



Spatial planning for flood protection

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Students...

- ▶ Who am I
- ▶ Where do I come from (country, city,...)
- ▶ Have I already completed any subject from urban/spatial planning?

Goals of the course

Learn about theoretical background of spatial planning with respect to flood protection

Understanding the practice of spatial planning and the impact of floods on spatial planning:

- ▶ legal aspects of spatial planning
- ▶ comprehensive and sectoral planning
- ▶ flood protection at all levels of planning

Goals of the course

Local and site planning with respect to flood control, and protection and flood mitigation by spatial planning:

- Low impact development (LID)
- Sustainable urban water drainage (SUDS)
- Nature based solutions (NBS)

Goals of the course

Analysis of practical examples and examples of good practice.

Using the methods of spatial planning for protection against flooding:

- ▶ Collection and processing of spatial data.
- ▶ Vulnerability mapping, analysis of the impact of floods, environmental impact assessments and spatial planning.

Important information

Students obligations

- ▶ Attendance on hours is mandatory
- ▶ Individual seminar paper (written and oral presentation)
- ▶ Regular submission of exercises

- **Introduction to the course**

- **Water management (in urban areas) and spatial planning:**

- **policy development**
- **international context**
- **actors and stakeholders**

- **Planning structure (international, regional, local and formal spatial planning in Slovenia):**

- **land use**
- **water management**
- **environmental management**

- **Water management sectoral planning:**

- **water cycle in cities**
- **water supply**
- **wastewater**
- **storm water and flood risk**

- **Green and blue infrastructure – designing water spaces:**

- **limits**
- **design elements (LID, SUDS; NBS...)**

- **Seminar work presentation**

Individual seminar work

Topic selection (until 9. 12. 2021)

- ▶ In the folder on google drive, a list is saved in which you enter your selection. After the lecture you will receive a link to this list.

Preparation of seminar work according to instructions
(submission to the e-classroom by **23. 12. 2021**)

Feedback to **3. 1. 2022** (via e-classroom)

Possible corrections and re-submission to the e-classroom
(**until 11. 1. 2022**)

Preparation of a 10 minute presentation of the seminar paper (presentation on **13. 1. 2021** and submission to the e-classroom)

On the same day at 11.00 there will also be presentations.

General introduction to spatial and urban planning

Spatial planning determines the framework of conditions for the organization of space activities and the determination of a sustainable and rational land use, taking into account and coordinating various interests in space

General introduction to spatial and urban planning

Urban planning sets out more detailed conditions and regulations of building, development, reconstruction, etc., in an urban area:

- ▶ Defining more detailed land use
- ▶ Organization of spatial patterns (social facilities, streets, public places, green areas, ...)
- ▶ Defining locations for public use (public place, public buildings)
- ▶ Organization of infrastructure (traffic, communication networks, communal arrangements ...)

The importance of spatial planning

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Problems?

- ▶ extensive urban development and renewal
- ▶ traffic congestions
- ▶ little or no regard for local context
- ▶ almost everywhere looks like everywhere else
- ▶ disregard for the danger of natural disasters, especially floods...



Towards solutions

Urban design draws together the many aspects of place-making:

- ▶ environmental responsibility,
- ▶ social equity and
- ▶ economic viability

For example - into the creation of places of quality and distinct identity.

The context of spatial planning

A thorough appreciation of the overall site context is the starting point for make a good plan.

What is meant by context

The character and setting of the area within which a projected scheme will sit.



- ▶ Distinctive landscapes
- ▶ Natural features
- ▶ Locally distinctive built form
- ▶ Streets patterns which respond to the context
- ▶ Special spaces of natural or cultural significance
- ▶ Skylines and roofscapes
- ▶ Building materials
- ▶ Local culture and traditions solutions

The context of spatial planning

A thorough appreciation of the overall site context is the starting point for make a good plan.

The natural as well as human history;

The forms of the settlements, buildings and spaces;

The ecology and archaeology;

The location,

The routes that pass through it.

The people, the individuals living in or near an area and

How communities are organised



Why context is important

The context is crucial for understanding current and further developments in the area under consideration

Consideration of the context involves a series of direct and indirect interlaced decisions

High-quality premises are created only with an approach that connects and involves the stakeholders concerned

Urban designers must take into account the following priorities:

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Strengthening the local community (equality, consultation and collaboration)

Creating places of distinction (access, amenity, safety)

Harnessing intrinsic site assets and resources (sustainability)

Integrating with surroundings (flexibility and innovation)

Ensuring feasibility (To ensure economic viability and deliverability, value management)

Providing vision (A vision focusses community aspirations)

Community – social dynamics

The success of the project requires a good knowledge of social and physical geography
The space must be primarily stimulating, comfortable and safe, what includes the knowledge and participation of the local community:

- ▶ Local view and initiatives
- ▶ Local history and customs
- ▶ View of other groups of stakeholders and individuals
- ▶ Participation of institutions and organizations
- ▶ Context of policies and laws



Understanding of social dynamics

What problems are we detecting in the area (e.g. degraded area, socially weaker people ...)

What kind of a mental picture about the area have local residents?

Can the existing identity be upgraded or a new one needs to be developed?

What behavior of the locals is typical for the area under consideration and its surroundings (habits of the population)?

Where are the most popular points in the space and which routes are most used?



We can respond to these and similar questions by actively involving the public in the process of urban planning

Space / location – "Everywhere is somewhere"

Ravenscraig Master Plan, North Lanarkshire, Scotland: A new place based on old foundations

Location Between the towns of Motherwell and Wishaw and adjacent Craigieuk and Carfin in West Central Scotland, 15 miles from Glasgow.

Design Team Master Planner: Llewelyn Davies
Property surveyor: Grimley
Engineer: The Babbie Group

Developer Lanarkshire Development Agency, North Lanarkshire Council and British Steel

Site Area 495 hectares

Project The preparation of a Master Plan for the redevelopment of the former Ravenscraig Steelworks.

Details The closure and subsequent demolition of Ravenscraig Steelworks left a huge physical hole in the Motherwell / Wishaw urban fabric, and a huge economic and social hole in the community. The North Lanarkshire area was traditionally very dependent on steel and allied industries, and since 1979 has lost some 40,000 jobs.

Preparation of the Master Plan in 1997 required an appreciation of these wider issues and the physical design of buildings, streets and public spaces had to take account of the constraints posed by ground contamination, deep foundations, large drainage culverts (including the South Calder Water), high voltage cables and railway lines.

The design response has been to propose an orthogonal grid (which takes a cue from Craig's New Town Plan of 1967 for Edinburgh) aligned with these sub-surface constraints.

This provides a flexible framework that is capable of accommodating over 3000 new homes, a full range of community and leisure facilities, a variety of employment opportunities (from large single users to small workshops) and an efficient public transport network - all contained within an outstanding landscape setting.

Contact Lanarkshire Development Agency Tel 01698 745454

Ravenscraig is located between Motherwell and Wishaw

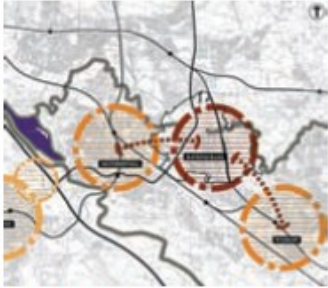
The legacy of the Ravenscraig steelworks (shown here in 1992) is a site largely constrained by sub-surface structures

The figure-ground plan shows how streets and blocks are proposed that take account of these constraints

The Ravenscraig vision is for a new settlement comprising more than 3,000 new homes

ANALYSIS OF THE AREA

The analysis of the space ranges from wider to narrower



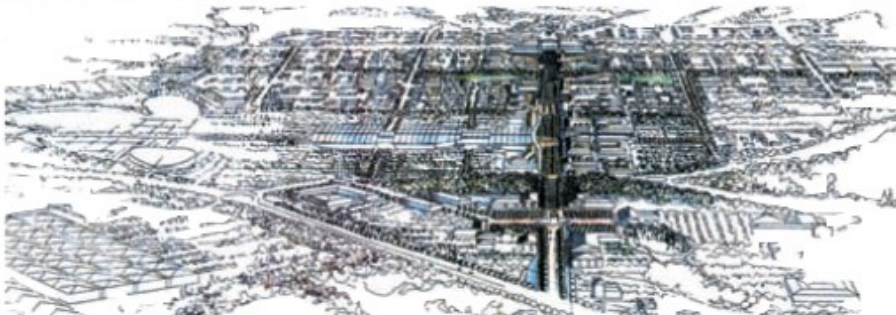
Ravenscraig is located between Motherwell and Wishaw



The legacy of the Ravenscraig steelworks (shown here in 1922) is a site largely constrained by sub-surface structures

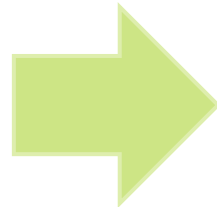


The figure-ground plan shows how streets and blocks are proposed that take account of these constraints



The Ravenscraig vision is for a new settlement comprising more than 3,000 new homes

Ravenscraig Master Plan, North Lanarkshire, Scotland: A new place based on old foundations	
Location	Between the towns of Motherwell and Wishaw and adjacent Craigneuk and Carfin in West Central Scotland, 15 miles from Glasgow.
Design Team	Master Planner: Ulewelyn-Davies Property surveyor: Grimley Engineer: The Babbie Group
Developer	Lanarkshire Development Agency, North Lanarkshire Council and British Steel
Site Area	455 hectares
Project	The preparation of a Master Plan for the redevelopment of the former Ravenscraig Steelworks.
Details	<p>The closure and subsequent demolition of Ravenscraig Steelworks left a huge physical hole in the Motherwell / Wishaw urban fabric, and a huge economic and social hole in the community. The North Lanarkshire area was traditionally very dependent on steel and allied industries, and since 1979 has lost some 40,000 jobs.</p> <p>Preparation of the Master Plan in 1997 required an appreciation of these wider issues and the physical design of buildings, streets and public spaces had to take account of the constraints posed by ground contamination, deep foundations, large drainage culverts (including the South Calder Water), high voltage cables and railway lines.</p> <p>The design response has been to propose an orthogonal grid (which takes a cue from Craig's New Town Plan of 1767 for Edinburgh) aligned with these sub-surface constraints.</p> <p>This provides a flexible framework that is capable of accommodating over 3000 new homes, a full range of community and leisure facilities, a variety of employment opportunities (from large single users to small workshops) and an efficient public transport network - all contained within an outstanding landscape setting.</p>
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Regional identity (common features of the wider area: climate, natural geographic features, socio-economic characteristics)

Connection with the surroundings (characteristics of the settlement according to the surroundings)

Local character (recognition of local specialties both in terms of the shape of the space and the way it is used, what are the local materials, the modes of construction ...)

Morphology (patterns of built structure, volume and height of objects, local specialties ...)

Natural elements (specific ecological and geological features)

Socio-economic profile of the area (population structure of the area, traditional customs and events ...)

Taking responsibilities and involving users

Interdisciplinary approach of many disciplines (transport technical engineers, architects, landscape architects, surveyors, environmentalists ...)

Applying the public sector as a promoter of high-quality design through planning, municipal councils, investments ...

Taking responsibilities and involving users

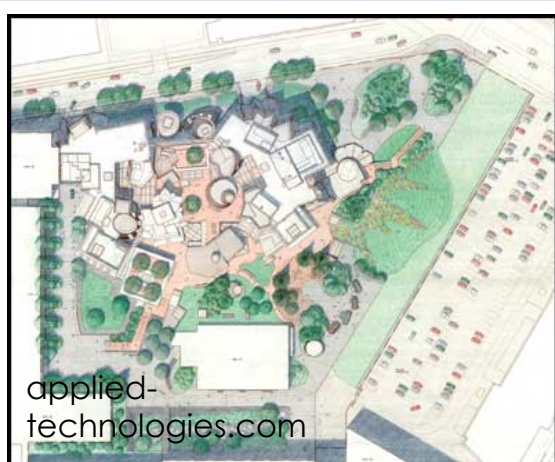


Establishment of a public-private partnership

The use of new technologies, efficient constructions and planning adapted to the 21st century

Integration of the public into urban planning

Natural resources – needs and possibilities



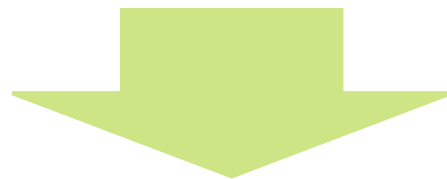
Use of natural elements (in different ways of meaning):

- ▶ Use of open spaces (green areas)
- ▶ Forest
- ▶ Agriculture land
- ▶ Use of rainwater and drainage system implementation
- ▶ Take advantage of wind energy
- ▶ Use of solar energy
- ▶ Safe use of energy (with a combination of different types of energy products, systems)

Natural resources – key issues and orientations

Questions?

- ▶ How to reduce the impact on the environment?
- ▶ In what way do you plan the development of the area to join the wider area?
- ▶ What natural elements can we use?
- ▶ ...

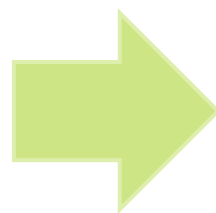


Directions

- ▶ Recognize the natural elements that need to be preserved
- ▶ Redefining and renewing degraded areas (brownfield area) by introducing new habitats, re-designing the terrain, restoring paths, structures and structures
- ▶ Strengthen the identity and landscape structure by maximizing the use of already existing natural elements

Special focus on flood protection

Water space
Flood areas
Urban water cycle
Storm water management
Water distribution systems
Water reuse and recycling
Water footprints
Green and blue infrastructure
...



Flood risk management