

## REDUCING ENERGY DEMAND, INCREASING ENERGY PRODUCTION

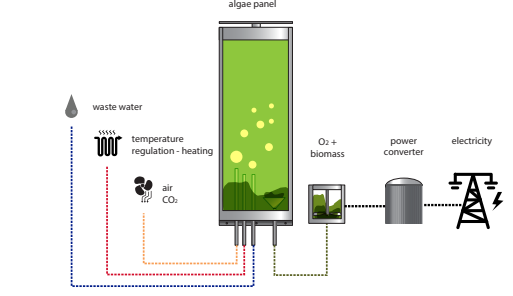
- UNDERSTANDING LOCAL WEATHER CONDITIONS AND PEOPLE HABITS IN TERMS OF ENERGY AND WATER USE
- USING PASSIVE DESIGN (ORIENTATION, USE OF NATURAL ELEMENTS SUCH AS SUN AND WIND)
- DESIGNING A PERFORMING ENVELOPE (INSULATION, WINDOWS...)
- SENSITISING OCCUPANTS AND CONTRACTORS (THROUGH BEHAVIOR AND USE OF HIGH-PERFORMING APPLIANCES)
- INCREASING COMMON-USED SPACES (WASHER/DRYER, SHARED ROOFTOP GARDENS)
- USING LOCAL MATERIALS IN ORDER TO REDUCE GHG EMISSIONS
- PROPOSING A NEW WAY OF LIVING TOGETHER BEING SELF-EFFICIENT

### PASSIVE DESIGN

OPERABLE SUNSHADES AT SOUTH ELEVATION TO REDUCE SOLAR GAINS IN SUMMER  
DOUBLE SKIN AT NORTH ELEVATION TO CREATE A THERMAL BUFFER  
OPERABLE WINDOWS AT OPPOSITE FACADES TO CREATE CROSS-VENTILATION  
HIGH-PERFORMING INSULATED WALLS  
REDUCTION OF THERMAL BRIDGES AND AIR LEAKAGES

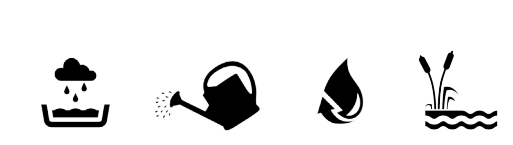
### ENERGY PRODUCTION

PHOTO-VOLTAIC PANELS ON ROOFTOP  
MICRO-ALGAE PANELS ON EAST AND WEST FACADES



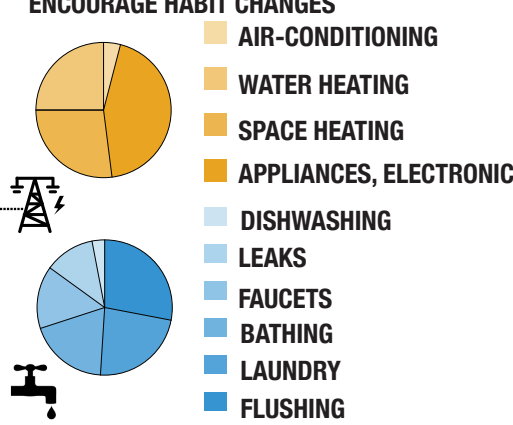
### WATER ECONOMY

USE OF RAINWATER  
TREATMENT OF GREY-WATER WITH LIVING-MACHINE FILTRATION SYSTEM

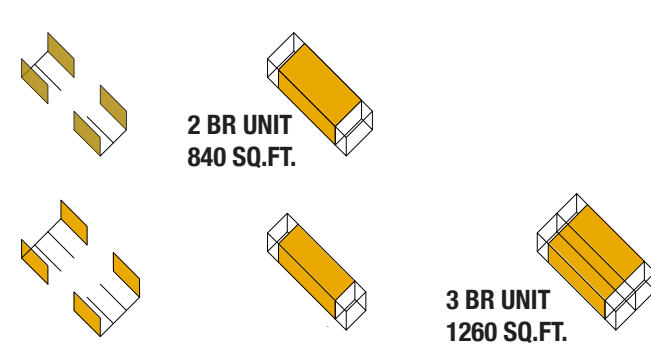


### OCCUPANTS BEHAVIORS

SMART ELECTRONIC DEVICES ALLOWING PEOPLE TO KNOW THEIR ENERGY CONSUMPTION  
SPECIAL BONUS/PENALTY PROGRAM TO ENCOURAGE HABIT CHANGES

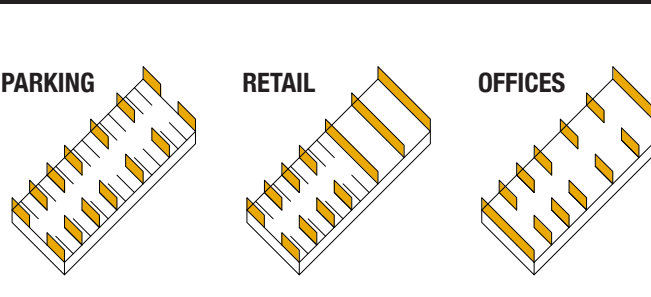


### MODULARITY



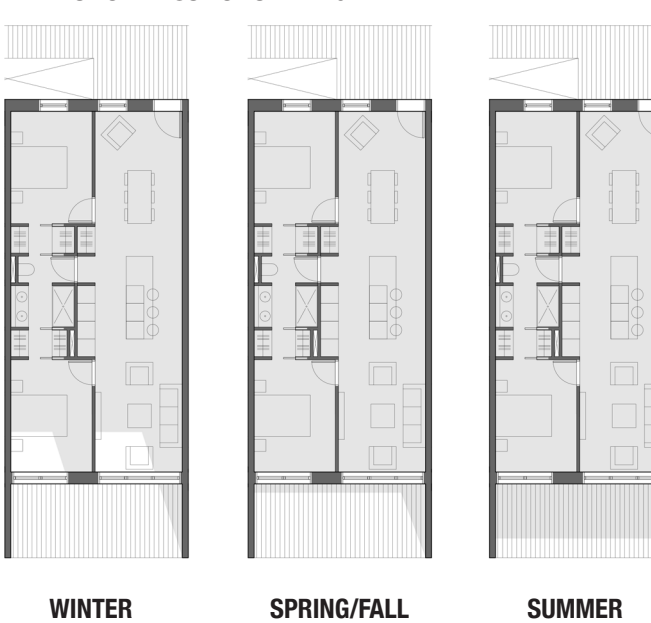
A SYSTEM CAPABLE TO CHANGE USES THANKS TO ITS MODULARITY. TODAY A PARKING SPOT, TOMORROW A RESIDENTIAL UNIT, THE DAY AFTER, AN OFFICE SPACE.

### FLEXIBILITY



### DOUBLE-ORIENTED RESIDENTIAL UNITS

USE OF PASSIVE DESIGN TO IMPROVE ENERGY EFFICIENCY OF THE UNITS. CROSS-VENTILATION, SOLAR GAIN MANAGEMENT THANKS TO THE USE OF SHADING.

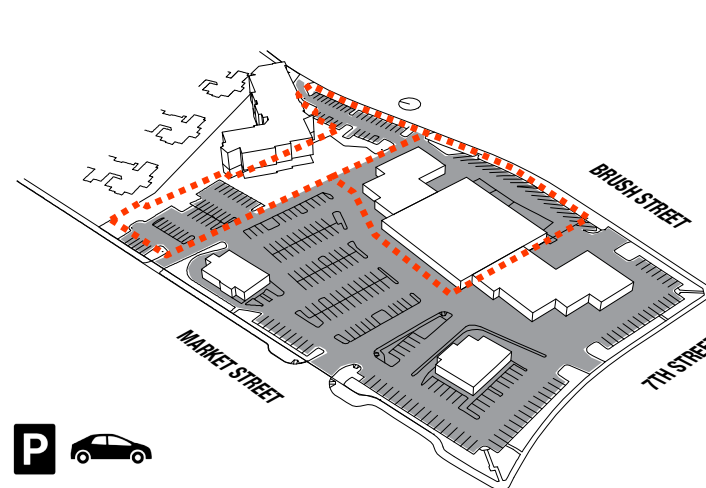


SOLAR GAIN DIAGRAM



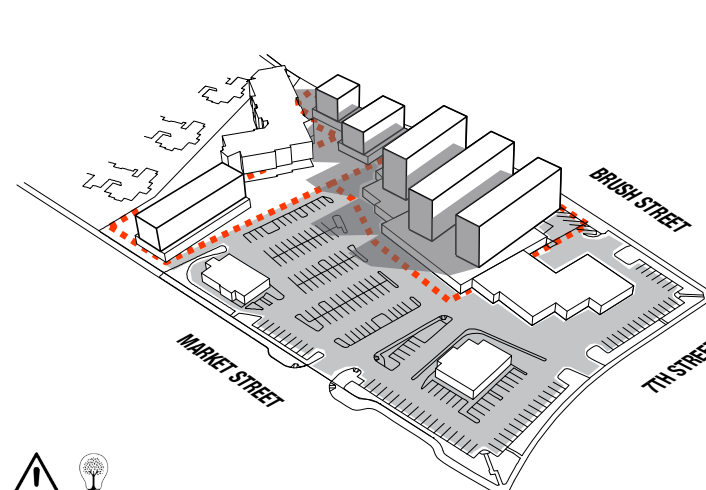
### EXISTING SITUATION

HEAT ISLAND EFFECT



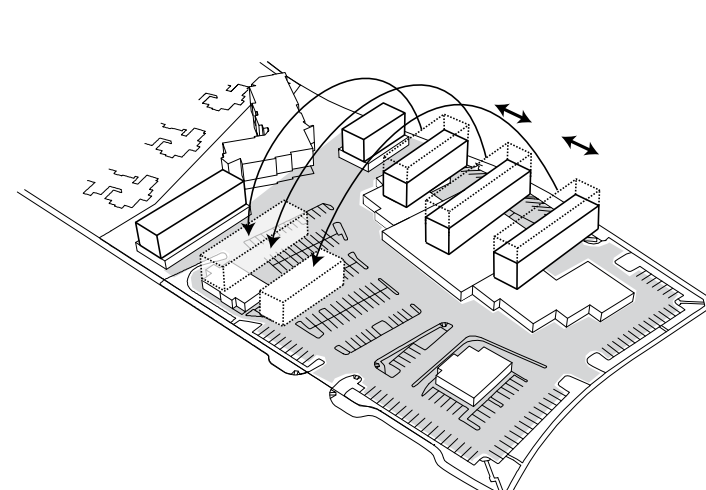
### PROGRAM SETTINGS

HEIGHT AND PROXIMITY-SHADOWS



### URBAN STRATEGY

SUN, WIND AND NATURE

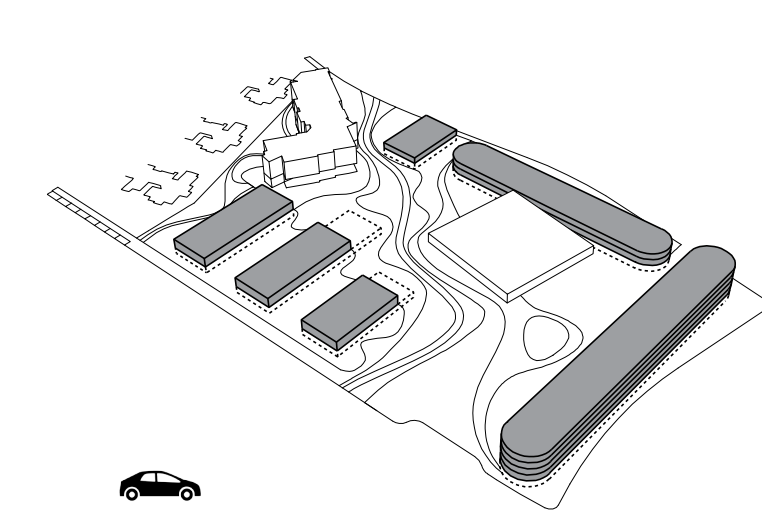


### GREEN CORRIDOR

PEDESTRIANS AND CYCLISTS

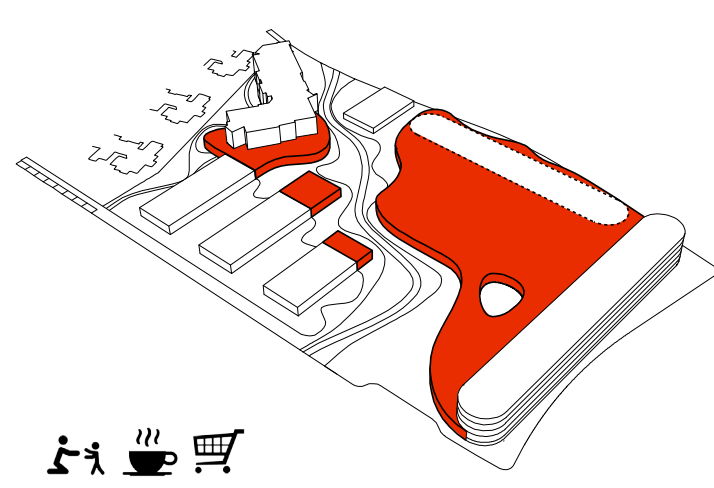


### PARKING STRATEGY

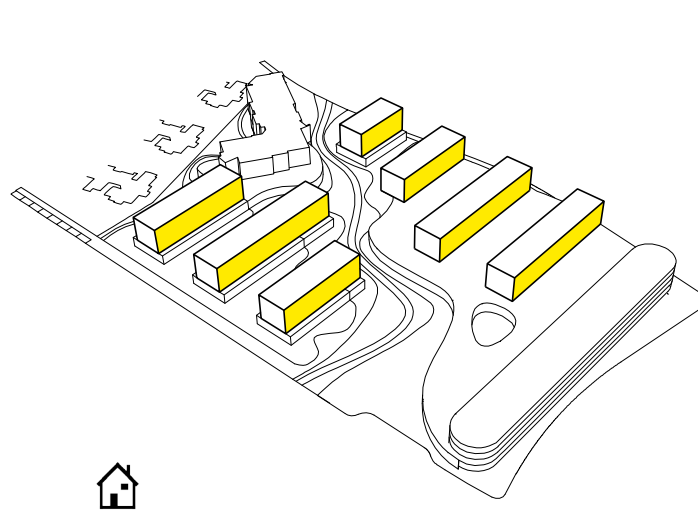


### COMMERCIAL AREAS

ALONG THE GREEN CORRIDOR

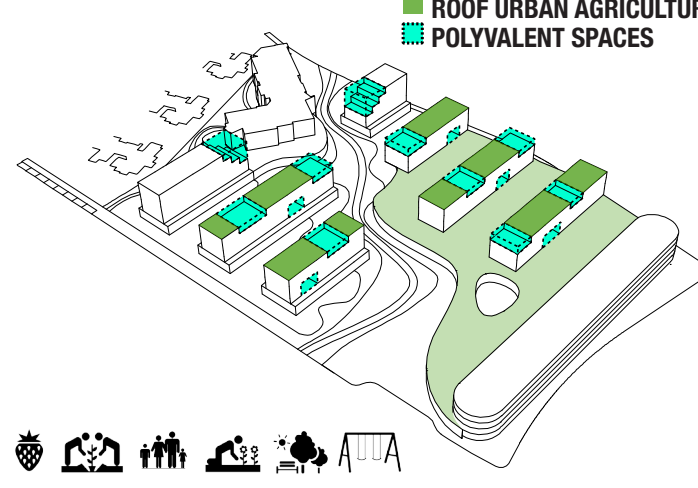


### SOUTH-ORIENTED BUILDINGS



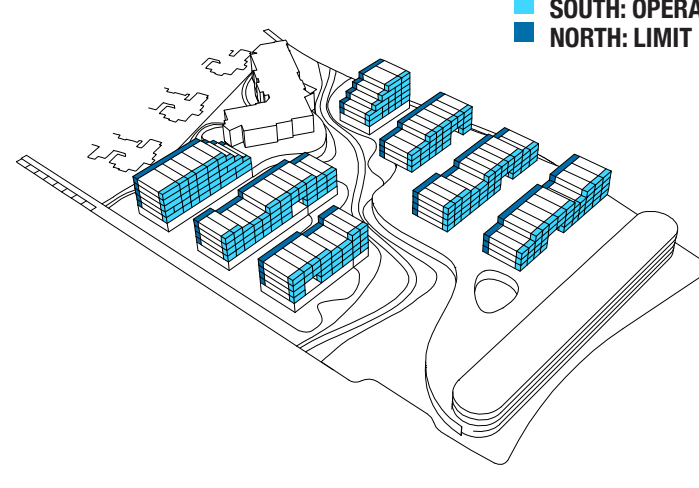
### COMMUNITY SPACES

ROOF PUBLIC GARDEN  
ROOF URBAN AGRICULTURE  
POLYVALENT SPACES



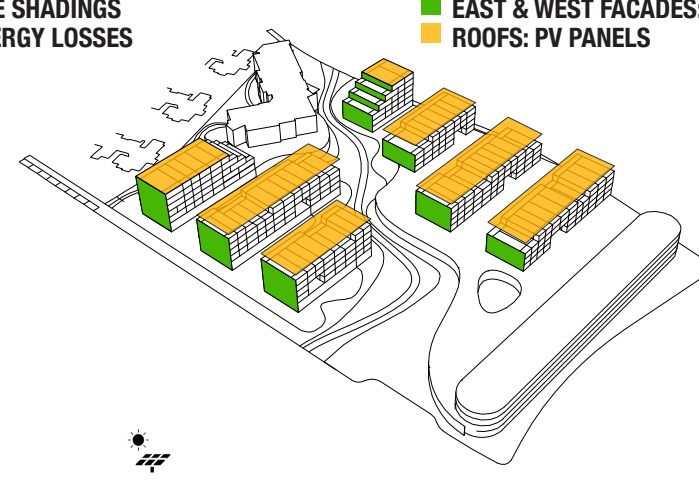
### BUFFER ZONES

SOUTH: OPERABLE SHADINGS  
NORTH: LIMIT ENERGY LOSSES



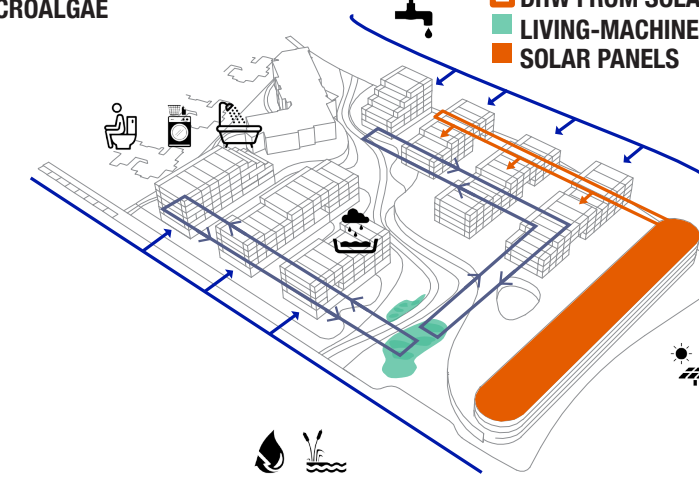
### ENERGY PRODUCTION

EAST & WEST FACADES: MICROALGAE  
ROOFS: PV PANELS



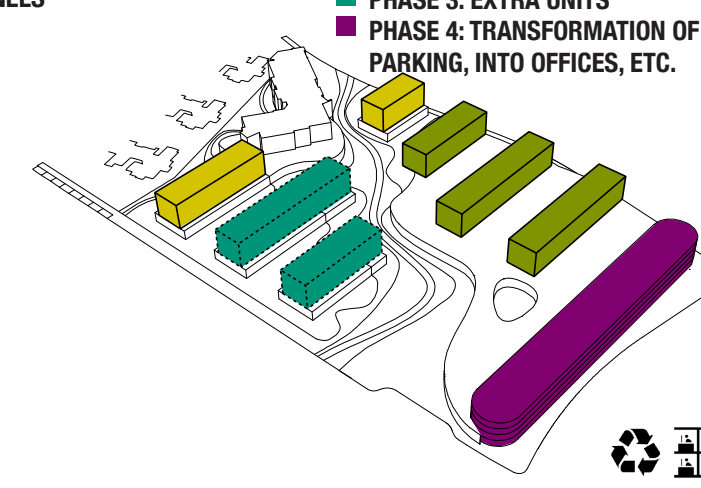
### WATER CYCLE

POTABLE WATER  
GRAY WATER REUSE  
DHW FROM SOLAR PANELS  
LIVING-MACHINE  
SOLAR PANELS

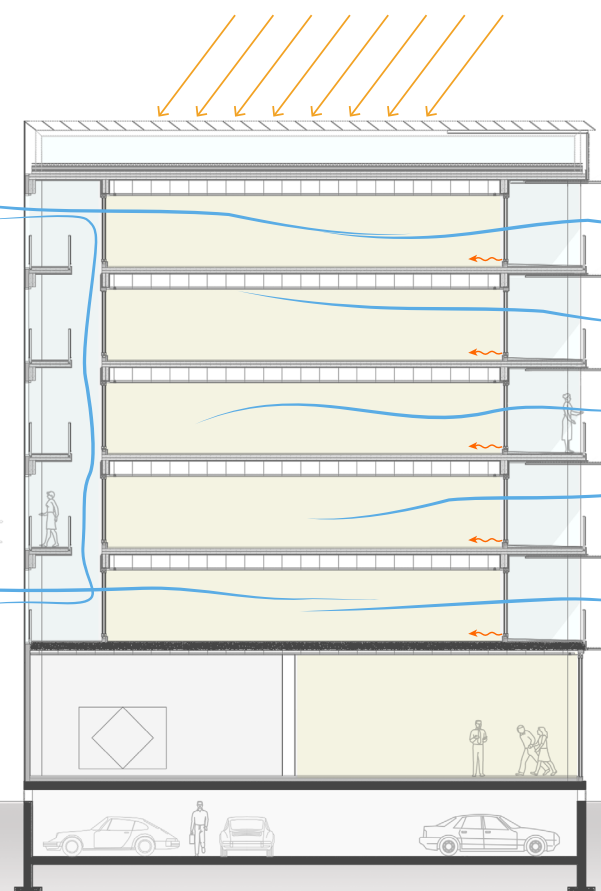


### PROJECT PHASES

PHASE 1: AFFORDABLE HOUSING  
PHASE 2: MARKET-RATED HOUSING  
PHASE 3: EXTRA UNITS  
PHASE 4: TRANSFORMATION OF PARKING, INTO OFFICES, ETC.



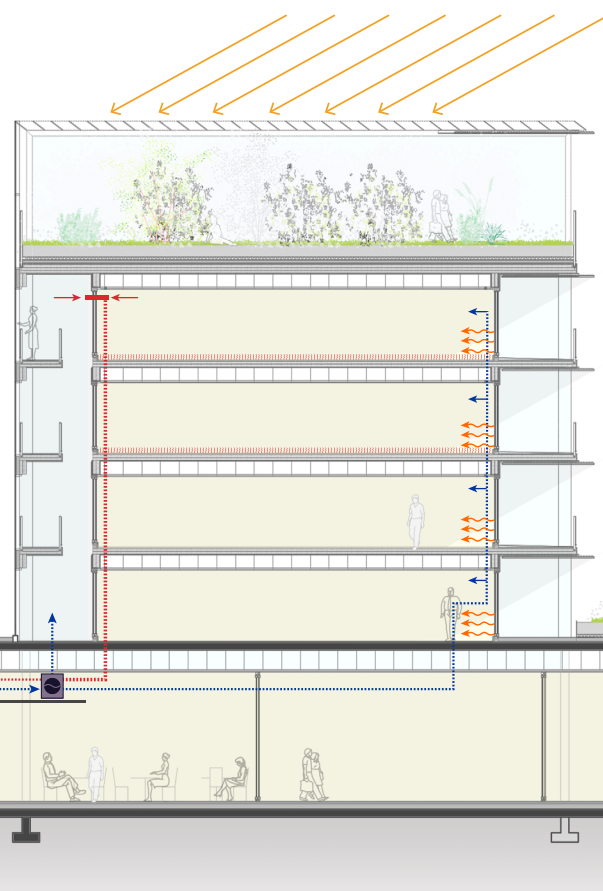
### PHOTOVOLTAIC LAMINATED GLASS SYSTEM



FALL EQUINOX

THE PARKING IS LOCATED UNDER-GROUND IN ORDER TO IMPROVE THE THERMAL MASS OF THE GROUND FLOOR. COMMERCIAL SPACES ARE LOCATED ON THE GROUND FLOOR, WITH A DIRECT ACCESS TO THE PARK

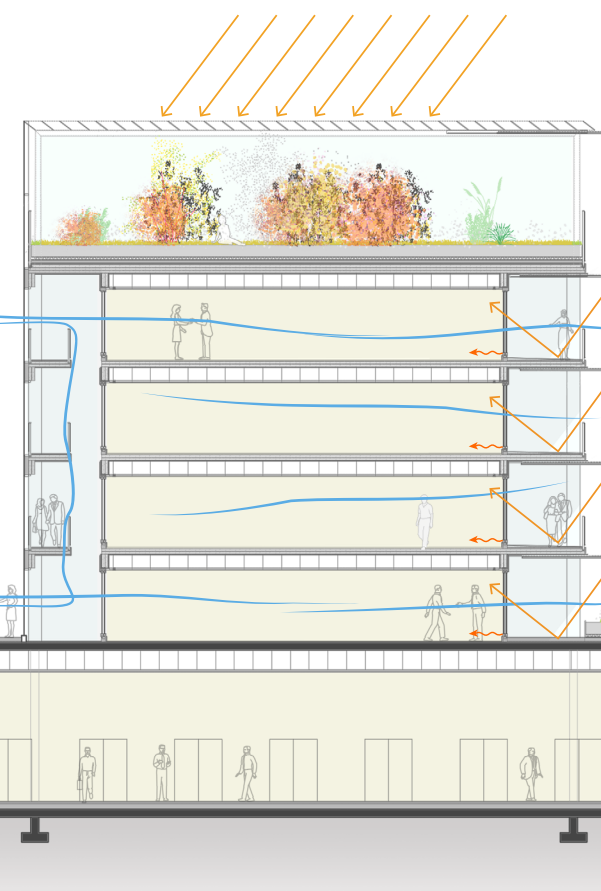
### NATURAL CROSS VENTILATION



WINTER SOLSTICE

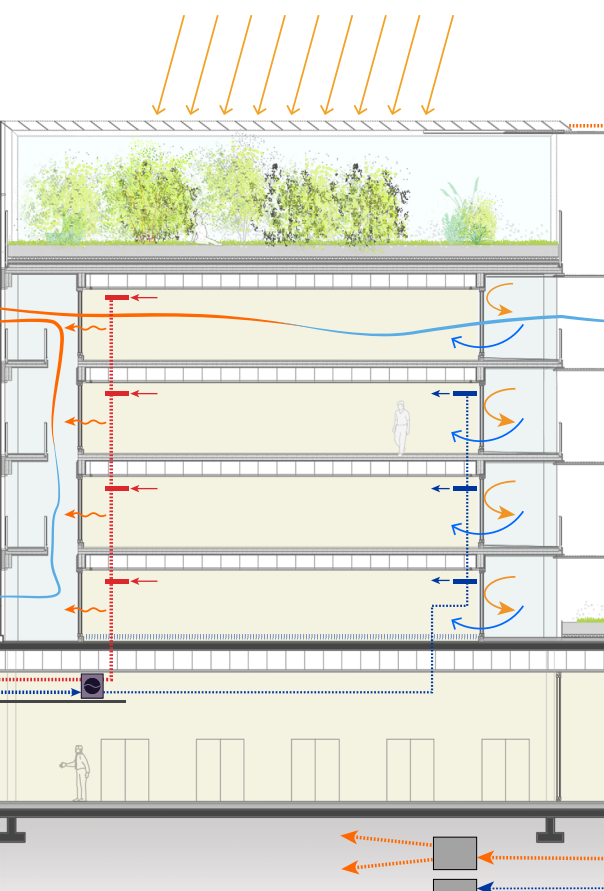
### GREENROOF AND INSULATION IMPROVEMENT

HEAT IS CIRCULATED THROUGH AN UNDERFLOOR HEATING SYSTEM.



SPRING EQUINOX

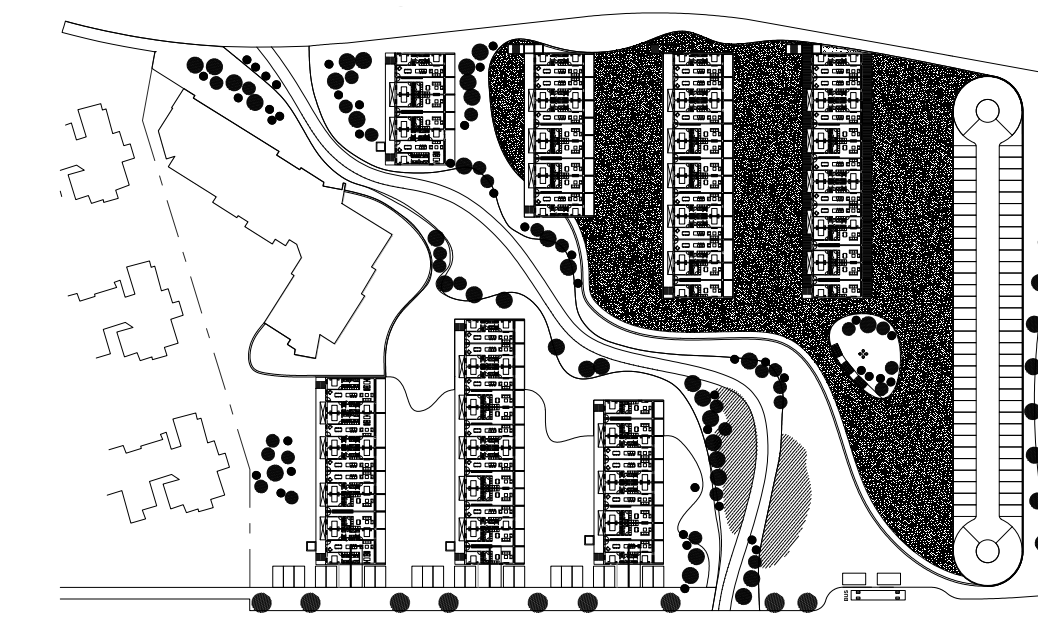
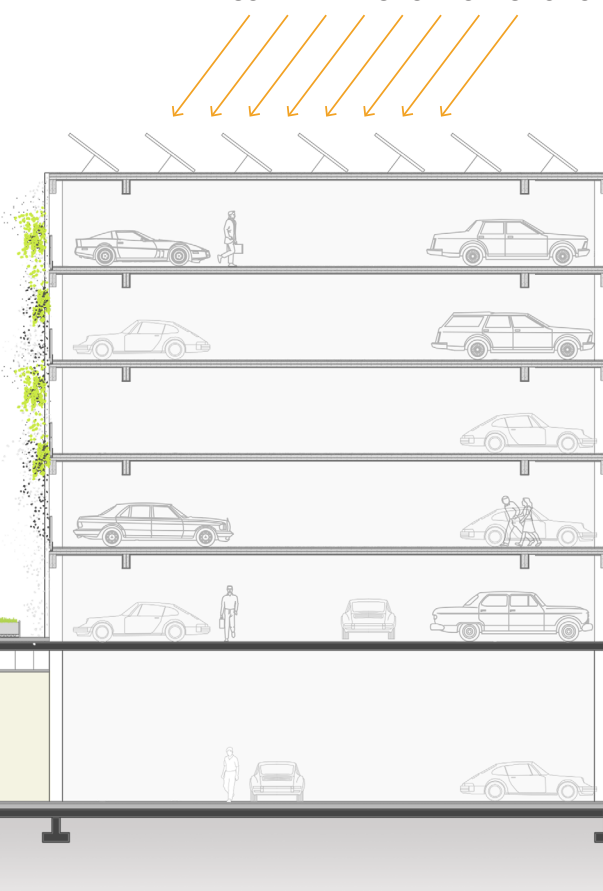
MAINTAINING AN INTERNAL TEMPERATURE OF 20c.



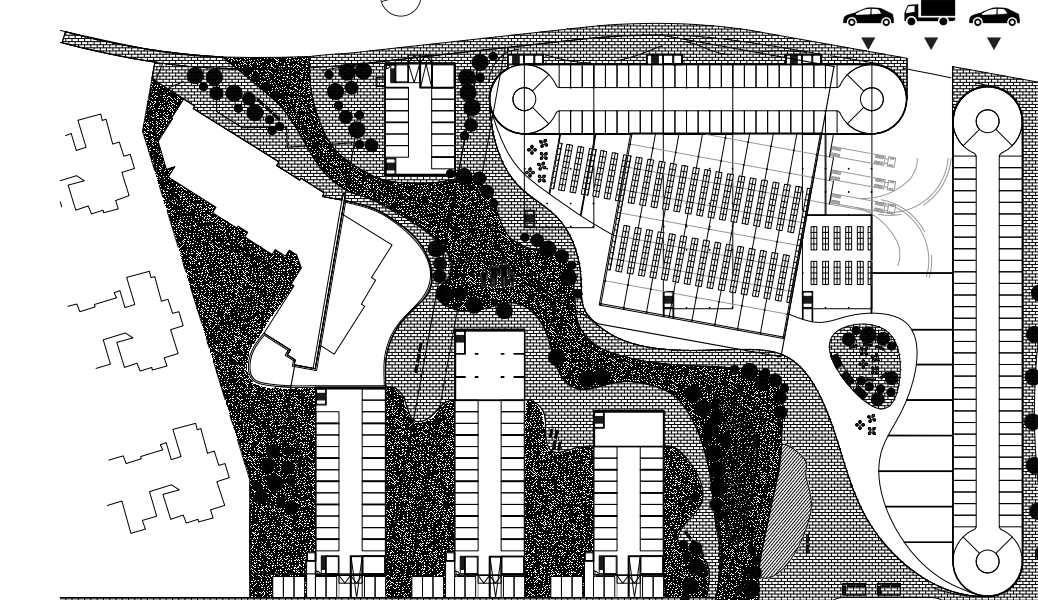
SUMMER SOLSTICE

### THERMAL SOLAR PANELS FOR DOMESTIC HOT WATER USES

WASTE HEAT RECOVERY FROM COMMERCIAL SPACES FOR RESIDENTIAL USES.



TYPICAL FLOOR LEVEL



GROUND FLOOR LEVEL