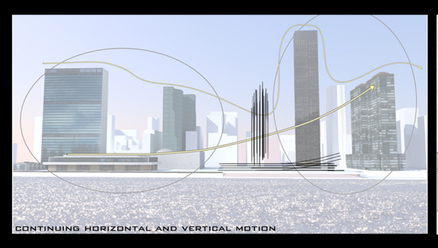
CONTEXT AND AMBITIONS

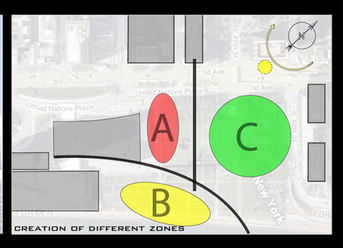
AMBITIONS:

- Design from context (no object in a field)
- Authoritative design
- Re-open the park to the public
- Transparant design
- Redesign the security check for the General Assembly
- Energie and water neutral building

Sustainable Building
- Endurance (volhoudendheid)
- Selfsupporting (zelfvoorzienend)

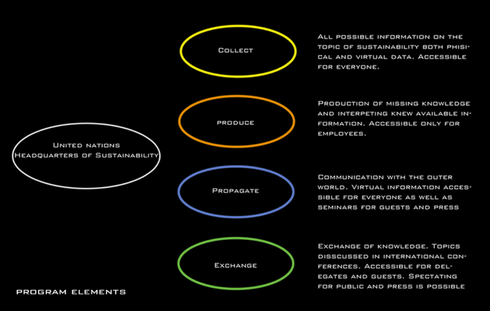
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
- Brundtland Commission of the United Nations, 1987

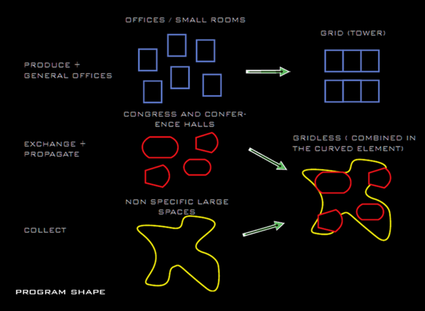

Continuing horizontal and vertical motion

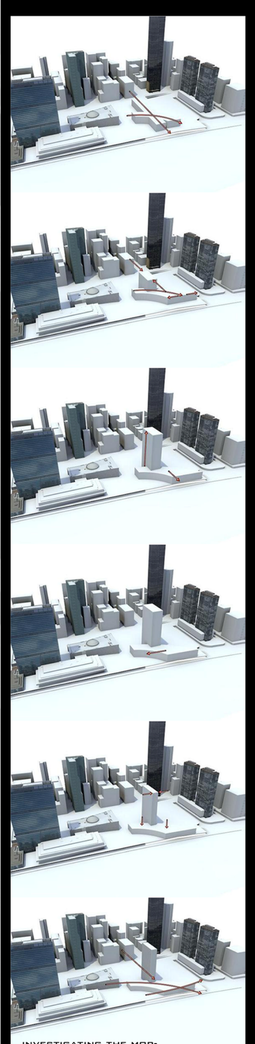


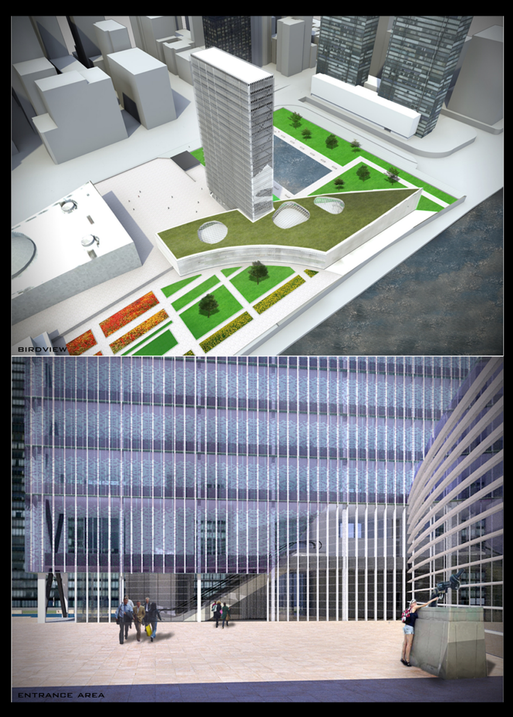
Creation of different zones

PROGRAM AND FLOORPLANS

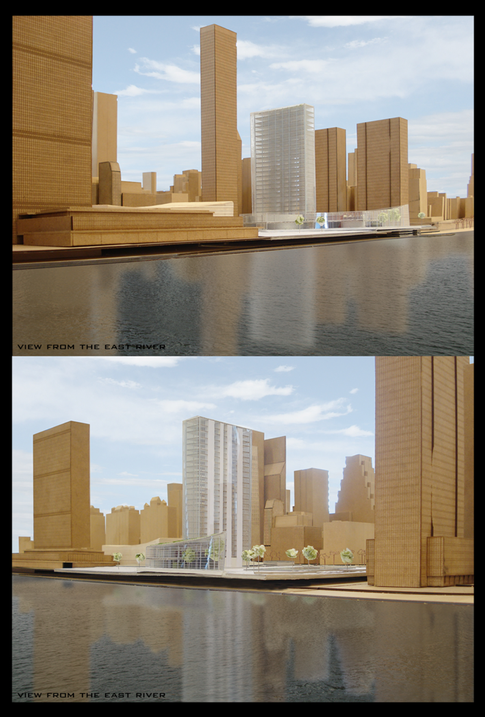




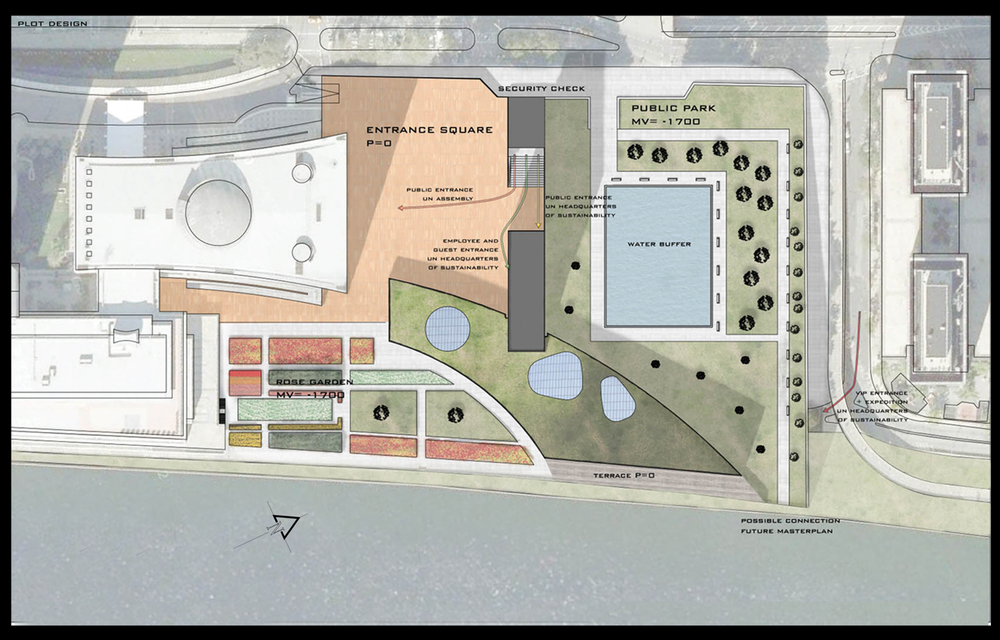

Investigating the morpholoy of the new headquarters in relation to the context


Birdview

Entrance area


View from the East River

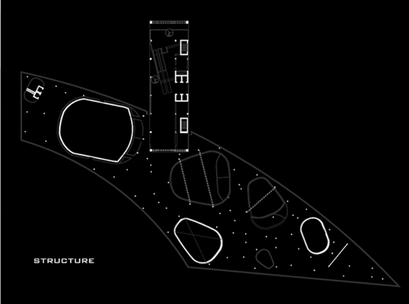
View from the East River

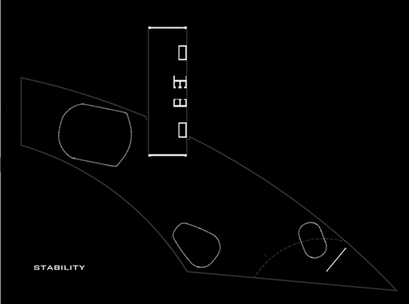


Axel Schultes

Ishigami

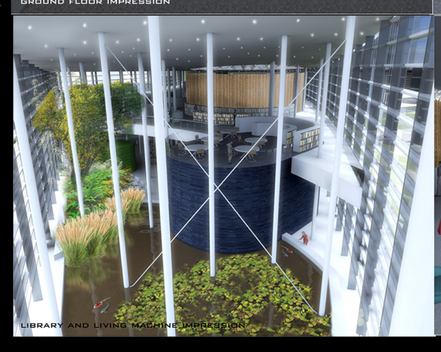
VISUALISATION AND BUILDING TECHNOLOGY


Structure

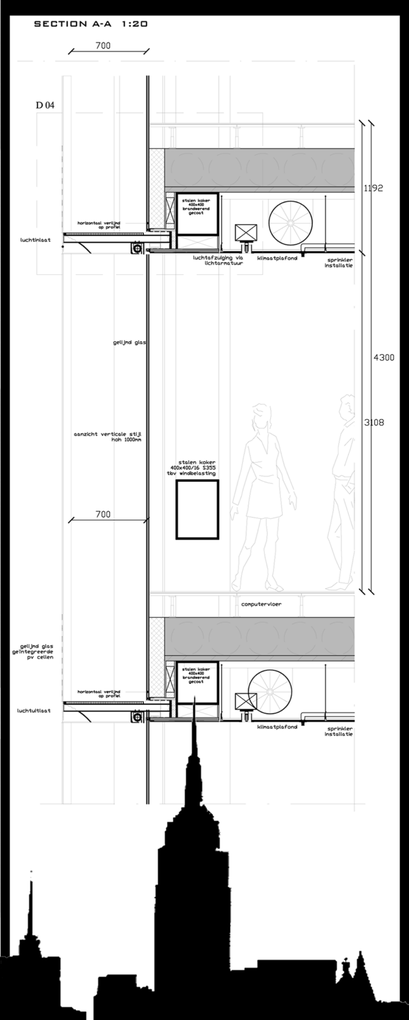

Stability

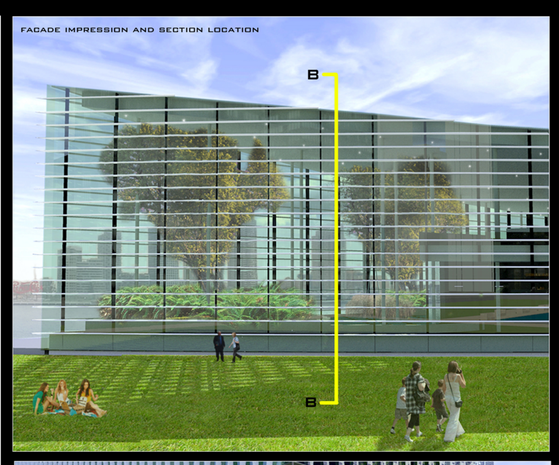
Ground floor impression

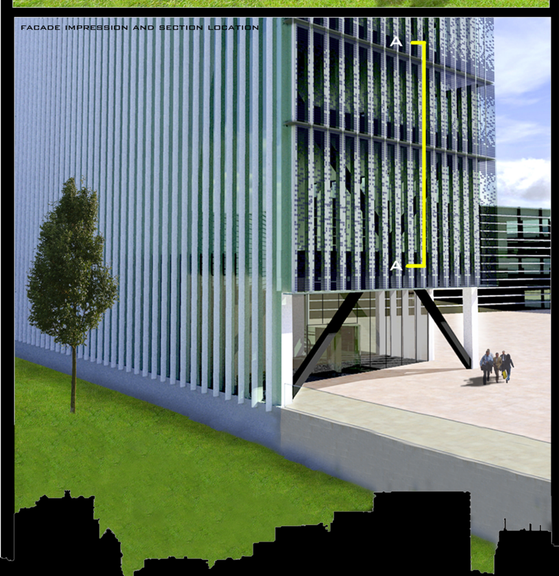
First floor impression

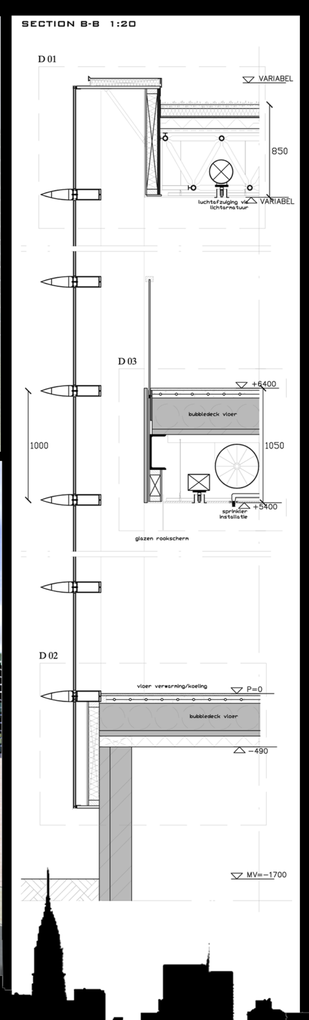

Library and living machine impression

Library impression



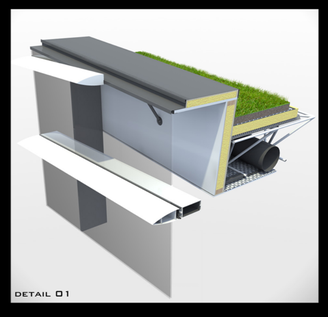

Facade impression and section location

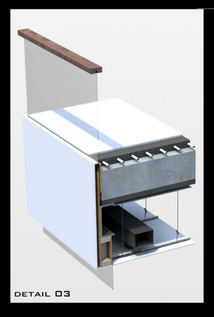

Facade impression and section location

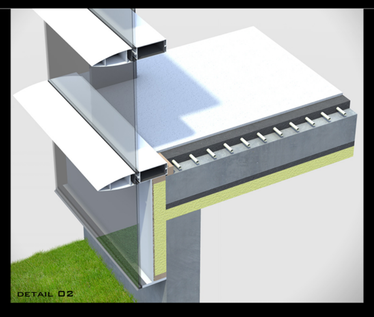


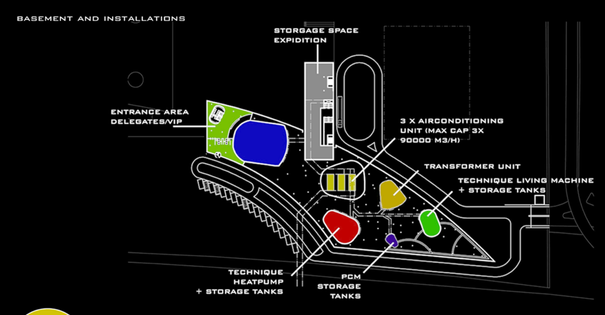
BUILDING TECHNOLOGY

Detail 04

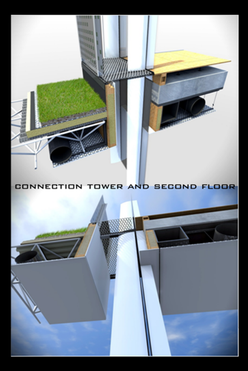

Detail 01


Detail 03


Detail 02



Connection tower and second floor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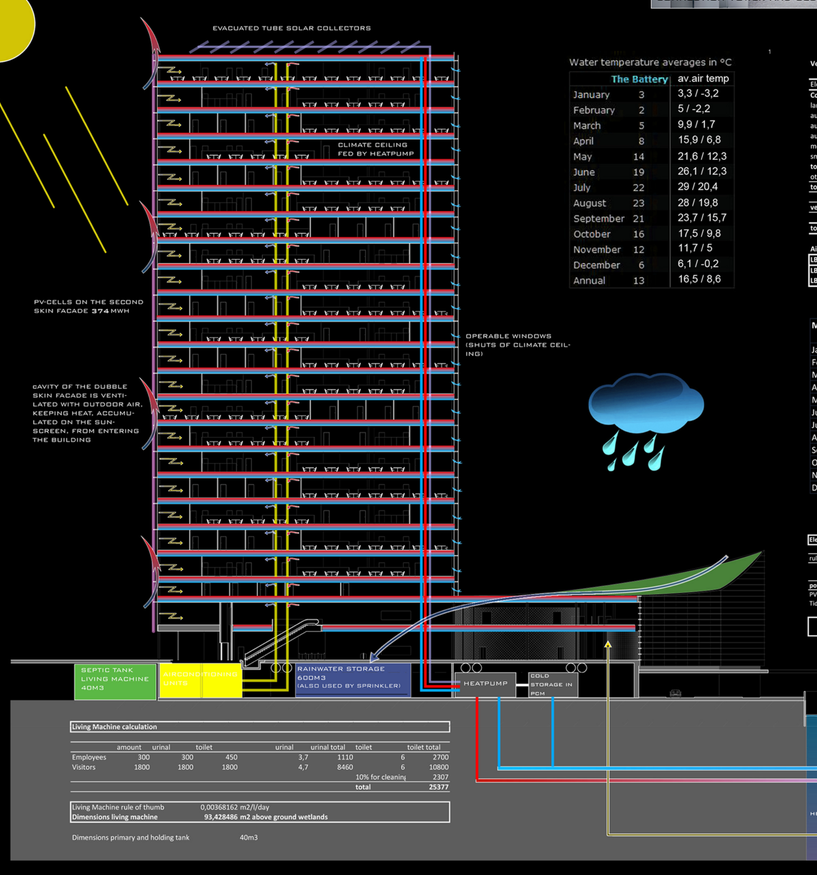

Water temperature averages in °C

The Battery		av.air temp
January	3	3,3 / -3,2
February	2	5 / -2,2
March	5	9,9 / 1,7
April	8	15,9 / 6,8
May	14	21,6 / 12,3
June	19	26,1 / 12,3
July	22	29 / 20,4
August	23	28 / 19,8
September	21	23,7 / 15,7
October	16	17,5 / 9,8
November	12	11,7 / 5
December	6	6,1 / -0,2
Annual	13	16,5 / 8,6

Ventilation requirements

Element	m2	ventilation demand l/s	ventilation m3/h
Congress area			
large congress hall (B1)	836	4,8	14446,08
auditorium 450 (B1)	385	4,8	6652,8
auditorium 250 (B1)	152	4,8	2626,56
auditorium 200 (B1)	110	4,8	1900,8
medium congress (B2)	213	1,9	1456,92
small congress (B2)	32	1,9	218,88
total halls	**1728**		**27302,04**
other spaces m2	7529	1,9	51498,36
total congress area	**9257**		**78800,4**
ventilation tower	**20125**	**1,9**	**137655**
totaal luchtverversing	**29382**		**216455,4**

Airconditioning unit	capacity m3/h
LBK A	27.302
LBK B	137.655
LBK C	51.498

Month	Rainfall mm	Harvesting roof m3	Harvesting pond m3	Total minus spil & evaporation (0,6)	Average m3/day
Jan	104,9	519	291	486	16
Feb	80	369	222	355	13
Ma	111	549	308	514	17
Apr	108,7	538	302	504	17
May	119,1	589	331	552	18
Jun	97,5	482	271	452	15
Jul	117,3	580	326	543	18
Aug	107,2	530	298	497	16
Sept	107,4	531	298	498	17
Oct	97,8	484	272	453	15
Nov	110,7	546	307	512	17
Dec	100,3	496	279	465	15

Electric power calculation			
rule of thumb office w/o electric Airconditioning KWh/m2/year	m2	power demand KWh/year	
79	29.381	2.321.099	
power supply	m2/#	output per unit KWh/y	output KWh/year
PV cells	4680	80	374.400
Tidal Turbine	30	64912	1.947.360
	Demand KWh	**Supply KWh**	**Surplus KWh**
	2.321.099	**2.321.760**	**661**

Living Machine calculation								
	amount	urinal	toilet		urinal	urinal total	toilet	toilet total
Employees	300	300	450		3,7	1110	6	2700
Visitors	1800	1800	1800		4,7	8460	6	10800
						10% for cleaning		2307
						total		**25377**

Living Machine rule of thumb	0,00368162 m2/l/day
Dimensions living machine	93,428486 m2 above ground wetlands
Dimensions primary and holding tank	40m3

STEFAN VINK - 1524976 - ARCHITECTURE -
STRATEGIC ARCHITECTURAL DESIGN DEVELOPMENT -
DELFT UNIVERSITY OF TECHNOLOGY - JUNE 2011

UNITED NATIONS
HEADQUARTERS OF SUSTAINABILITY