

BAB IV ANALISA RUANG & ANALISA EDGE

4.1. Data Bangunan

Dalam landasan program perencanaan dan perancangan arsitektur, program ruang yang dihasilkan dijelaskan dalam tabel-tabel berikut ini:

Tabel 3 Tabel Program Ruang Berdasarkan Kategori Sifat Ruang

No	Kategori	Nama Ruang	LuasM2
1	Guest Room	Standard Room	1624
		Family Room	1008
		Grand Suite Room	448
			3080
2	Coridor	64.7 x 9	582.3
3	Front of House	Terrace	133.25
		Lobby	113.5
		Lounge	77
		Receptionist	24
		Front Office	32.68
		Restaurant	136
		Locker room	32.68
		Office	106.21
		Meeting Room	32.68
		Office	106.21
		Lounge	64
		Musholla	180
		Salon and Spa	89.87
Men Fitness	142		
Women Fitness	89.5		
			1253,37
4	Conference	Conference Room	180
		Meeting Room 1	49
		Meeting Room 2	66.75
		Banquet	213.5
			509.25
5	Back of House	Core (85.35 x 14)	1195
		Hall Lift (30 x 14)	420
		Kitchen	97.83
		Toilet	44
		Janitor	3.4
		Kitchen	54
Toilet	44		
Janitor	3.4		

	Prep-room	32.76
	Storage	68.22
	Hallway	32
	Storage	32.68
	Ironing and Drying	106.21
	Washing Section	64
	Conveyor	32.76
	Housekeeping	68.22
	Hall Way	32
	Men Toilet	12
	Women Toilet	12
	Hall Way	45.68
		2920

Tabel 4 Rekapitulasi Jumlah Luasan Kategori Ruang

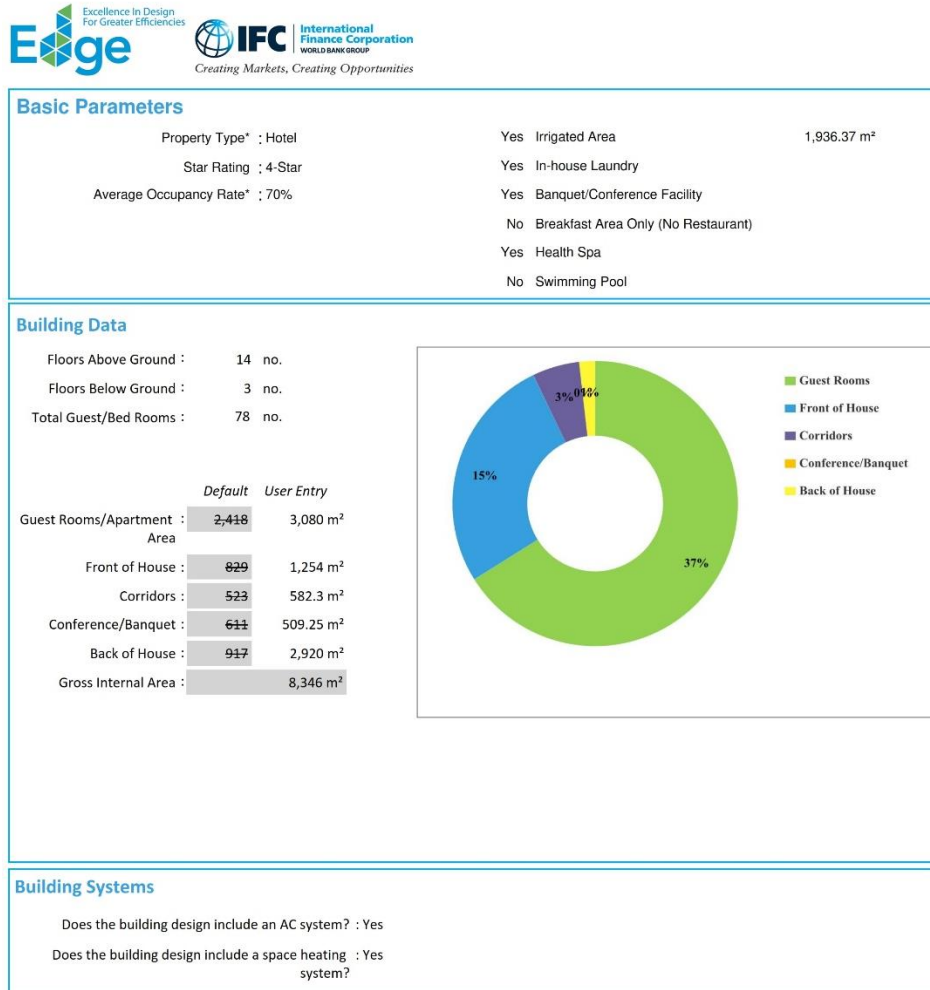
No	Kategori	Luas (m2)
1	Guest Room	3080
2	Front of House	1253,37
3	Corridors	582.3
4	Conference / Banquet	509.25
5	Back of House	2920
		8345

Tabel 5 Tabel Program Ruang Berdasarkan Zonasi per lantai Bangunan

No.	Ruang	Luas	Kapasitas (orang)	Jumlah	Sumber	Luas (m ²)
1	Rooms					
	Standard Room	28	2	58		1624
	Family Room	84	4	12		1008
	Grand Suite Room	56	2	8		448
						3080
	Hall Lift	30		9		270
	Core	85.35		9		768.15
						4118.15
2	LANTAI 1					
	Terrace					133.25
	Lobby					113.5
	Lounge					77
	Receptionist					24
	Front Office					32.68

	Restaurant					136
	Kitchen					97.83
	Toilet					44
	Janitor					3.4
	Core					85.35
						747.01
3	LANTAI 2					
	Locker room					32.68
	Office					106.21
	Hall Lift					30
	Banquet					213.5
	Kitchen					54
	Toilet					44
	Janitor					3.4
	Core					85.35
						569.14
4	LANTAI 3					
	Meeting Room					32.68
	Office					106.21
	Lounge					64
	Conference Room					180
	Prep-room					32.76
	Storage					68.22
	Hallway					32
	Hall Lift					30
	Core					85.35
						631.22
5	LANTAI 4					
	Storage					32.68
	Ironing and Drying					106.21
	Washing Section					64
	Conveyor					32.76
	Housekeeping					68.22
	Musholla					180
	Hallway					32
	Hall Lift					30
	Core					85.35
						631.22
6	LANTAI 5					
	Salon and Spa					89.87
	Meeting Room 1					49
	Meeting Room 2					66.75
	Men Fitness					142
	Men Toilet					12
	Women Fitness					89.5

	Women Toilet					12
	Hallway					45.68
	Hall Lift					30
	Core					85.35
						622.15



Gambar 4 Data Bangunan

4.2. Aspek Penghematan Energi

Program perencanaan dan perancangan arsitektur dilandasi dengan penghematan bangunan dari aspek energi sebanyak 33 %. Nilai tersebut bisa didapatkan dari eksplorasi berbagai cara untuk memperhemat energi, antara lain:

4.2.1. Reduced Window to Wall Ratio (HTE01)

Tabel 6 Reduced Window to Wall Ratio (HTE01)

No.	WWR	Persentasi penghematan energi
1	10%	19.26
2	20%	13.59
3	30%	7.32
4	50%	-3.44
5	70%	-14.80

4.2.2. External Shading Devices (HTE02)

Tabel 7 External Shading Devices (HTE02)

No.	AASF	Persentasi penghematan energi
1	0.3	6.54
2	0.4	8.73
3	0.5	10.92
4	0.6	13.11
5	0.7	15.30

4.2.3. VRF Cooling System (HTE09)

Tabel 8 VRF Cooling System (HTE09)

No.	COP	Persentasi penghematan energi
1	3.0	4.64
2	3.5	9.82
3	4.0	13.71
4	4.5	19.95
5	5.0	22.84

4.2.4. Heat Pump for Hot Water (HTE24)

Tabel 9 Heat Pump for Hot Water (HTE24)

No.	COP	Persentasi penghematan energi
1	3.0	20.50
2	3.5	20.67
3	4.0	20.79

4	4.5	20.89
5	5.0	20.97

4.3. Aspek Penghematan Air

Program perencanaan dan perancangan arsitektur dilandasi dengan penghematan bangunan dari aspek air sebanyak 33 %. Nilai tersebut bisa didapatkan dari eksplorasi berbagai cara untuk memperhemat air, antara lain:

4.3.1. Low-Flow Showerheads (HTW01)

Tabel 10 Low-Flow Showerheads (HTW01)

No.	L/min	Persentasi penghematan energi
1	3.0	14.86
2	4.0	11.68
3	5.0	10.61
4	5.5	9.55
5	6.0	8.49

4.3.2. Low-Flow Faucets in Guest Rooms (HTW02)

Tabel 11 Low-Flow Faucets in Guest Rooms (HTW02)

No.	L/min	Persentasi penghematan energi
1	3.0	1.91
2	4.0	1.27
3	5.0	0.64
4	5.5	0.32
5	6.0	0.00

4.3.3. Single Flush for Water Closets in Guest Rooms (HTW03)

Tabel 12 Single Flush for Water Closets in Guest Rooms (HTW03)

No.	L/min	Persentasi penghematan energi
1	3.0	2.55
2	4.0	2.34
3	5.0	2.12
4	5.5	2.02
5	6.0	1.91

4.3.4. Water-Efficient Urinal in All Bathrooms (HTW05)

Tabel 13 Water-Efficient Urinal in All Bathrooms (HTW05)

No.	L/min	Persentasi penghematan energi
1	3.0	1.16
2	4.0	0.00
3	5.0	-1.16
4	5.5	-1.73
5	6.0	-2.31

4.3.5. Single Flush for Water Closets in All Other Bathrooms (HTW06)

Tabel 14 Single Flush for Water Closets in All Other Bathrooms (HTW06)

No.	L/min	Persentasi penghematan energi
1	3.0	3.41
2	4.0	2.73
3	5.0	2.04
4	5.5	1.70
5	6.0	1.36

4.3.6. Water-Efficient Landscapping (HTW11)

Tabel 15 Water-Efficient Landscapping (HTW11)

No.	L/min	Persentasi penghematan energi
1	3.0	15.06
2	4.0	10.04
3	5.0	5.02
4	5.5	2.51
5	6.0	0.00

4.3.7. Rainwater Harvesting System (HTW14)

Tabel 16 Rainwater Harvesting System (HTW14)

No.	Persentasi luasan atap terpakai untuk RWH	Persentasi penghematan energi
1	50	2.94
2	60	3.53
3	70	4.12
4	80	4.71
5	100	5.89

4.4. Aspek Penghematan Material

Program perencanaan dan perancangan arsitektur dilandasi dengan penghematan bangunan dari aspek material sebanyak 33 %. Nilai tersebut bisa didapatkan dari eksplorasi berbagai cara untuk memperhemat material, antara lain:

4.4.1. Floor Slabs

Tabel 17 Floor Slab

TM01 Floor Slabs		Proportion %	Thickness	Steel Rebar
In-Situ Reinforced Concrete Slab 350 mm Steel : 35 kg/m ²	Composite In-Situ Concrete and Steel Deck (Permanent Shuttering)		120 mm	kg/m ²

4.4.2. Roof Construction

Tabel 18 Roof Construction

TM02 Roof Construction				
In-Situ Reinforced Concrete Slab 350 mm Steel : 35 kg/m ²	Type 1 In-Situ Reinforced Concrete Slab	100 %	120 mm	kg/m ²

4.4.3. External Walls

Tabel 19 External Walls

HTM03 External Walls			
Common Brick Wall with Internal & External Plaster	Type 1 Common Brick Wall with Internal & External Plaster	70 %	150 mm
200 mm	Type 2 In-Situ Reinforced Wall	30 %	200 mm

4.4.4. Internal Walls

Tabel 20 Internal Walls

HTM04 Internal Walls		Proportion %	Thickness
Common Brick Wall with Plaster on Both Sides	Type 1 Common Brick Wall with Plaster on Both Sides	54 %	150 mm
100 mm	Type 2 In-Situ Reinforced Wall	46 %	200 mm

4.4.5. Flooring

Tabel 21 Flooring

HTM05 Flooring		
Ceramic Tile	Type 1 Ceramic Tile	59 %
	Type 2 Parquet/Wood Block Finishes	41 %

4.4.6. Window Frames

Tabel 22 Window Frames

HTM06 Window Frames			
Aluminium Single Glazing	Type 1 Aluminium	100 %	Single Glazing