

WINNING ENTRY

Draft for PixelCity Copenhagen, 2009



PARTICIPATORY PLANNING

Planning on the Basis of Community Dialogue



The **City of Copenhagen** invited three architects' firms to make a planning proposal for an area known as Sundholm Syd. The aim of the plan was to establish the framework for up to 250 dwellings including infrastructure - with an integrated child care center - and to create a new urban link between Sundholm and the neighboring urban areas, including the Danish National Broadcasting with its new Concert Hall, the Sundholm social center (with juvenile detention center) and the social housing estate Hørgården.

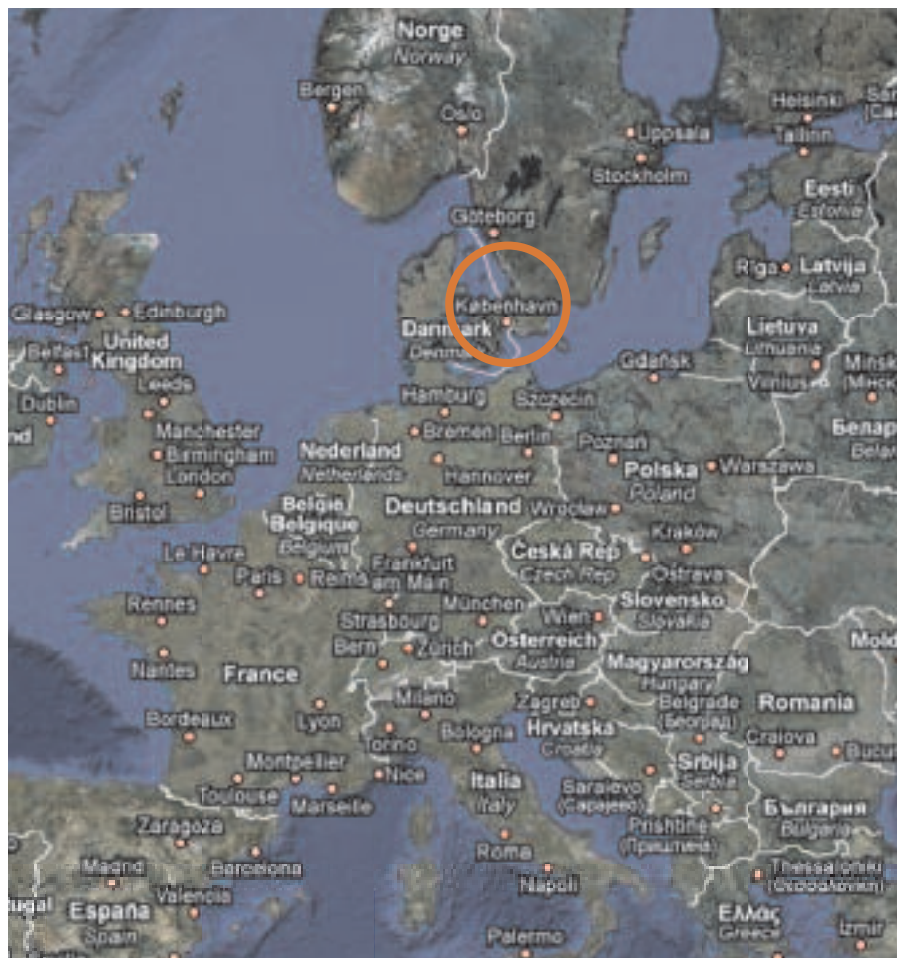
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On this basis Bertelsen & Scheving has developed a strategy for a participatory planning concept with social sustainability as the main driving force. It is a micro-planning process based on the smallest units in the cityscape and results in a pluralistic dense garden city full of variation and pauses. It is a flexible strategy that adapts to site specific conditions like overall geometry, trees, buildings worthy of preservation, neighbours and existing social networks, including infrastructure thus ensuring that a new development is anchored in the history and culture of the area.

Zone lift is a proces that started in Danish cities around 1997 as a national effort to revitalize neighborhoods primarily by solving social problems. When a cityzone of a city needs a lift and renewal the issue is not just about the physical environment. Zone lift is an effort that focus on a certain neighborhood that has a wide range of problems and shortcomings. This action is designed to infuse a new and positive development in the zone both physically, socially, culturally and environmentally. The idea of zone lift projects is that residents' concerns and reservations have a major impact on how the project will proceed. The local forces are actively involved in all project development phases. It means that the residents and users involvement and ownership of the neighborhood is strengthened. A stronger ownership helps to ensure that positive actions lives on after the project phase is concluded.

The process includes the establishment of a local council with the participation of citizens, city officials and local stakeholders. Through the publishing of a zone lift plan, social ressource atlas and similar papers the long term goals are kept in focus while activating local citizens in events, networks, clubs and more in a continuous and bi-directional feed back between local residents and the city authorities.

This extensive process was used in the conceptual kick-off for this proposal.



Area lift projects Copenhagen

2008-2014: Sundholmsvej / 2004-2010: Mimersgade / 2004-2010: Øresundsvej / 2007-2012: Haraldsgade / 2001-2007: Nørrebro Park / 2003-2007: Urban and Tingbjerg / 1997-2003: Holmbladsgade, Kongens Enghave, Femkanten

the task?

- Development of "Sundholm South"
 - As many dwellings as possible
 - A child day care center
 - Good relationship with the surrounding urban areas
- Part of "Metropol for People" (strategy for urban development cph)
 - The outdoor in-between spaces are important
- A good local environment and succesful local urban lift



Sundholmvej Zone Lift 2008-2014

- A holistic effort
 - A wide range of problems and shortcomings
- Three stages: 1. district level, 2. implementation and 3. anchorages.
 - Public and local stakeholders participation





"Neighborhood plan. Sundholm zone lift" : In general:

"We believe that openness, diversity and understanding is the way to pursue a rich and secure life close to each other."



It is important to know
the limitations and possibilities!



Shared estate
garden on the
ground

Shared estate
green playground
on the roof

Shared estate garden
on the roof

Slim buildings pro-
vide plenty of day-
light in the flats
and the buildings.

Rainwater harvesting

Shared space slow
street, bicycle and
walking paths through-
out the neighborhood

Public garden on terrain

Shared estate
garden on the
ground

With 1 meter of soil
on the roofs, you can
grow trees, shrubs,
flowers, vegetables

"Neighborhood Plan. Sundholm zone lift": Culture Factory:

"Our arts and culture grow from below and
attract people from the rest of the city!"



The Culture Factory must radiate into the city!

Extension of the Culture Factory with 10 studios (on roof)



The Culture Factory's new showroom in a garage worthy of preservation

Child day care center in the old fire wood barn with new extension



The Culture Factory's new showroom in a garage worthy of preservation

The Culture Factory

Square

Extension of the Culture Factory with 10 studios (on roof)

"Neighborhood Plan. Sundholm zone lift": Sport, travel and leisure:

"If you go for a walk one evening or in a weekend,
it's almost impossible not to get involved in
fun and meaningful activities and getting your
daily exercise."



many large and small playgrounds!



"Neighborhood Plan. Sundholm zone lift":

Green front, side and top

As part of the effort to create more green in Sundholmsvej neighborhood, the zone lift (områdeløft) should support restoration of **front gardens** and the establishment of **vegetation on building facades**. In places with insufficient open space on the ground, these may be established as **green roofs**.

Sustainable housing

When renovating homes and establishing **green back yards** we want to prioritize the sustainable solutions: thermal isolation, use of **gray waste water**, **green roofs** and **drainage** are the solutions not only for us but also ensure that future citizens have a good city to live in. We will work for the future city by providing **environmental advice** for such housing and work closely with **environmental experts**.



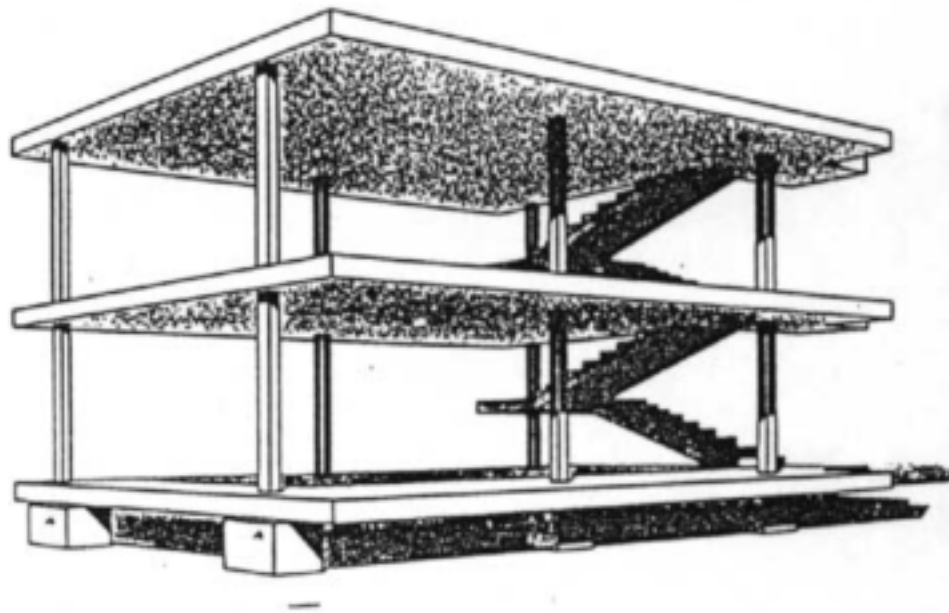
mindset!



Concrete basic construction



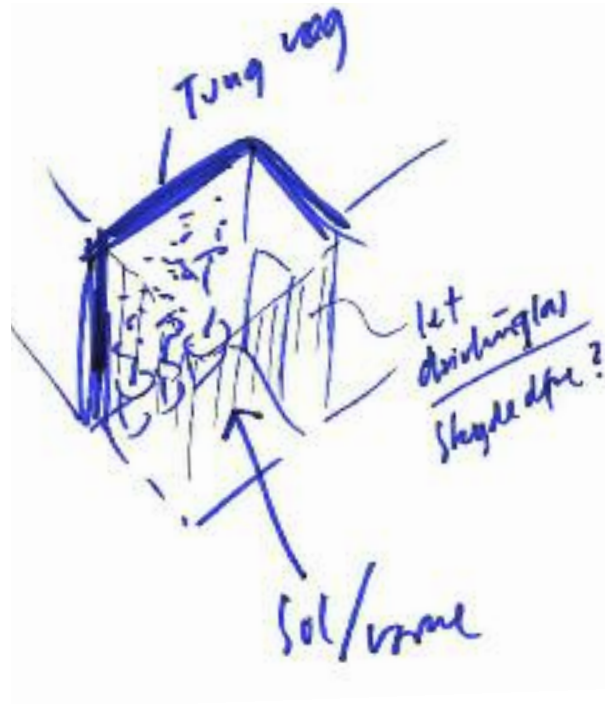
lasts forever, is heavy (stores heat)



Greenhouses for every flat



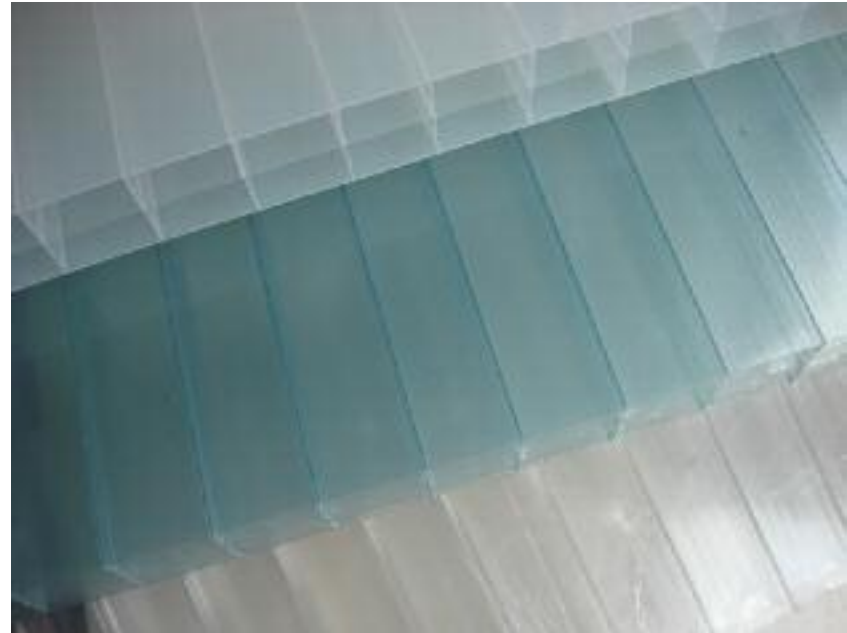
heavy heatabsorbing-wall, light facade

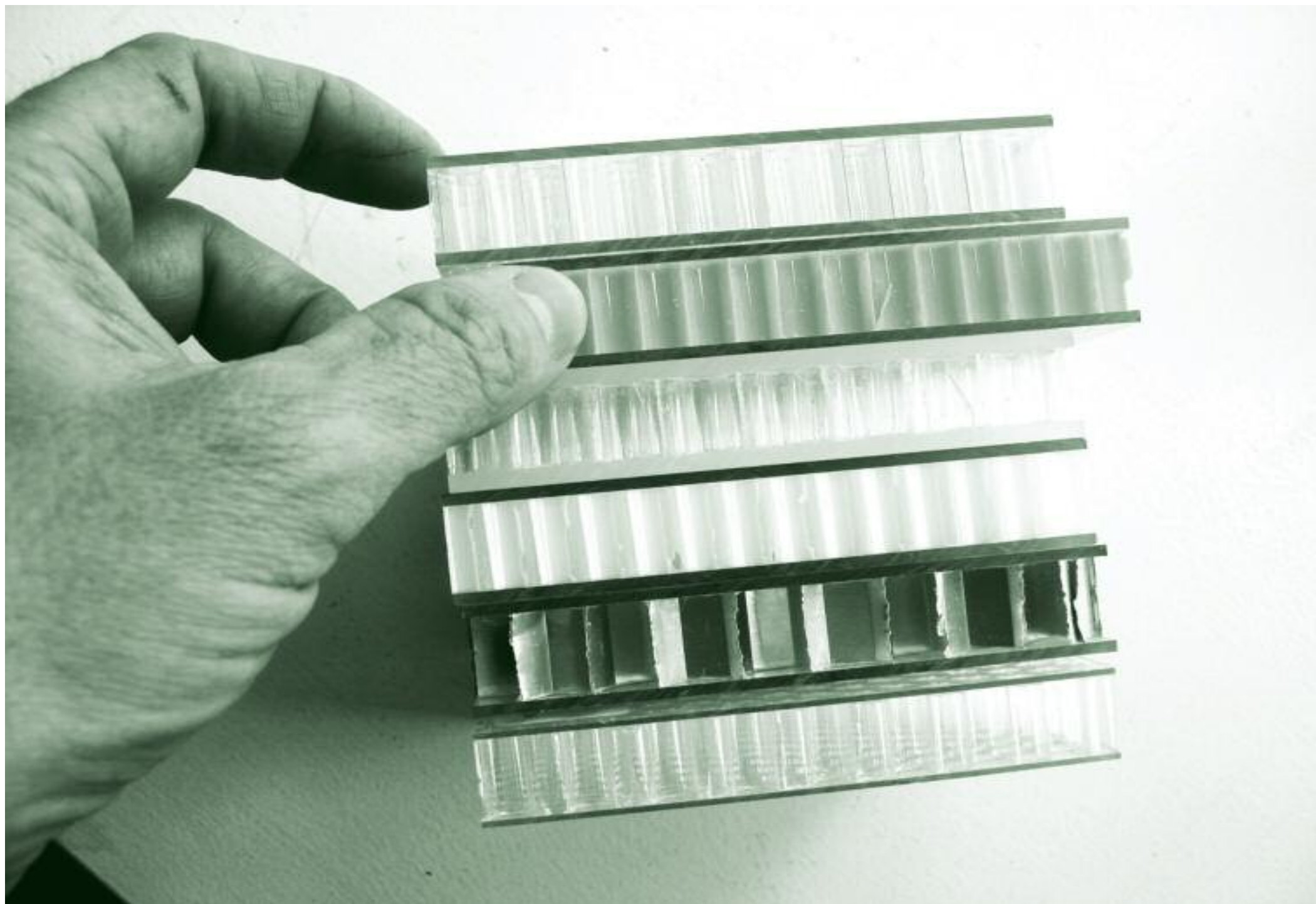


Facades built of light materials



can be easily replaced + can work as greenhouses





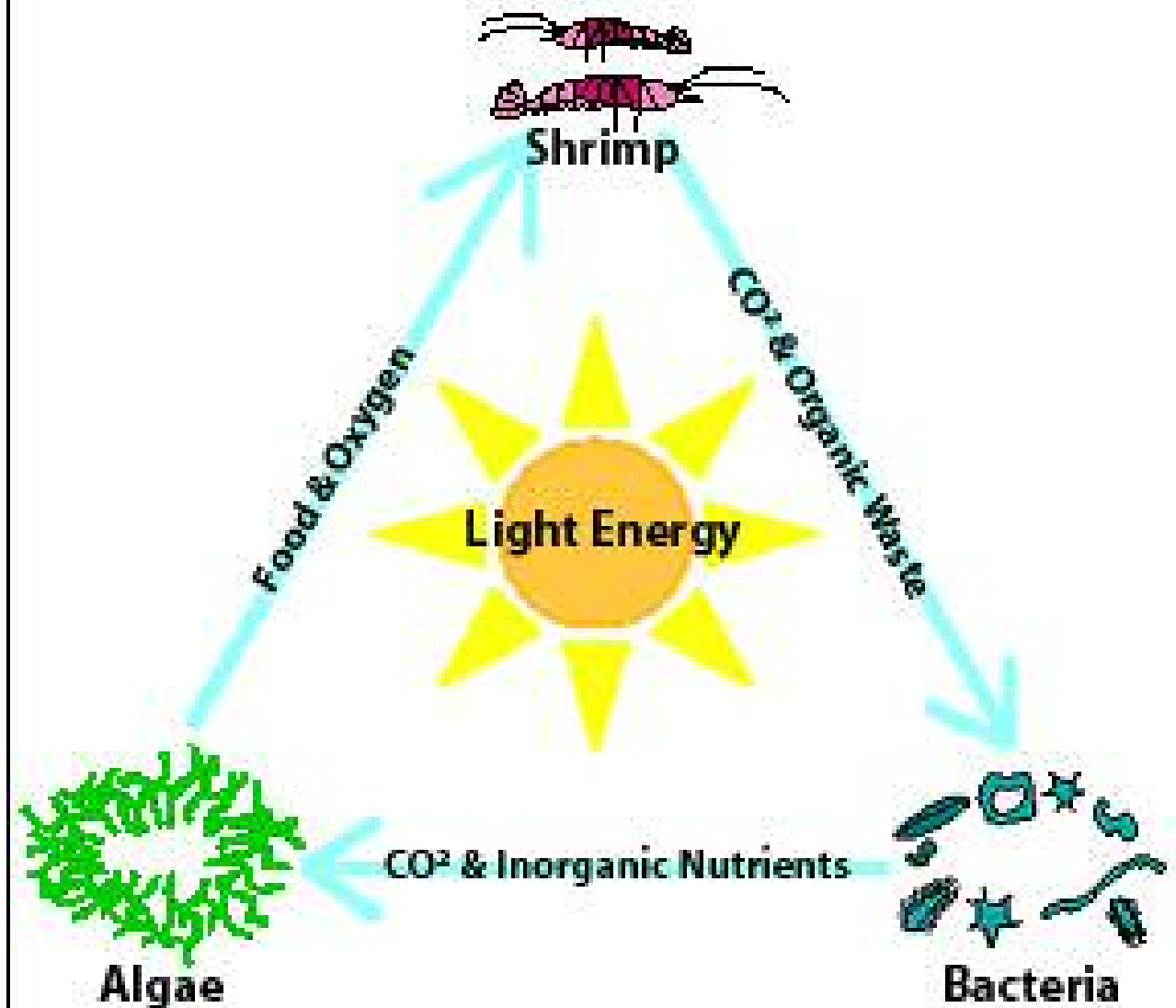
"In the Sundholmsvej neighborhood the birds are singing and you can hear the sound of kids playing. All around you hear the ripple of water. It is easy to get around and each new corner has it's own fragrance. "



close to one another!



How EcoSpheres Work



the sun is vital for life, light, energy



green is the foundation of the new Garden City!

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Thoughts about the Garden City

1

Standard distribution and a new organizational model

A : non-profit public housing - 3 floors

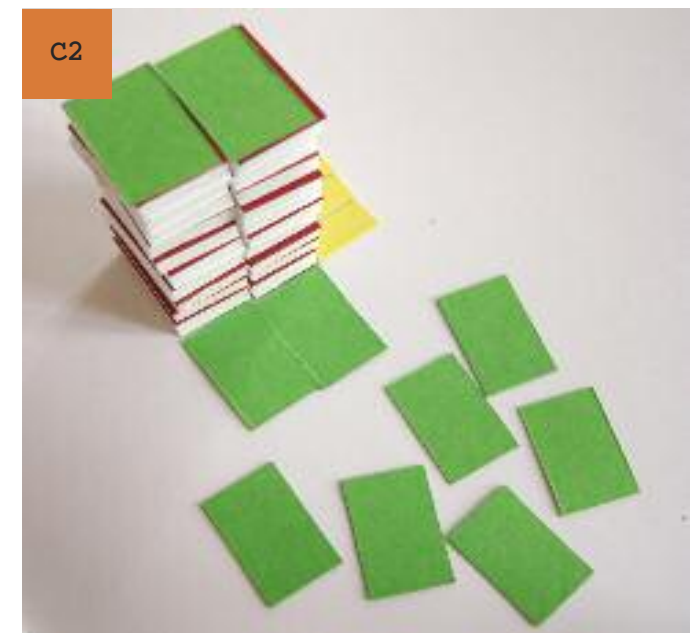
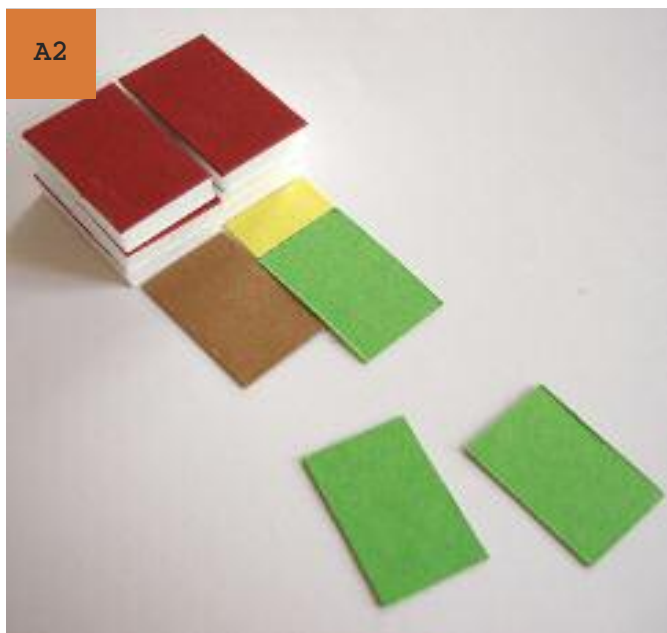
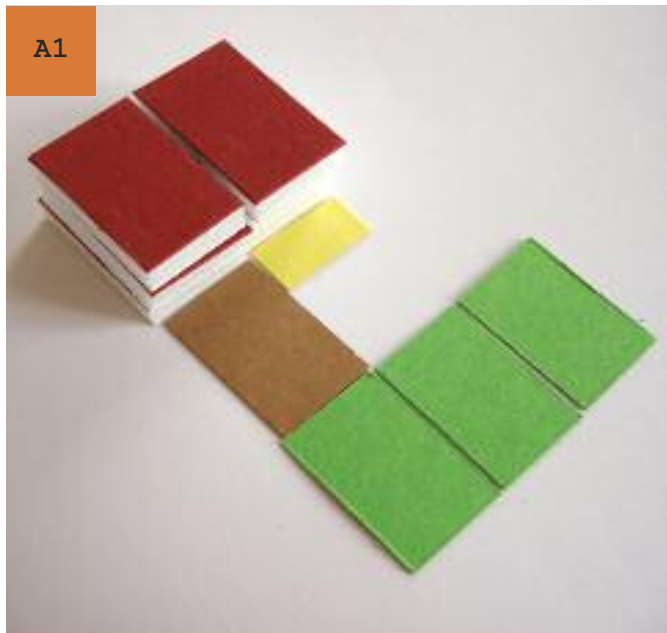
B / C : profit / share / owner housing 6-10 floors

Red field = 100 sqm residential / Green area = 100 sqm of useable area

Brown field = 3 parking lots / Yellow box = 10 bicycles

A1, B1 and C1 = standard

A2, B2 and C2 = a new community model



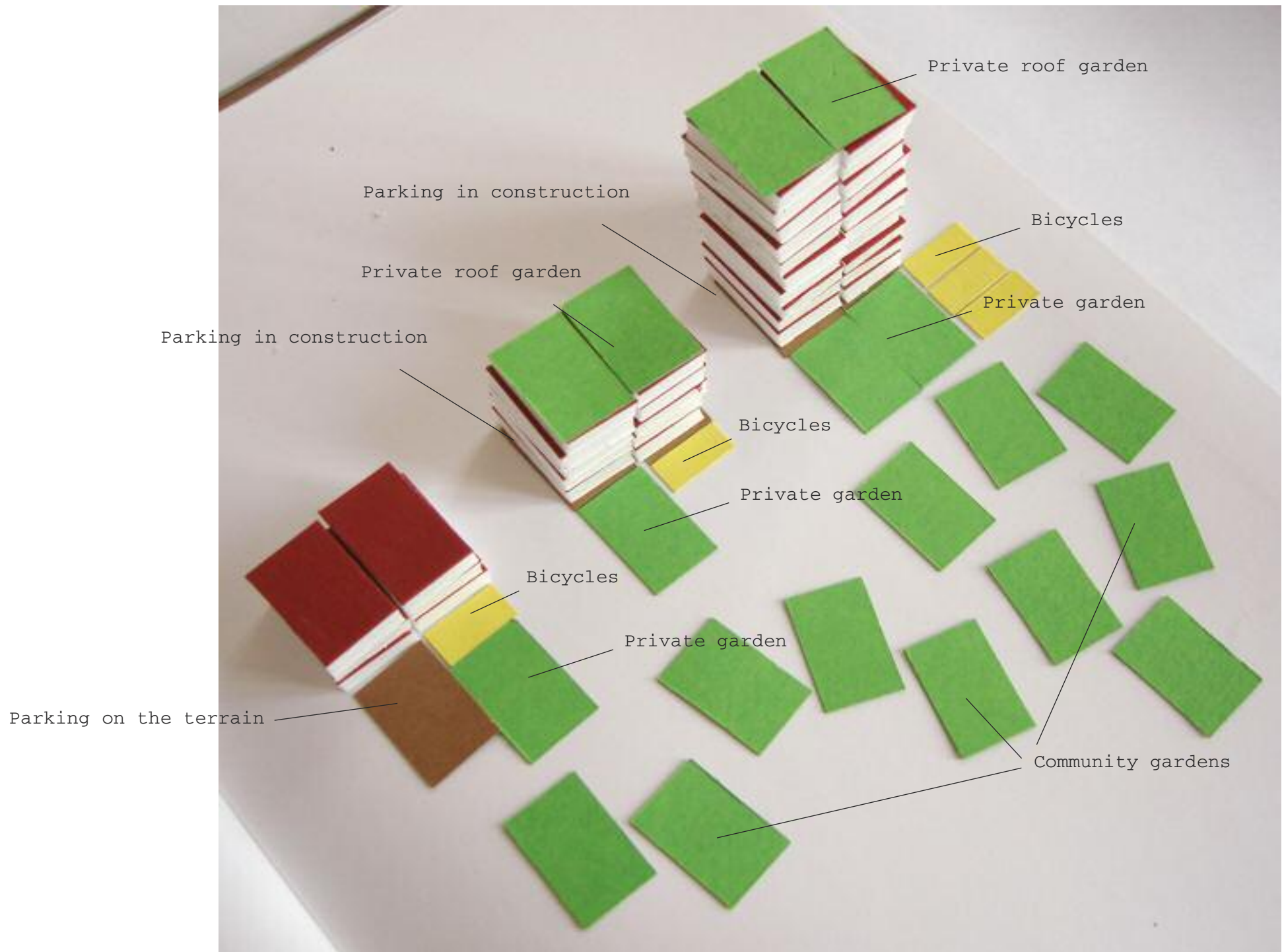
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A socially sustainable network is based on:

"Dare / Care / Share"

Tor Nørretranders, June 2009

Common open spaces provide more opportunities!



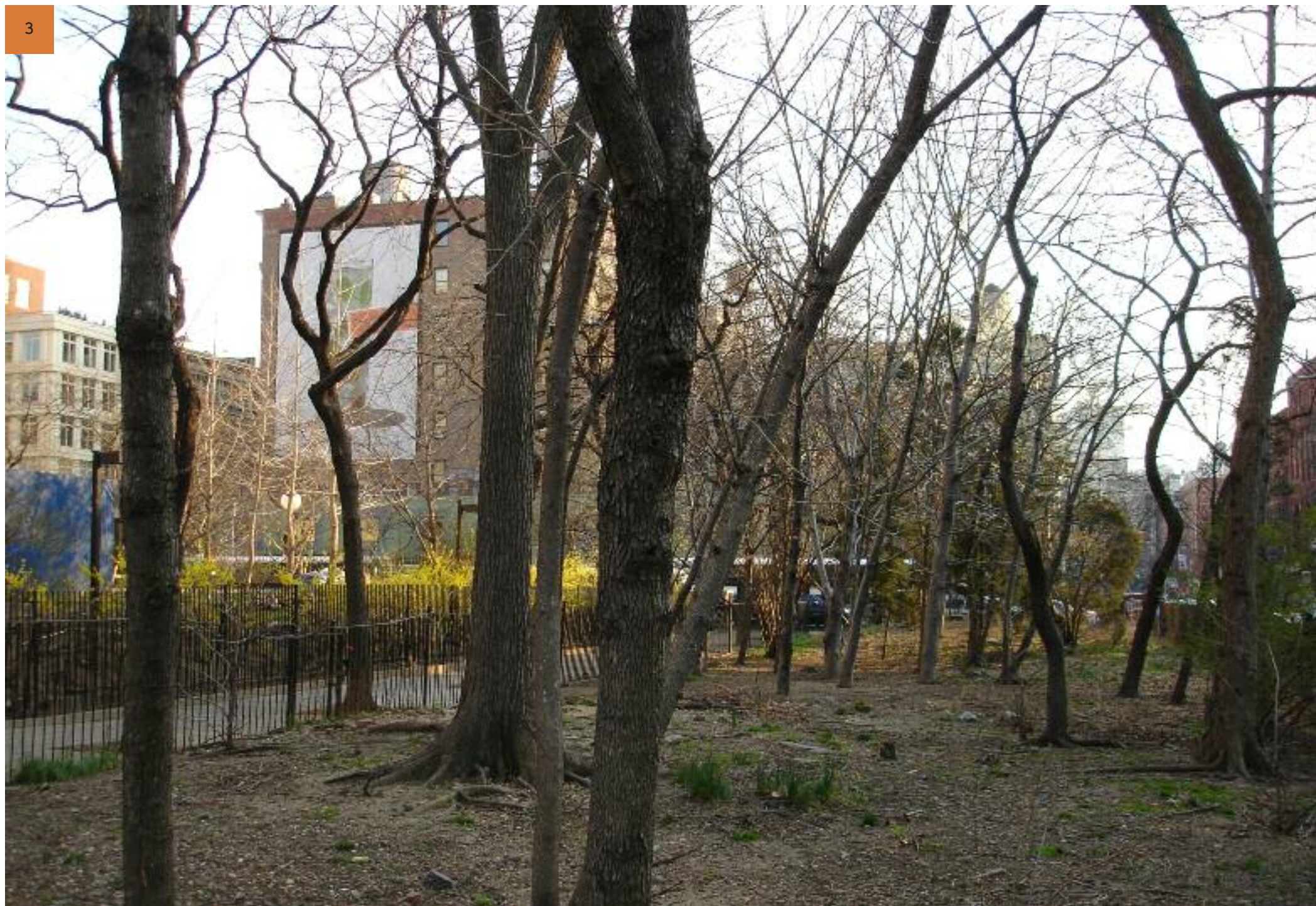
3

The smallest unit

1. vegetable garden - for working
2. park - for playing and sitting
3. nature - needs no maintenance







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Sundholm, Culture Factory, Hørgården

Context:

1. Classic buildings
2. Modern buildings
3. Social sustainability
4. The green and the old fabric that needs care

New requirements?

1. Land trading / collaboration with neighboring Hørgården
2. Distributed ownership
3. New joint owner / tenant organisation

1



2



3



4



5

Principle of Space Distribution

Order + disorder = Balance

The principle of space distribution
accepts the **messiness** and **unpredictability** of reality.

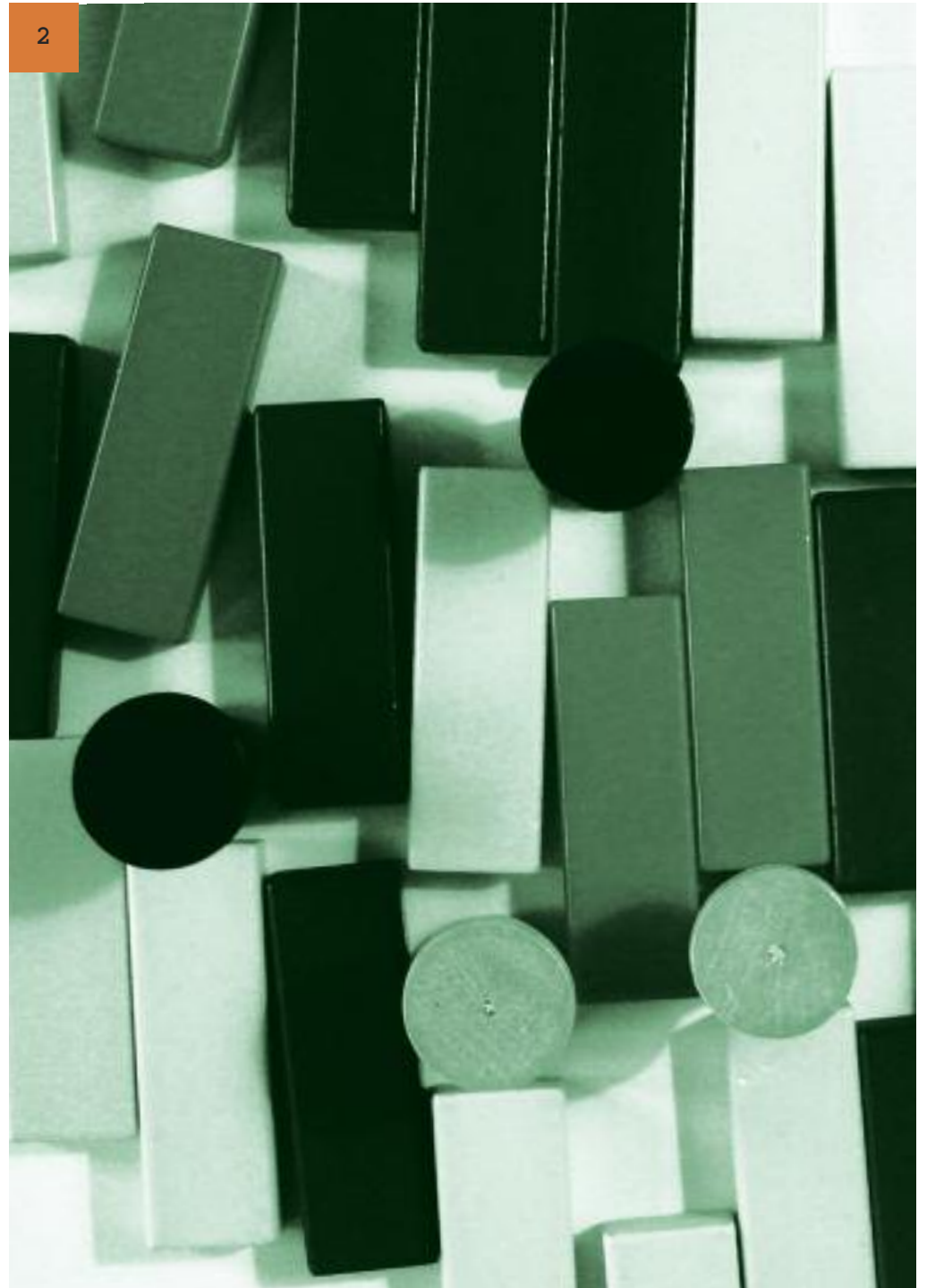
The principle of space distribution can improvise a solution
when the system encounters a **tree**, a **shed** or a **building**
we want to **preserve**.

The principle of space distribution is not a result of overall geometry,
but of the complexity of **local meetings** and other conditions.

1



2



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Principle of Space Distribution:

Buildings

250 dwellings (of which 50 from the public housing programme) = 25,000 sqm
Culture Factory = 3000 sqm
Child day care institution = 1000 sqm

Open spaces

For dwellings: 60% of 20,000 sqm = 15,000 sqm
For the Culture Factory: 15% of 3000 sqm = 450 sqm
Child day care institution: 100% of 1000 sqm = 1,000 sqm
Bicycle parking: on open spaces

Parking

For dwellings: 125 cars sheltered in construction = 5,000 sqm
Public housing programme: 25 cars on the ground = 1000 sqm
Culture Factory: access and short term parking for trucks
Child care institution: 9 cars = 350 sqm

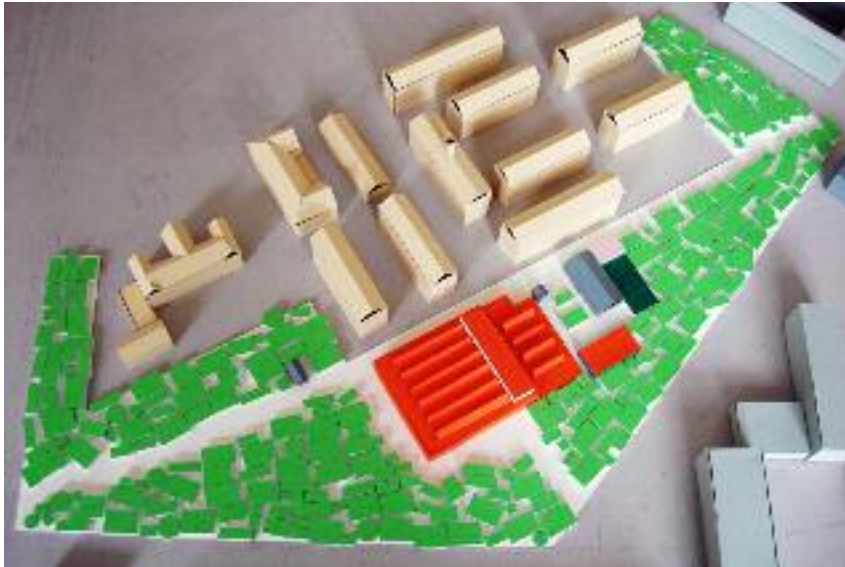
Area built up ratio = 119%





The Green Spaces:

A green "river" flowing through the land
between the existing buildings and trees.



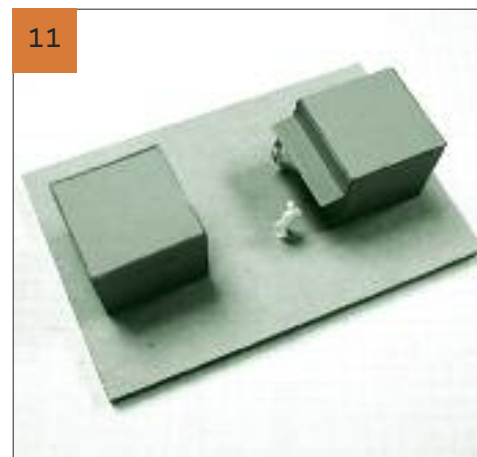
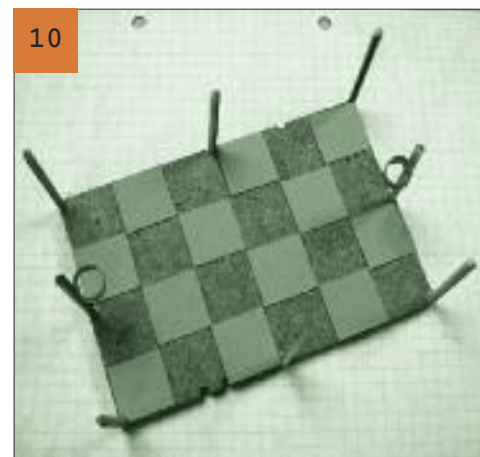
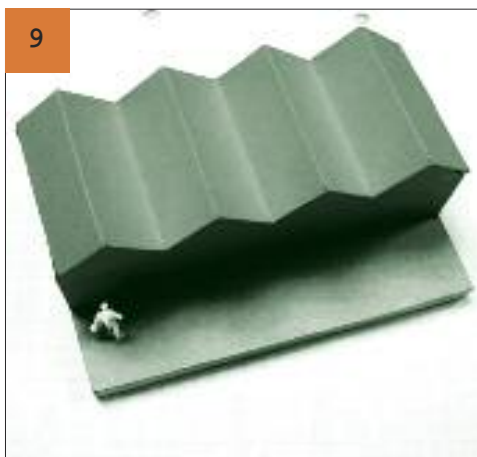
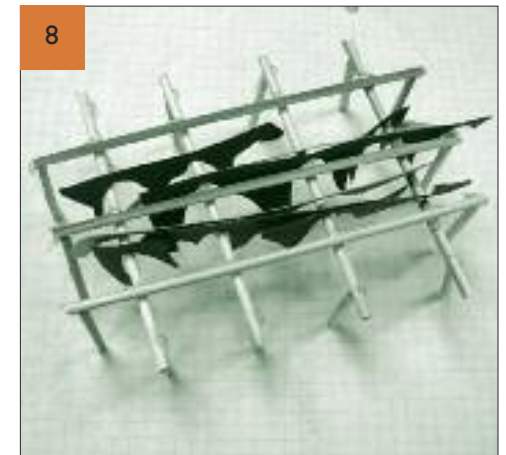
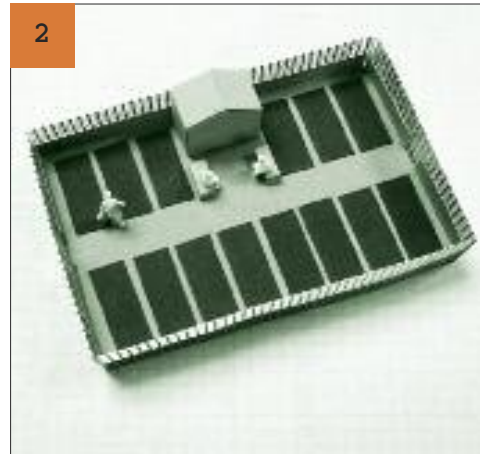
Shared vegetable gardens
with Hørgården



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The Green Spaces One by One:

1. Vehicular space (asphalt, gravel, concrete slabs with grass between them)
2. Vegetable garden space (in a long row next to Hørgården)
3. Boules space
4. Forest space (poplars, juniper, yew, oak etc)
5. Park space
6. Rainwater collection (from houses)
7. Mound space
8. Pergola and light space
9. Recycling station
10. Playing and meeting space
11. Kiosk space / Club space
12. Covered space







9

To Walk with the Light

Art Project: hot and cold light which "wanders" between and across the spaces.



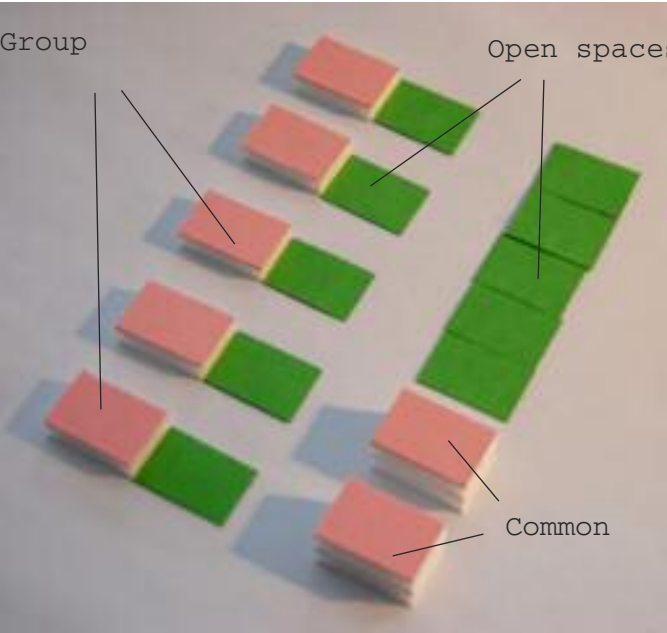


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Child day care institution:

- 5 children's groups, approx. 100 sqm each.
- Assembly room, approx. 100 sqm
- Staff / services, etc., approx. 100 sqm
- Other rooms 300 sqm
- Total approx. 1000 sqm
- Bicycle parking, staff 20 bicycles
- Bicycle, parents 10 bicycles
- Car park, 9 cars

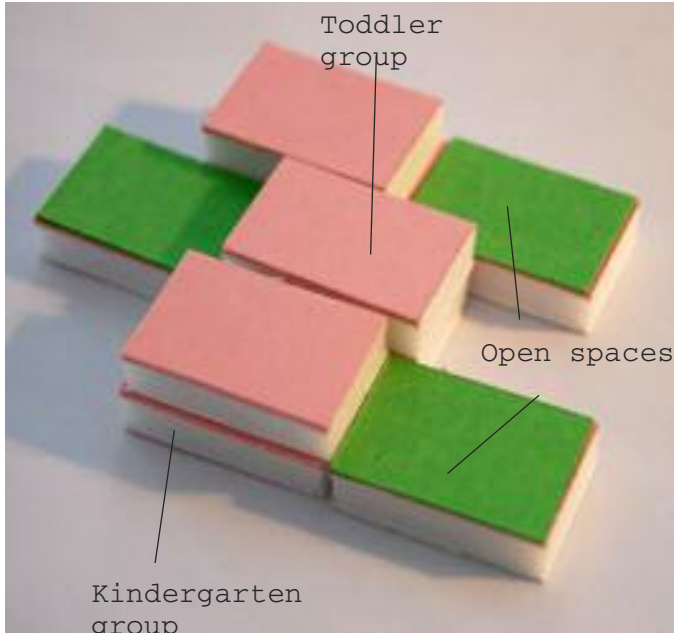
The institution must have an outdoor area that equals the size of the indoor area, and shares a part of this with the community.



Group

Open spaces

Common



Toddler group

Open spaces

Kindergarten group

Forest space: For children and citizens



Child day care institution:
Open spaces



Child day care institution:
Assembly room in the old firewood shed



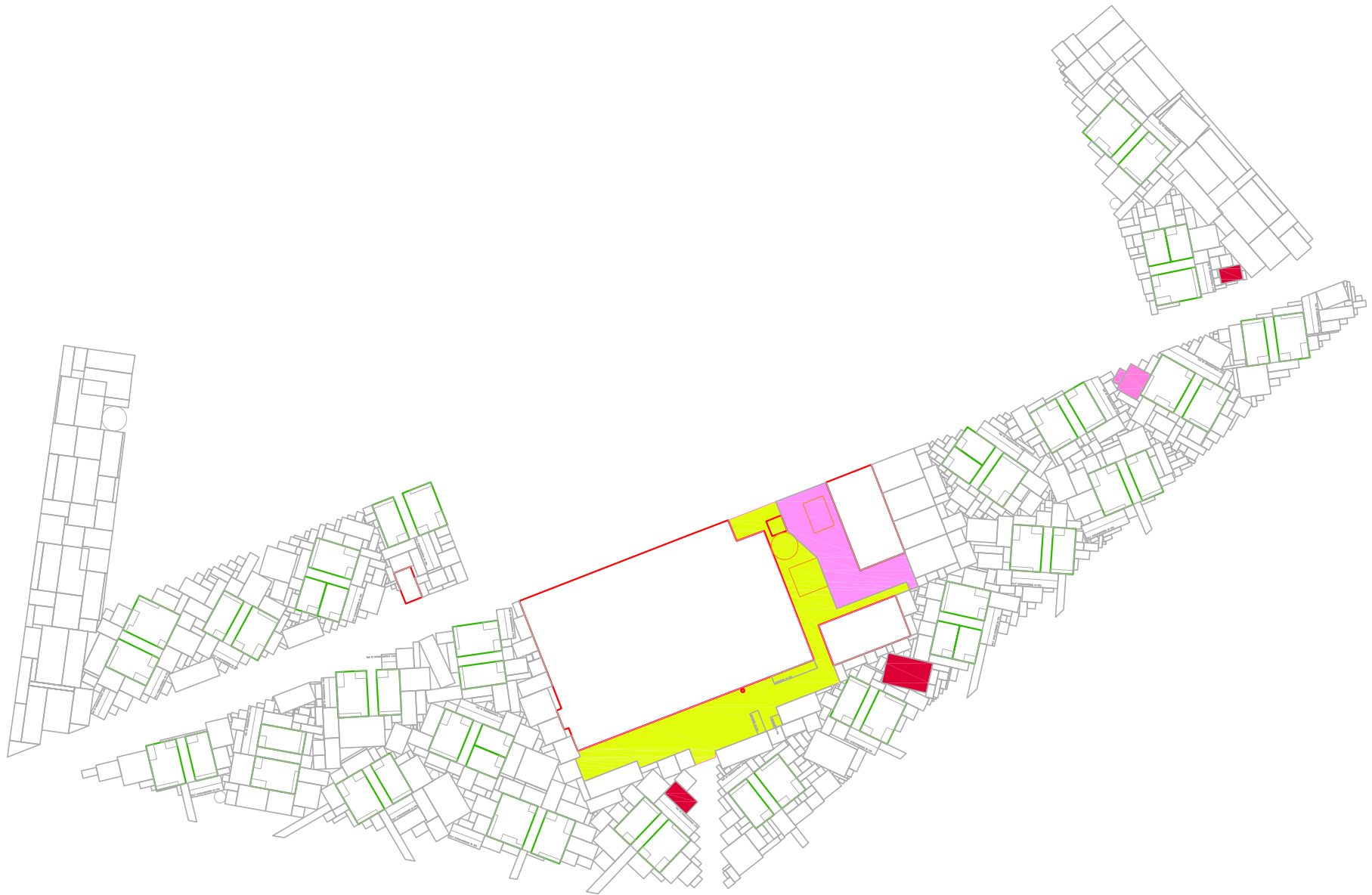
Child day care institution:
Open spaces

Market square

Child day care institution:
Group

Child day care institution:
Open spaces

Culture Factory:
Exhibition



Spaces for child care, Culture Factory, religious activities

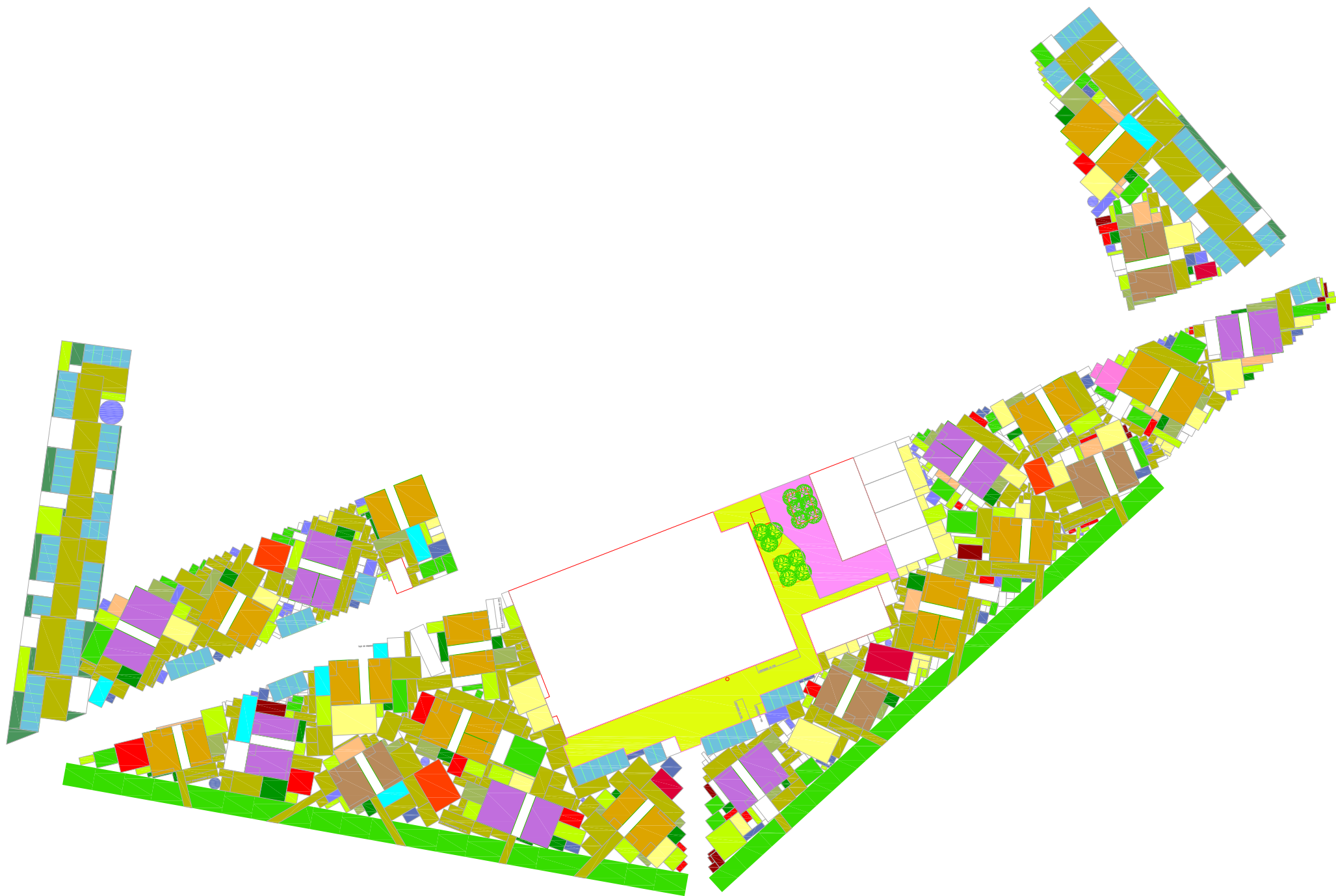


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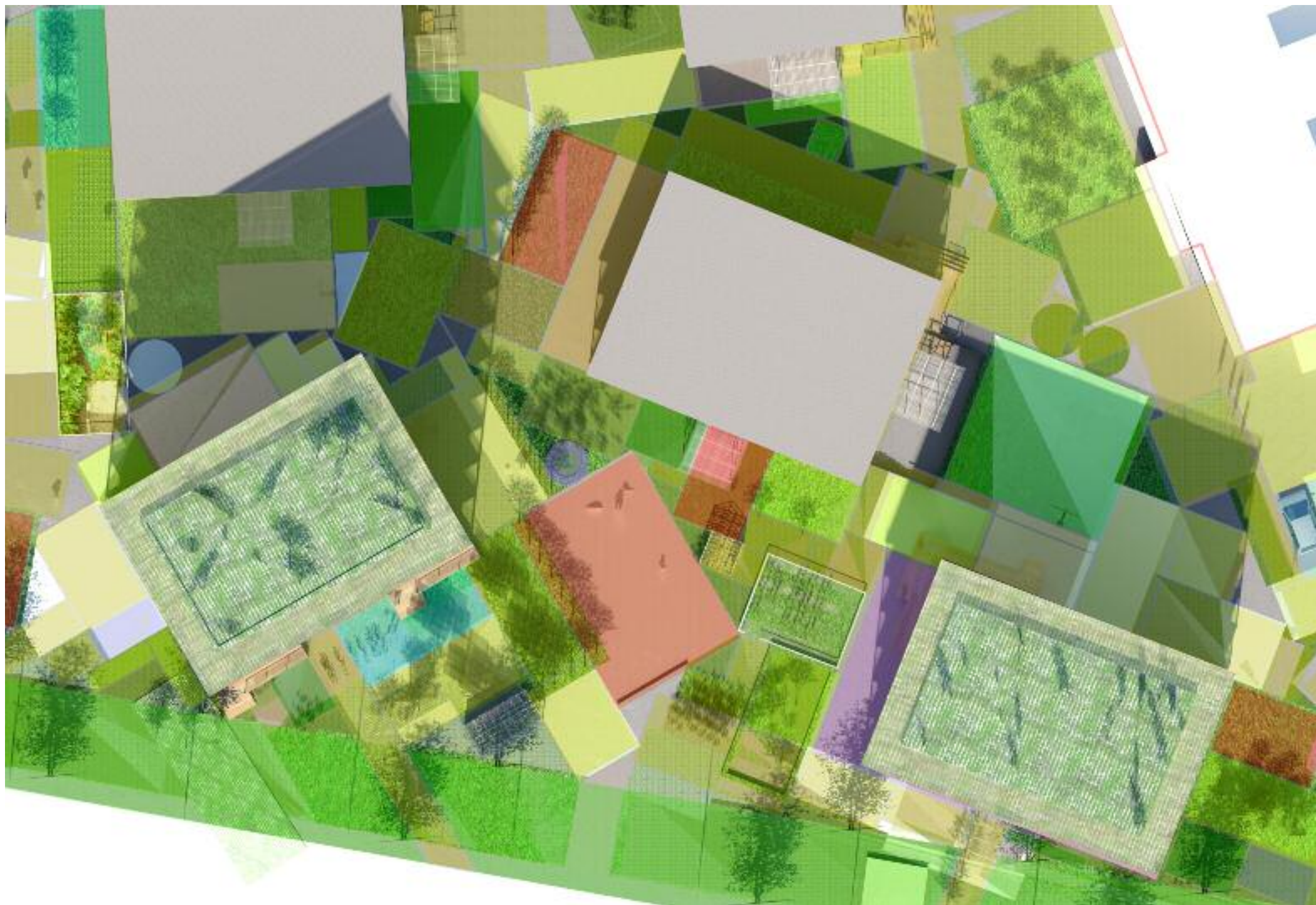
Spaces for Dwellings and the Green Spaces:



Dwellings push the flow of the green "river"!





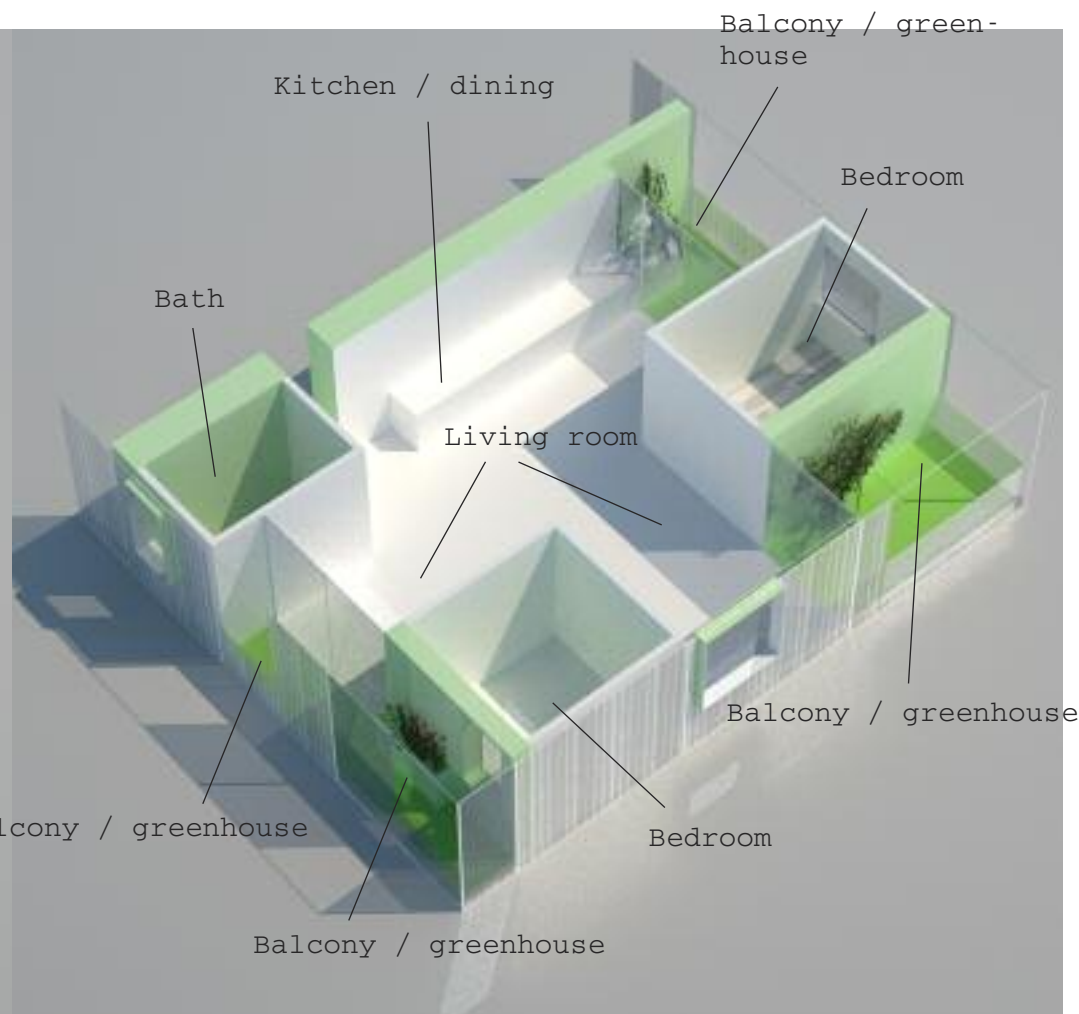
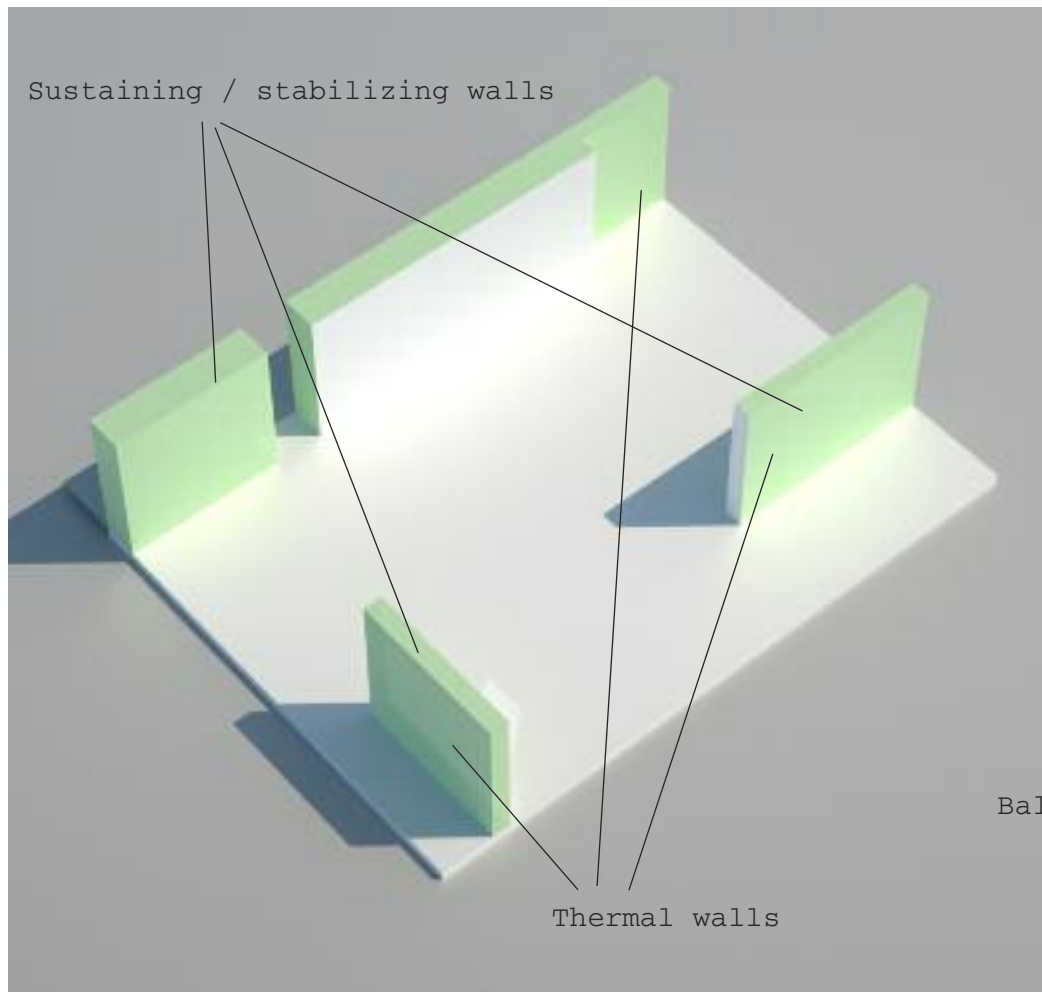


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Dwellings:

80-100-120 sqm dwellings (standard sizes)
2-3 greenhouse balconies in every flat





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Sustainable **energy**:

Roof garden
Greenhouse Construction in each flat
Rainwater harvesting
Highly insulated facades
Private, semi-public and public gardens



6.3 Turbines investigated



Quiet revolution 5



Proven WT10000



Bonus 450 kW/37

6.7 Simulation summary

Item	Quiet revolution 5 (30 turbine)	Proven WT10000 (10 turbines)	Bonus 450 kW/37 (2 turbines)
Renewable energy delivered	300 MWh/year	401 MWh/year	1,810 MWh/year
Annual savings	DKK822,000 /year	DKK852,000 /year	DKK 3.78M /year
Year to positive cash flow	20.3 years	5.1 years	4.1 years
Simple payback	22.5 years	5.6 years	4.9 years

Large central wind turbine plants are the most economic and energy efficient.

Roof garden / 1 metre soil

Greenhouse balconies/
heavy wall

Rainwater harvesting

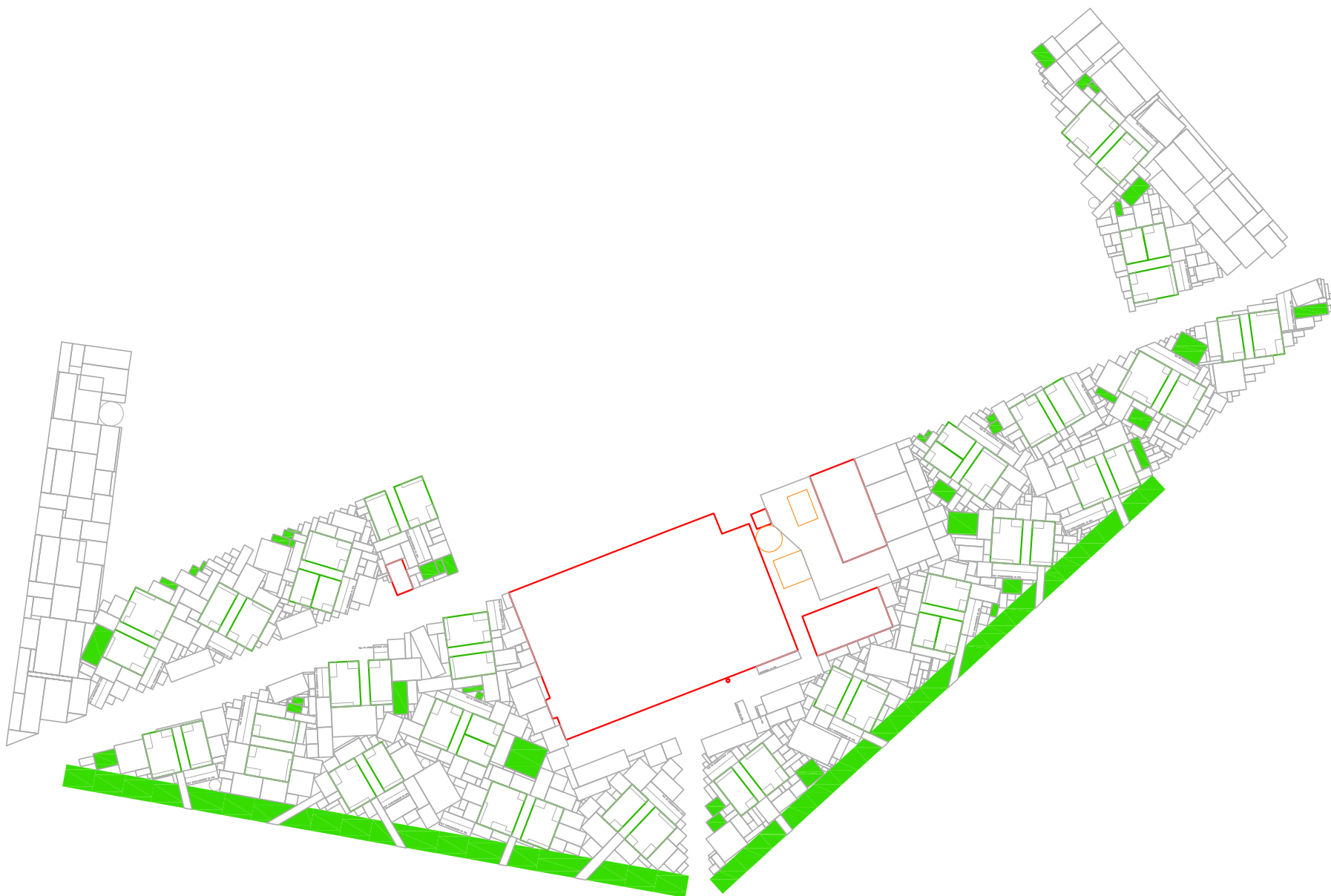
Rainwater harvesting

Garden spaces

Watering of
kitchen gardens



Patios, gazebos, forest pocket parks, ponds



Vegetable gardens

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Infrastructure:

Shared space slow street

Bicycle path

Dissolved traffic system for pedestrians in the entire area

Parking

Option #1:

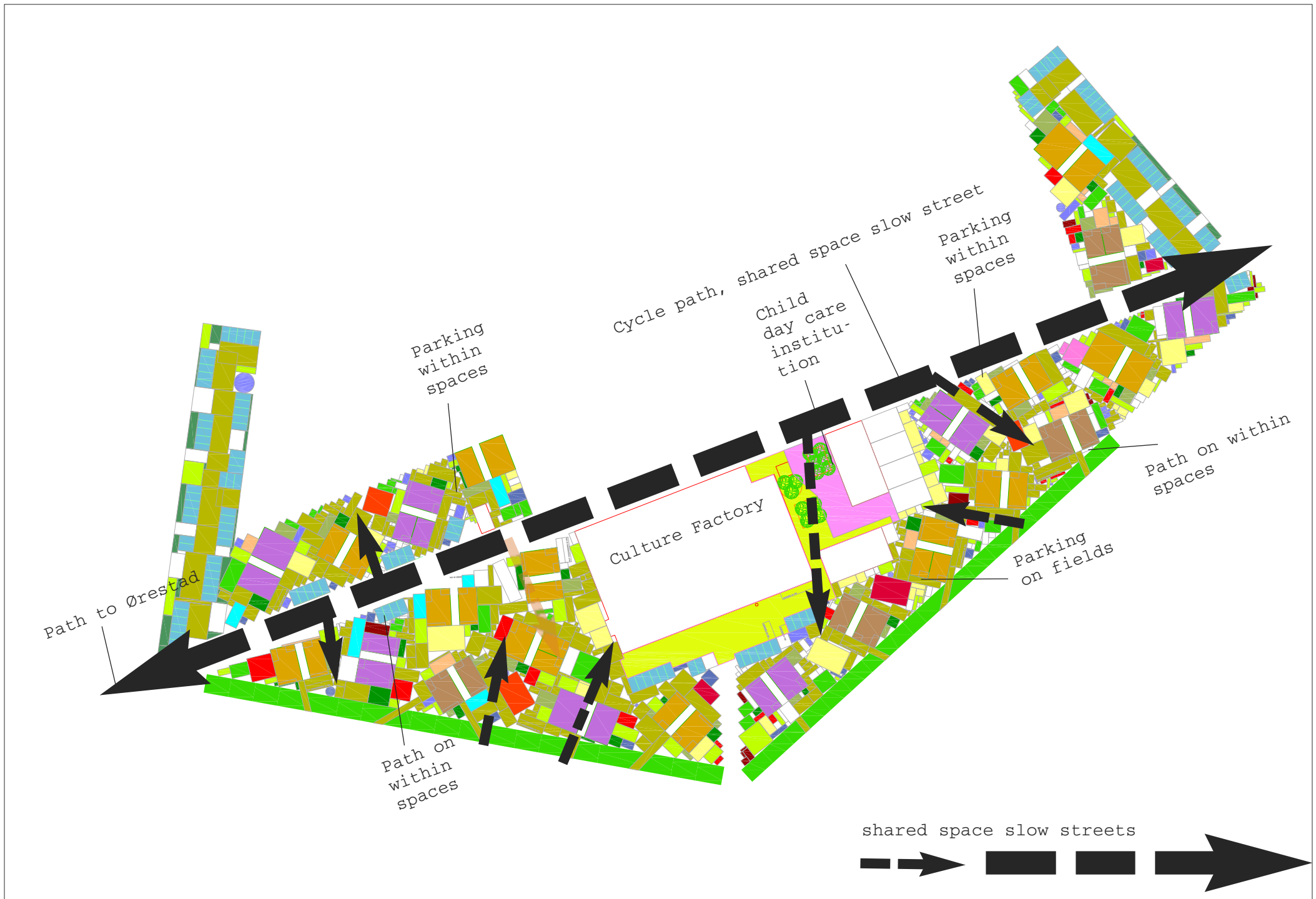
Parking below ground along the south side of the area
(expensive, high groundwater levels 2 m)

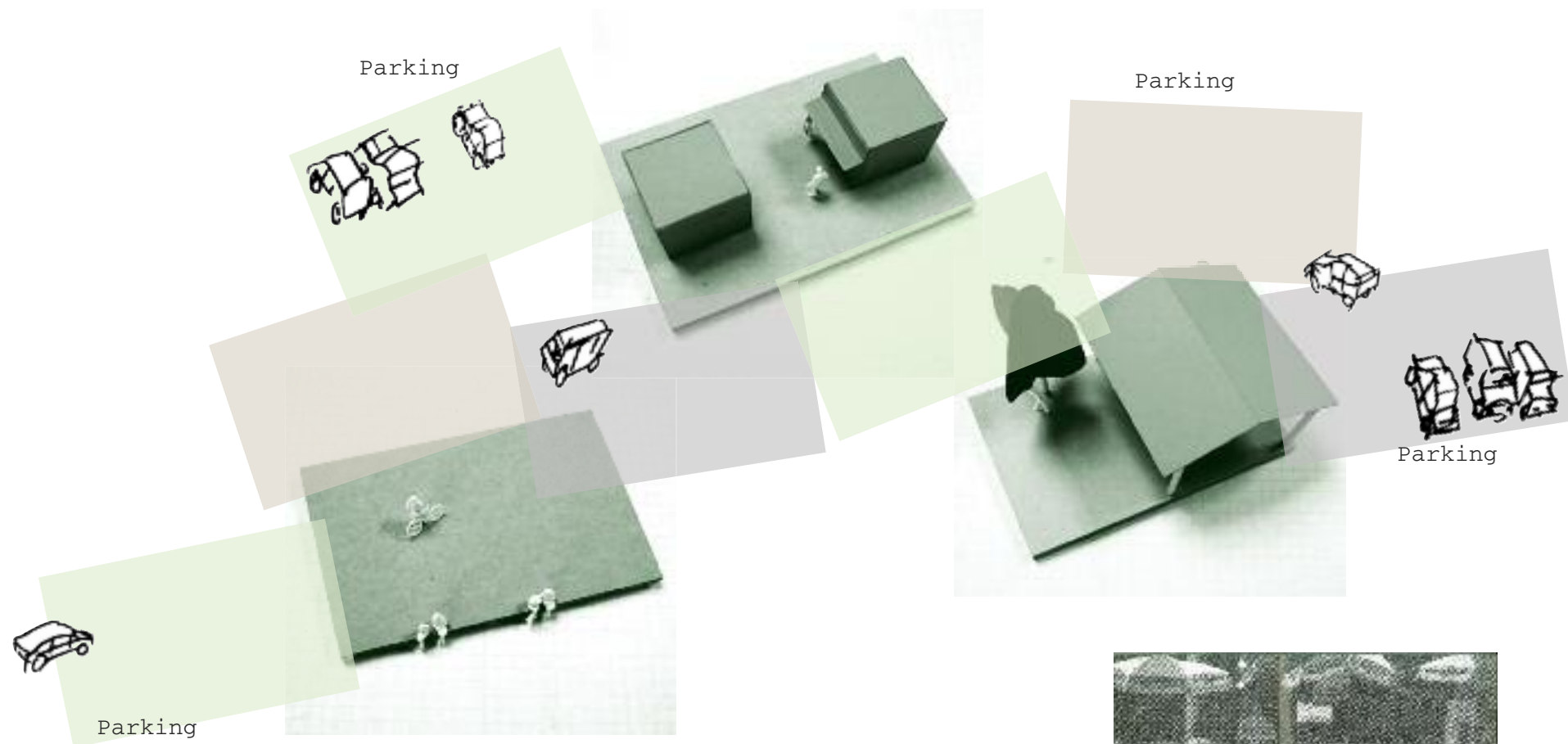
Option #2:

Parking spaces in parking fields (insufficient)

Option #3:

Parking buildings as noise barrier along Amagerfælledvej and Sundholmvej

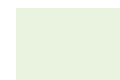




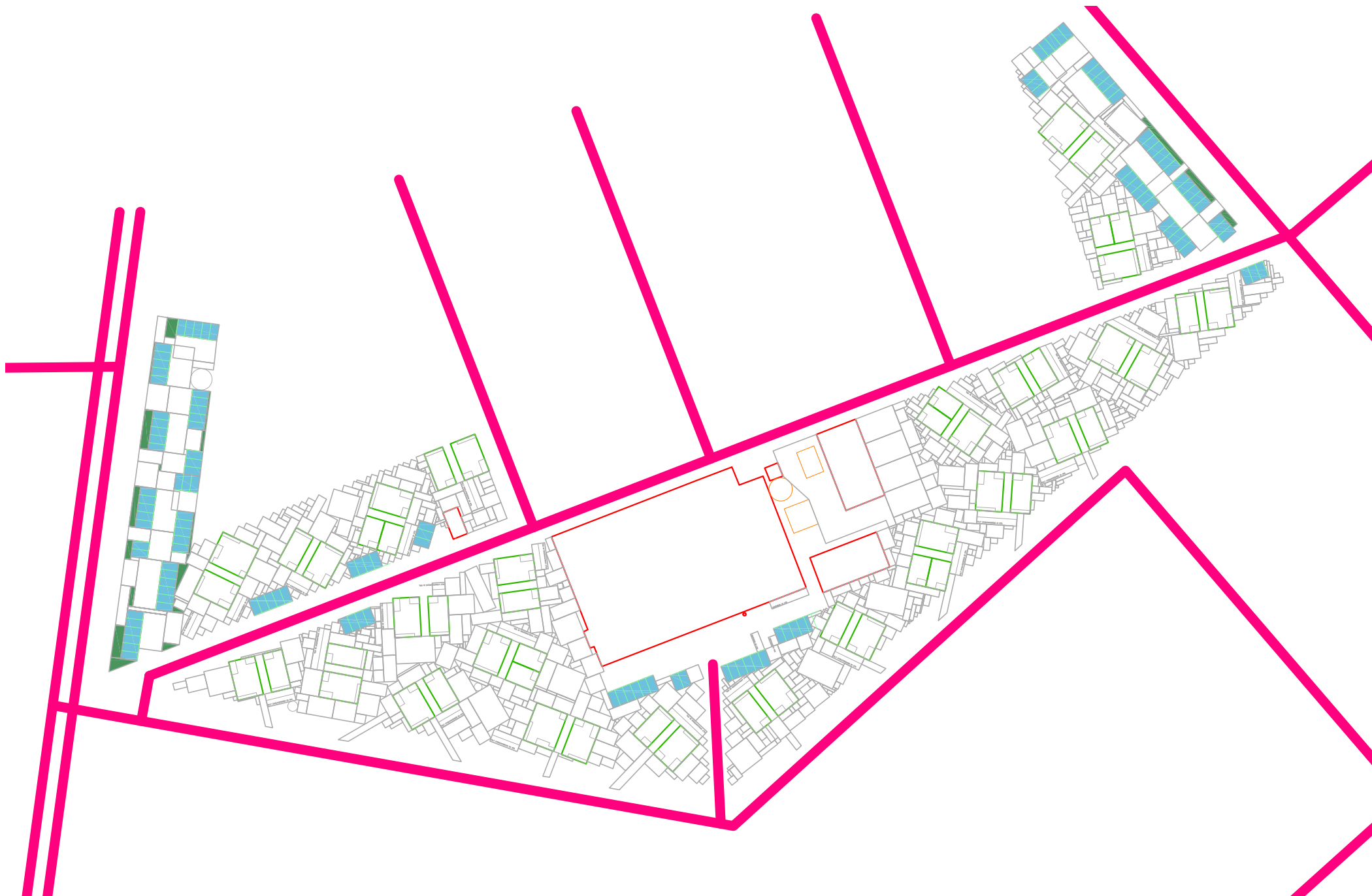
Driving, walking,
cycling on gravel



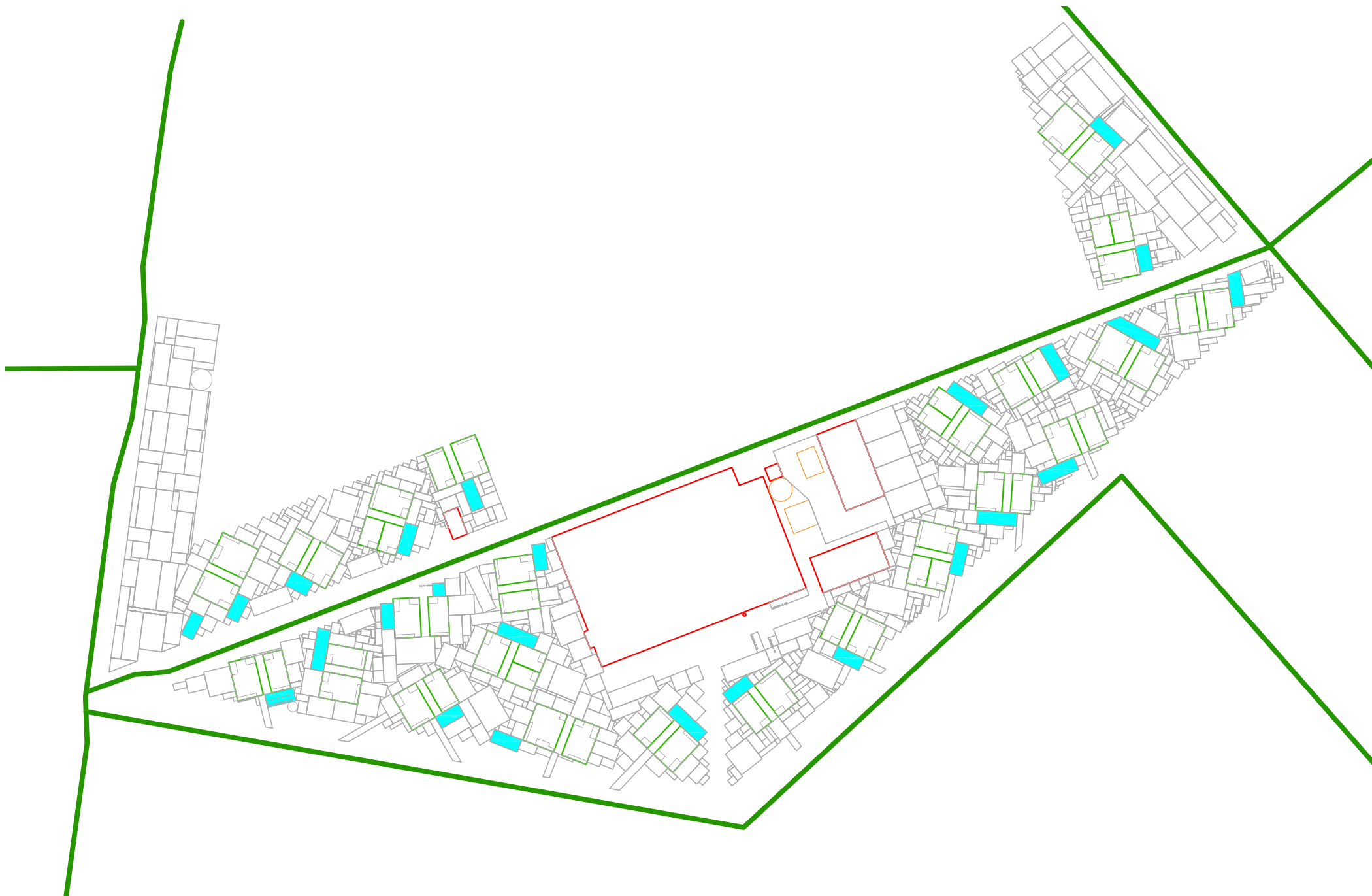
... on asphalt



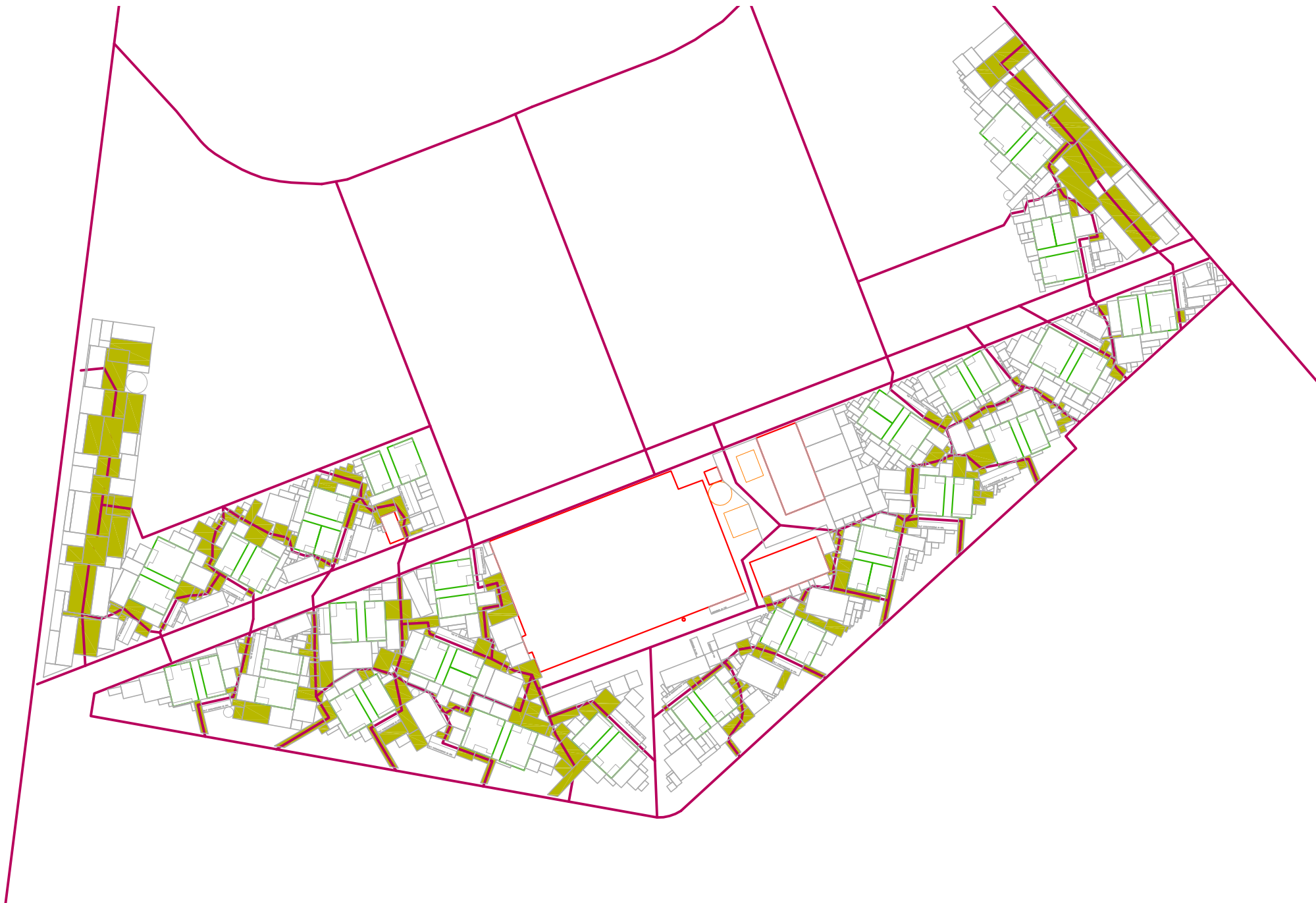
... on the grass between concrete slabs



Access roads, parking, noise protection barriers



Bicycle routes and bicycle parking



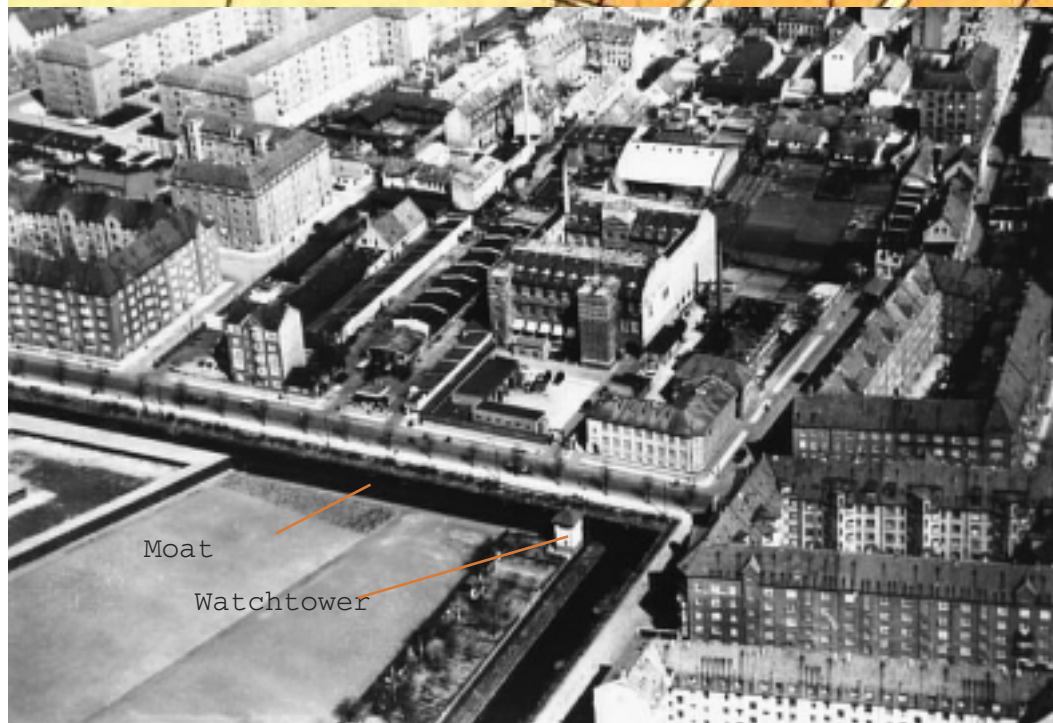
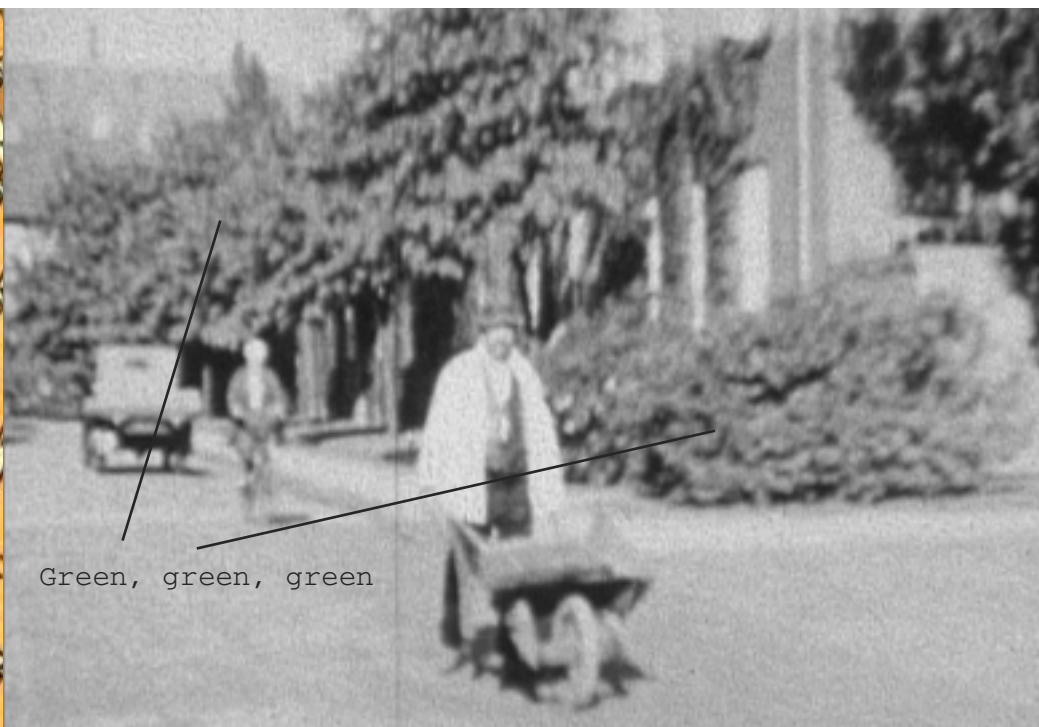
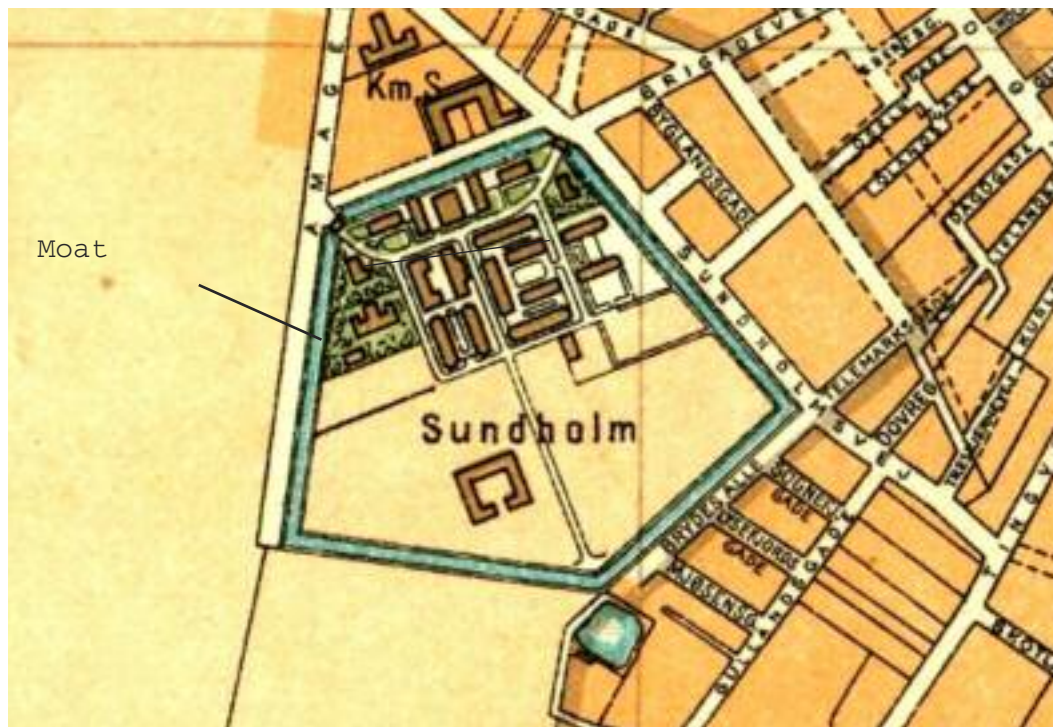
Pedestrians

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Boundaries to the Neighbours in 1908

The Detention Act, 11 April 1925 was the legal basis for **detention** of people who lived in Sundholm.

Moat = no in and no out = "prison"



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Vegetable Gardens on Previous Moat
=
a **poetic, vivid interface** between 2 neighborhoods



Spring / Summer

+



+



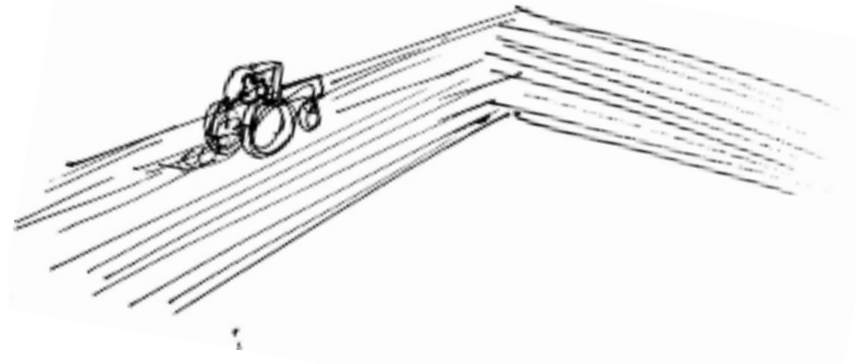
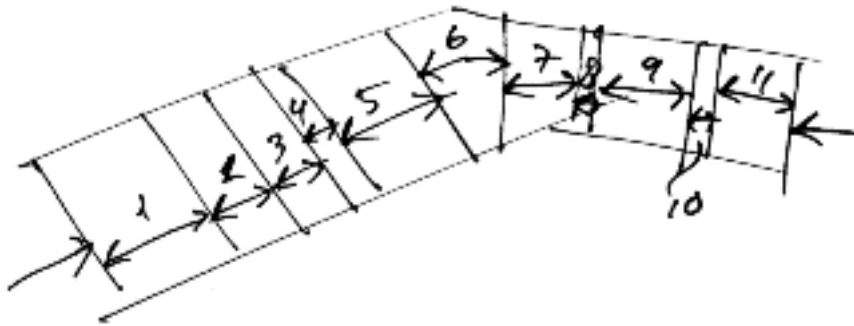
Fall / Winter

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A possible In-between and Come-together Space



Joint integration project between
Sundholm institution, Sundholm South and Hørgården Housing Estate





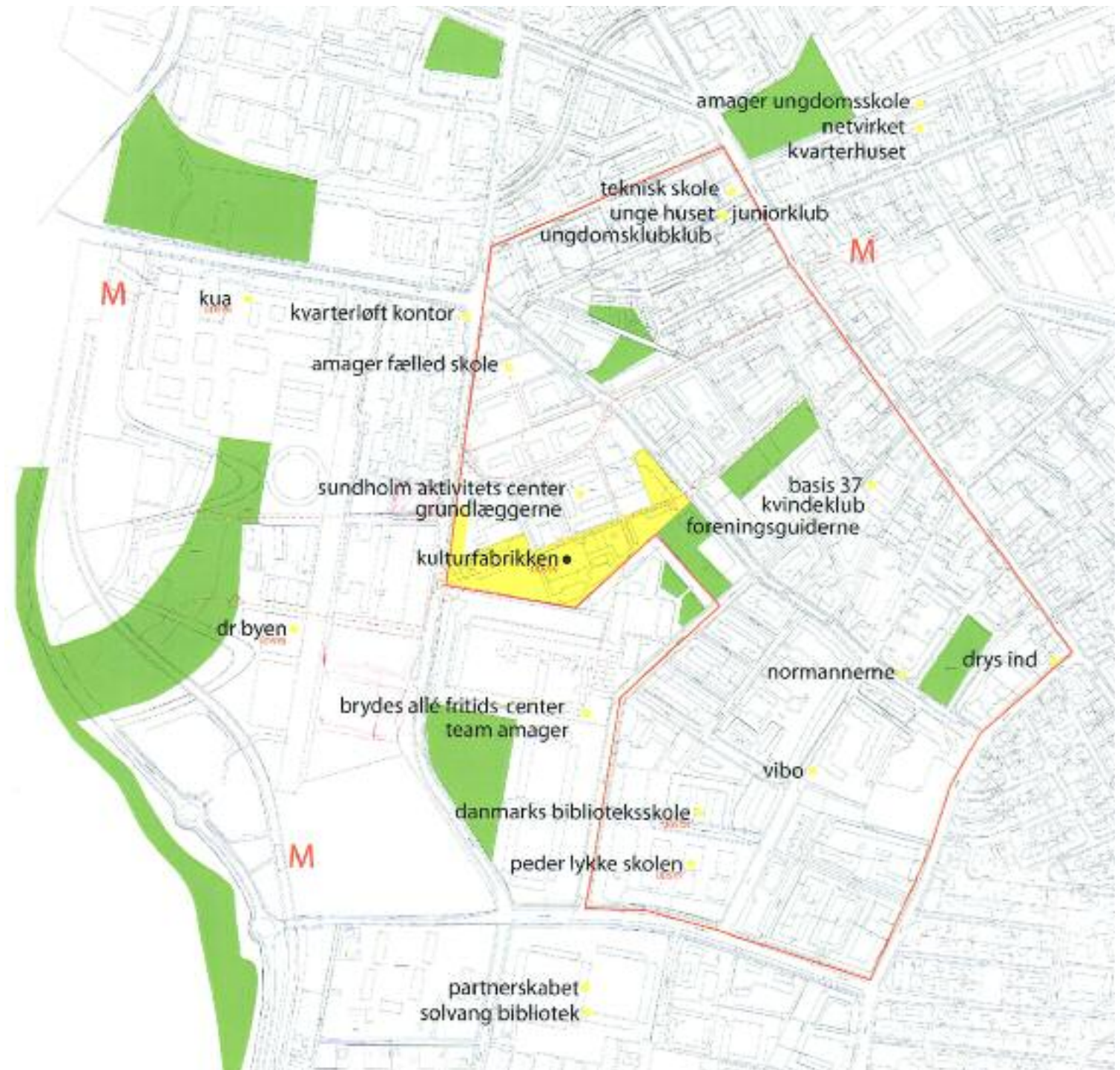
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In the Sundholm area there is a strong basis for
SUSTAINABILITY,
when it comes to social network!

"Dare / Care / Share"

Tor Nørretranders, juni 2009

social resource map



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The Spatial Distribution Principle is a platform for:
social meetings
work
green initiatives
play and sports



NIMBY syndrome (Not In My Backyard)
to be replaced by
WIMBY (**Welcome In My Back Yard**)



team

Bertelsen & Scheving Architects Aps

with

engineers: Buro Happold Engineering Ltd

process strategy: Extract Aps

landscape architects: Breimann & Bruun Gmbh

art & lighting: Hans E. Madsen