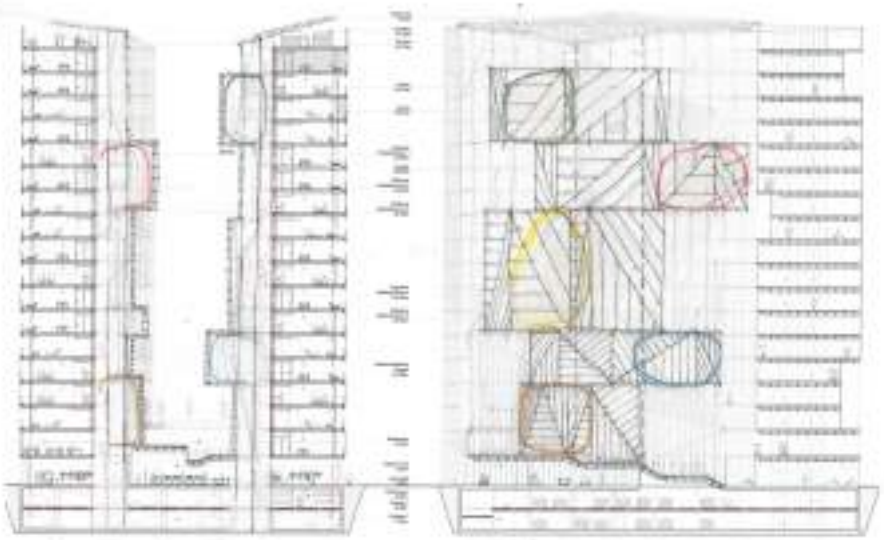


Section A-A'
1:200



Section B-B'
1:200

Section A-A'
1:200



Section A-A'
1:200

Section A-A'
1:200

Diamond Floor
1:200

Tower Floor
1:500

Diamond Floor
1:500

Sky Bar and Roof Floor
1:500

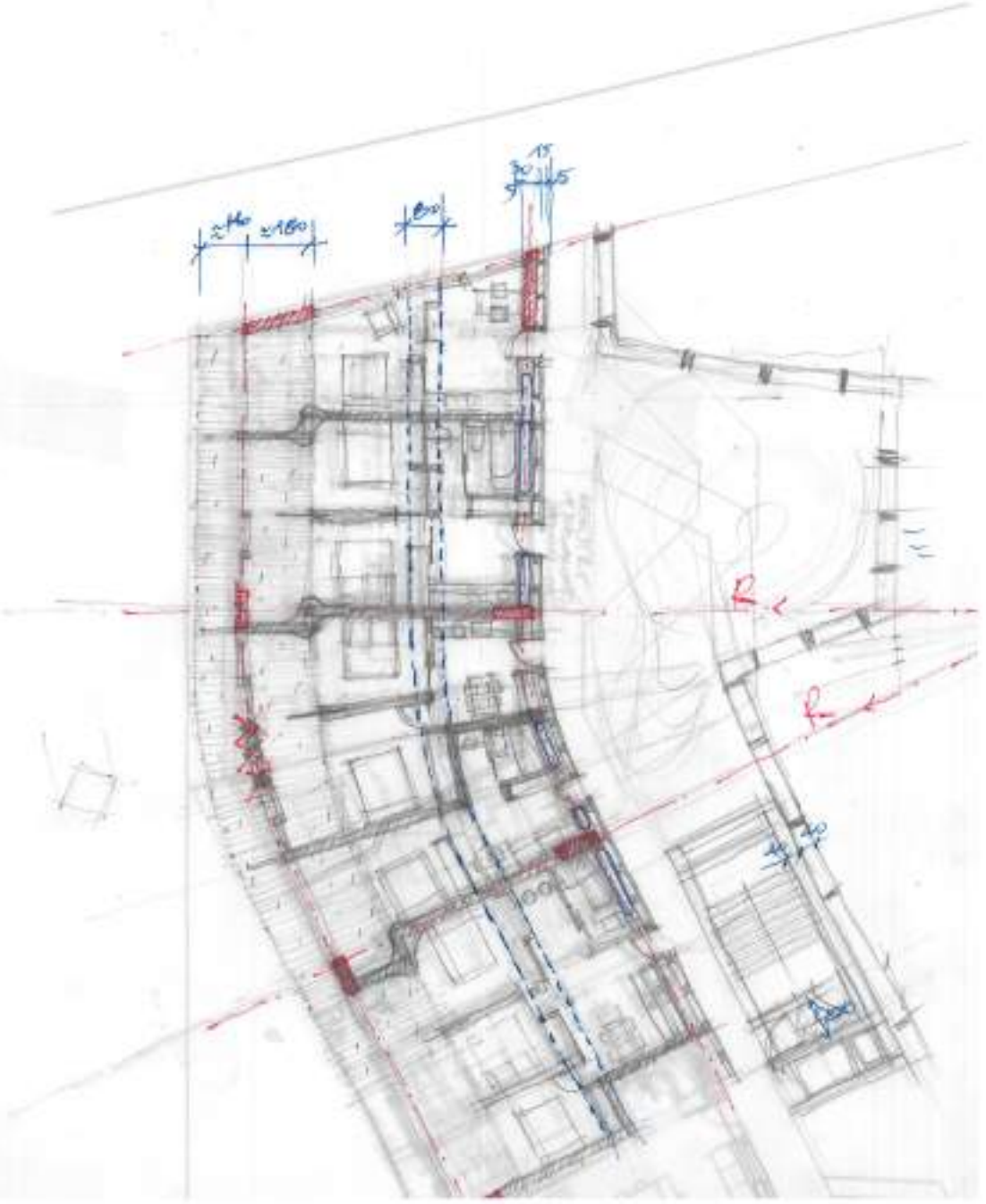
Rooftop Floor
1:500

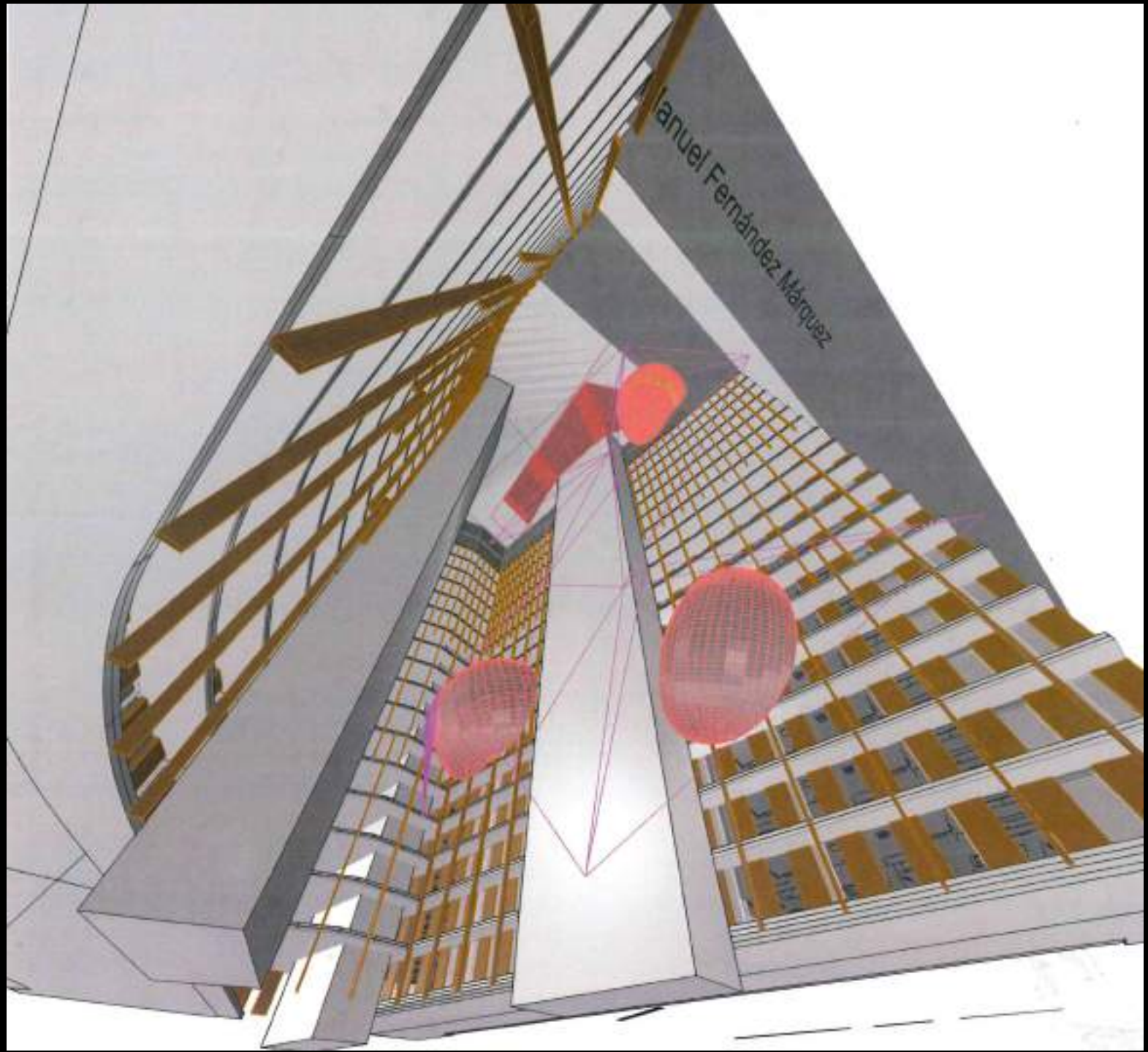
Rooms typologies
1:100

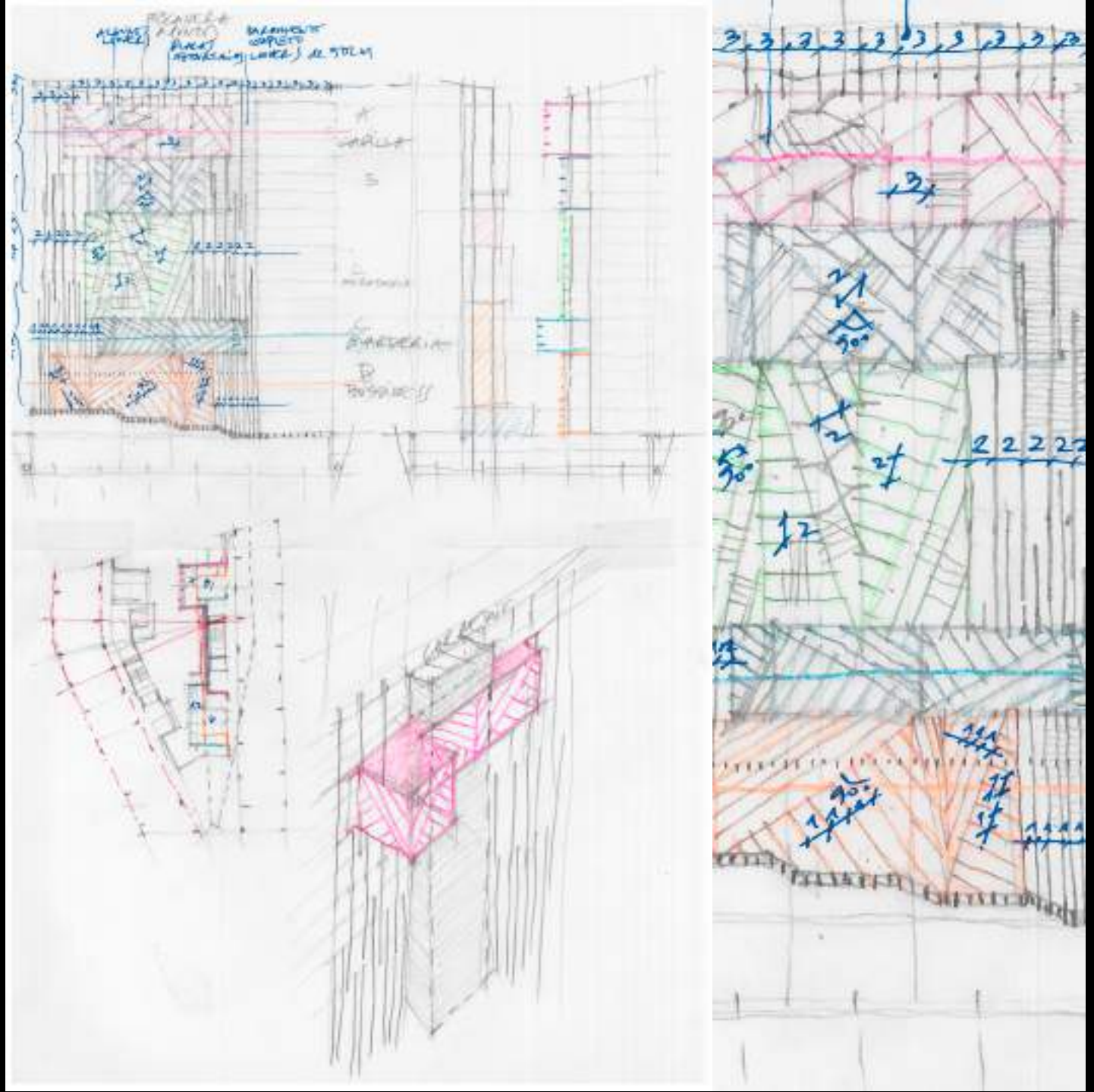
Basement -1
40 parking lots
1:500

Basement -2
75 parking lots
1:500

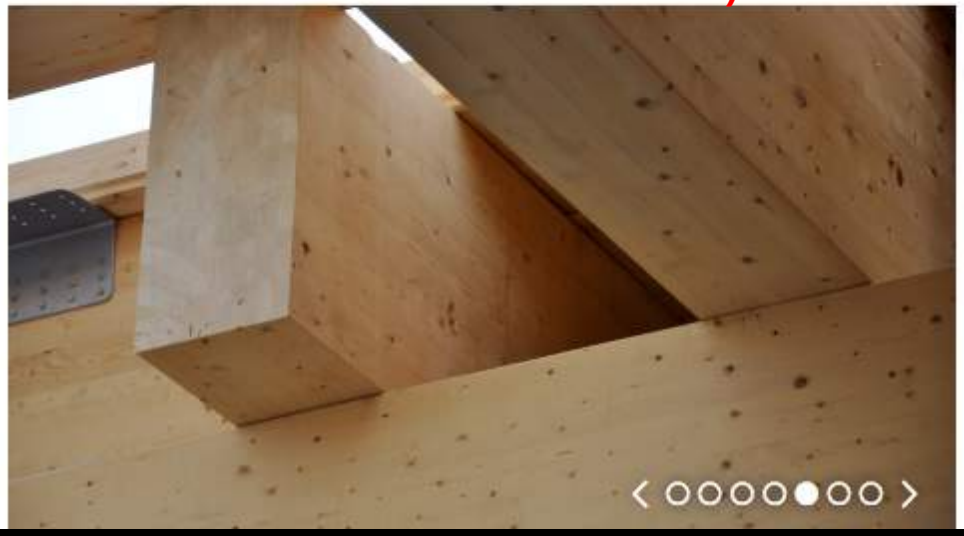
BARCELONA SUITE



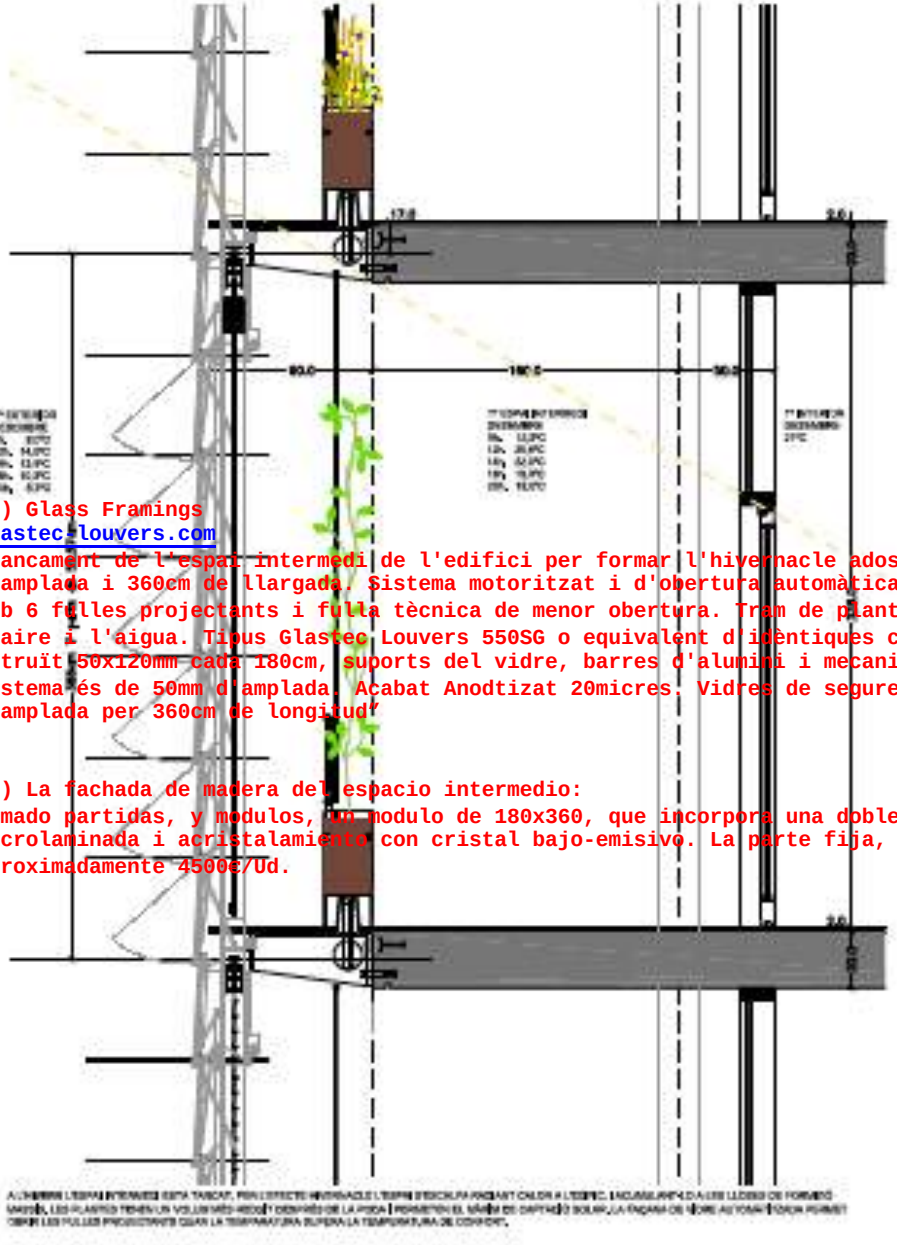

anuel Fernández Márquez

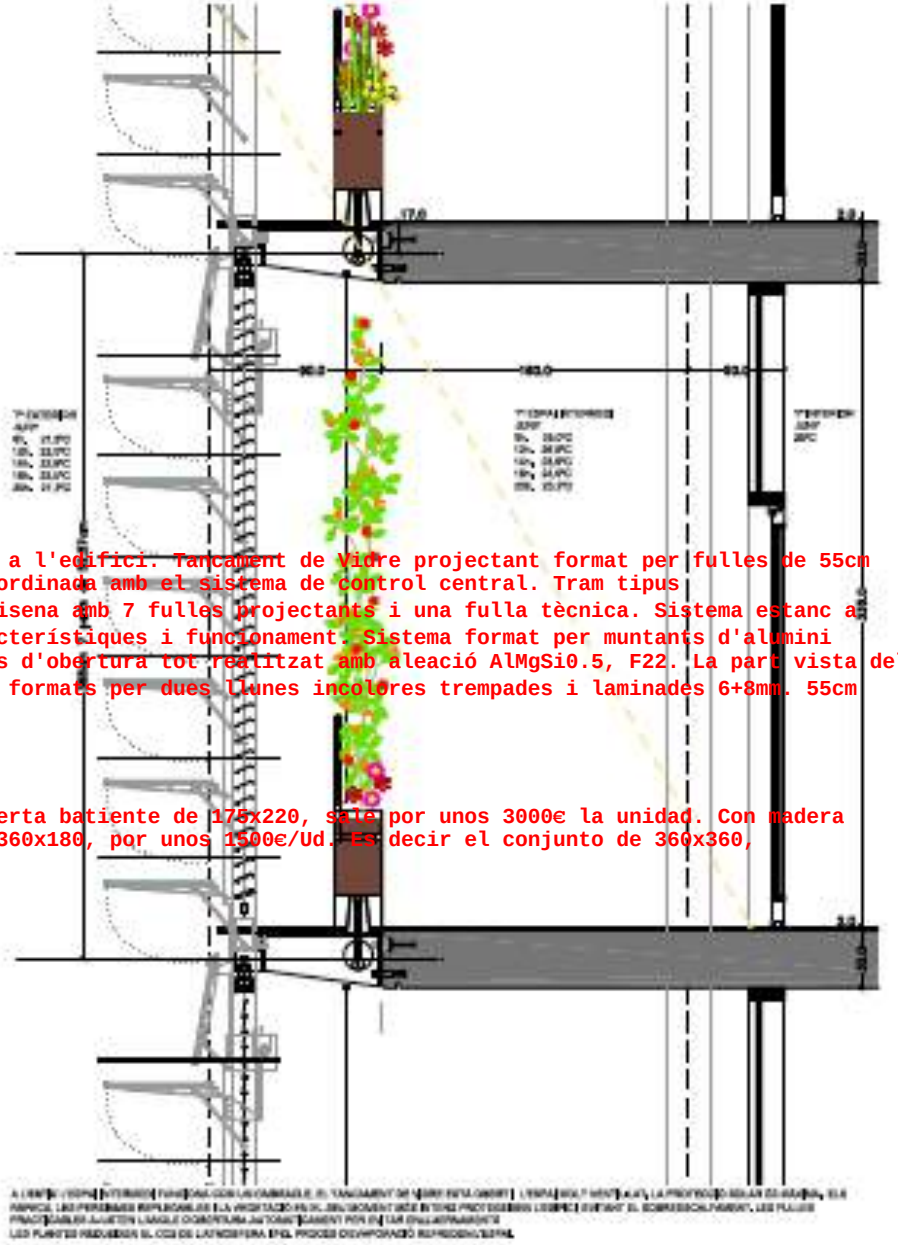


Stimated constructiopn costs (ref. NORDIC Structures and Daniel Indermühle):




RECEPTION



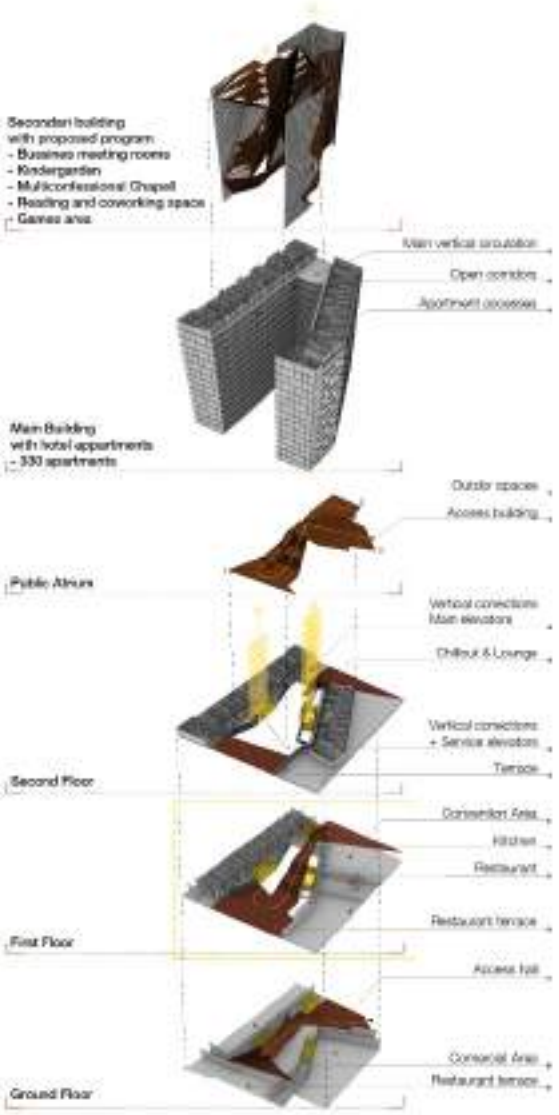


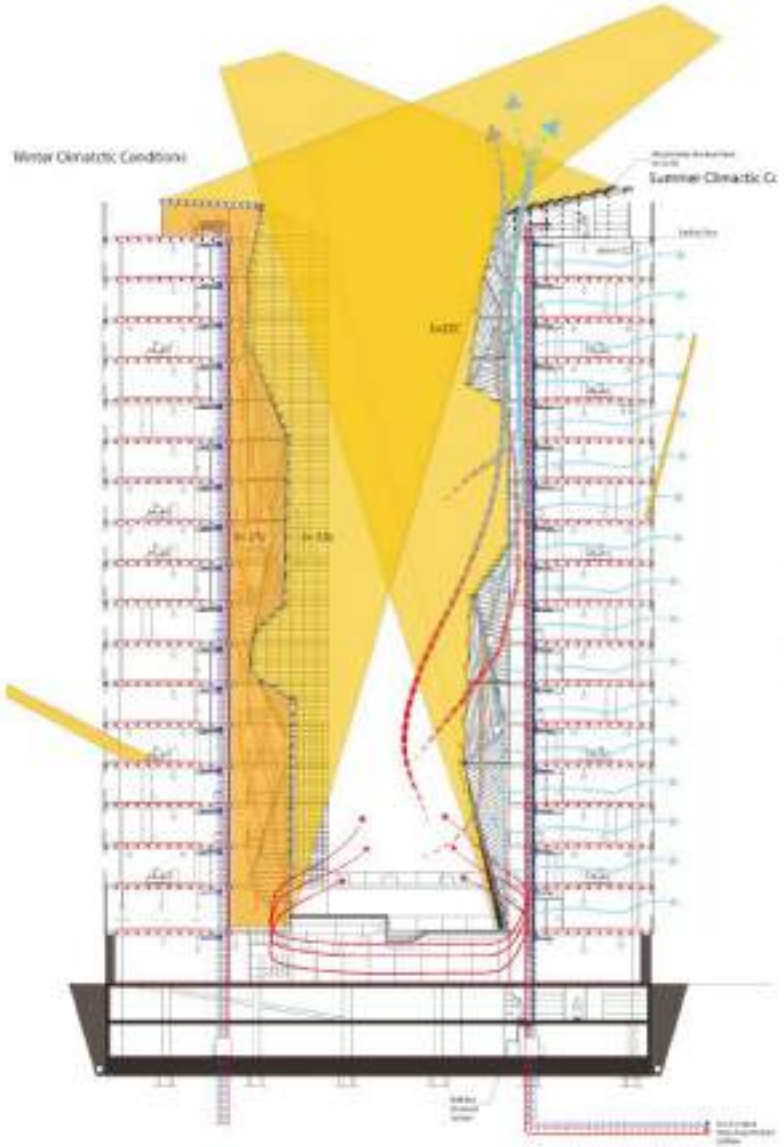
(1) Glass Framings
Glastec-louvers.com
"Tancament de l'espai intermedi de l'edifici per formar l'hivernacle adossat a l'edifici. Tancament de Vidre projectant format per fulles de 55cm d'amplada i 360cm de llargada. Sistema motoritzat i d'obertura automàtica coordinada amb el sistema de control central. Tram tipus amb 6 fulles projectants i fulla tècnica de menor obertura. Tram de planta sisena amb 7 fulles projectants i una fulla tècnica. Sistema estanc a l'aire i l'aigua. Tipus Glastec Louvers 550SG o equivalent d'idèntiques característiques i funcionament. Sistema format per muntants d'alumini extruït 50x120mm cada 180cm, suports del vidre, barres d'alumini i mecanismes d'obertura tot realitzat amb aleació AlMgSi0.5, F22. La part vista del sistema és de 50mm d'amplada. Acabat Anodtizat 20micres. Vidres de seguretat formats per dues lluines incolores trempades i laminades 6+8mm. 55cm d'amplada per 360cm de longitud"

(2) La fachada de madera del espacio intermedio:
Sumado partidas, y modulos, un modulo de 180x360, que incorpora una doble puerta batiente de 175x220, sale por unos 3000€ la unidad. Con madera microlaminada i acristalamiento con cristal bajo-emisivo. La parte fija, de 360x180, por unos 1500€/Ud. Es decir el conjunto de 360x360, aproximadamente 4500€/Ud.

(1)Cost of movile glass loovers, control and management systems, vertical and horizontal supports, planting and railings all realized by the firm COLT: 475€/m2
(2) Cost Interior façade framings glass and multilaminated timber: 115€/m2

d_Technical and cost related energy management.


Secondari building
with proposed program
- Business meeting rooms
- Kindergardan
- Multiconfessional Chapell
- Reading and coworking space
- Games area
Main vertical circulation
Open corridors
Apartment accesses
Main Building
with hotel appartments
- 330 apartments
Outdor spaces
Access building
Public Atrium
Vertical conections
Main elevators
Chillout & Lounge
Vertical conections
+ Service elevators
Terrace
Second Floor
Conexion Area
Kitchen
Restaurant
Restaurant terrace
First Floor
Access hall
Comercial Area
Restaurant terrace
Ground Floor


Winter Climatic Conditions
Summer Climactic Cc

CITY HALL VENLO

more than merely sustainable

CRADLE TO CRADLE

HEALTHY PEOPLE

EXPLOIT WATER

MAKE ENERGY

PURIFY AIR

MATERIALS

GREAT DIVERSITY

GREEN FACADE

HELOPHYTE FILTER

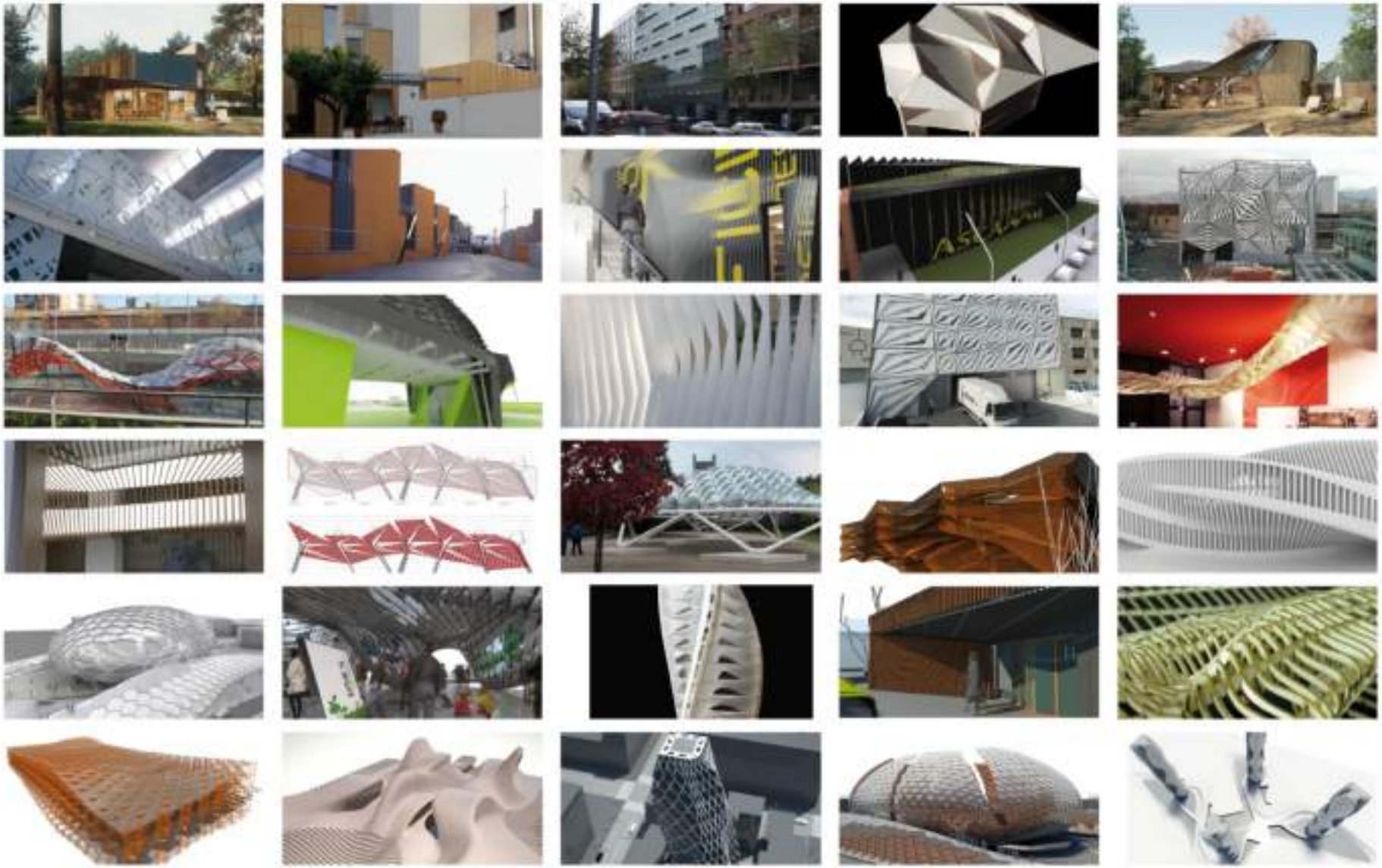
(e)aSZ arquitectes / HyBRIDA : HyBRIDaSZ

Can Casacuberta Central Library. Badalona, Barcelona

Museu d’Asturies, Gijon.

Cidadela de Cascais Rehabilitation as Hotel, campus and museum, Cascais, Portugal

Towers JH-aSZ, Santiago de Compostela, A Coruna


aSZ / HYBRIDa

aSZ AVDA. TIBIDABO 10, 1º-1ª 08022 BARCELONA TLF.93 4188626 ELENA CÁNOVAS + ANTONIO SANMARTÍN
ARQUITECTES

sandCLOCK

credits

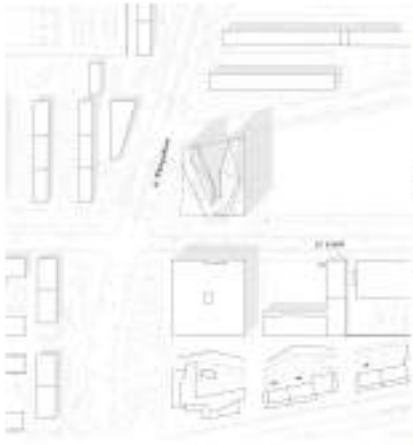
Architects: HiBRIDaSZ
Antonio Sanmartín – Elena Canovas (aSZ arquitectes)
Silvia Felipe – Jordi Truco (HyBRIDA)

Collaborators:
_Ferran Iglesias, architec
_ShaShak Shvilinvha, architec.
_Carlos Perez, 3D model
_Guayente Garcia Sanmartin, architect
_Frank Dadfar, 3D and Energy Managment

Timber Systems and Structures Consultant: Daniel Indermühle https://www.i-b.ch/spezielles
Energy Consultant: Hongxi Yin, PhD
Structures Consultant: Manuel Arguijo
Cost Estimate and Cosntruction Managenment Consultant: Vicenç Tolosa
Other Consultants: Kocher Minder Arquiteceten, Thun, Bern.

(f) competition boards

Aerial view



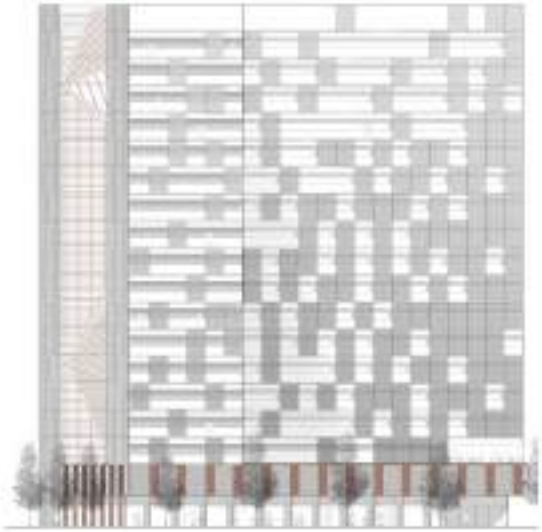
Situation Plan
1:1000

View from Ramon Hospital street

View from Lleil street

View of the station from Lola Anglada passageway

View from Lola Anglada passageway

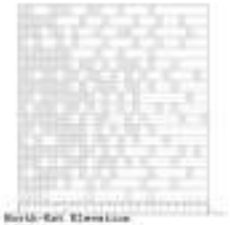


South-West Elevation
1:200

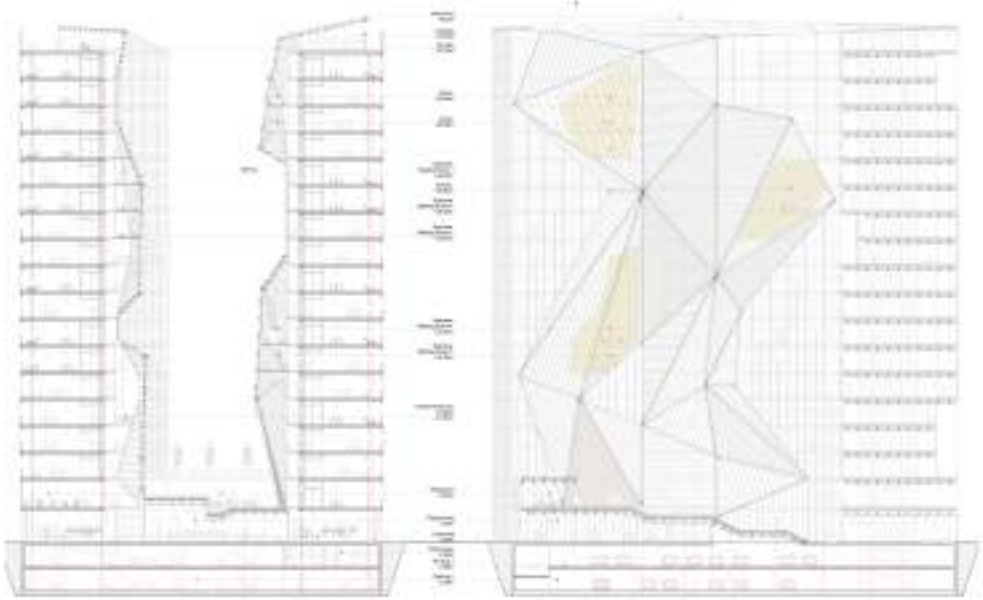
South-East Elevation
1:200

Ground Floor
1:200

North-West Elevation
1:200



North-East Elevation
1:200



Section B-B'
1:200

Section A-A'
1:200

Standard Floor
1:200

First Floor
1:200

Second Floor
1:200

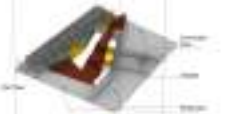
Sky Bar and Pool Floor
1:200

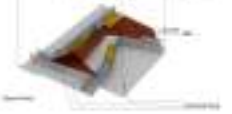
Roofing Floor
1:200

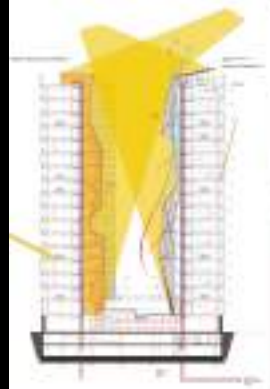
Houses typologies
1:100

Basement -1
45 parking lots
1:200

Basement -2
75 parking lots
1:200







Axonometric exploded

BCN SUITS Hotel and Apartments

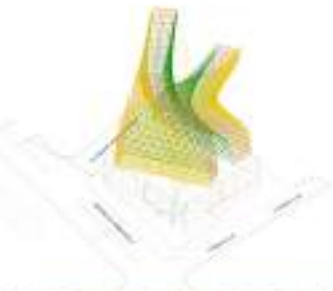
sandCLOCK

The spaces of a hotel are environments prepared for the other paces and speeds of time. Entering a hotel/aparthotel as guests makes the sand-clock turn around and different time paces and speeds become visible and tangible.
"SandCLOCK" proposes, builds and houses a possible transcription of this experiences in Barcelona.

Both local and global conditions of Sant Adrian are to complement one to the other. Not only a hotel but a place to live periodically. An architectural economy not ignoring where it is and how things happen at East of Barcelona, near the FORUM 2004 area, overlooking the see.
When arriving from C/Llull to the main entry, a soft canopy will signal the entry to the main lobby. All spaces mainly built in timber, wood natural textures. Once inside, the atrio facing the city, also built in timber, organizes the two volumes for all units. All units face and enjoy the see views.
When arriving from C/Raimond de Penyafort, the main commercial space faces the street and the slender volume bents slightly to fully open the views south.
When coming from the MINA neighborhood or when walking through, the Planning requisites are completed with the other slender volume of units facing the East and the Maresme bay with its geography and shore arching inland when looking south east towards el Maresme and completing its continuity along the south west urban beaches of Barcelona

Two spacial and constructive logics make the proposal: one for the "Assigned" spaces, rooms/apartments/units another for the "Unassigned" spaces and program. One built in concrete able for a variation and adaptions in the location, distribution and mechanical systems optimization. The other building operates as a cartilage. It houses all the "Unassigned" program, from the lobby, to restaurants, bars, convention areas, fitness and corridors. It makes the open atrium. It is between flesh and bone. Neither hard and slick nor soft. Is a timber building. Contemporary developments in timber construction guaranty its qualities and feasibility. In other words, as a client one will enter a hotel/apartment building through spaces made in timber and different finishes of wood panels and floors. All with almost cero maintenance, easy to replace and with the highest parameters in sustainability. The corridors, as part of the "Un assigned" spaces are not fully enclosed spaces, they precondition, both in summer, though ventilation and in winter by capturing and keeping the sun radiation.
Barcelona enjoys a mild weather throughout the year. The temperature values, the sunny versus rainy days, the winds in summer and winter, the levels of humidity are part of the equation considered for an investment such as this one. These two "constructions" are placed as a **"V" scheme in plan**.

This "V" scheme in plan, contains the capacity to become, in a future stage of project development, some of the properties of the other three initial schemes drawn and considered:



_A **Twisting building** from the "V" in the lower levels to a "V" in the higher levels facing a different orientation. The structural and technical challenge is obvious. The guaranty of all units always looking a to the Mediterranean is evident.

_A **Courtyard based** scheme with four sides in different heights is also efficient but suffers from a too diverse orientation for the Units and eventually places a good number of them towards de north

_A construction made of two halfs: One half, the first 8 floors, built following the "V" scheme with the units orientated south east and South west always with views to the Mediterranean and the other floors, from 9 to 16 as a "V" over the lower one but placed along the lot diagonal. The intermediate floor (8th) recover the full size of the lot and solves structural, services, .. transition. The core of stair and elevators remains the same and vertical. Two atriums result. One oriented north east, fresh in the summer and the other orientated towards de city and the evening light and thermal conditions. The Sagrada Familia is part of the Barcelona skyline on sight and completing or embracing the Atrium space.

sandCLOCK proposes **other "Unassigned spaces"** to make and achieve a co-living experience rich and possible: a **Small library**, a **Kindergarten**, a **Library**, Spaces for **meetings and business** and a **Pluri-Confessional** space grow from the corridors and reconfigure the timber and louvers atrium surfaces. Its final size and specific conditions are to be stablished in subsequent project fases.

The **apartments/units** are designed and organized as a system of several systems and thresholds, some are technical other are spacial and others are energy based components and devices. The sequence of layers and thresholds is the following:
a_Semi exterior space of the corridors (self conditioned) (1,5m to 5,0m).
b_Timber interior façade to corridors(0,06m).
c_Services, mechanical active system distribution walls (0,65m)
d_Entry, kitchen and bathroom band (2,80m)
e_Cavinets, closets and air-conditioning interior distribution (80cm).
e_Sleeping areas (3m)
f_Living space and terrace (3m)

They are all parallel and systematic bands that are then subdivided according to the required widths of the 1, 2, and 3 bedroom units dimentions. They remain open to further adjustments derived from development and management criteria and needs.

The two buildings shelving all the units are thus bracketed by two different membranes. **One, facing the sea landscapes,** is where all terraces are. Made of glass, held by stainless steel framings, sliding doors and a roll-able metal screen also sliding. This builds the terrace space and extends it inside of the unit. An timber pavement makes the surface both outside and inside.

The **other membrane is a timber construction**, holding the corridors and the special Unassigned spaces. Is a semi-exterior space that preconditions the climate parameters of Barcelona, both in summer and in winter by closing or opening the louvers to allow natural ventilation similar to an "UMBRACULO" or capture the solar heat when closed as a winter house.

The wind, solar radiation, **energy** consumption, and sustainable construction models adopted for the architecture of this proposal result in an equilibrated combination between active and passive systems. That includes the energy supplies obtained from the DISTRITCLIMA net accesible from C/Llull. Geothermal heating and cooling, photovoltaic cells roof, hiperinsulation, naturally preconditioned atrium covered spaces and corridors, hyper thermal inertia on the concrete slabs, double membrane and solar protection on south east and southwest façades, cooling with District CLIMA hot water, photovoltaic cells provide power to all areas, radiant floor heating in both rooms and public areas. The **ecofriendly criteria** derive from wind, solar, radiation, sound, and synergy between passive and active building systems. Both towers operate as independent entities in their production and distribution of all energy systems.

The estimated time of construction for sandClock is between 18 and 24 months. Prefabrication is considered for both, the inside and the outside components of all UNITS and most of timber systems fully prefabricated by local and international timber providers. The cost estimate could be a value between 1.100 and 1.300€/m2.

sandCLOCK responds to the competition goals:

_Create a new apartment hotel building with 310-340 "" apartments on one site.
_The maximum buildable surface of the building is 21600m2 with a ground surface area of 2160m2.
_Include a surface of 1200-1500 m2 of commercial space to let.
_Build the parking spaces underground corresponding by regulations (minimum 1 every 3 rooms).
_Use the buildable surface at its maximum.
_Occupy 100% of the ground surface on the ground floor.
_Use the maximum height allowed to offer the best views possible at the terraces.
_Build a maximum of Ground floor +17, in order to provide better height on the room floors.
_Maximize the compulsory parking spaces in the minimum number of underground floors possible.
_Rationalize the construction systems to allow a rapid construction.

and proposes a solution to *an efficient back office urbanization, quality of room types and distribution, versatility and independence of common spaces and bars, energy and ecofriendly design, affordable construction systems and the enhancement of the co-living experience between the hotel guest"*

Barcelona, 22 September 2017