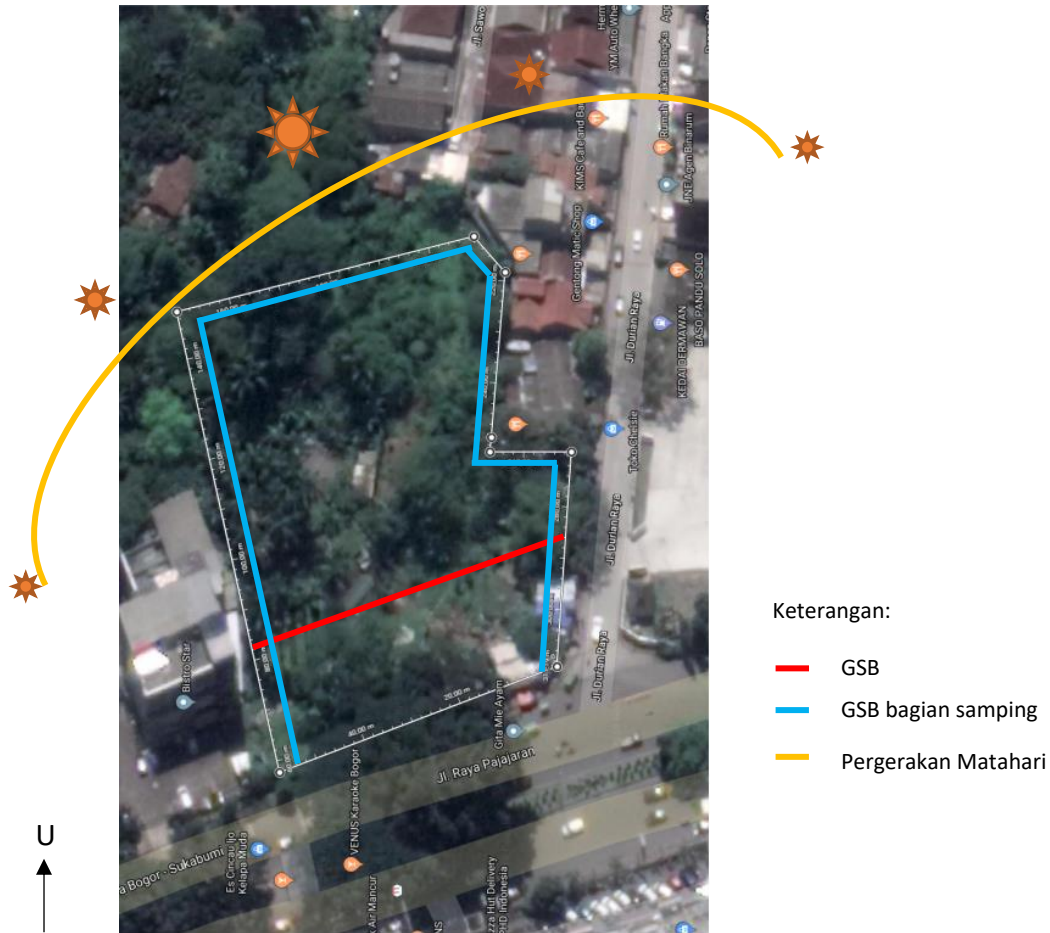


## BAB IV ANALISIS DATA

### 4.1 Analisis Massa Bangunan 4.1.1 Analisis Tapak

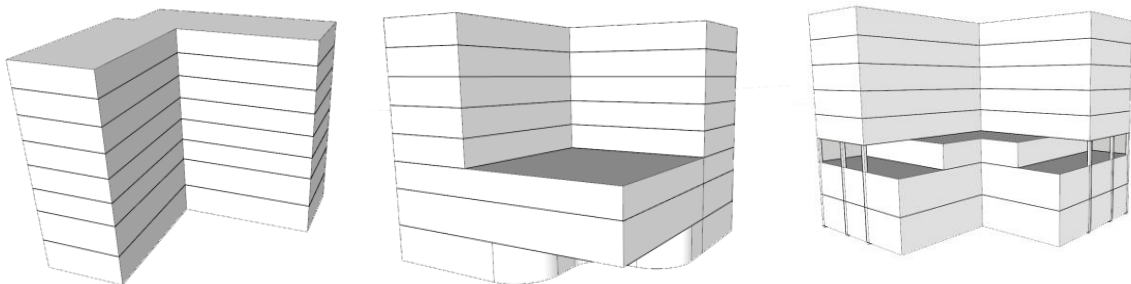


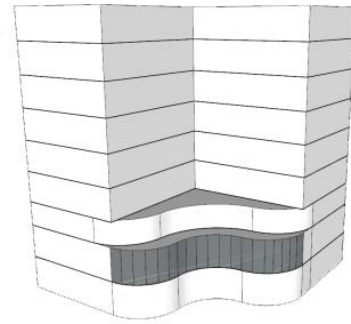
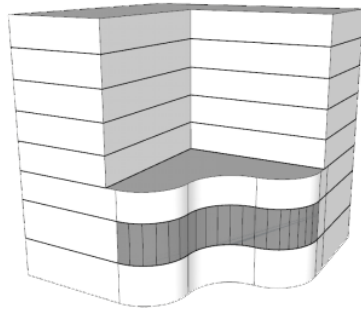
Gambar 4.1 Tapak

Sumber: Google Maps

### 4.1.2 Gubahan Massa

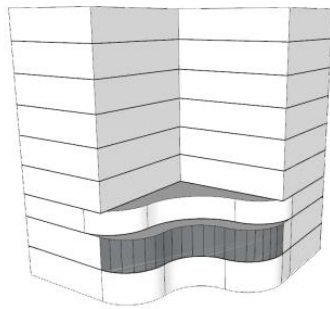
Dengan bentuk tapak seperti gambar tersebut, maka gubahan massa yang telah dilakukan adalah sebagai berikut:





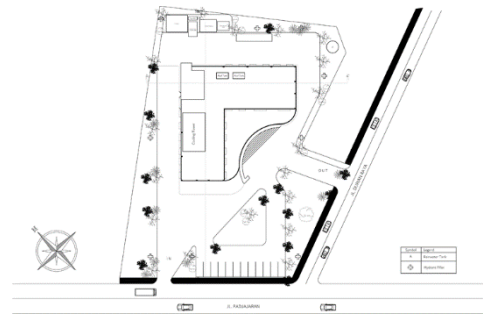
Gambar 4.2 Gubahan Massa

Sumber: Data Pribadi, 2019



Gambar 4.3 Gubahan Massa Terpilih

Sumber: Data Pribadi, 2019



Gambar 4.4 Siteplan

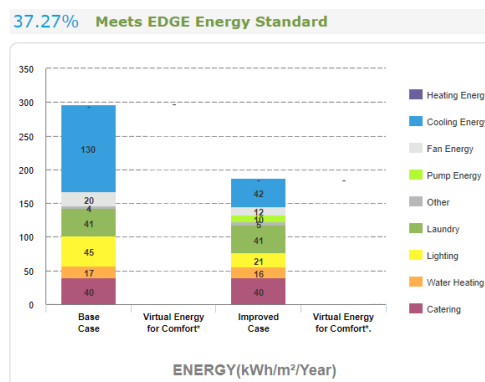
Sumber: Data Pribadi, 2019

Gubahan massa ini merupakan gubahan massa terpilih. Gubahan ini dipilih dikarenakan bentuknya yang membawa kesan *welcome* kepada calon penghuni hotel dan memiliki bentuk yang merespon dengan bentuk tapak.

#### 4.2 Analisa EDGE

Dengan bentuk massa bangunan seperti gambar tersebut maka, didapatlah analisa EDGE sebagai berikut:

##### a) Penghematan Energi



Gambar 4.5 Analisa Energi pada EDGE

Sumber: [www.edgebuildings.com](http://www.edgebuildings.com)

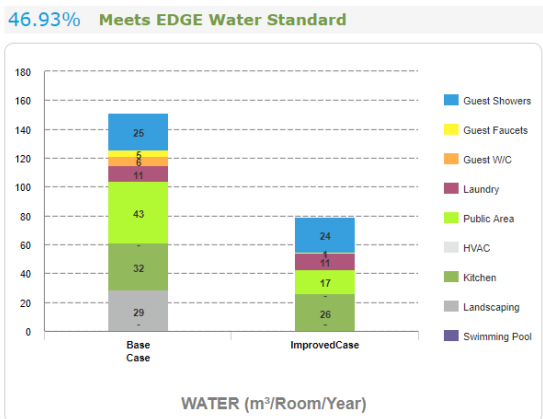
Bangunan tersebut dapat menghemat energi sebanyak 37.27% dengan menceklis poin-poin sebagai berikut:

- HTE01\*  Reduced Window to Wall Ratio - WWR of 29.99%  
WWR %   
[Upload Document\(s\)](#) | [Calculator](#)
- HTE02  External Shading Devices - Annual Average Shading Factor (AASF) of 0.48  
AASF   
[Upload Document\(s\)](#) | [Calculator](#)
- HTE03  Insulation of Roof : U-value of 0.88  
 [W/m².K]  
[Upload Document\(s\)](#) | [Calculator](#)
- HTE04  Insulation of External Walls : U-value of 1.7  
 [W/m².K]  
[Upload Document\(s\)](#) | [Calculator](#)
- HTE05  Low-E Coated Glass : U-value of 3.5 W/m².K and SHGC of 0.44
- HTE11\*  Air Conditioning with Water Cooled Chiller - COP of 5.39  
COP   
[Upload Document\(s\)](#) | [Calculator](#)
- HTE25  Energy-Saving Light Bulbs - Internal Spaces  
[Upload Document\(s\)](#)
- HTE26  Energy-Saving Light Bulbs - External Spaces  
[Upload Document\(s\)](#)
- HTE27  Energy-Saving Light Bulbs - Back-of-House  
[Upload Document\(s\)](#)

Gambar 4.6 Poin-poin Penghematan Energi

Sumber: www.edgebuildings.com

## b) Penghematan Air



Gambar 4.7 Analisa Air pada EDGE

Sumber: www.edgebuildings.com

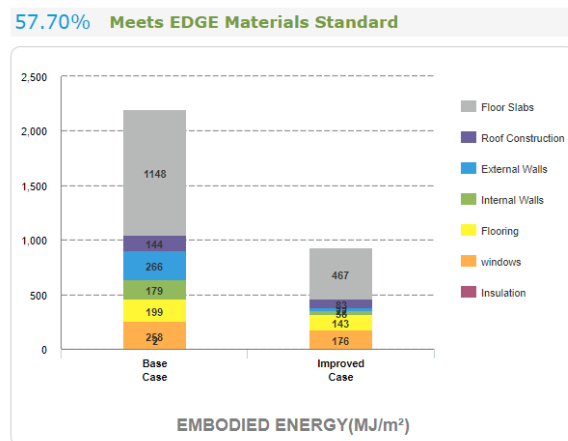
Persentase penghematan air pada bangunan tersebut sebesar 46.93% dengan menceklis poin-poin sebagai berikut:

- HTW01\*  Low-Flow Showerheads - 8 L/min  
 L/min  
[Upload Document\(s\)](#) | [Calculator](#)
- HTW02\*  Low-Flow Faucets in Guest Rooms/Apartment Area - 2 L/min  
 L/min  
[Upload Document\(s\)](#) | [Calculator](#)
- HTW03\*  Dual Flush for Water Closets in Guest Rooms/Apartment Area - 6 L/first flush and 3 L/second flush  
 1st - L/flush  2nd - L/flush  
[Upload Document\(s\)](#)
- HTW04  Water-Efficient Front Loading Washing Machine - 6 L/kg. of clothes
- HTW05\*  Water-Efficient Urinals in All Bathrooms - 2 L/flush  
 L/flush  
[Upload Document\(s\)](#)
- HTW06\*  Dual Flush for Water Closets in All Other Bathrooms - 6 L/first flush and 3 L/second flush  
 1st - L/flush  2nd - L/flush  
[Upload Document\(s\)](#)
- HTW10\*  Water-Efficient Kitchen Faucets - 12.7 L/min  
 L/min  
[Upload Document\(s\)](#) | [Calculator](#)
- HTW11  Water-Efficient Landscaping - 4 L/m²/day
- HTW12  Swimming Pool Cover
- HTW13  Condensate Water Recovery
- HTW14  Rainwater Harvesting System - 50% of Roof Area Used for Rainwater Collection  
Roof Area Used (%)   
[Upload Document\(s\)](#)
- HTW15  Grey Water Treatment and Recycling System  
[Upload Document\(s\)](#)
- HTW16  Black Water Treatment and Recycling System  
[Upload Document\(s\)](#)

Gambar 4.8 Poin-poin Penghematan Air

Sumber: www.edgebuildings.com

c) Penghematan Penggunaan Material



Gambar 4.9 Analisa Penghematan Penggunaan Material

Sumber: www.edgebuildings.com

Persentase penghematan penggunaan material pada bangunan tersebut sebesar 57.70% dengan mengisi poin-poin sebagai berikut:

Ref	Building Material	Improved Case Selection	Proportion %	Thickness	Steel Rebar
HTM01*	Floor Slabs <a href="#">Upload Document(s)</a>	Composite In-Situ Concrete and Steel Deck (Perm ▾)		120 mm	kg/m²
HTM02*	Roof Construction <a href="#">Upload Document(s)</a>	Type 1 In-Situ Reinforced Concrete Slab ▾	100 %	100 mm	kg/m²
HTM03*	External Walls <a href="#">Upload Document(s)</a>	Type 1 Autoclaved Aerated Concrete Blocks ▾	100 %	75 mm	
HTM04*	Internal Walls <a href="#">Upload Document(s)</a>	Type 1 Solid Dense Concrete Blocks ▾	100 %	75 mm	
HTM05*	Flooring <a href="#">Upload Document(s)</a>	Type 1 Parquet/Wood Block Finishes ▾	100 %		
HTM06*	Window Frames <a href="#">Upload Document(s)</a>	Type 1 Aluminium ▾	100 %	Single Glazing	

Gambar 4.10 Poin-poin Penghematan Penggunaan Material

Sumber: www.edgebuildings.com