Program
Frihamnen and parts of Ringön
RiverCity Gothenburg
the City of Gothenburg is responsible for photographs, illustrations and maps if nothing else is stated.
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INTRODUCTION

The RiverCity Gothenburg Vision

RiverCity Gothenburg will be open to the world. It will be inclusive, green and dynamic. It will be designed in a way that connects the whole city, embraces the water and reinforces the regional centre. Success in this endeavor requires openness, collaboration, knowledge development and strong leadership.

In October 2012 the City Council adopted the vision and strategies for the RiverCity Gothenburg. It’s now time to start the next phase in the planning and development process. One of the main strategies is to connect the city across the river Göta älv. The next stage is therefore located in the Frihamnen area and the neighboring parts of Ringön.

Frihamnen and Ringön

When the inner city is expanded across the river and linked to the quarters of Kvillestaden, Backaplan, Lindholmen and Ringön, Frihamnen will be strategically important. The area will be a hub comprising new workplaces, socially mixed housing and good public transport. The ambition is that the development will be dense and contain a mix of uses. The area is estimated to be able to house 8-10 000 inhabitants and as many workplaces.

The area is exposed to the effects of climate change. Climate adaptation shall be used to enhance the qualities of the public realm. The public spaces and a Jubilee Park shall invite citizens from all Gothenburg to visit the area. The Kvillebücken river will be channeled through Frihamnen to form a ‘green corridor’. The intention is to link the area to the city within the moat by a new bridge for pedestrians and cyclists between Frihamnen and the extension of Östra Hamngatan and Avenyn.

The next stage

The intention is to capitalize on our strengths in the lead up to the city’s 400 years anniversary by developing the first stage, RiverCity 2021. The key issues for this stage will be to show how housing, workplaces and services can be integrated into a modern inner-city environment, which connects the city across the river. A Jubilee Park will be created by the waterfront. The potential offered through architecture and art will be used to create a vibrant and welcoming city. RiverCity 2021 shall be a role model on sustainable inner city development and be used to market Gothenburg on an international level.

The task

The next step in turning the vision and strategies into plans and projects introduces a new way of working for the City of Gothenburg. The City wants to make a brief study of the area Frihamnen and parts of Ringön to define the first development stage by using and deepening the shared knowledge and suggestions from the RiverCity workshop 2011. The area to be studied is about 1 km² and needs to be related to the surrounding areas and the north-south connections across the river. The ambition is to create a dynamic framework for the future planning of these parts of RiverCity Gothenburg. In the actual phase the city needs help to select and discuss strategies and solutions by getting input, ideas and methods to integrate Frihamnen/parts of Ringön with the rest of the city. The method chosen is to study the area from four different perspectives; content, density and scale; node and paths/corridors/axis’s; urban spaces and Jubilee Park; water as a quality and adaptation to climate change. After the dynamic framework is adopted and the area for the first stage is defined, a more traditional planning process will start.
The study area to be addressed by all teams. Within this area, a first stage of the development and the Jubilee Park shall be located. The surrounding area is to be set by each team during the work.
Conditions

Historical retrospect
Frihamnen is located at the point at which the stream Kvillebäcken joins the river Göta älv. This point has changed on several occasions during the past 100-150 years. Over the past century, Frihamnen has undergone extensive changes – from marshland to a busy port area.

Between 1922 and 1996, Frihamnen was a free port. At the end of the 1990s, deep-sea traffic was discontinued entirely. Over the years, mainly modest warehouse facilities have been built as part of port operations. Today, the number of buildings of serviceable quality that could be integrated into a future change of use for the area is limited.

Frihamnen has a long history as a link between Hisingen and the mainland. Older maps show that over the years this link has taken the form of jetties, ferries and bridges in various combinations. The present across the river - Göta älvbron - was built in 1939.

Current activities
Port activities are still carried on at Frihamnen, including freight ferry and cruise ship operations. The piers and quays attract people to the area and are a reminder of Gothenburg’s history as a port. Visits by cruise ships to Gothenburg have increased significantly in recent years. At Frihamnen, the vessels dock at the southern end of Norra Frihamnspiren beside a modest, newly built terminal building. The forecast is that cruise traffic will increase. In accordance with the River-City Vision, the possibility of continuing with cruise operations upstream of the Älvsborg Bridge will be examined.

At Frihamnen, there are a number of short-term operations, such as warehousing, container storage, a bus depot and offices. In recent years, Södra
Frihamnspiren has been used for concerts and motor racing. These activities are of an interim nature pending a future change of use for the area. The city has applied to be included in the Volvo Ocean Race in 2015 and 2018, based at Frihamnen.

The inner dock is used during the winter for ice fishing when ice conditions permit.

**Lundby and Frihamnen**

Frihamnen is an important and strategic part of the district of Lundby. At present, Lundbyleden and Hamnbanan are barriers that impede contact within the district, primarily between Frihamnen and Kvillestaden-Backaplan. The bridge Göta älbrown could also be regarded as a barrier to contact between Frihamnen and Ringön.

Lundby has a diverse population, a good balance between housing and other activities and a large number of workplaces. Since the beginning of the 1990s, the number of inhabitants has increased and in 2011 stood at over 42,000. A large proportion of the planned housing construction in Gothenburg is taking place in Lundby and the population is expected to rise to around 49,500 by 2015. The proportion of children and families with children is lower than the average for Gothenburg whilst the proportion of elderly persons is higher.

The area around Wieselgrensplatsen has a number of key community functions, including Lundby Hospital, a library and the district administration offices. At Lindholmen, there is a university campus, high school and college offering a wide range of programs. There are over 10,000 students on the Lindholmen Campus. Backaplan is a retail area with a large range of specialised shops as well as department stores and supermarkets. The district also has several small, local shopping precincts.

More than 25,000 people work in the Lundby of which almost 1,000 at Frihamnen. New activities have gradually emerged at Norra Älvstranden over the past 15 years. At Lindholmen Science Park, there are more than 350 companies and over 10,000 workplaces.

There are around 21,000 residential units in Lundby, of which around 80% are in apartment buildings. The composition of the housing stock is quite varied even if the proportion of small apartments is particularly high. Lundby is a district that will develop strongly for at least the next 10 years.
New bridges across the River

By 2020 at the latest, a new bridge will replace the existing bridge connecting Hisingen with the mainland. Plans for a new bridge are taking shape and the location has been decided. The bridge will be 700 m long, of which around 220 m will be over water. The proposed unrestricted height is 13 m, which is 12 m over the average high water level of the river. The current proposal for the bridge includes two lanes for trams and buses, four lanes for road traffic and two lanes for pedestrians and cyclists. On the Hisingen side, trams will link up to the present track system at Frihamnen.

Alongside the work on replacing the bridge an investigation will commence into a new pedestrian and bicycle bridge in the form of an extension of Östra Hamngatan across the river to Frihamnen and Backaplan.

Ringön

In the creation of a vision for RiverCity, Ringön has been highlighted as a unique part of the area – a part that should develop on its own terms. A workshop run in September 2012 was the first step in a process aimed at the future organic development of Ringön. The workshop was based on the concept Spontaneous City and the participants represented local stakeholders, city officials and master students at Chalmers School of Architecture. The workshop highlighted the potential for a number of short-term activities as well as long-term strategies for Ringön. The results can be seen in the attached booklet.

Proposal, new bridge over Göta älv
High water levels

Frihamnen, like other parts of RiverCity, is low-lying in relation to the river Göta älv. The average water level in the city at present is approximately +10.1. The highest measured water level in central Gothenburg is +11.8. At Frihamnen, large areas are around +11.4. At the lowest point, the viaduct close to Frihamnen, the land level is approximately +8 and even today pumping of surface water is necessary.

At present, the minimum floor level for new buildings in Gothenburg is approximately 1 m above the current maximum sea level, which gives a level of +12.8 metres for the city centre. There is good reason for assigning key buildings a greater safety margin against flooding than is the case for normal buildings if they are to withstand a further rise in sea level. Discussions currently taking place indicate that the planning level for the city centre ought to be raised to around +13.5.

The fact that the land throughout virtually the whole of Frihamnen is below the +12.8 level makes it vitally important to decide on requirements in order to deal with the impact of climate change and to lay down the principles for future construction.

Land conditions

Geological and geotechnical conditions

All land within Frihamnen is made up of former reed beds that have been gradually filled in since the 19th century. The geological and geotechnical conditions for Frihamnen are similar to those in the central parts of Gothenburg, i.e. clay down to a considerable depth – up to 100 m, and in certain areas even deeper. For Frihamnen, it could be necessary to create new land for construction by filling in the extensive water areas. Safeguarding these areas against the high water levels that could materialise as a result of flooding and climate change is a major challenge when it comes to finding technical and financial solutions. Experience in other areas close to the river in Gothenburg shows that infill areas could sink 60 cm in 20 years and 1 m in 100 years. Underground reinforcement of undeveloped land could prove necessary – and costly.
Ground contaminants
Dredging of the docks has taken place over a period of 90 years. The inner dock, Lundbyhamnen, was constructed in 1955 and has been dredged continuously due to sedimentation. There is a risk of contamination in the soil and basal sediment throughout the whole of Frihamnen. As part of the work on the Central RiverCity project, a survey has been carried out and an overall assessment has been made of the remediation costs as well as future work required in contaminated areas. The assessment of the contamination conditions is uncertain. For Frihamnen, it is stated in the preliminary working documents that there are moderate to significant contaminant levels in the northern part of the area. Information for the southern part of Kvillepiren is insufficient and the contamination situation has therefore not been assessed.

Wharf constructions
The total quay length at Frihamnen is considerable and the quays are an important part of the character of the area. The quays differ in age and appearance. Existing constructions are considered to be in poor condition. They are also low-lying, which means flooding at high water. In conjunction with changes in the use and content of Frihamnen, it is assumed that considerable work will need to be carried out and many changes will need to be made to the quays, piers and constructions.

Environment and health
Noise
Proximity to Lundbyleden and Hamnbanan means that the northern part of Frihamnen is exposed to noise. At present, there are no activities in this part of the area that are sensitive to noise although future use must take account of the noise aspect. At times, operations at the Cityvarvet shipyard can be noisy, which must also be borne in mind when planning the future use of Frihamnen, which would involve activities that are sensitive to disturbance.

Transport of hazardous goods
Hazardous goods are transported on Hamnbanan and Lundbyleden. Along the roads and railways used for hazardous goods, an area of 30 m on either side of the corridor must be kept free of development. Along railways used to transport hazardous goods, dense, stable office development is permitted up to 30 m from the railway. Pure residential development is permitted up to 80 m from the railway. Along roads used for the transport of hazardous goods, dense office development is permitted up to 50 m from the roadside and pure residential development is permitted up to 100 m from the roadside.

Air quality
The most recent calculations for air quality in Gothenburg show that the environmental quality norms for nitric oxide are exceeded in parts of Frihamnen. The norm for nitric dioxide (NO2) for daily average measurements (98th percentile) is the one that is generally most difficult to meet.

Natural values
Kvillebäcken is a stream that runs into Frihamnen and is part of a continuous green structure extending across Hisingen.

The hair-like pondweed grows well in parts of Kvillebäcken. It is a small emergent aquatic plant and is a red-listed species, i.e. seriously threatened. Several bird species, such as Peregrine Falcon, Kingfisher and Smew, are wintering in the area.
The site is exposed to noise and risks due to the proximity to Lundbyleden and Hamnbanan.

Hjalmar Brantings-platsen is a hub for public transport.

The mouth of Kvillebäcken

Future connection towards the new bridge

Entrance to new depot for trams

Location for a new bridge including construction area until 2020

Possible location for berths

Unrestricted height for the bridge is 13 m

New station for commuter trains

Future pedestrian and bicycle link

Average water level is currently +10,1. The highest measured water level for the river is +11,8. Safety margin for structural foundations in adjacent areas should be +12,8.

The geotechnical conditions for the area is difficult and the wharf constructions is in poor conditions. Therefore the future boundary between land and water is still an open question.
FOUR THEMES

The overall aim

The area Frihamnen and parts of Ringön shall be developed based on the RiverCity vision – Open to the world. It shall be an inclusive, green and dynamic part of Gothenburg designed to connect the whole city, embrace the water and reinforce the regional centre. To achieve success in this endeavour openness, collaboration and dialogue, knowledge development and strong leadership is essential.

This work is the first stage to develop the area Frihamnen. The aim is to study the area from four different perspectives, and during the work putting these perspectives together to begin the work on a common framework for the area.

The adopted vision and strategies for RiverCity should be basis for the proposals. All teams have to consider following questions connected to chosen theme:
1. How can the area be disposed? What are the key elements?
2. How can the area connect to the surrounding areas?
3. How can a first stage to year 2021 be defined?
4. How can temporary measures and activities be used?

Connect the city

Embrace the water

Reinforce the center
THEME 1, CONTENT, DENSITY AND SCALE

The area Frihamnen will be dense and diverse, a place for everyone. A compact or high density city means that more people can move around, work and live in the area which creates lots of encounters. The area will be developed into compact mixed use city quarters comprising new workplaces, socially mixed housing, services and good public transport. There will be a wide variety of places, architecture and room for people to express themselves in socially and culturally diverse ways. Incorporation of squares, green areas and a Jubilee Park into this dense city structure will create added value and must be taken into account. The area needs to relate to Gothenburg as a whole and will be developed taking into account its historical heritage as well as the city’s existing and future needs.

Questions to be investigated:
- What should the area contain to become an area for a wide range of people and businesses? And how could this be achieved?
- How can we create solutions that make more people feel at home and take part of the development of the area?
- What density should the area have? How are this effected over time?
- What scale should the area have? Height of buildings? Space between buildings and a fine meshed structure?
The area Frihamnen will be developed to become an inner city area. It will connect the city across the river as well as relate to other surrounding areas by means of new strategic urban links and a more cohesive urban street network. Nodes, paths, corridors and axis’s includes buildings, movement as well as traffic. The network of paths will be designed as inclusive urban spaces where public transport, pedestrians and cyclists are prioritised.

Questions to be investigated:
- What axis’s and nodes could be established?
- How can they be developed to create a vibrant city?
- How can the axis between the Central Station area and Backaplan be strengthened?
- How can Frihamnen connect to surrounding areas?
- How can nodes and corridors be developed over time?
Public transport
Public transport users during an average day

- 70,000 - 80,000
- 60,000 - 70,000
- 50,000 - 60,000
- 40,000 - 50,000
- 30,000 - 40,000
- 20,000 - 30,000
- 10,000 - 20,000
- 5,000 - 10,000
- 1,000 - 5,000

Alighting and boarding public transport at the bus stop during an average day

- 80,000 - 90,000
- 60,000 - 70,000
- 40,000 - 50,000
- 30,000 - 40,000
- 20,000 - 30,000
- 10,000 - 20,000
- 5,000 - 10,000
- 0 - 5,000

Pedestrians
(Passing per hour on average, over two days in August 2012 and two days in January 2012)

- 4,000 - 4,500
- 3,500 - 4,000
- 2,000 - 2,500
- 1,500 - 2,000
- 1,000 - 1,500
- 800 - 1,000
- 600 - 800
- 400 - 600
- 300 - 400
- 200 - 300
- 100 - 200
- 2 - 100
- 1 - 2

Only the blue highlighted streets and places are observed.
The area Frihamnen will have attractive public spaces that give room for social and creative activities. There shall be meeting places for all weathers, seasons and times of the day and night. A wide variety of expressions and content shall exist that creates conditions for different initiatives and inter-generational and inter-cultural encounters. Everyone shall be able to contribute to activities and expressions in these public spaces.

Greenery shall be used as a means of raising the attractiveness of the city. The Jubilee Park will be a key element in Gothenburg’s 400th anniversary and the development of the RiverCity. The park will be an important part for the city as a whole and need to be designed in a way that makes it available and attractive for people from the entire city. The Jubilee Park will be a part of a green structure and connect to other surrounding green areas including the Kvillebäcken stream which shall be led through the area. The vegetation in the area shall contribute to creating a healthy urban environment, a good residential environment and increase biological diversity.

Aspects to consider:
- Red-listed hair-like pondweed grows in parts of Kvillebäcken
- Several bird species rest and winter in the area

Questions to be investigated:
- How can public spaces be created to support an inclusive and vibrant urban life?
- How can public spaces be designed to encourage initiatives from citizens and different actors?
- How can an attractive Jubilee Park be created? How could it be designed?
- What could be a suitable location for and size of the park?
- How can the park be a part of a green structure and connect to surrounding green areas?

From the City Life Analysis: The most requested improvements

22% Improvement for pedestrians
12% more activity at street level
10% More greenery
10% More buildings
8% More seats
8% Better lighting
7% Better care of public spaces
7% Do not do anything
4% More public places
4% Better bike paths
4% More cultural and leisure activities
2% More public transports
3% Other
Larger parks, "Plan for greenery - RiverCity Gothenburg"
The area Frihamnen will embrace the water and strengthen the historically important connection between the city and the water. The area shall be developed in ways that create a vibrant riverside. Public spaces shall help connect land and water and ensure everyone’s availability to the water. At the same time the area needs to be secured from flooding and be able to handle extreme weather conditions. Adaptation to climate change will contribute to an exciting and changeable urban environment instead of creating new barriers towards the water.

Aspects to consider:
- Berths for approximately 70 boats are needed upstream for boats pending bridge opening (some might also be needed downstream)
- Secure level of +12.8 at minimum to handle rising water levels
- The area is exposed to strong winds
- Extreme weather conditions will occur more frequently (some parts might be more exposed and vulnerable than others)
- The amount of surface water will increase and existing systems are, at times, already insufficient.
- Good locations for sluicegates

Questions to be investigated:
- How can a vibrant river area be created?
- How can public spaces be created along and on the water that are available for everyone?
- How can water and climate adaptation be used as a quality in the city structure?
- How can we make use of the water in public spaces?
- In what ways could surface water be managed in the urban space?
- What about the possibility to make full use of temporary measures and uses?
- Which climate strategy/strategies (attack, retreat or defense) can best be used in Frihamnen?
- What parts of the area should be water and what parts should be land – dredged material is needed to extend the land area (dredged material will be available from 2017 through the construction of Västlänken)?
Climate adaptation strategies - retreat, defend and attack
Pilot project, Mistra Urban Futures

Extreme weather, high water scenario +12,7

Extreme weather, high water scenario +12,3

Frihamnen 2008, Photo: Anna Karlsson
PRACTICAL INFORMATION

Outcome
The city’s expectation of the outcome of the assignment is that the teams will contribute with:
• a brief study of the area Frihamnen and parts of Ringön
• definition of a first stage
• thematic recommendations for the continuing process

Timetable
January 7
Program sent out to participating teams.

January 7 – February 4
Teams work on producing a first draft to present at Workshop 1.

February 4-6
Workshop 1 in Gothenburg
February 4
Get-together /Dinner at 7 pm (optional)
February 5
Introduction and general reflections
Teams’ presentations
Teams work, a possibility to see the site and to meet local experts
Teams’ presentations at Älvrummet
(5-10 minutes / team, public presentations)
February 6
Workshop. To put the four themes together

Mars 28
Final reports delivered
All reports will be sent out to all teams to prepare workshop 2.

April 9
Workshop 2 in Gothenburg
Presentations and discussion on how to take the next step.

Workshops and final reports
Workshop 1
The purpose of the first workshop is to share ideas and to get local input. In this way we can begin the synthesis between the themes and the early work on the area as a whole. Before the workshop the teams should have developed a first draft layout of the area to present in a 10 minutes presentation.

Day 1 starts with a common set of general information and reflection. The teams then make presentations of their first draft. The presentations should focus on ideas that should be discussed between the groups. There will be room for a short discussion related to each presentation. During the afternoon the teams continue their work and local experts will be available to support the work. The day ends with short presentations by the teams at Älvrummet.

Day 2 is used for a joint workshop to compile common conclusions for further work.

Final reports
The material produced should be based on concept thinking. It can be presented as a report, as a collage etc. The number of pages and format will be discussed and decided during the first workshop.

Workshop 2
Before the final workshop, all materials will be sent out to all teams. The purpose is to continue the synthesis during the workshop. Parts of the workshop will be open to local experts and media.