

# **ARQUITECTURAS**

Edificación, tipología y densidad

# ***ARCHITECTURES***

*Buildings, typology and density*

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[dacama@ugr.es](mailto:dacama@ugr.es) / [fcoabarca@ugr.es](mailto:fcoabarca@ugr.es)



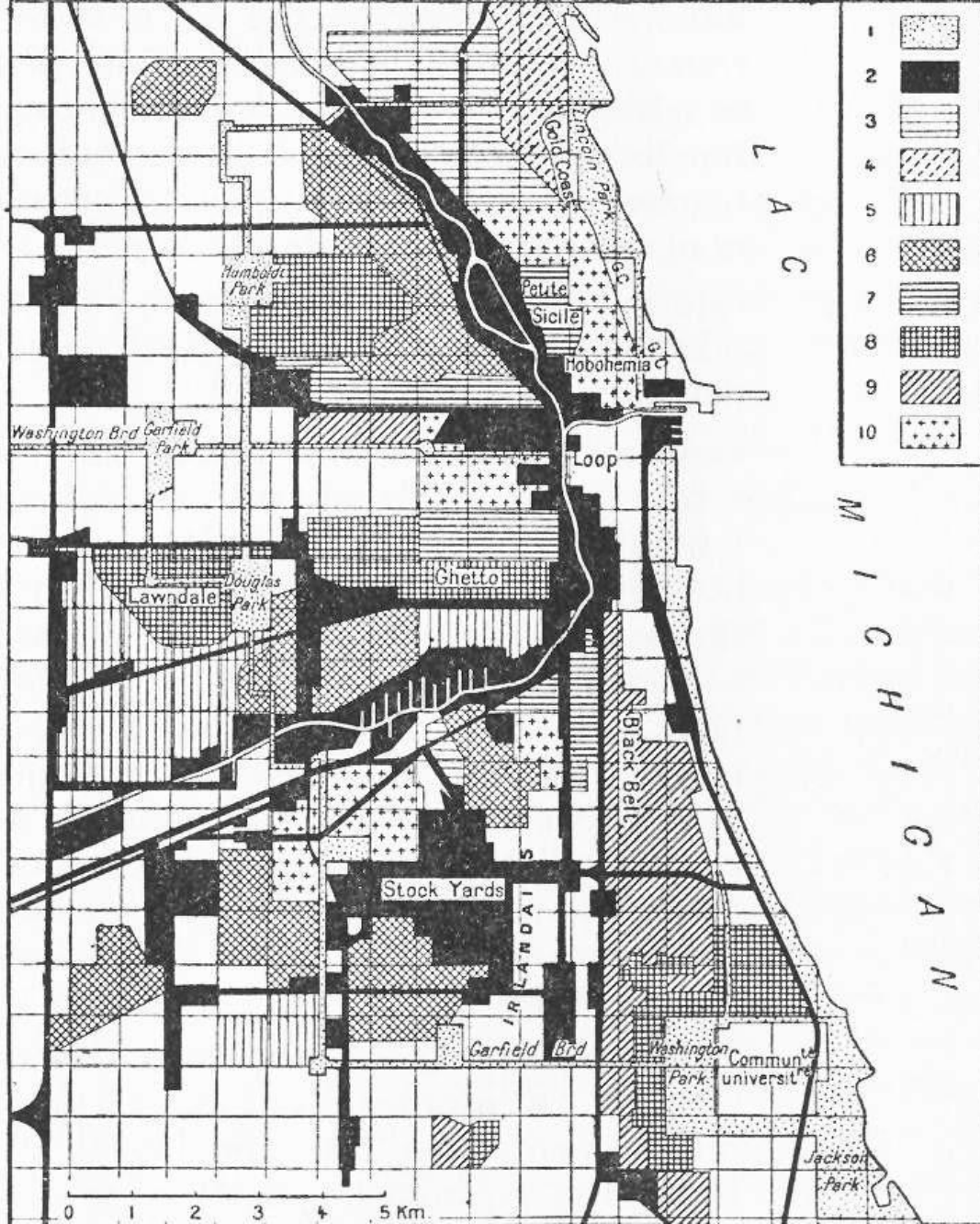
George Brecht, *Valoche*, 1975.

Ciudad = cosas urbanas

SOLÁ- MORALES, Manuel (2008): De cosas Urbanas. Barcelona: GG

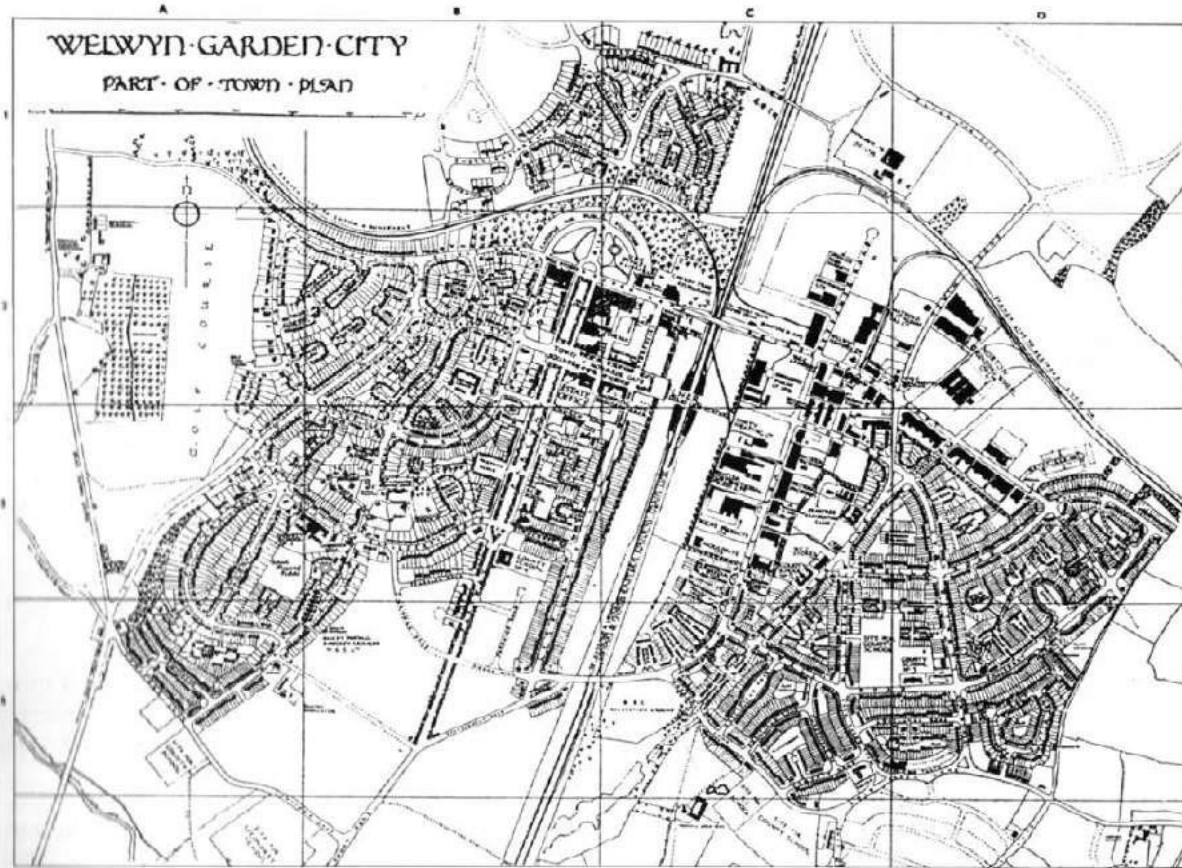
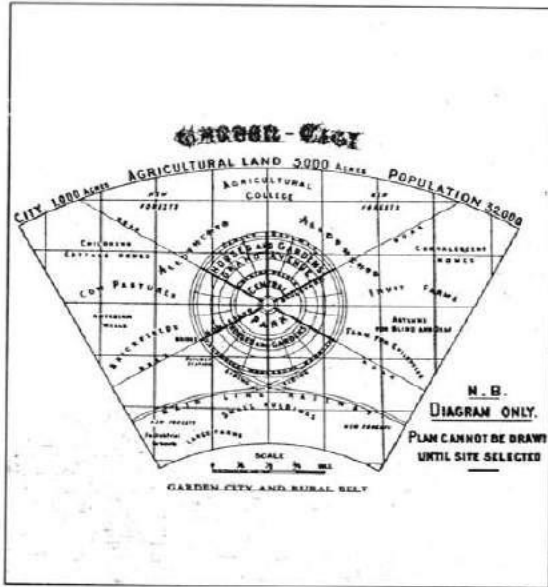
City = a matter of things

SOLÁ- MORALES, Manuel (2008): A Matter of Things. Barcelona: GG



CHABOT, George: "Las ciudades" "Les Villes" (1952)

Fuente | Source: BENÉVOLO, Leonardo



Outside. Alternativas a la ciudad industrial de principios del s. XIX: la ciudad jardín  
UNWIN, R. (1989): La práctica del Urbanismo. Barcelona: GG

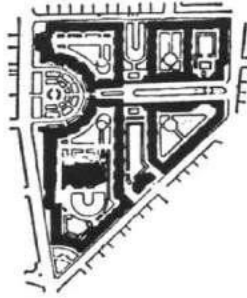
Outside. Alternativas a la ciudad industrial de principios del s. XIX: la ciudad jardín  
UNWIN, R. (1909): Town Planning in Practice.

**Complejo residencial  
GWL en Amsterdam**  
Residential community  
GWL in Amsterdam

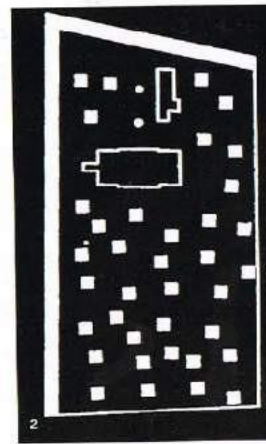
KCAP



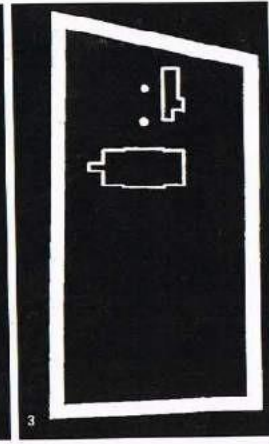
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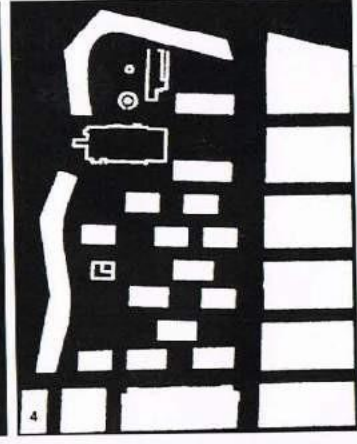
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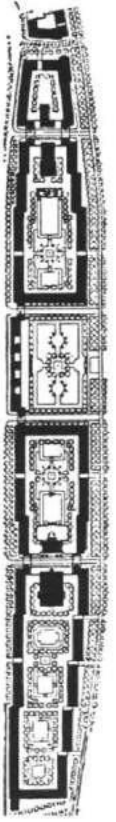
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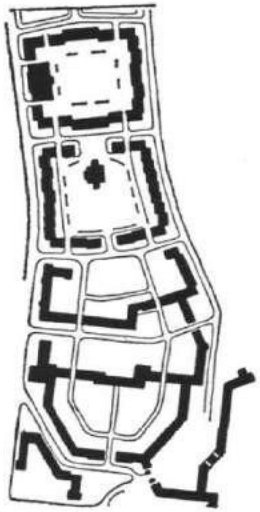
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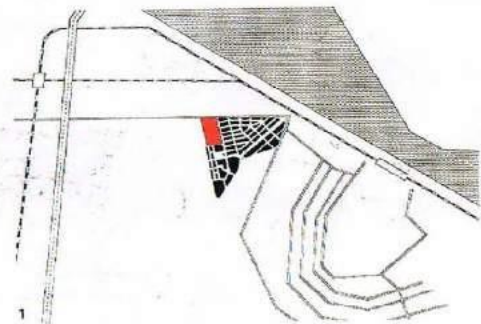
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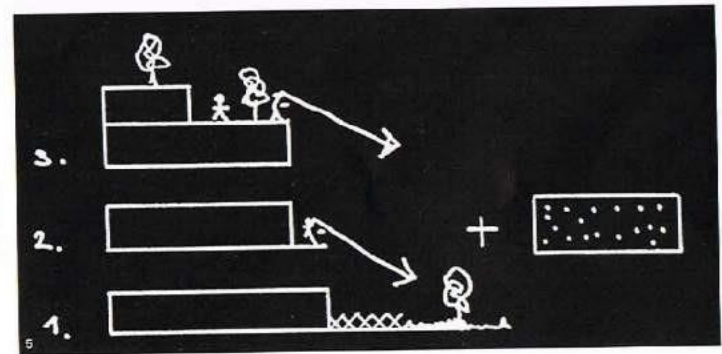
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8



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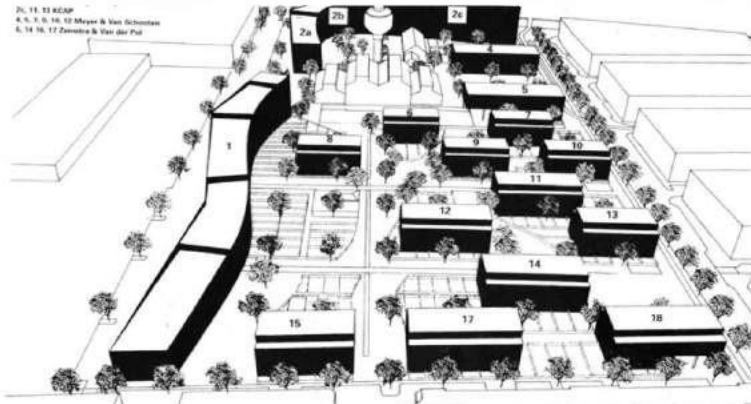


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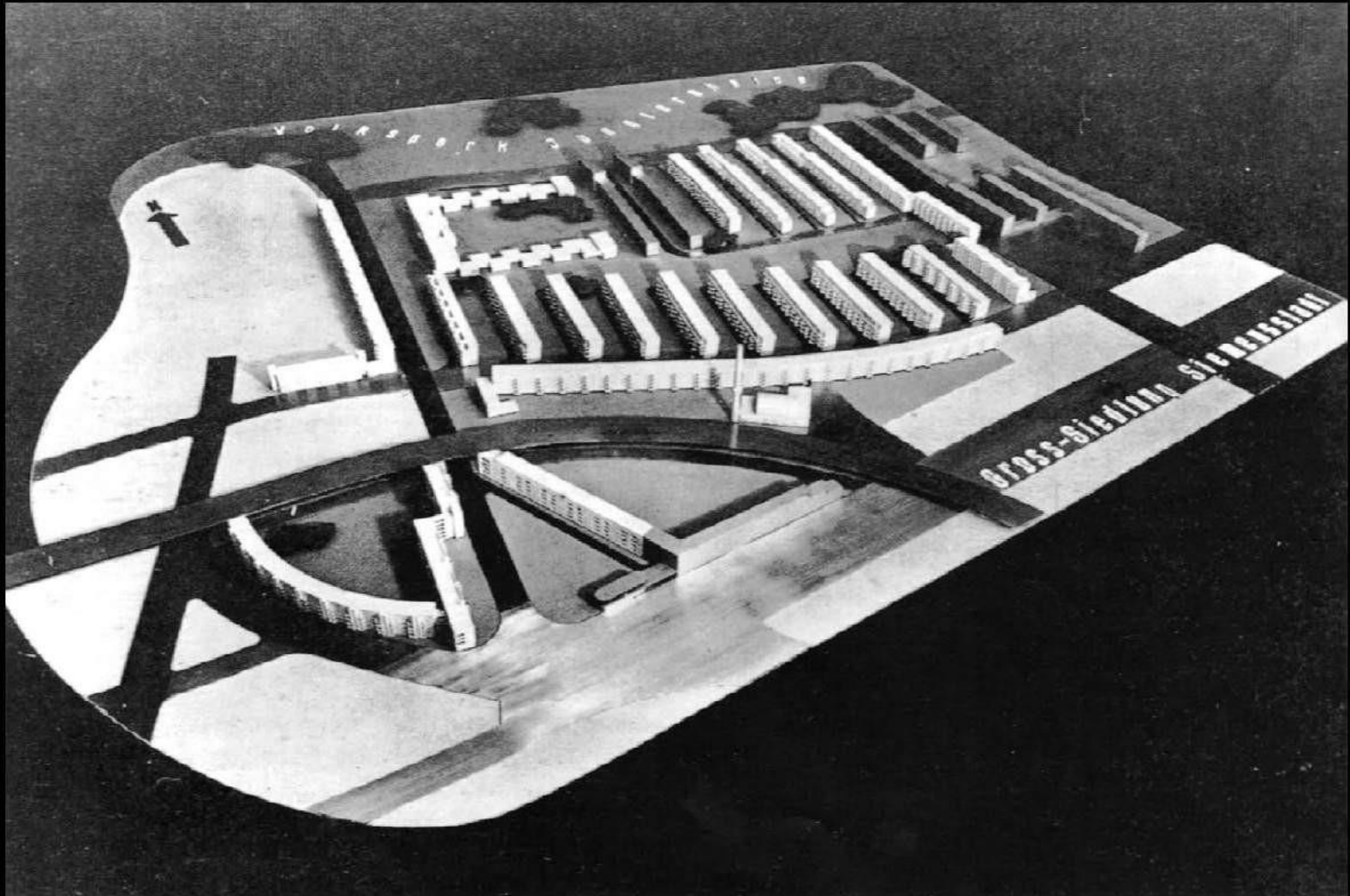
1.

20, 19, 13 KCAP  
4, 5, 6, 10, 16, 12 Meyer & Van Schooten  
8, 14, 18, 17 Zanstra & Van der Pijl



Inside = Hoffes modernas vs Hoffes contemporáneas  
Inside = Modern Hoffes vs. contemporary Hoffes

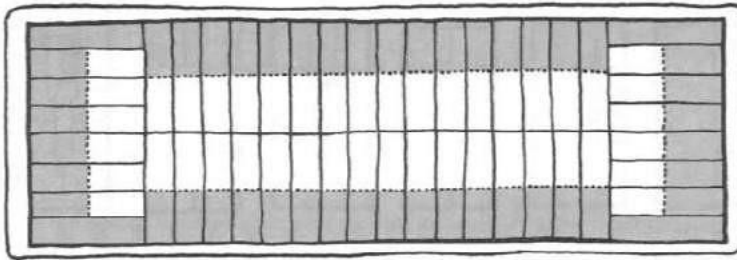
Fuentes | Sources:  
AYMONINO, C (1976): La vivienda racional. Barcelona: GG  
Revista A+T. Density (2002)



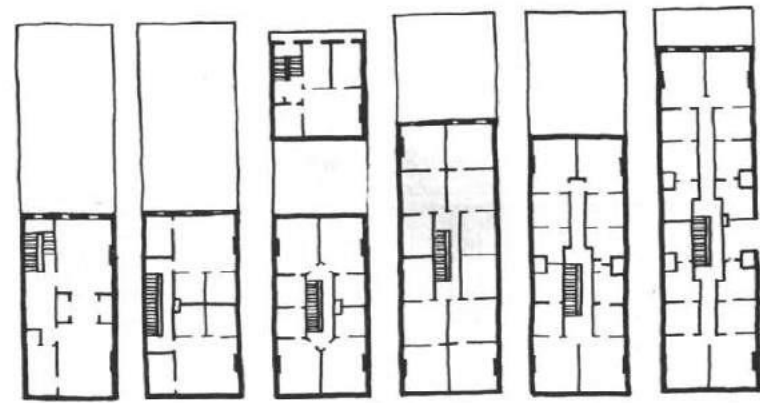
Outside. Alternativas a la ciudad industrial de principios del s. XIX: Siedlungen

Outside. Alternatives to the Industrial City of the Early 19th Century: Siedlungen

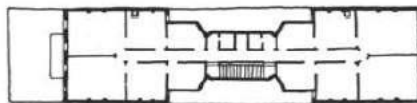
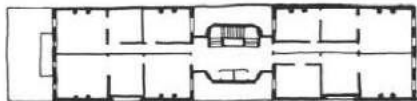
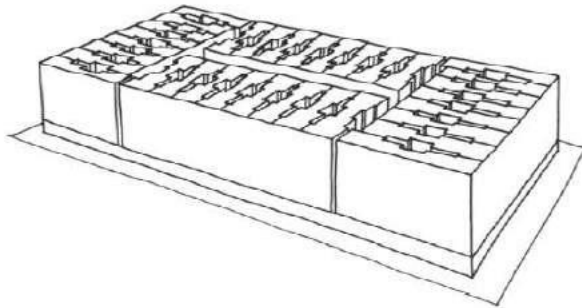
Fuente | Source: MARTÍ, C. (2000): Las formas de la residencia en la ciudad moderna. Barcelona: UPC



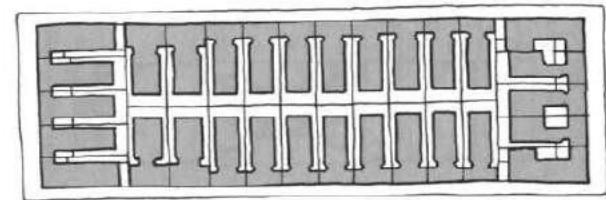
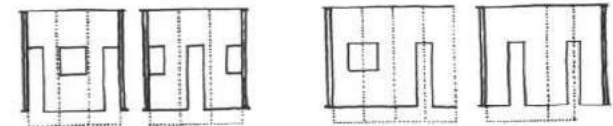
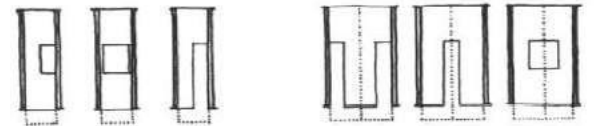
La manzana de 1811



Los tenements anteriores a la *Old Law* de 1879



La *Old Law* de 1879



La *New Law* de 1901

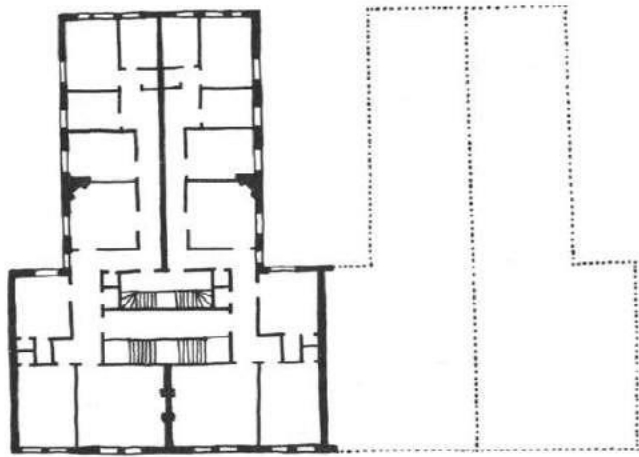
Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)

[Density forms and urban regulation \(the case of Manhattan\)](#)

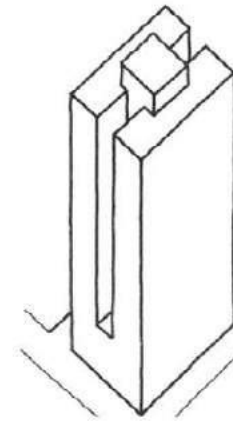
Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza



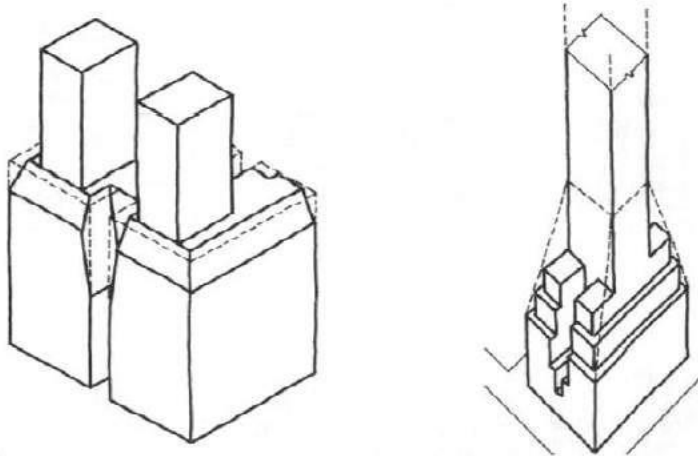




Los apartamentos burgueses de 1880-1916  
[The bourgeois flats of 1880-1916.](#)



Los edificios de oficinas anteriores a la  
ordenanza de 1916  
[Office buildings before the 1916 Zoning Law.](#)



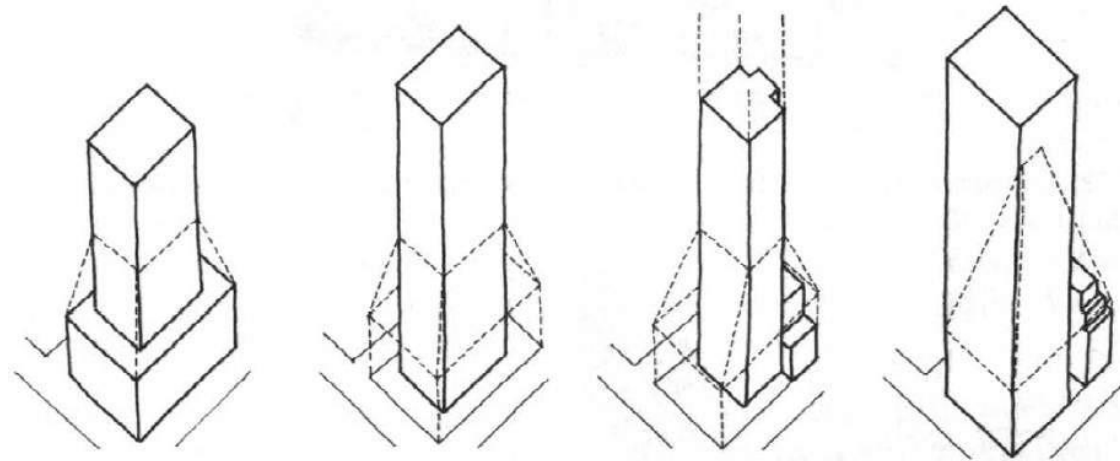
La ordenanza de edificación de 1916  
[The 1916 Zoning Law.](#)



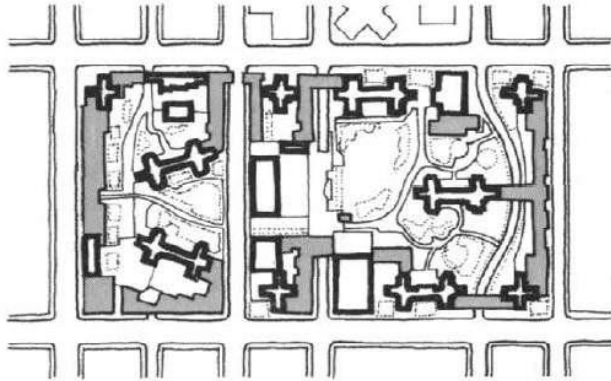
La vivienda pública de los años 1930-1960  
[Public dwellings in the 1930s-1960s\)](#)

**Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)**  
[Density forms and urban regulation \(the case of Manhattan\)](#)

Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza



La ordenanza de zonificación de 1961  
[The 1961 Zoning Law](#)



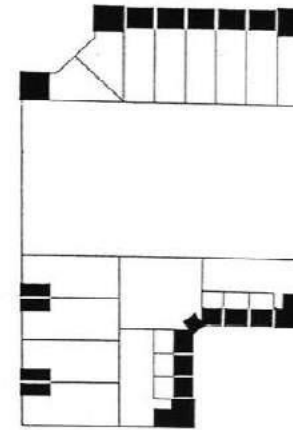
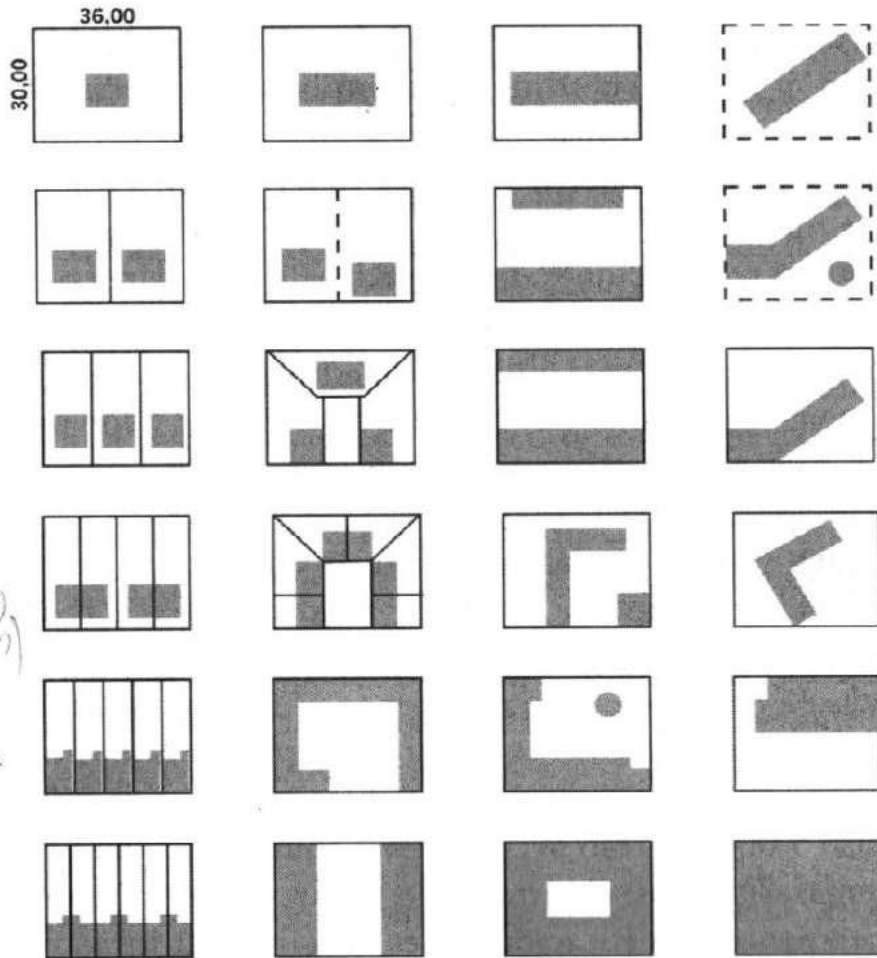
Los estándares de diseño de las agencias públicas de los años 1960-1980  
[The design criteria of public housing agencies in the 1960s-1980s](#)

Formas de ocupación de manzana y regulación urbanística (el caso de Manhattan)  
[Density forms and urban regulation \(the case of Manhattan\)](#)

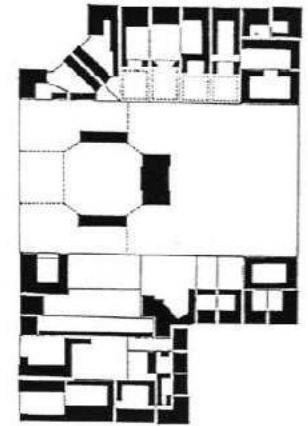
Fuente | [source](#): SANCHEZ DE MADARIAGA, I. (1999): Introducción al urbanismo. Madrid: Alianza



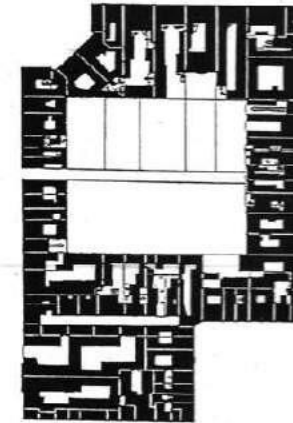




Parcelación inicial Interpretación



1685



1813



Estado actual de la edificación

Versalles, evolución de una manzana a lo largo de tres siglos. Fuente: J. Castex, P. Céleste, Ph. Panerai, *Lecture d'une ville, Versailles*, 1980.

Suma de parcelas y edificación = manzana

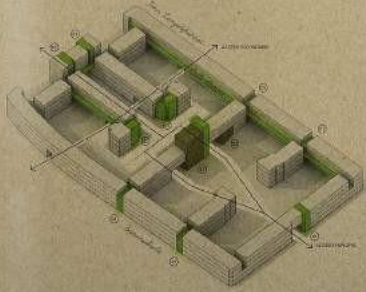
Addition of plots and building = Block

Fuente | Source: PANERAI, F y MANGIN, D (2002): *Proyectar la ciudad*. Madrid: Celeste

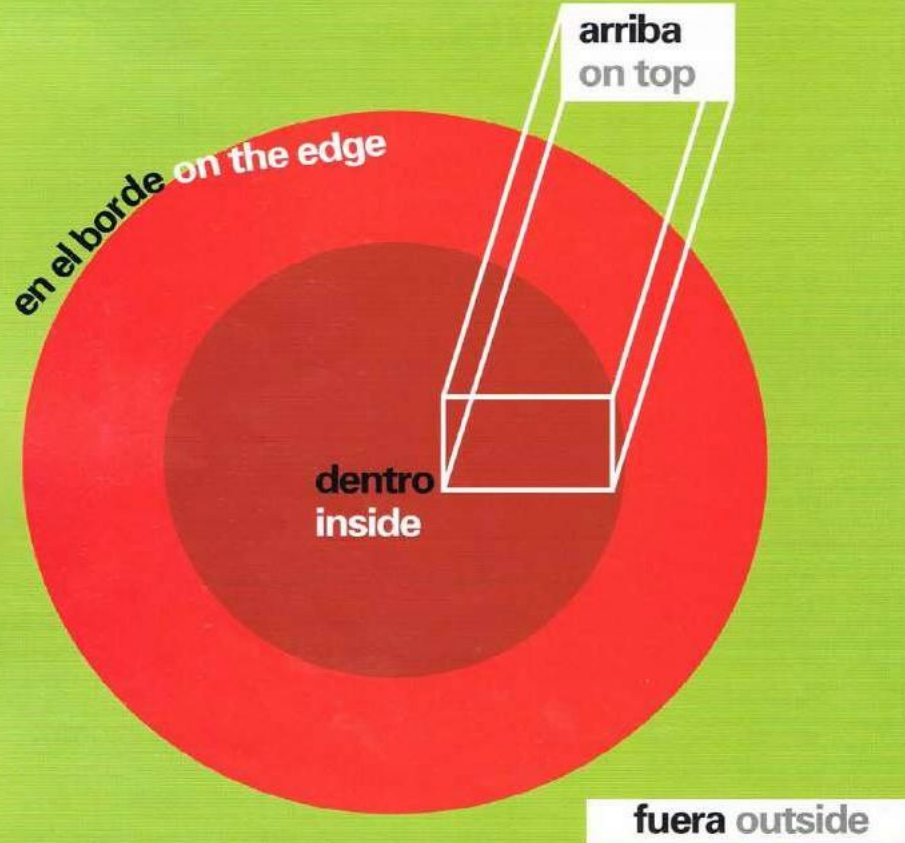
# 10 HISTORIAS

## SOBRE VIVIENDA COLECTIVA

ANÁLISIS GRÁFICO DE DIEZ OBRAS ESENCIALES



a+t research group

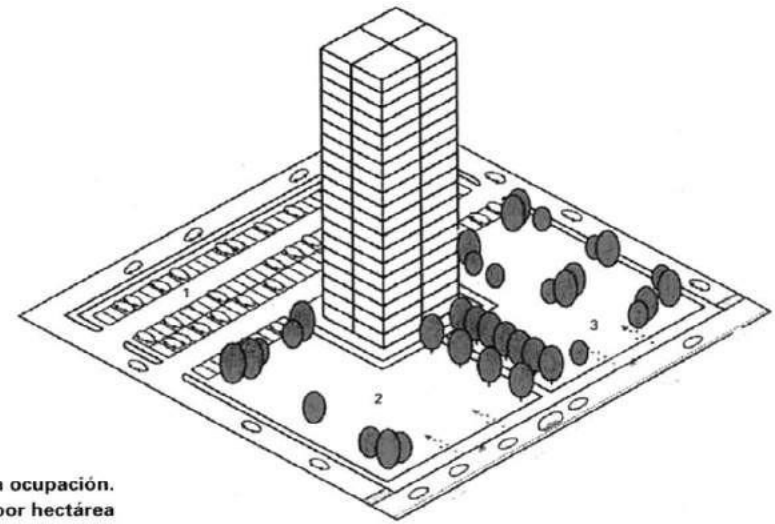


Tipología ≠ Topología  
Revista A+T. Density I (2002)

3 formas de alcanzar la misma densidad. Tomado de *Urban Task Force Report*. Andrew Wright Associates

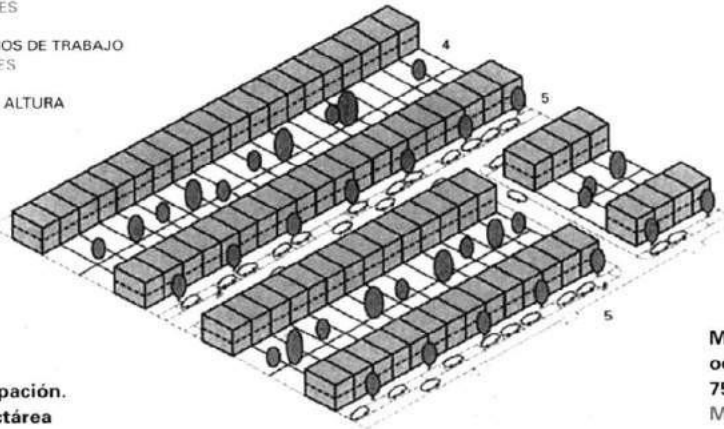
- 1 APARCAMIENTO DE SUPERFICIE
- 2 ZONA DE JUEGOS PARA NIÑOS
- 3 JARDINES A LA INGLESA
- 4 APARCAMIENTOS PRIVADOS
- 5 APARCAMIENTOS EN LA CALLE
- 6 GUARDERÍA
- 7 PARADA DE AUTOBÚS
- 8 COMERCIOS Y TALLERES

- 1 SURFACE PARKING
- 2 CHILDREN'S PLAY AREA
- 3 LANDSCAPED GARDENS
- 4 PRIVATE GARDENS
- 5 ON STREET PARKING
- 6 CRÉCHE
- 7 BUS STOP
- 8 WORK UNIT AND SHOPS

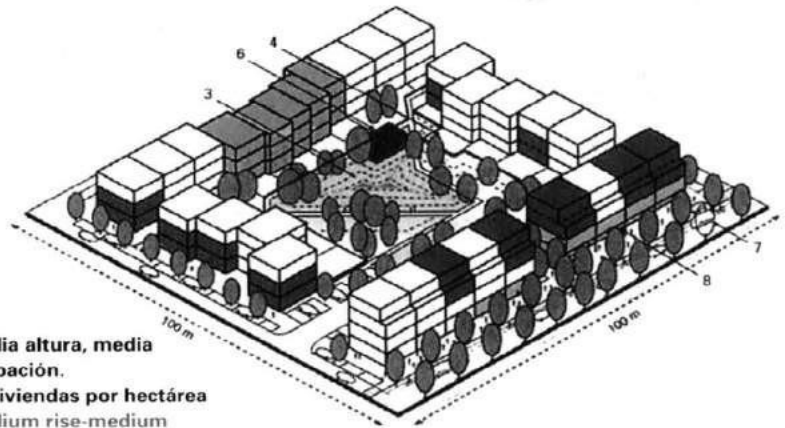


**Gran altura, baja ocupación.**  
75 viviendas por hectárea  
High rise-low coverage.  
75 units per hectare

- EQUIPAMIENTOS COMUNITARIOS  
COMMUNITY FACILITIES
- COMERCIOS Y ESPACIOS DE TRABAJO  
SHOPS & WORKSPACES
- VIVIENDAS EN DOBLE ALTURA  
MAISONNETES
- VIVIENDAS  
HOUSES
- APARTAMENTOS  
APARTMENTS



**Baja altura, alta ocupación.**  
75 viviendas por hectárea  
Low rise-high coverage.  
75 units per hectare

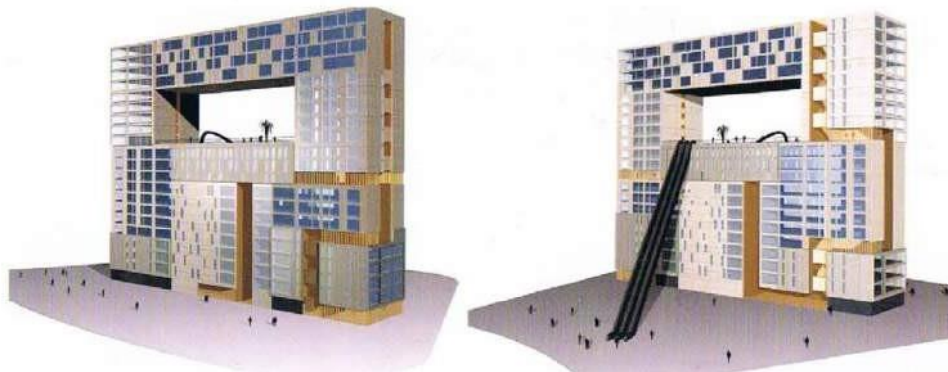
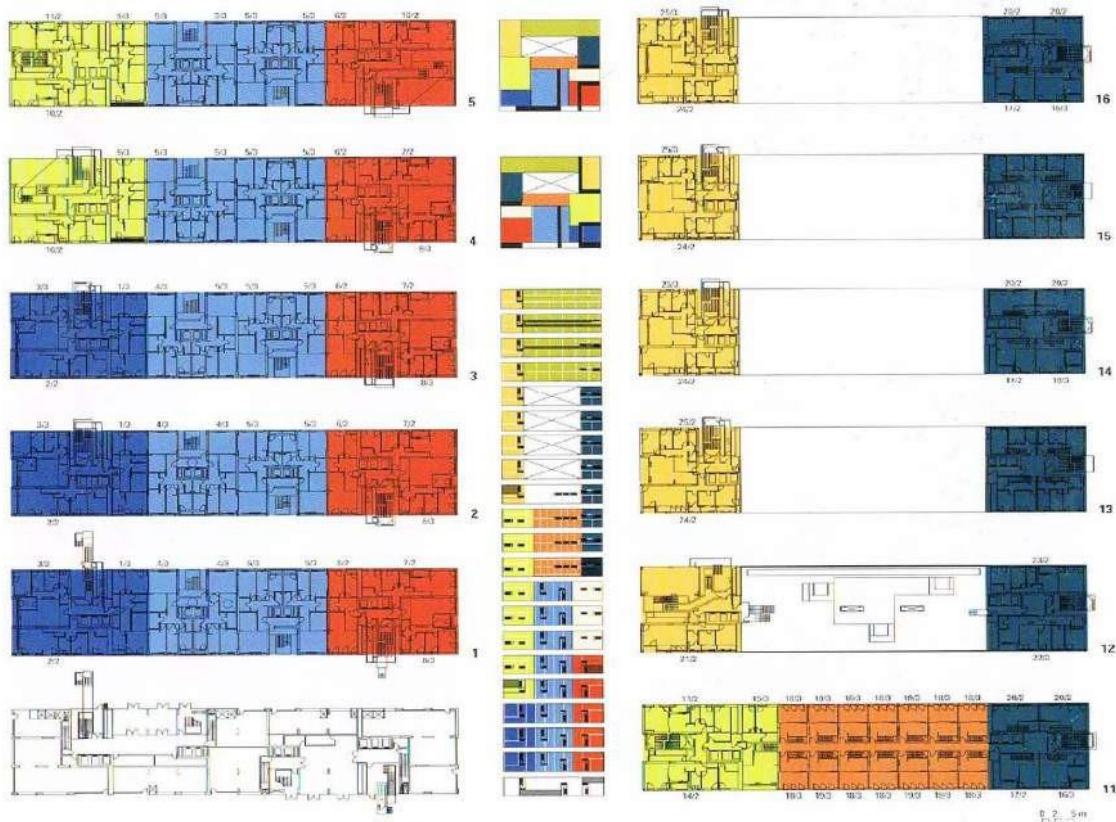


**Media altura, media ocupación.**  
75 viviendas por hectárea  
Medium rise-medium coverage.  
75 units per hectare

3 formas de alcanzar la misma densidad.

3 ways to achieve the same density.

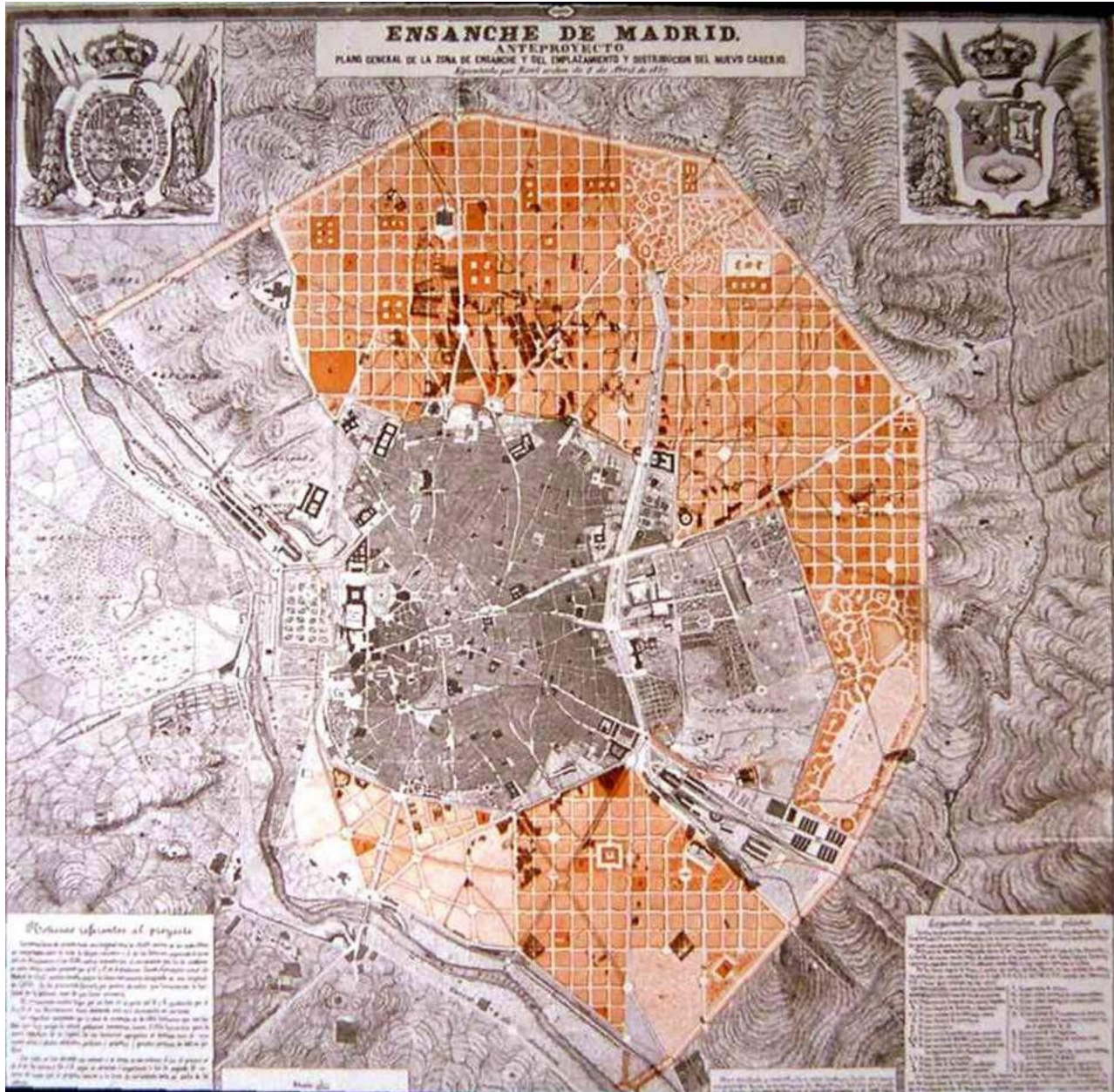
Fuente | [Source](#): Urban Task Force Report. Andrew Wright Associates. A+T. Density III (2003)



On top. Torre de viviendas en San Chinarro (Madrid)

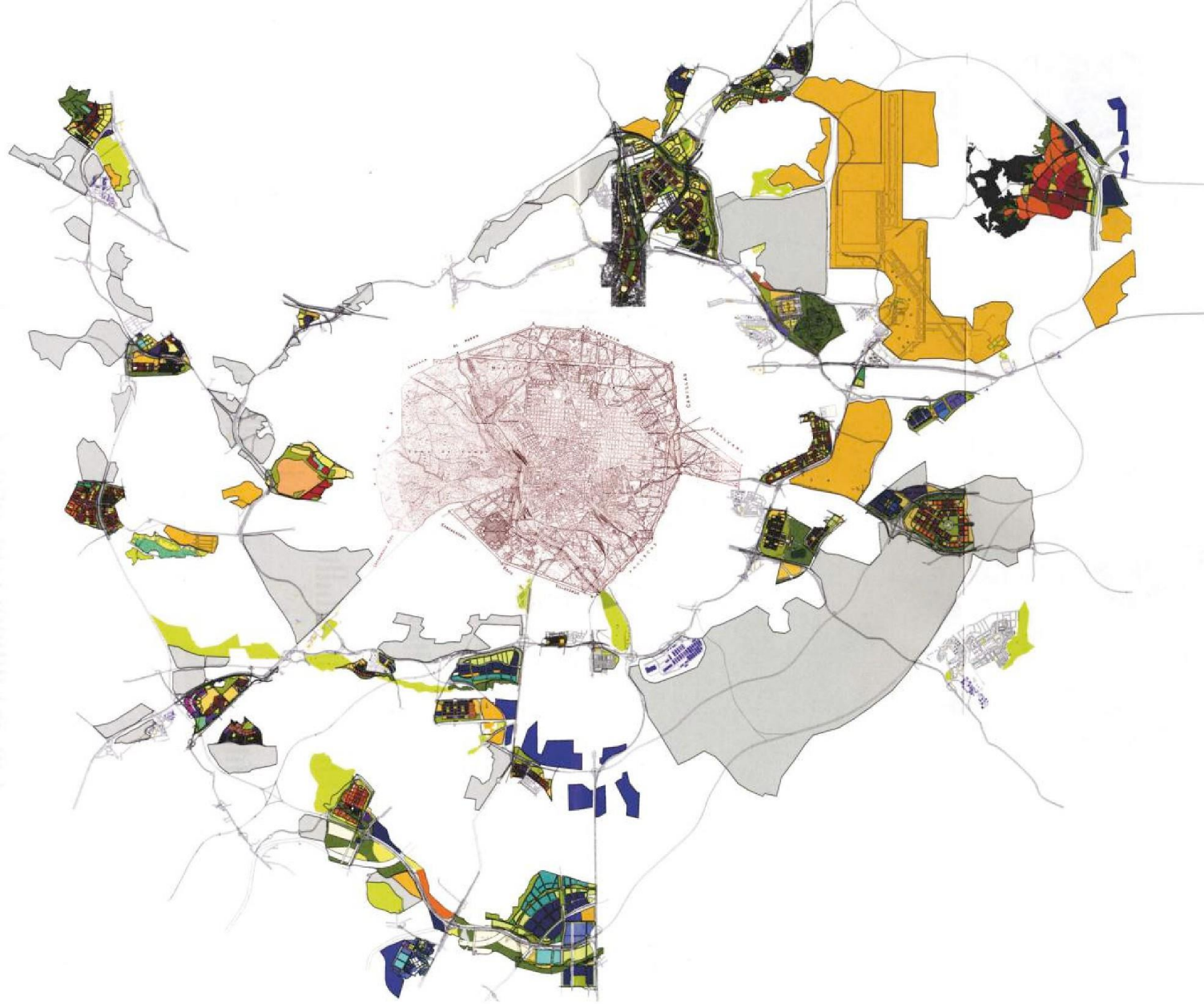
On top. Housing tower in San Chinarro (Madrid)

Fuente | Source: A+T. Density (2002)



Propuesta de Ensanche para Madrid de C.M. De Castro 1860  
 Proposal for the Madrid Extension by C.M. De Castro 1860





**Montaje de la Propuesta de Ensanche para Madrid de C.M. De Castro 1860 con los PAUs 2008.**  
**Assembly of the Ensanche Proposal for Madrid by C.M. De Castro 1860 with the PAUs 2008.**

 <p><b>NEUTRA</b> <b>NEUTRAL</b></p>	<p>1. La casa neutra, cajón contenedor, con un carácter y una identidad que no se impone a su entorno. The neutral house: container-drawer, with a character and identity that do not impose themselves on their surroundings.</p>	 <p><b>HOTEL</b></p>	<p>8. La casa-hotel, con servicios comerciales y de ocio funcionando las veinticuatro horas del día. The hotel-house: with commercial and leisure services that operate twenty-four hours a day.</p>
 <p><b>FLEXIBLE</b></p>	<p>2. La casa flexible, adaptable y modificable a cualquier uso posterior, incluso distinto del de vivienda. The flexible house: can be adapted and modified to any subsequent use, even other than that of a dwelling.</p>	 <p><b>SIN COCHES</b> <b>CAR-FREE</b></p>	<p>7. La casa sin coches, situada en un entorno denso, con todos los servicios próximos y en contacto con la red de transporte público; que favorece otros medios alternativos como la bicicleta. The car-free house: located in a dense environment with all services close at hand and easy access to public transport networks; favours alternative transport means such as the bicycle.</p>
 <p><b>DIVERSA</b> <b>DIVERSE</b></p>	<p>3. La casa diversa, capaz de acoger a cualquier unidad de convivencia, de variado tamaño y composición; gran variedad de posibilidades de elección. The diverse house: capable of embracing any a kind of cohabitation unit of different size and composition; with a wide range of choices.</p>	 <p><b>PLAZA</b> <b>PIAZZA</b></p>	<p>6. La casa-plaza, con zonas comunes que faciliten el encuentro y la relación de los residentes en espacios abiertos dentro del edificio. The piazza-house: with collective meeting points that make it easier for residents to get together in open spaces within the building.</p>
 <p><b>VERDE</b> <b>GREEN</b></p>	<p>4. La casa verde, que sólo consume el terreno justo, donde la naturaleza participa del edificio; incluye el reciclado de residuos y el aprovechamiento de energías limpias. The eco-house: occupies a minimum amount of land, where nature participates in the building; includes waste recycling systems and the use of clean energies.</p>	 <p><b>ASISTIDA</b> <b>ASSISTED-LIVING</b></p>	<p>9. La casa asistida, que permite un desplazamiento cómodo y seguro para personas temporales o permanentemente discapacitadas y posibilita la atención médica a domicilio. The assisted-living house: allows temporarily or permanently-disabled people to get about easily and safely and provides for medical care in the home.</p>
 <p><b>OFICINA</b> <b>OFFICE</b></p>	<p>5. La casa-oficina, comercializada por m<sup>3</sup> en vez de m<sup>2</sup>, con buena altura de techos y espacios modulares, que facilita el acceso rápido a las redes de información y permite el trabajo en el hogar. The office-house: marketed in m<sup>3</sup> instead of m<sup>2</sup>, with high ceilings and modular spaces; provides rapid access to information networks and allows occupants to work at home.</p>	 <p><b>PROTEGIDA</b> <b>PROTECTED</b></p>	<p>10. La casa protegida, que asegura la protección física y psicológica en el entorno inmediato; da confianza a las personas desprotegidas que viven solas. The protected house: ensures physical and psychological protection in the immediate environment; makes vulnerable people who live alone feel safe.</p>

Tendencias actuales de las tipologías residenciales.

Current trends in residential typologies.

Fuente | Source: A+T. Density III (2003)



La sostenibilidad apuesta por la densidad elevada porque:

- optimiza la ocupación de suelo,
- reduce la presión sobre el suelo agrícola,
- disminuye los desplazamientos y el riesgo de accidentes de tráfico,
- hace que el transporte público sea rentable y,
- crea zonas de actividad urbana que favorecen los intercambios comerciales y culturales.
- 100 viv/hec. Es la densidad ideal.

Sustainability relies on high density because:

- it optimises land use,
- reduces pressure on agricultural land,
- it reduces commuting and the risk of traffic accidents,
- it makes public transport cost-effective, and
- it creates zones of urban activity that favour commercial and cultural exchanges.
- 100 dwellings/hectare This is the ideal density.

A+T. DENSITY II.



# Cooperative Dream

Iker Gil interviews **Jeanne Gang**, founder and principal of **Studio Gang Architects** and 2011 MacArthur Fellow



"The Garden in the Machine" proposal  
© Studio Gang Architects



**AN ORDINANCE ESTABLISHING ZONING REGULATIONS FOR THE TOWN OF CICERO, ILLINOIS**

The zoning ordinance is intended to accomplish certain standards and objectives:

- A. To promote the public health, safety, comfort, morals, convenience and general welfare.
- B. To preserve and protect existing uses and values against adverse or unharmonious adjacent uses.
- C. To avoid and lessen congestion in the public streets.
- D. To prevent the overcrowding of land through regulating and limiting the height and bulk of buildings hereafter erected related to land area.
- E. To prevent additions to and alterations or remodeling of existing buildings and structures in such a way as to avoid the restrictions and limitations imposed hereunder.
- F. To provide for the gradual elimination of those uses, buildings, and structures which are incompatible with the character of the districts in which they are located.
- G. To divide the area into a number of zoning districts:
  - 1. Residential districts, particularly designed to provide maximum protection for single family and two family homes.
  - 2. Residential districts, for multiple family dwellings.
  - 3. Commercial districts, that recognize the different types of commercial areas that will be needed by the future growth and change of the town.
  - 4. Industrial districts, of which there are three: a wholesale and warehouse district; a "light" industrial district; and a "heavy" industrial district for manufacturing which include motor freight terminals.

**Definitions**

**Family.** Not more than two persons not related by blood, marriage or adoption living together as a single, cooking and housekeeping unit in a dwelling unit, but not including sororities, fraternities or other organization.

economic security of residents

functioning uses, and to allow a broad mix of compatible uses.

To reduce vehicular congestion and promote pedestrian activity and alternative modes of transit.

To encourage density while preserving open space, public use, and habitats.

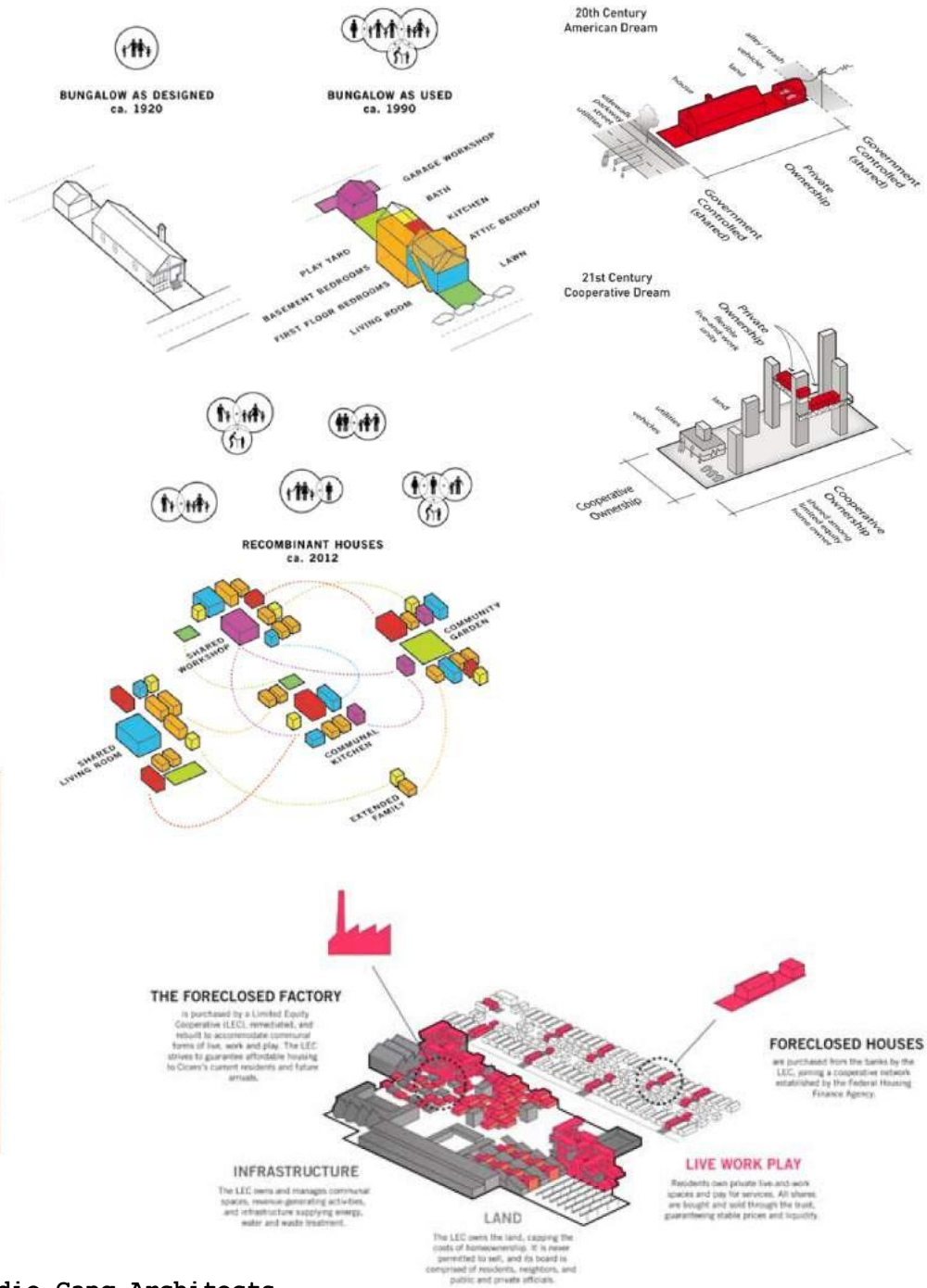
To allow additions and alterations.

To restore and preserve existing buildings and structures, and to conserve environmental resources.

To support social and cultural diversity by allowing a variety of housing types and mixed-use programs.

The only use to be segregated from residential, commercial, light industrial, and public uses is a heavy industrial use.

Acknowledge and enable a variety of living types.



**THE FORECLOSED FACTORY**

is purchased by a Limited Equity Cooperative LEC, renovated, and rebuilt to accommodate communal forms of live, work and play. The LEC strives to guarantee affordable housing to Cicero's current residents and future arrivals.

**FORECLOSED HOUSES**

are purchased from the banks by the LEC, joining a cooperative network established by the Federal Housing Finance Agency.

**INFRASTRUCTURE**

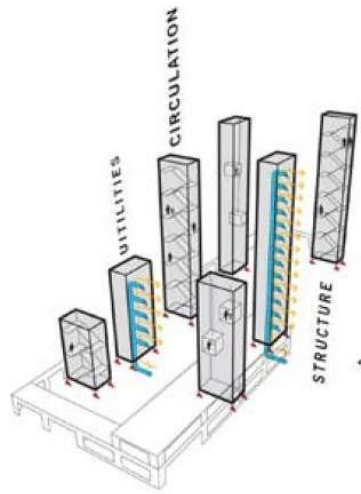
The LEC owns and manages communal spaces, revenue-generating activities, and infrastructure supplying energy, water and waste treatment.

**LIVE WORK PLAY**

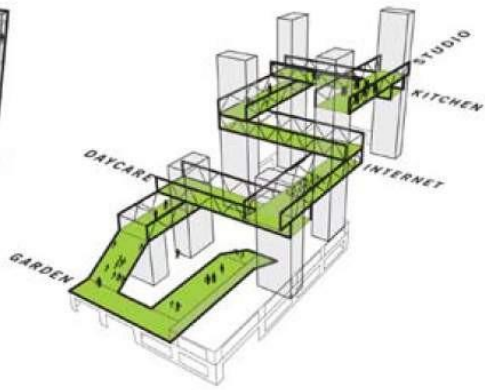
Residents own private live and work spaces and pay for services. All shares are bought and sold through the trust, guaranteeing stable prices and liquidity.

**LAND**

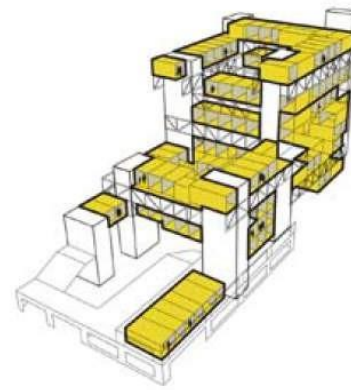
The LEC owns the land, capping the costs of home ownership. It is lease permitted to sell, and its board is comprised of residents, neighbors, and public and private officials.



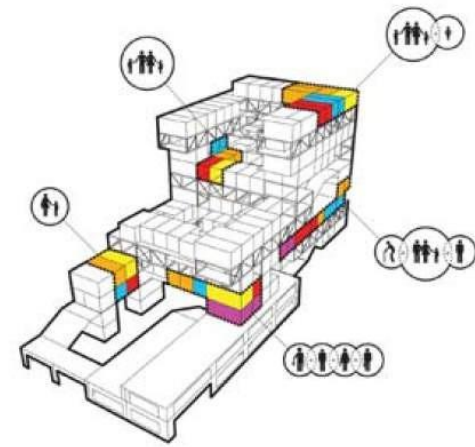
CONCRETE CORES



NETWORK OF  
COMMUNITY SPACES



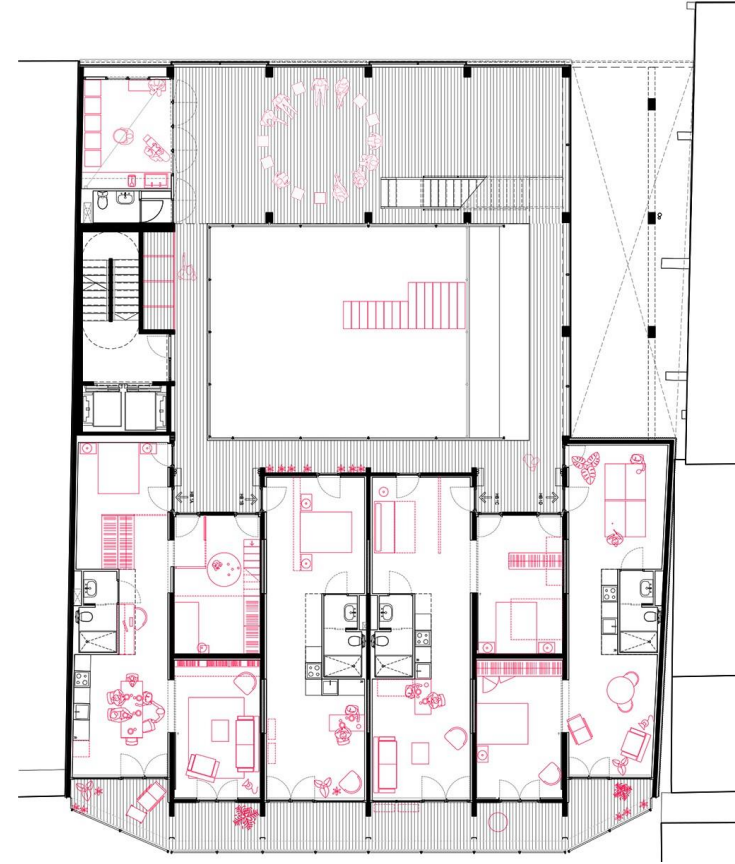
LIVE-AND-WORK UNITS

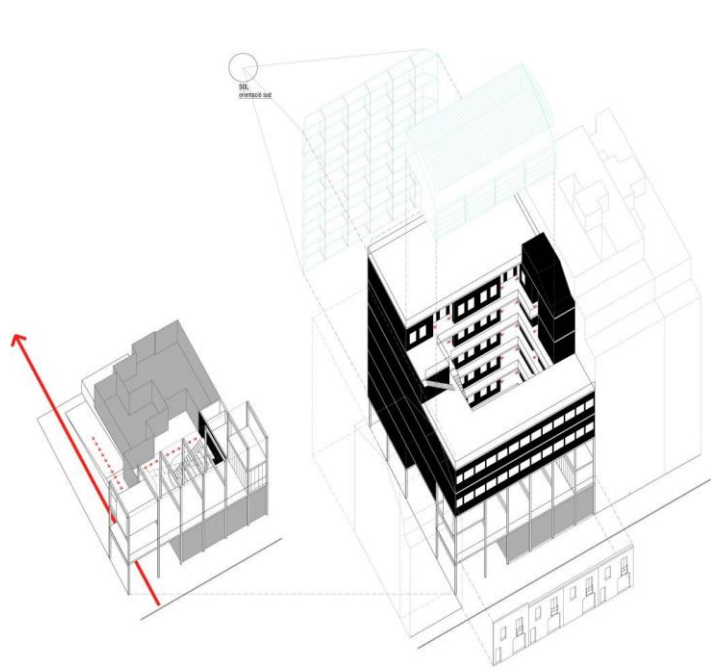


VERTICAL  
NEIGHBORHOODS

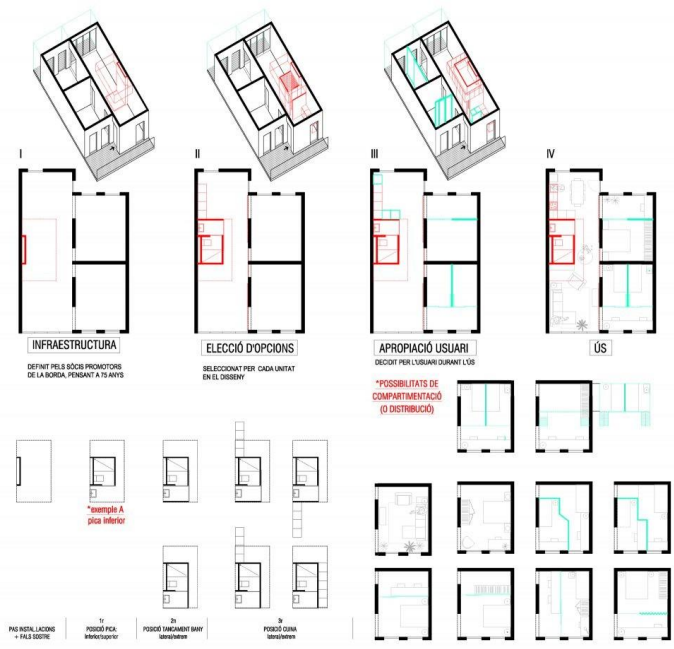


"The Garden in the Machine" proposal organization and overall view  
© Studio Gang Architects

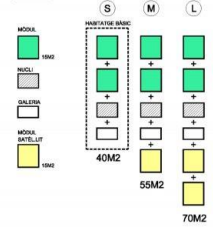




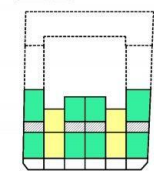




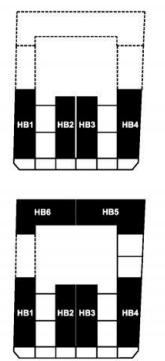
**MATRIU. REGLES DEL JOC. Modulació**



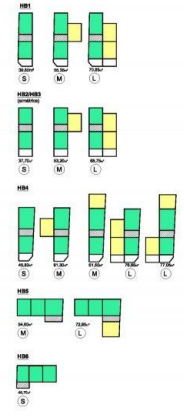
**PATRO. ESQUEMA GENERAL planta 1,2,5,6**

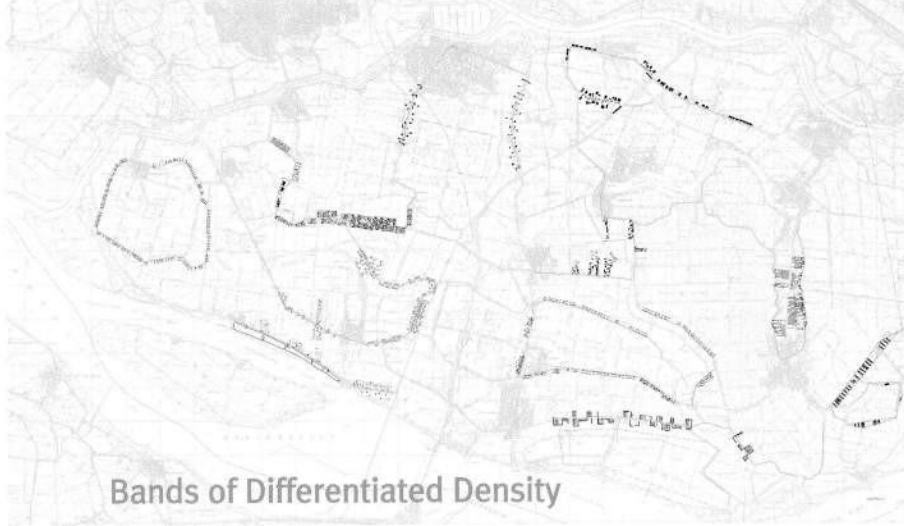


**NOMENCLATURA habitatge (HB)**



**VARIACIÓNS TIPOLÒGIQUES s.m.l**





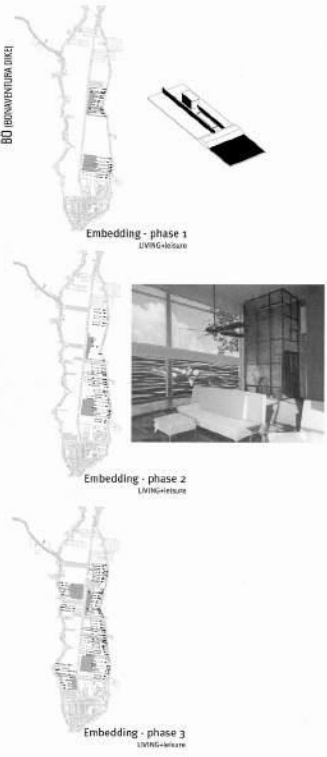
Bands of Differentiated Density



Filament City: LIVING +

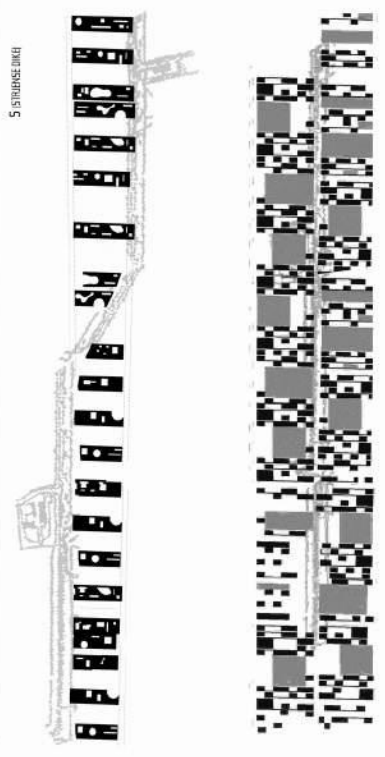
GENETIC CODES

LIVING • SPORT • LEISURE



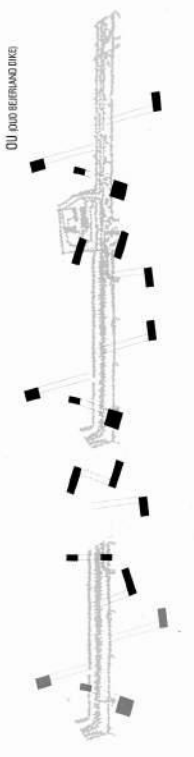
BO (BORGHETTO/DAL DICE)

LIVING • TOURISM



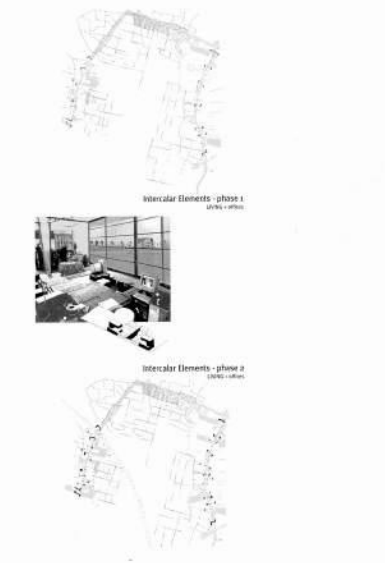
S (STRADA/BIANCHI)

LIVING • OFFICES • DISTRIBUTION



OU (OUDERLAND/DING)

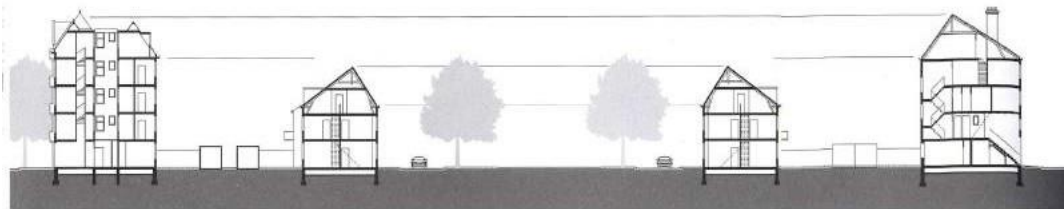
Dipinto al modello monofunzionale e perurbano della residenza a servizi paragono dal programma Vinea, il progetto per residenze Vinea genera un paesaggio di filamenti edili completi, distinto per una proporzionale funzionalita e caratterizzato da un'elevata variabile tipologica in ogni filamento la residenza unifamiliare e un dispositivo di connessione tra la strada e il piano della campagna. In uno spazio che attiene le caratteristiche del paesaggio agli 'spostamenti in automobile e alla rapida connessione con le grandi reti della mobilità, la vita si organizza per bande fisiche e percettive differenziabili: l'intimita domestica innalza i paesaggi aperti, il punto di partenza e di arrivo il tessuto quotidiano che attraversa ogni volta una particolare sequenza di filamenti, una successione di linee e servizi urbani e una catena di percezioni.



LIVING • GLASSHOUSES



N (NIMANS/DING)

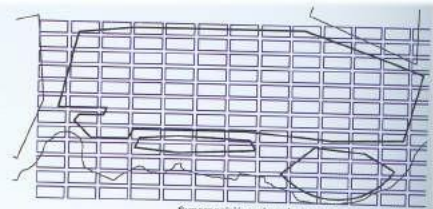
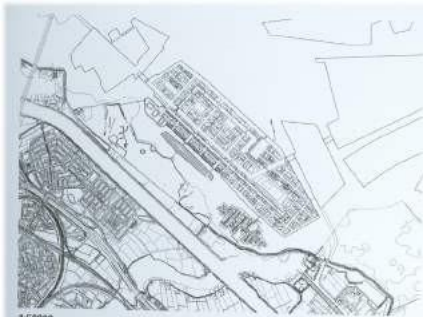


Cross section, 1:500 scale.

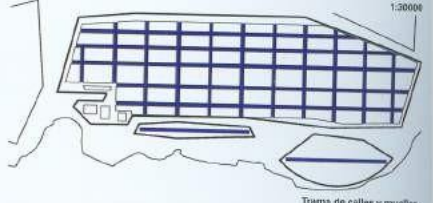


Gate, with view of the inner courtyard.

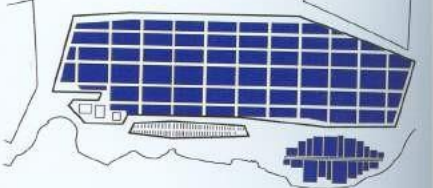
"Atlas of Ducht Urban Block". Thoth



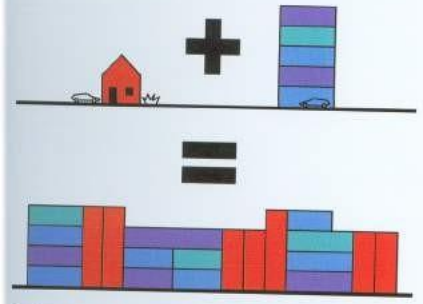
Superposición sobre el terreno de la trama utilizada  
Grid superimposed on the site  
1:20000



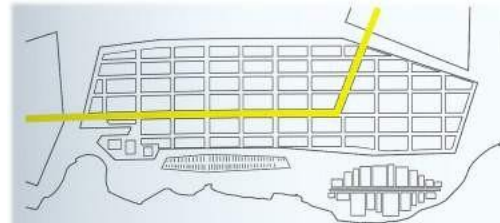
Trama de calles y muelles  
Grid of streets and alleys



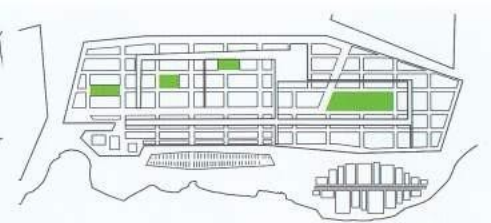
Trama de manzanas  
City blocks in the grid



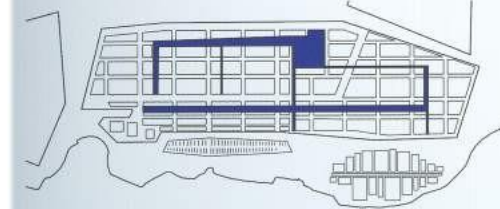
Las viviendas unifamiliares y los bloques de pisos se fusionan en el desarrollo urbano  
Single-family houses and apartment buildings merged into urban development



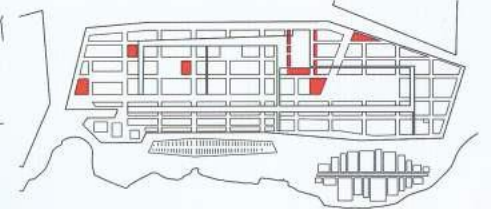
Vías principales  
Main routes



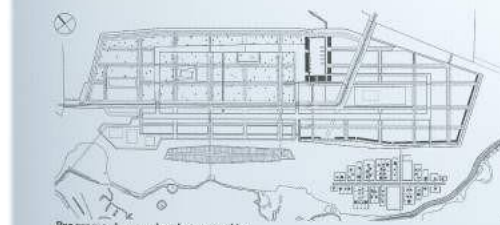
Parques y plazas  
Parks and plazas



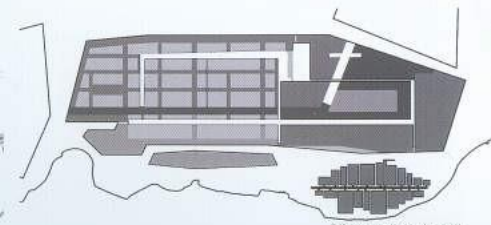
Sistema de canales interiores  
Inland water system



Edificios no residenciales  
Solids (non residential buildings)



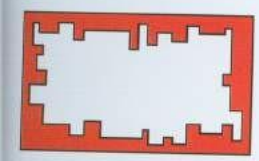
Programa de parcelas de promoción individual  
Programme of self-built plots



Diferentes cotas de nivel  
Different elevations

Esquema inicial de manzanas de Havenland y Rietvelden  
First design of Havenland and Rietvelden blocks 1:10000

Tres estrategias de adecuación del programa a las manzanas  
Three possible strategies for adapting the program in the block

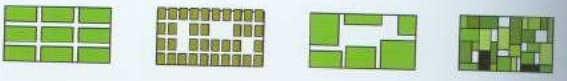
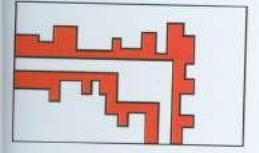


Espesamiento Thickening

Los límites de la calle son uniformes, mientras que los patios de manzanas son desiguales  
The edges on the street are formal, the courtyards informal



Alargamiento Lengthening



Division Dividing

## Proyecto Ijburg.

### Ijburg Project.

Fuente | Source: Revista A+T.

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