

dongje's Works

I'm arch....

py... ghs...

Currently,

Contacts

Teams

oftn

uwaterloo

arcadis

multstudio

GiantDrone

Project #1

Project #2...

**Hi, I am Dongje Cho,
computational designer, architectural engineer**

[Info](#) [LinkedIn](#) [Email](#)

**dropdown?
singular?**

**Hi, I am Dongje Cho,
architectural engineer / computational designer**

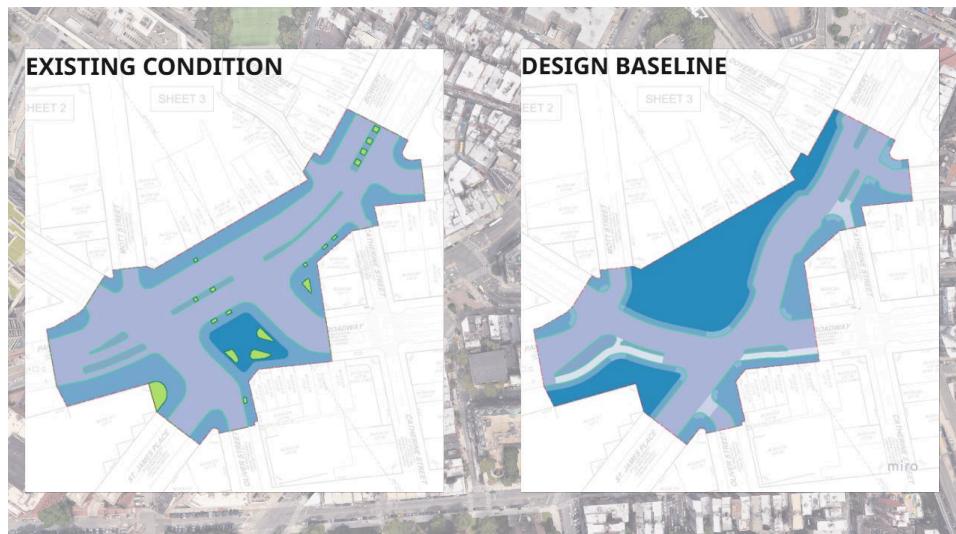
[Info](#) [LinkedIn](#) [Email](#)



Office for the next environment

[1]

Climate Analysis



Office for the next environment

Carbon Analysis



East Side Greenway Climate Analysis.

ROLE

Climate Study (?)

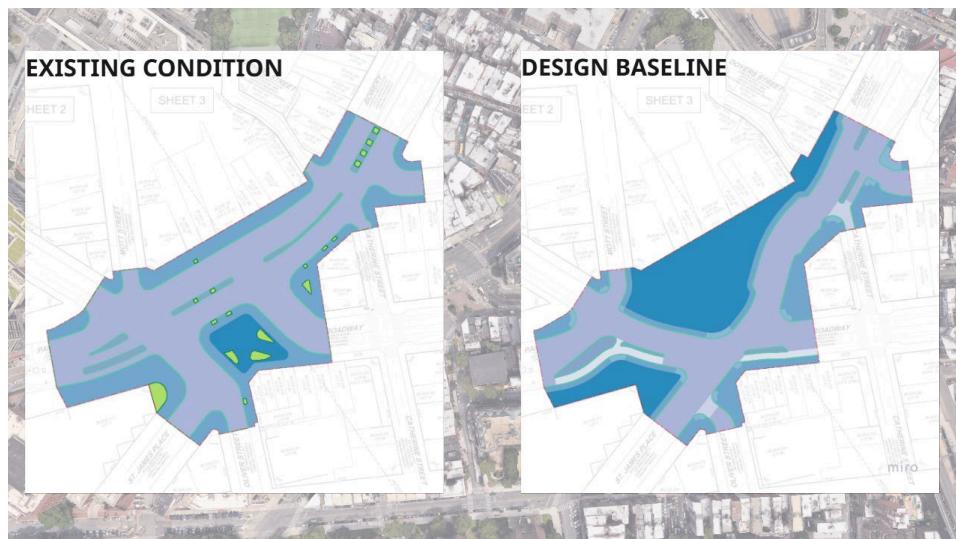
TOOLS

Grasshopper / Rhino

I did....

this will be video

Daylight analysis to spot intense area



Chinatown Connection Carbon Analysis.

ROLE

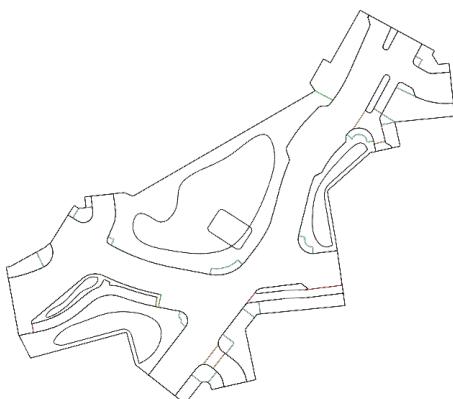
Carbon Study(?)

TOOLS

Grasshopper / Excel / Python

I did....

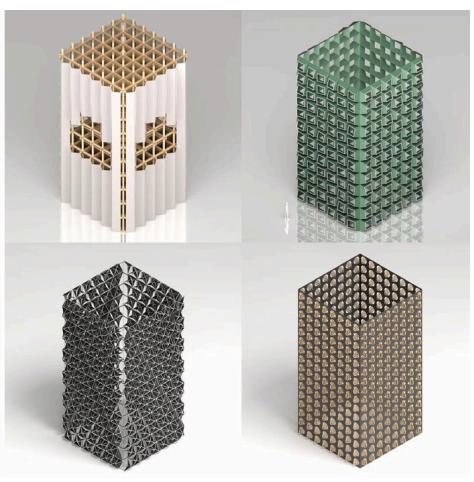
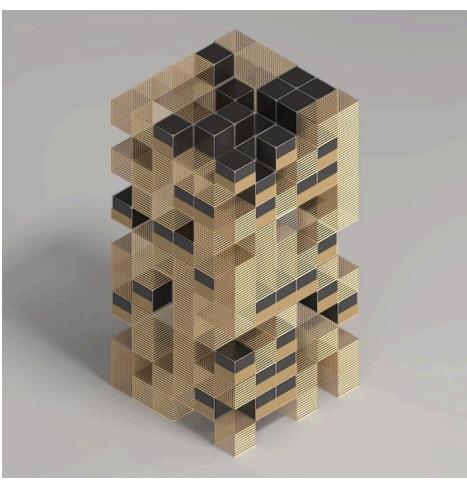
Carbon Calcs	█	█	█	█
↳ BASELINE	█	█	█	█
↳ 50%SOFT	█	█	█	█
Softscape_Visual	█	█	█	█
Cobble_Visual	█	█	█	█
Cobble	█	█	█	█
Softscape	█	█	█	█
Project_Boundary	█	█	█	█
Steel-Curb	█	█	█	█
Sidewalk-Corner	█	█	█	█
Bikepath	█	█	█	█
Crosswalk-Elevated	█	█	█	█
Plaza	█	█	█	█
Sidewalk	█	█	█	█
Street	█	█	█	█
Street-Islands	█	█	█	█



Rhino → curve or length combined in each layer



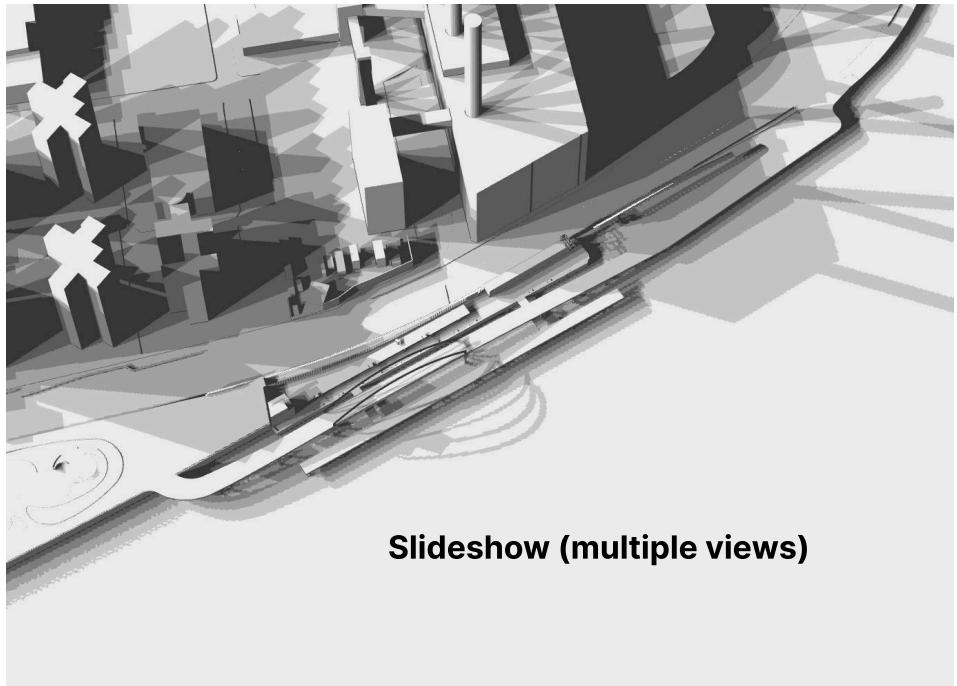
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Carbon Analysis / BIM Landscape



Computational Design Lab
Pattern Design

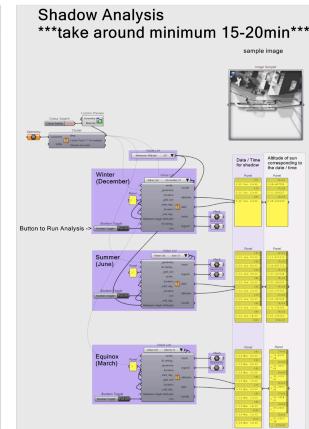
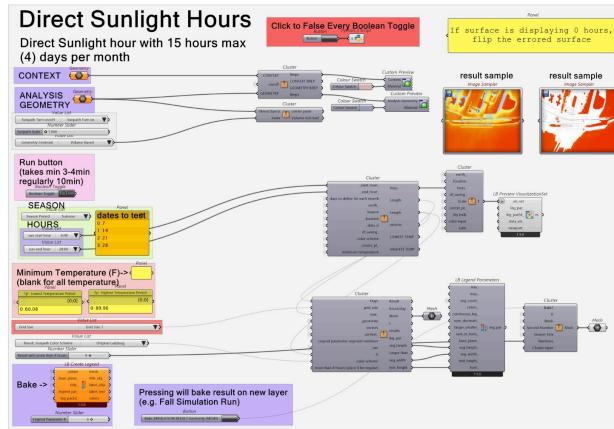


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BIM Managing



Slideshow (multiple views)

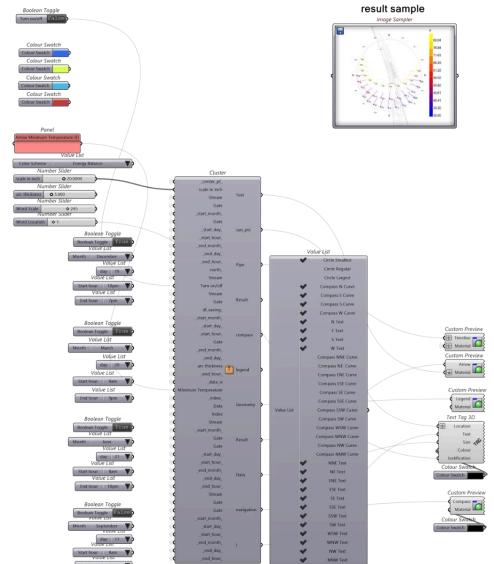
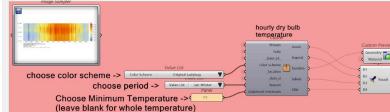
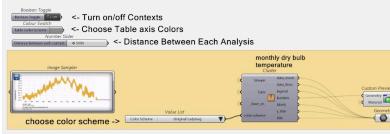
Sun shadow analysis to spot most shading spots



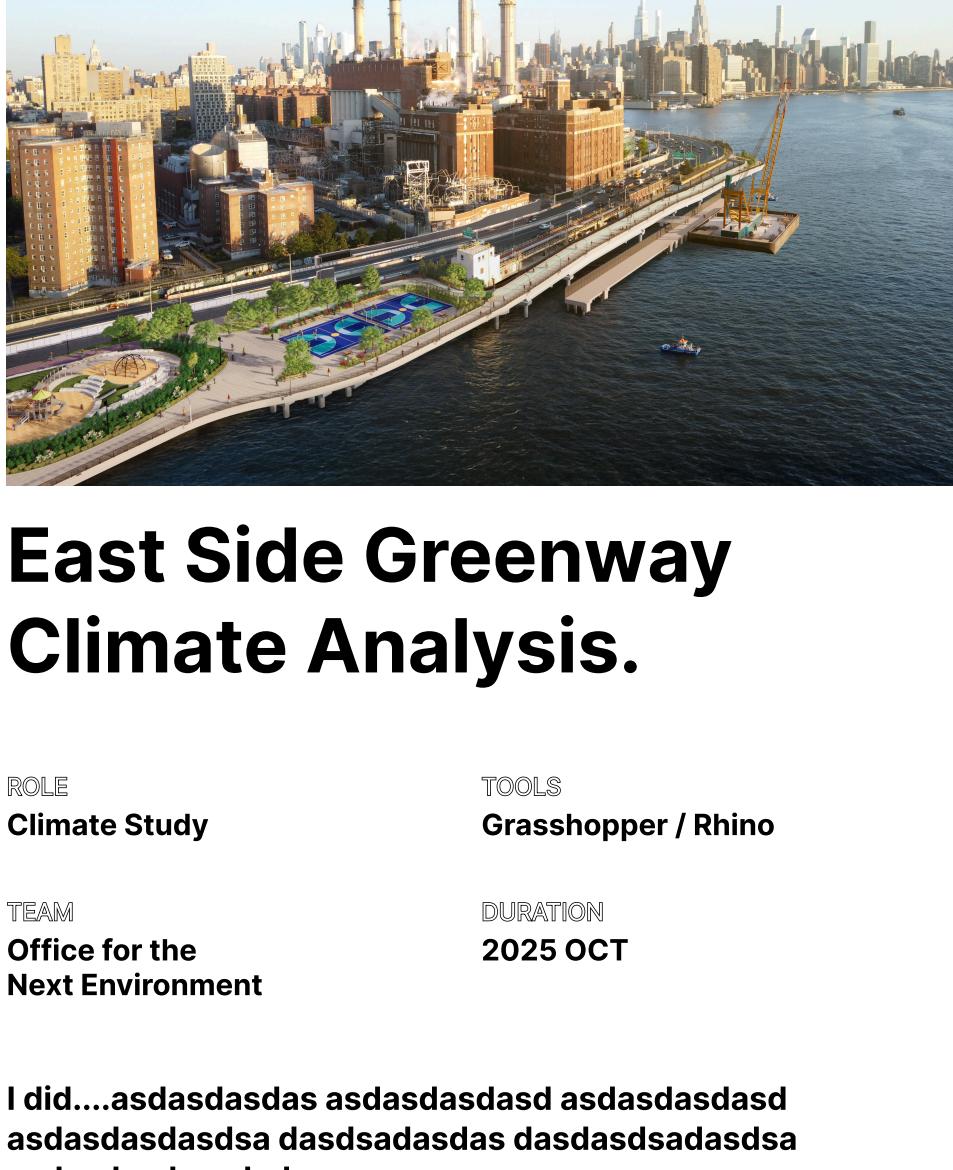
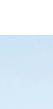
Site Context

Make sure print them in
RASTER SETTING

screen shot after zooming
in these tables
(viewcapturetofile)



Organized scripts for everyone's use



East Side Greenway Climate Analysis.

ROLE

Climate Study

TEAM

Office for the Next Environment

TOOLS

Grasshopper / Rhino

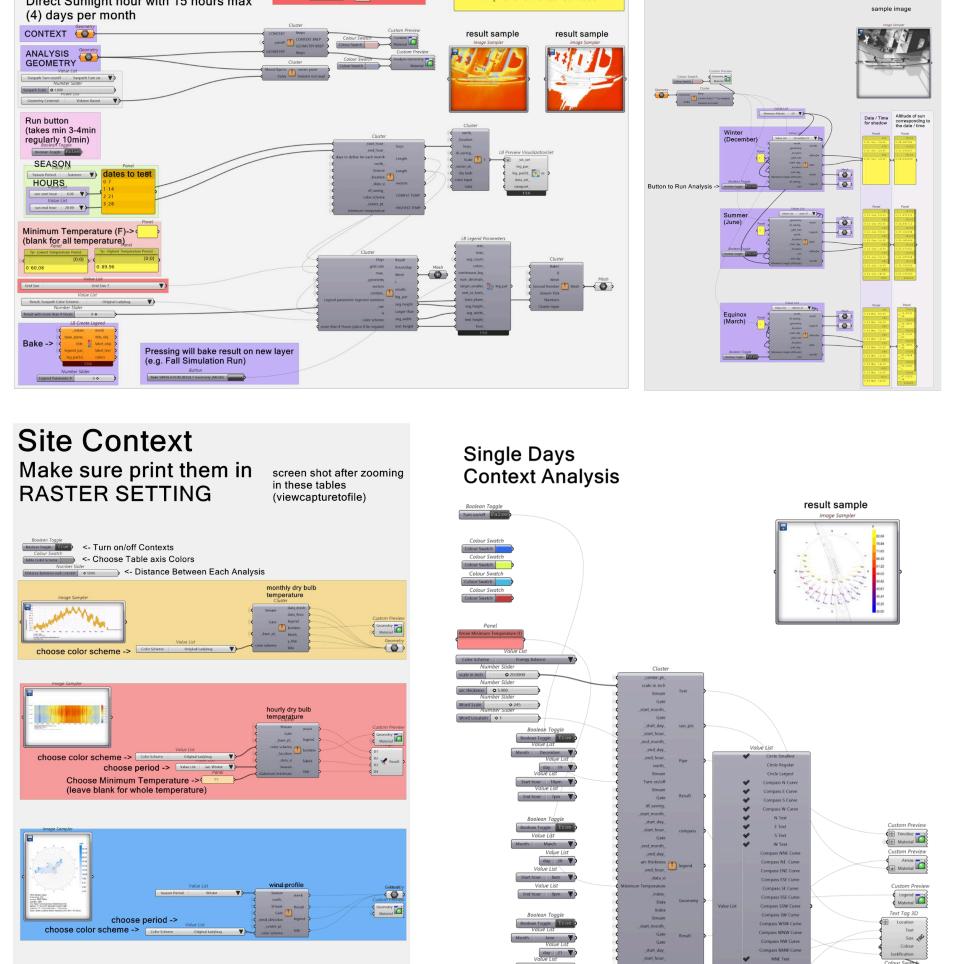
DURATION

2025 OCT

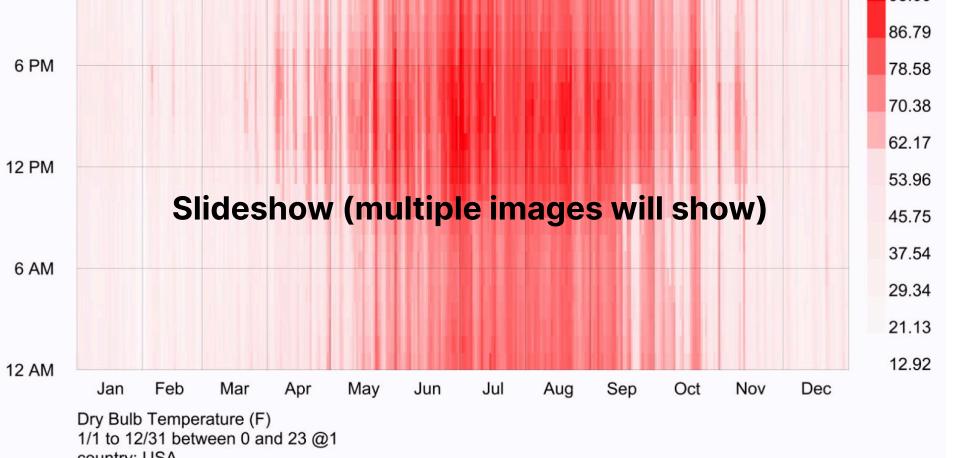
I did....asdasdasdas asdasdasdasd asdasdasdasd asdasdasdasda dasdsadasdas dasdasdsadasdsa asdsadasdassdadsa

I did....asdasdasdas asdasdasdasd asdasdasdasd asdasdasdasda dasdsadasdas dasdasdsadasdsa asdsadasdassdadsa

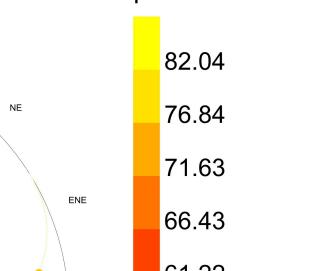
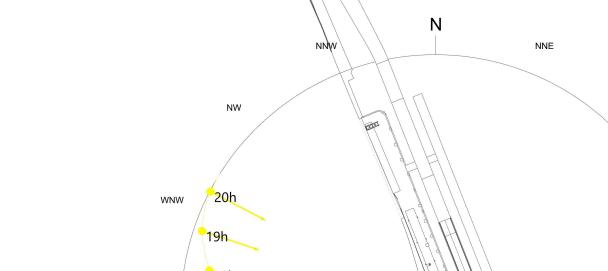
I did....asdasdasdas asdasdasdasd asdasdasdasd asdasdasdasda dasdsadasdas dasdasdsadasdsa asdsadasdassdadsa



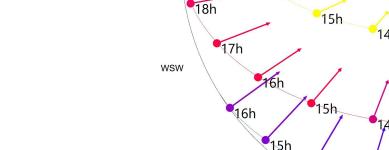
Daylight analysis to spot intense area



Sun shadow analysis to spot most shading spots



Site Context
Make sure print them in RASTER SETTING



Single Days Context Analysis

Organized scripts for everyone's use

Dry Bulb Temperature (F)
1/1 to 12/31 between 0 and 23 @1
country: USA
source: SRC-TMYx
city: New.York-Downtown.Manhattan.Heli
time-zone: -5.0

12 AM 6 PM 12 PM 6 AM 12 AM Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

95.00 86.79 78.58 70.38 62.17 53.96 45.75 37.54 29.34 21.13 12.92

Slideshow (multiple images will show)



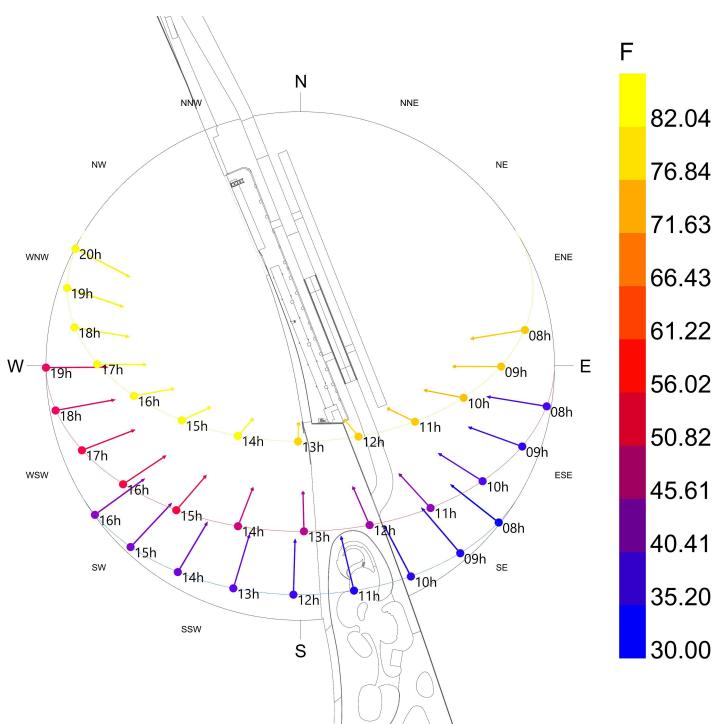
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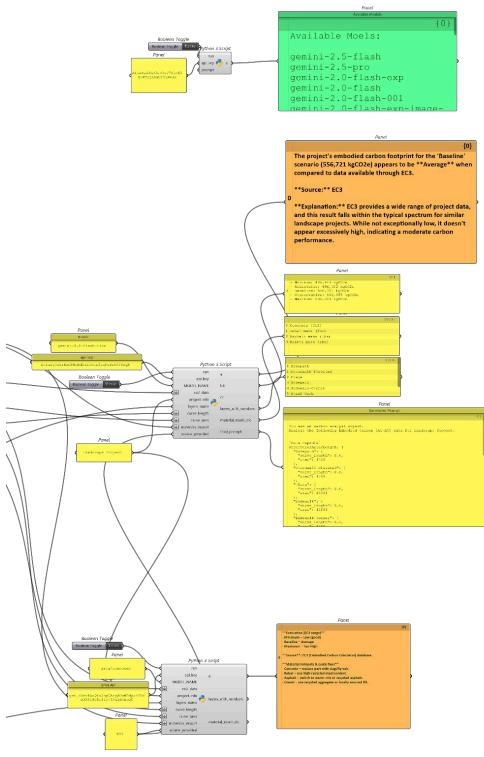
BIM Managing



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BIM Managing





then send this excel calculation back to Grasshopper
and python code calls AI tools and ask if the
calculations are good enough to pass baseline
(source?)

Calculation Explanation:

Concrete Volume = Concrete Thickness(in) × Curve Area(ft²) + 12in

Rebar Mass = $\frac{1}{Rebar\ Spacing\ (ft)} \times \frac{1}{Rebar\ Spacing\ (ft)} \times Rebar\ Density\ (\frac{lb}{ft^3}) \times Rebar\ Wire\ Area(ft^2) \times Curve\ Area(ft^2)$

Asphalt Mass = Asphalt Density($\frac{lb}{ft^3}$) × Asphalt Thickness(in) × Curve Area(ft²) × $\frac{ft}{12in}$

Gravel Mass = Gravel Density($\frac{lb}{ft^3}$) × Gravel Thickness(in) × Curve Area(ft²) × $\frac{ft}{12in}$

Concrete Curve Mass = Curve(ft²) × [((K(0.0001 + 6.875in)) + 11) × 1 - $\frac{ft^2}{144in^2} + 7in + 8in] \times \frac{ft^2}{144in^2}$

Steel Curve Mass = $(12in + \frac{3}{in})^2 \times \frac{ft^2}{12^2in^2} \times (15 + 2) + 0.5 \cdot pi \times \frac{ft^2}{12in^2} \times Rebar\ Density\ (\frac{lb}{ft^3}) \times Curve(ft^2)$

