

# JURY'S REPORT

BY & HAVN | ATP EJENDOMME | 2008



# THE L M PROJECT

LANGELINIEMOLEN

MARMORMOLEN

COPENHAGEN

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## **1. Introduction**

CPH City and Port Development and ATP Ejendomme hereby present the results of the international design competition 'The LM Project' published on 28 May 2008. Six well-reputed architectural companies were invited to participate in the competition, three of which were appointed in advance and the other three were selected after a prequalification round.

The competition comprised of a design competition for commercial properties and an ideas competition for landscaping the adjacent urban spaces.

The design competition comprised of the building design for a 50-60,000 m<sup>2</sup> multi-user office building, incorporating two high-rise buildings connected by a pedestrian and cyclist bridge across the harbour basin.

The ideas competition also requested proposals for the layout and organisation of surrounding outdoor areas, including the tip of Langelinie (Langelinie Pier) and the tip of Marmormolen (Marble Pier).

## 2. Purpose

The ambitions for the new building are very high, and this is expressed in the vision of the design competition brief, e.g.:

'The purpose of the competition is to provide the basis for a building complex that will be an iconic landmark at this prominent site in the city and will highlight Copenhagen's profile as an international metropolis characterised by a high quality of life and high environmental standards, and be a beacon in the development of the harbour area as a whole.'

'CPH City and Port Development and ATP Ejendomme expect entries to present an architectural vision that uniquely demonstrates an understanding of the special physical location close to the water in the Port of Copenhagen as well as a brilliant overall concept for the site and a proposal for 'green' office buildings of the future. The buildings should connect Marmormolen with Langelinie by means of a compelling, imposing and publicly accessible bridge elevated at least 65 metres above sea level. Because of the building complex's unique location on the waterfront, it should be possible to see the buildings from much of Copenhagen, for which reason their aesthetic qualities should be obvious.'

'The ideas competition is intended to provide input for further development of the 'axis of experience' along the waterfront by adding new high-quality urban spaces to the area, spaces that should communicate openness and be conducive to urban life.'

'It is also important to ensure good access conditions for pedestrians and cyclists, just as the meeting between buildings and public spaces should provide incentives to use other modes of transport than cars.'

The jury assessing the entries submitted comprised of representatives from CPH City and Port Development, ATP Ejendomme and Copenhagen Municipality and three impartial design professionals.

In the overall assessment, entry no. 35813 and 36912 differ from the other entries. Entry no. 35813 excels in particular with the building solution, where two tower buildings with their own architectural identity integrate the public flow of the bridge in different forms of fine spaciousness, while entry no. 36912 excels, in particular, with the connection between the public access and the well-documented building solution.

The jury has unanimously decided to nominate entry no. 35813 as the winner of the competition. The reason being the special importance placed on creating two buildings each adapted to the site, and the overall idea of how to connect these buildings and ensure that they form a whole across the harbour basin. This is a sketchy

project, however, with the right treatment it may be the iconic landmark desired for the Port of Copenhagen.

Because of the considerable variety of inputs to the ideas competition, each demanding preparation in relation to the masterplan and the winning project, the jury has unanimously decided not to award any winning project in the ideas competition. CPH City and Port Development, ATP Ejendomme and the City of Copenhagen in association will take steps to further develop the adjacent areas, on the basis of the masterplan.

### 3. General remarks

In general, the six entries submitted are all very well prepared, and all entries contribute with their different main outlines of the buildings and adaptation of the outdoor areas to illustrating the task assigned at an all-round high technical level.

However, the jury finds that none of the entries submitted provide an unambiguous and convincing response to the task, and there is not one entry fulfilling the requirements of all the points in the design competition better than the other entries. Consequently, it will be necessary in the next steps to further elaborate the winning entry as indicated under the assessment of the entries.

#### 3.1 The design competition

The six entries are very different, especially with regard to the location of the buildings. Entries no. 36912 and 13201 follow the masterplan and place the major part of the building complex on Marmormolen, entries no. 32107 and 56857 place the major part on Langelinie, while entries no. 35813 and 72528 place an approximately equal part of the building on each pier.

There is a wide range of architectural expressions; from entry no. 56857 with their focus on the site, harbour areas and the towers of Copenhagen to the international building complex dominated by glass by entries no. 35813, 36912 and 13201, and finally to the more bombastic and sculptural building complex in entries no. 32107 and 72528.

The scope of suggested public functions in the building varies much among the entries. Entry no. 56857 has – as a consequence of the ‘detached’ bridge connection – public functions only on the ground floor on both piers, while all other entries as a minimum have considered such functions both on the bottom storeys and on the storey/storeys, where the bridge connection meets the buildings. Entries no. 35813 and 36912 also propose to arrange roof gardens on the top storey. On buildings exceeding 90 - 100 metres, however, roof terraces will not be possible owing to the plume of smoke from the adjacent combined heat and power plant, Svanemølleværk.

Public functions could be e.g. cafés, restaurants, shops, conference centres and fitness centres. The scope of these functions shall be weighted between the possibilities of creating life in the adjacent urban spaces as at the same time provide sufficient financial funding to realise the buildings.

As a consequence of the very different layouts of the buildings, the floor plans will differ much, and for most entries it means that the area allowed for office purposes (gross/net ratio) is reduced.

Entry no. 35813 and 36912 provide the most efficient office premises with a very simple floor plan. Entry no. 35813 has simple and clear floor plans, however, disfig-

ured by the lack of coherence between the layout of the suggested core areas and the floor plans. Entry no. 36912 has good floor plans, however, at level 1-18 disfigured by a tilted elevator connection to the pedestrian bridge.

In entries no. 56857 and 72528 the building is sloping causing the core with the elevator connection and plant shafts to move from one side of the building at the bottom to the other side at the top, which results in varying floor plans all the way up through the buildings, and results in much wasted area. Moreover, for entry no. 56857 each floor plan has been divided into 2-3 minor areas, causing a very low floor-space ratio. The floor plans in entries no. 13201 and 32107 are to a high degree subject to the exterior design, and for both entries this causes some inappropriate floor plans.

An important element in the competition is the bridge connection between the two piers, and the six entries treat this element very differently. Most impressive is entry no. 72528, where the bridge lies as a large curve on top of the two office buildings, and where the access to the bridge is an exterior elevator running on the outside of the buildings. In entry no. 32107 the bridge structure is integrated in the sculptural design, while in entry no. 56857 it stands separated from the towers. The bridge structure in entry no. 13201 is designed as the jib of the crane reaching from Lange-linie to Marmormolen, while both entry no. 35813 and entry no. 36912 work with two cantilevered elements meeting straight above the harbour basin.

Also the proposals for access to the bridge are very different. Most significant is entry no. 56857, where the bridge may be used only from ground level. In all other entries the users of the building may as a minimum gain access to the bridge from ground level as well as from the level, where the bridge meets the buildings. Entries no. 36912, 13201 and 72528 propose access to the elevator connection to the bridge from the outside of the buildings, while in entries no. 35813 and 32107 it is necessary to enter into the lobby/reception area of the buildings to use the elevator connection to the bridge.

### **Sustainability**

All projects use 'normal' building materials (steel, concrete, glass, aluminium, bricks, natural stone etc.). Consequently, the differences in sustainability of materials are mainly related to the gross/net factor, i.e. the quantities of materials used to obtain a certain net area. It should be noted, though, that large areas of glass/aluminium facades are not particularly sustainable in terms of materials (and also not in terms of energy consumption).

Most of the projects include certain energy 'features' like wind turbines, PV-panels, sea water cooling or use of geothermal heat. These features could in principle be applied to any of the projects, since there is little direct relation between the respective building designs and the proposed features. Consequently, these proposed features have been disregarded in the evaluation of the projects.

If more than 50% of the facade is glass, the building will most probably not comply with the 2008 energy requirements. Compliance with the 2010 requirements will probably make an even lower glass-% necessary. It is therefore important that the glass-% can be adjusted without compromising the architectural idea with the project.

Several of the projects propose thermally active floor slabs (thermo-decks) - and consequently they have largely omitted suspended ceilings. This concept is not in compliance with the Danish requirements on room acoustics in offices with more than 1 person. Suspended ceilings will have to be installed in a certain proportion of the ceiling. Also, in some of the projects, a combination of thermally active floor slabs and raised floor systems is proposed. This combination will lead to a very low efficiency of the thermally active floors.

Most of the projects have rather narrow floor plans which result in a good exploitation of incoming daylight from windows.

Only one of the projects, no. 36912, addresses the indoor climate in the bridge. The bridge will be very hot unless preventive measures are taken (solar screening, openable panels).

#### **Gross/net ratio**

The gross/net ratio of the entries has been evaluated, and it was found acceptable in all entries, except for entry no. 56857, where the divided building structure results in a very poor gross/net factor.

#### **Economy**

Based upon the material submitted, estimates have been made for all six entries. Considering the uncertainty involved in the preparation of estimates at the present detailing level, the jury finds it feasible to realise entries no. 35813, 36912 and 56857 within the budgetary framework. The jury finds that the development of these projects can be realised without compromising the architectural expression. Entry no. 13201 and especially entries no. 32107 and 72528 shall require large adjustments of the project and these are estimated to involve loss of important elements in their proposals.

### **3.2 Ideas competition**

The level of detail of the entries for design of the adjacent areas and urban spaces differ greatly. The most detailed and elaborated entry is no. 36912, and within the framework of this project and with the provision of various levels and sequences it provides a convincing proposal for a design of the spaces on both piers to benefit the area as a tourist attraction.

Moreover, entry no. 36912 is loyal in relation to the masterplan, as the commercial strip proposed in the masterplan has been kept west and north-east of the building, and there are clear indications on how to come from here to the new building.

Also entry no. 13201 maintains the peripheral buildings west and north-east of the building, however, both disrupted around the tower on Marmormolen. Entry no. 32107, too, complies with the masterplan west, but has broken down the buildings north-east into a series of solitary buildings.

In entries no. 35813, 56857 and 72528 all buildings, except for the pilot building, on Marmormolen have been removed and the area is laid out as open spaces. Entries no. 35813 and 56857 both suggest a park on the site, while the pier tip and also the tip of Langelinie are cleared in entry no. 72528. In addition, entry no. 56857 includes a distinct finish of the western side of the pier tip on the Marmormolen side.

Except for entry no. 72528, all six entries provide proposals on how to design the tip of Langelinie and how to allow recreational open spaces on the site.

For all six entries, development of the traffic conditions around the building is required, including the access for guests to the bridge. All six entries include proposals for the design of a parking basement on two levels on Langelinie, however, none of the proposals are satisfactory, and should also be further elaborated in the following stage.

## 4. Presentation of the entries

### 4.1 Entry no. 35813, The LM Project

*The entry is prepared by **Steven Holl Architects** (copyright).*

*Competition Project Team: Principal Lead Designer Steven Holl, Associate in Charge Noah Yaffe, Project Advisor Chris McVoy, Competition Project Architect Rashid Satti, Project Team Architects Runar Halldorsson, Esin Erez, Justin Allen, Fiorenza Matteoni. Bridge Structural Engineer: Ted Zoli. Mechanical Engineers: Niras. Climate Consultant: Transsolar.*



The project envisions a complex of two different towers which meet 'like a handshake over the harbour'. Appearance and massing of both towers are 'rooted' in the landscape of the harbour and specific geometry of the piers of the Langelinie and Marmormolen. Both towers appear intriguing and exclusive, without being limited or only for a selected public. The complex invites to be explored and to be used by the public. Terraces, roof gardens and other public programme are situated on various floors and are linked by stairs and elevators. Buildings open up on ground floor with retail to the inner water.

The design has a strong character and unique and appealing features but is also very sketchy. There are also some discrepancies between text and drawings.

The L tower is dedicated to the sea, with a sea view terrace and ship like appearances and is the last building in the row of the L pier. It picks up the esplanade and connects it with the terrace. From the terrace you can take the elevator to the bridge. M is dedicated to the city with a city view terrace. From a commercial point of view the use of the roof terraces probably may be restricted to the tenant.

The towers invite to be 'touched', both have a strong 'haptic' quality of massing and material. They differ in materialization, one with an aluminium grid, the other glass curtain facade with a perforated metal screen.

Despite the rather diagrammatical nature of the project, it includes significant details and fine elements that can be further developed. The figurative starting point, the narrative colouring and the difference between the designs of the towers as volumes, the staggered and stacked 'containers' of Langelinie versus the building volume on Marmormolen is a strategy with great potential.

The bridge is rather low key – which is fine – but appears too simple, too small and too light. It appears as if it could be opened up like a sky lock, as if the handshake over high in the sky is a coincidence. It gives the iconic complex a pleasant 'easiness'. To withstand the horizontal effects exposed on the bridge because of the wind powers, an increase of the bridge dimensions is required, and in the further development of the project it will be challenging to perform this action and at the same time maintaining the easiness outlined.

The cables carrying the bridge will slice as a 'harp' through the upper office floors. Fire and other issues needs to be taken into account here. The obstructions caused by them are a disadvantage for the commercial value of these floors, but could also be seen as a unique selling point. The diagonal construction could give these floors a 'lofty warehouse' appeal.

Cores and floor plans are very schematic and sketchy. Buildings have generic layouts with a central core in the space. Floor plans are open and able to accommodate various layouts. Both buildings have substantial public program, retail, auditorium, restaurants, which could work as well as facilities and collective spaces for the tenants. Offices can also be accessed from the bridge floors.

The access to the bridge may be either from ground level or from the terrace deck located at the 4<sup>th</sup> floor. The 4<sup>th</sup> floor may be reached by elevators as well as exterior escalators.

Public and tenants are envisioned to be mixed. This is problematic from the investor's point of view. They should be separated and get dedicated spaces for the tenants and the public. At ground level the access to the public lifts to the bridge is wanted unambiguous and must be divided in a rational way from the lifts dedicated

for the tenants in the buildings. There are also doubts whether the proposed escalators will work in the Danish weather.

The strong public layout of the project, which contributes to the award as the winning project, should be maintained in the next steps. It is an important feature that the building invites the public inside and allows them to access and use the public areas, including the terraces and the bridge. In the next steps, the public areas shall be further developed and optimised to ensure the financial basis for the realisation of the project.

Environmental issues are addressed with thermo decks, hybrid ventilation, facades with 50% glass and reasonably effective solar screening. The energy consumption calculations seem optimistic, but the building design will probably be able to comply with both 2008 and 2010 requirements. The jury does not consider this as an optimal solution and evaluates that there will be other cheaper and more efficient ways to reduce energy consumption.

The gross/net ratio is evaluated to be among the best of the six proposals submitted. The project is evaluated to be within the budgetary framework, a goal that should be maintained at the further development of the project.

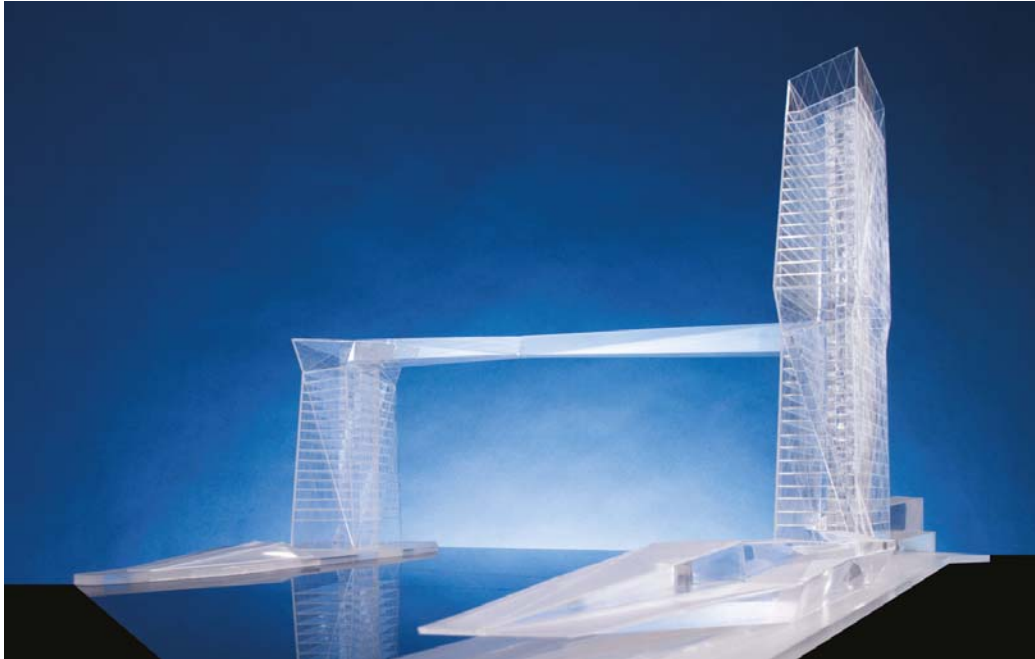
The idea for Marmormolen is not greeted with much enthusiasm. The fluid, horizontal long and curving strips are broken up in smaller individual units. Because of noise constraints this is not impossible. The park on the tip of the pier is a possibility, but it does not convince in character as an attractive public space. It is to open and generic, although it enables the UN building to be situated along this pier.

In spite of various problematic issues concerning the construction of the bridges and the lack of written documentation, this very sketchy project does convince as an original answer to the competition. The project involves a sense of place which is essential for a project on this prominent site. The sketchiness opens for modifications without compromising the overall idea.

#### 4.2 **Entry no. 36912, The L+M Project**

*The entry is prepared by **heneghan.peng.architects** (copyright).*

*Competition Project Team: heneghan.peng.architects, Architect/Team Leader, Arup Consulting Engineers, Structural Design/M&E Design/Building Services/Civil Engineering/Environmental/Fire Safety Design, Davis Langdon, Project Management/Cost Consultant/Quantity Surveyor, Bartenbach LichtLabor GmbH, Lighting.*



The idea of the project is one building, which is also a bridge. The building is a prismatic overall figure that occurs when the regularity of the buildings is dislocated by the impacts from the place, the site and the bridge. The interior movement in the buildings with ascension, passage and descent are expressed in the geometries of the buildings and are intensified in the way the bridge 'pulls' at the towers and cause faceting and a special stamp to the public areas.

However, there is a single repetition of the lower part of the building shape on each pier and the shape is further repeated in the building on Marmormolen, which thus obtains the highest tower.

This modelling of the exterior of the building is reflected in the interior, where the public areas are integrated in both towers, in particular on the ground floor where triple high spaciousness marks the meeting with the landscape shaping of the figures of the masterplan.

The project utilises the sequence of the masterplan by allowing the public flow in the plan continue in fine spacious sequences on either side. From the plateaus of Lange-  
liniemolen up through the diagonal connections in the high-rise buildings, across the

bridge and down again, continuing in the movements of Marmormolen that are adapted to the design of the masterplan. The bridge spaces are incorporated and integrated in the two towers as double high space zones as the triangular geometries of the bridge cut into the towers and are placed on this 'shelf'.

The bridge is composed of two lattice spans that push out from each tower and are connected over a small bridge span as a 'motion buffer' absorbing changes in direction and any vibrations. The bridge itself is by virtue of the structure divided into two space zones with varying spacious qualities – the bridge is, however, not divided between cyclists and pedestrians.

The rectangular geometry of the towers provides an advantageous layout for office purposes and the oblong form ensures good daylight, strengthened by the location of the general cores on the north side of either building. The feature of the plan layout is well documented and well detailed and will form the basis of a very efficient office building. The importance of the diagonal perforation of the public elevator of the floor plans does not, however, seem documented.

The stressed importance of the public spaces is expressed by the high tower of Marmormolen completed with a triple height garden area.

The facades are built with an equal amount of transparent and opaque panels. The panels are inserted into a large triangular facade system related to the overall geometric composition. The sculptural nature of the building composition is obtained through processing of the gables, which are cut into the faceting when desired. The long side of the composition rises without hindrance, however, and the jury is concerned about the resulting uniformity of the glass facades. The transparency and the – in the model – visible dynamics, between the particular design of the public spaces and the diagonal track of the elevator routing will, though, be difficult to accomplish by 50 % enclosed facade sections.

The entry indicates facades with 50 % glass including reasonable and effective screening. The project is based on extensive use of water cooling and thermo active decks, and the overall evaluation is that it fulfils 2010 directions with minor adjustments.

The gross/net ratio is estimated to be in the lower end among the six entries submitted. The project is estimated to be within the budgetary framework.

The suggested layout of the piers is convincingly related to the masterplan. Lange-linie includes plateaus pursuing the present idea of separated sequences in varying heights, and at the same finely shaped open spaces are provided for the public.

This is also the case on Marmormolen, where the winding movements provide space for the present port building, which carries on through the building and from here into the building structure of the masterplan. The landscape is convincingly per-

formed in fine affinity with the intentions of the plan. The project has also adapted liberal and public functions in the bastions.

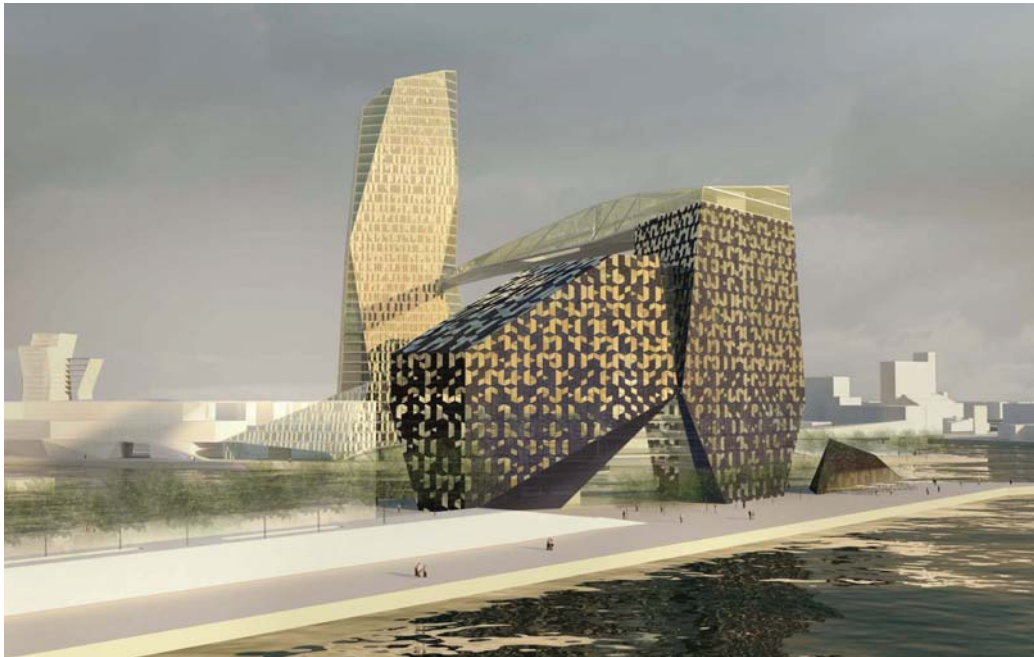
The jury finds that the project utilises in a convincing way the special potential provided by both the bridge and the building height for public spaces as well as office storeys. The project is ideally well documented as a whole as well as in detail, and consequently it has won much sympathy. The structural conditions of the project are generally well clarified, the sustainability aspect is convincingly prepared and the financial basis is assessed to be realistic.

However, one important complaint is that the architectural idiom and aesthetic expression have to a large degree become too postulating and that the exterior does not reflect the interior dynamics and spacious complexity. The inner life is not convincingly expressed in the two very uniform and somewhat conforming glass buildings, which do not seem to add any real iconic value to the waterfront of Copenhagen.

#### 4.3 **Entry no. 13201, The Mermaid Tower and the Rock**

*The entry is prepared by the architects **C.F. Møller A/S**.*

*Competition project team: Anna Maria Indrio, partner, Mans Mandrup, partner, Rasmus Brønnum, architect, Charlotte Hyl Dahl, architect, Tine Thomasen, architect, Peter Krogh-Hansen, architect, Peter Kornerup, architect, Frans Borgman, landscape architect, Sara Nilsson, architect, Nikolaj Jakobsen, architect. Model engineers: Jeppe Langer Jensen, Ragnhild Jordtveit Kristiansen, Ida Bergstrøm, Emma Elfrik. foa – foreign office architects. Sustainability: Sergio Fox, engineer, Architecture without Engineers. Andrew Murray, engineer, AKT.*



Two buildings with very individual differences are situated on either side of the entrance. One rock on Langelinie and one glass tower on Marmormølen.

Both buildings are designed with hexagonal facade geometry creating a prismatic architecture, with significant and powerful sculptural design.

The buildings are connected 65 metres above ground with a bridge of glass and steel. The bridge is anchored in the rock and cantilevered from here as a crane arm over to the glass tower, which quite sophisticated is only just touched. The bridge is designed to transfer horizontal forces and thus contributes to stabilise the tower. This is a daring and spectacular feature with fine qualities.

'The Rock' on Langelinie is designed as two monolithic rocks standing and resting on each other – the kiosk at the end of the pier is a stone flake cut out of one of the rocks.

The atrium space created between the rocks is the arrival point to the building, an interesting spacious room opening up as a gesture to the city. Contrary to the arrival area, the two rocks frame the view to the neighbour of the building complex on the opposite side of the entrance – The Mermaid Tower.

The bottom levels are programmed with out-turned public facilities. The plans are organised around load-bearing cores for vertical transport. In general, there is an open design of the offices – variable options are indicated that can be adapted to individual requirements.

The building is dedicated to the old part of the harbour, the warehouses and the city and therefore covered with fillings of tiles. The strong sculptural design is a convincing and daring peak of Langelinie, and the relation between the open cuts and the more enclosed facade is well balanced.

Elevators to the bridge are placed in direct continuation of the present elevated promenade level along Langelinie, a natural and simple solution.

'The Mermaid Tower' rises at a height of 148 metres on Marmormolen as a slim crystalline sculpture and shall represent the new futuristic planned neighbourhood.

In principle, the plan of the building is designed as in 'The Rock' with load-bearing cores in an open floating layout. Along ground level the front is cut loose and recessed in a variable pattern ensuring covered arrival and outdoor areas. The main entrance is placed on the north-western side along a recessed wall thus providing shelter and cover around the arrival area.

The foyer in The Mermaid Tower is less pretentiously laid out than in The Rock. A reasonable layout, but the layout of the cores seems somewhat mixed-up and incoherent, an expression that is unfortunately transmitted up through the building.

The access to public elevators is moved to a gatehouse under the building. At bridge level, areas with public access are laid out, and particularly the glass building on top of The Rock could be a fabulously attractive contribution to the city. Cycles and pedestrians are separated in two flows at two levels inside the spectacular elegantly designed bridge structure.

To reduce the energy consumption of the buildings, the entry indicates multifunctional/advanced facade systems with effective solar screening and minimal active air conditioning plants, thermo active decks (but raised floors). The entrant argues that the building can meet the requirements for passive buildings, which is estimated to be very optimistic. If correct, the building will easily fulfil 2010 requirements.

The gross/net ratio is estimated to be in the upper end among the entries submitted. The project is estimated to be on the verge of what can be realised within the budgetary framework.

The relationship to the masterplan is documented in drawings and diagram. On Marmolen the design respects the winding varying sequence of buildings along the pier. A few stairs are suggested, and the entrant points out the possibilities in the proposed stairs on Nokken. Despite the fine intentions this seems somewhat postulated, the proposal seems too modest and not sufficiently consistent. However, it should be noted that the small staircase in front of the pilot building is a fine gesture.

It is natural to keep the waterside clear of traffic along the entrance, and therefore the entrants point out the possible handling of traffic along the north-west side of the pier. Unfortunately, for safety reasons this is not possible along the planned UN building.

On Langelinie, the slightly elevated level with stairs and ramps around the building is an appropriate scenic feature. The circulation of the various traffic flows is well-considered and appears to be simple and natural.

The jury has noticed the daring and sculptural impact of the entry. Especially the sculptural qualities of The Mermaid Tower must be emphasised. However, the jury evaluates the chosen facade solutions to be too uniform.

Despite the well-defined difference in design and volume, the necessary diversity between the glass tower and the rock is missing. For that purpose the principle of construction and choice of materials are too uniform. The choice of facade on The Rock is unfortunate, and the desired density is missing, but the spacious qualities in the central foyer are evident and must be emphasised as perhaps one of the best among the proposals received.

The location of the means of access to elevators and the bridge are good and well-founded. However, the design of the bridge abutment on The Rock appears to be problematic, and is unfortunately a continuance of the geometry of the rock. The jury evaluates that this contributes to pull the force out of the rock.

The jury wishes to emphasise the entry for its daring idiom and architecture with many qualities in the individual parts. However, as an overall composition the jury finds that there are too many compromises in transitions from buildings to bridge, and the chosen facade geometry seems too static.

#### 4.4 **Entry no. 32107, CPH Arch**

*The entry is prepared by 3XN A/S (copyright).*

*Competition project team: Owner Kim Herforth Nielsen, architect MAA, owner Jan Ammundsen architect MAA, Stig Vesterager Gothelf architect MAA, Rasmus Hjortshøj architect MAA, and Sine Høyrup Lauridsen, trainee. Diagrams, text and layout: Eva Hviid-Nielsen architect MAA, Majbritt Lerche Madsen architect MAA, Christian Bundegaard, head of communications, Bodil Nordstrøm, grafisk designer. Model: Berglind Halla Elfudottir, Johan Straarup, Matthieu Lemay. Research and Development: Kasper Guldager Jørgensen, Lars Lundbye, Lasse Lind, trainee, Jesper Thøger Christensen, trainee.*



Entry no. 32107 chooses to cover the two sides with a high tower and a tilted (vertical) tower. On Langelinie, a vertical building is placed, to give a natural perspective to the extension of the present buildings along the pier. Moreover, the entrants describe the horizontal/tilted part as a natural extension of the building complex as laid out in the masterplan on Marmormøllen.

The entire building composition is collected and designed as a coherent sculptural plastic form, leaving the transitions between bridge, building and tower without any significant constructional deviations.

The entrants point out that together the buildings and the bridge form a town gate between the piers ends, which according to the entrants contribute to create the connection requested between the two areas. The building has full public access at ground level on either side, and the areas are functionally laid out with various offers, restaurants, exhibition facilities, cafe etc.

From here there is access to all vertical connections including elevators to bridge level. On Marmormolen the diagonally placed public elevator to the bridge deviates from the other elevators, and has a special articulated position inside in the reception area. The interior elevator tower is in a spectacular way kept free of other building components in a room with a height of many storeys, with gangways on all storeys.

On Langelinie, access from the elevator to the bridge and skybar takes places through the reception area.

Elevators with public access are placed in load-bearing cores together with other elevators. Along the north-westerly side of the tower, the planned restaurant includes an outdoor eating area below the arch / bridge. Considering the weather conditions in general and on this exposed site in particular, the actual use of the area is likely to be very limited.

The jury finds that there is a lack of reflections between the exterior design and the interior space layout. The plans seem static and many work places are facing the open spaces and have no direct daylight. Moreover, the entry includes a statement of the utilisation of the areas of about 8 – 10 storeys facing the bridge span for office work places, a utilisation as to which the jury is extremely doubtful.

The facade system comprises of glass with varying panels placed in different positions, with the option of manual protection against disturbing solar radiation.

Sustainable solutions in relation to the energy consumption are addressed for facades with 45 % glass and a relatively effective solar screening, thermo active decks (but with raised floors) and natural ventilation. The latter, however, is not possible above a height of 100 metres due to the smoke plume from Svanemølleværket. The expected energy consumption is not documented, but it is evaluated that the building will meet both 2008 and 2010 requirements.

The gross/net ratio is evaluated to be in the upper end among the entries submitted.

The entry does not particularly mention the relationship to the masterplan/ideas competition. The jury interprets this to mean that the entrants have chosen not to answer this part of the task, and according to the brief the entrants are allowed to do so.

Unfortunately, despite the efforts to create these floating urban and structural relationships and connect Marmormolen with Langelinie quay, the expression of the project remains problematic.

The entry seems strange and without any real scale connection to the surroundings. This expression is intensified by the chosen solution of facade. Not only is it highly doubtful whether an identical cover of all surfaces (incl. roof and lower side of bridge) will be possible, but the rectangular division does not contribute to the underlying and strong plastic idiom.

This is of course a calculated choice, however, other things being equal it leaves some difficult transitions along the edges of the building, where vertical and horizontal surfaces meet, and in the jury's opinion this is where the building complex loses part of its sculptural force.

The layout of the building seems static, and is locked by the geometry form chosen, and in the jury's opinion the entry did not succeed in creating the requested interaction between city and building. The means of access to the building and fronts seem closed and without intermediate transitions from the outside to the inside.

The jury finds that the entry is on the verge of being feasible within the budgetary framework assigned.

#### 4.5 **Entry no. 56857, Estacade**

*The entry is prepared by **Arkitema Architects**.*

*Competition project team: Poul Schülein, Jakob Meyling, Emil Carstens, Michael Bech, Thomas Larsen, Julie Linke Bank, Stig Amnitzbøll Jørgensen, Judith Furu.*

*Structural Engineers: Cecil Balmond, Nicolas Sterling, Toby Clark, all from AGU, Artist: Günther Förg. Technical Consultants: Alectia.*



The entrant's design argues between the contrast of Marmormølen and Langeliniemølen – it is soft edge versus hard edge. Marmormølen is connected more to the city, whereas Langelinie is 'the goal'.

Consequently, Langeliniemølen is laid out as the place for the highest building, or buildings, because the project suggests 3 buildings on Langelinie and 2 on Marmormølen. So, this project comprises more of 'high buildings' referring to the geometric composition in navigation marks and mooring buoys (stockades). Thus the traditional scale of the high-rise building is broken down into several slim towers leaning on or apart from each other. The argument for this scale breakdown is the possibility to allow good daylight deep into the building bodies and at the same time adapt the new towers to the low skyline of Copenhagen with existing towers momentarily breaking the city skyline.

The project is special in that it leaves the bridge together with elevator towers on either side stand as a separate element for the public. There is no connection to the bridge upwards. The public enters directly from the pier into the elevator to the bridge, which as a separate element like a boom in the harbour basin lies between the towers.

As an iconic landmark this collection of towers is rather unique and viewed in connection with the pedestrian bridge it creates an original composition with a fine contextual sensitivity to the site and the characteristic of Copenhagen.

The towers on the pier of Langelinie are gathered around an elevated public deck connecting them and at the same time forming a scenic start on the tour across the bridge. The deck creates a finely shaped public space between the towers – very well illustrated – however, the orientation north-west is not optimal, because the area is exposed to westerly winds and there is limited incident solar radiation on the deck.

On either side the towers are bound at some levels, and this gives a larger usable office section than allowed by each tower plan of about 400 m<sup>2</sup>. The towers on the pier of Langelinie are a total of 35,000 m<sup>2</sup> and here the towers are coupled on several storeys supplemented with minor bridges between the towers. The towers of Marmormolen are a total of 25,000 m<sup>2</sup>, and also here bridges connect several floor plans. The actual net area for office purposes is, however, limited by the considerable stabilising cores, which naturally must occur in each tower. Another resulting complication is a contrast between the vertical profile of the cores and the inclined frontage level line causing poorly usable areas on a number of storeys. Moreover, there seems to be some conflict between the rise of the core and the slope in the highest tower of Langelinie.

The bridge is quite interesting. The separate bridge with cornered rectangular flakes as mirrors gives a feeling of the whole skyline when moving across the bridge. The reflected views may seem somewhat postulating, but are illustrated in a very fascinating way.

The materials chosen are significant and important to the general positive aesthetical expression. The tower has dark tiling hanging in a strong relief decreasing with the building height to intensify the reflecting effect of the water surface. The jury is in sympathy with this design, where more tactile qualities are put into the layout of the towers – both in the exterior and interior detailing, where the tile is repeated in the interior fronts of the cores.

The horizontal window bands create traditional office facades, but in this connection – as tower and tiled – it is a quite fine composition and an elegant dimensioning of sizes and composition of materials.

No solar screening is documented, and no energy calculations are shown or indicated, but it is evaluated that the building can meet 2008 requirements. However, it may be difficult to meet 2010 requirements owing to the extensive facade sections prescribed by the overall architectural solution.

The landscape layout and its relationship to the masterplan is on Marmormolen limited to the layout of the inner edge of the basin toward FN with various plateaus and greens. The design is very interesting, because the thought of a park on the pier is reasonable, but the orientation of the north-westerly terracing may not be optimal.

On the pier of Langelinie the public deck is pulled out on the pier and integrated in the landscape thus pursuing the thought of the public plateau on Langelinie. However, to a high degree the chosen main layout with regular towers is not directly connected to or related to adjoining buildings ignores the main layout of the master-plan.

The great weakness in the entry is the lack of coherence between bridge and office towers. The separated bridge element and the separate towers do not in any way utilise the possible dynamics and potential in a dialogue between the elements of the project. Moreover, the layout of the office premises of the towers is rather ordinary, and no differentiation of the storeys except for the bottom storeys is seen.

The poor development of areas reflected in the gross/net ratio complicates the economy of the project together with the comprehensive front area caused by the towers. Aspects of sustainability are poorly illuminated and documented, however, it is evaluated, i.a. owing to the heavy facades, that the project can comply with the present energy requirements.

The icon value of the project is partly real, influenced by the surprising choice of materials, but without coherence with the actual attraction of the building complex, the bridge, the quality of the project is limited. However, the project should be stressed for the beautiful presentation, which underlines the contextual and aesthetical strength of the project in a convincing way.

#### 4.6 **Entry no. 72528, The Loop**

The entry is prepared by **BRT Architekten Bothe Richter Teherani** (copyright).

Competition project team: Heike Hillebrand, Kim Eva Fenck, Tina Jokschus, Christin Ansorge, Birte Russbild, Ruben Kienast, Carsten Liesenberg, Marek Lipsky, Juliane Zahnow, Phillip Buthe, Dorothea von Rothberg, Daniel Thie, Sebastian Gabriel. Structural Engineers: Ingenieurbüro Dr. Binneweis. Energie Design: Institut für Gebäude- und Solartechnik, Univ. Prof. Dr. Ing. M.N. Fisch, Dipl. Ing. Arch. Carsten Bremmer, Dipl. Ing. Arch. Thomas Wilken. Visualisations: Gärtner Christ GBR - Architektur Darstellung. Landscape Consulting: Breimann & Bruun Garten- und Landschaftsarchitekten MAA. Lift Planning: Hundt & Partner Ing. GmbH.



As an international icon with a spectacular appearance, this project spells out a loud welcome to Copenhagen - or was it Shanghai? A very courageous architectural approach envisions the connection over the harbour as a loop. Using the loop to cross the water will be a sensational experience.

The loop is a hybrid building. Bridge and towers are united in an arch, a single continuous movement that connects both quays. Transport between the two piers is offered via an elevator. The connection doesn't seem to be public – there is a ticket office on the ground floor. Besides the elevator the bridge can also be conquered by brave hearts - high up above the water via an open stairway between both sky lobbies. An upper observation deck offers splendid sea and city views.

The building has two different facades. Inside the loop it appears to be carved out. Here the building is very open. Vertical transport is made visible and the façade is floor to ceiling glazing, allowing a dialogue between tenants, visitors and ships to be celebrated. Outside the facade appears with shields and the North and the South are treated the same.

Introduction of sky lobbies make the building also accessible from the bridge. Each floor has two cores which increases unit size and lease possibilities. The strong collective appearance delivers a clear identity for the individual tenant.

All facades are almost 100 % glass, and the jury found it difficult to understand the exact functionality of these facades. The two 'exterior' facades provide the most effective solar screening, however, the sun will also reach the other facades including the 'interior' facades in the arch. The building is assumed to have mechanical ventilation. Wind turbines are integrated in the bridge. The entrant informs that the building meets the 2008 energy requirements, but the jury does not agree on this point. In the jury's opinion, the building will not fulfil the 2010 energy requirements without considerable changes to the architectural design.

The gross/net ratio is at an acceptable level, however, disfigured by movement of the vertical core from one side of the building at the bottom to the other side at the top. This results in a large unusable area on several floors.

Financially, the project is assessed to be far beyond the budgetary framework and not feasible without considerable conceptual changes.

Both piers give the impression to be cleared and seem to be designed (circles) with the only intention to position the icon. Ground floors have facility program for the tenants and are not specifically dedicated to activate the public space. On the inner water side the access to the elevator (the loop) adds very interesting focal and activity points along the inner quays.

Does this icon 'belong' to Copenhagen? The jury has difficulties to believe this. The building has too much a totalitarian connotation and also the given programme – a commercial office building – does not seem to legitimate this splendid position.

## 5. Competition facts

### 5.1 Invitation of entries for the competition

On 28 May 2008, CHP City and Port Development in association with ATP Ejendomme A/S invited entries for a design competition in accordance with Council Directive 2004/18/EC for the design of a new building complex etc. on the Copenhagen waterfront.

### 5.2 Entrants

Three architectural companies were invited to submit entries for the design competition, and further three entrants were according to the prequalification criteria selected to submit entries for the solution of the project.

The six entrants were:

- Arkitema
- BRT
- C.F. Møller – Foreign Office
- Heneghan Peng Architects
- Steven Holl
- 3XN

### 5.3 Competition period

The competition was published on 28 May 2008, and at the expiration of the deadline 3 October 2008 all six entrants had submitted compliant entries.

### 5.4 Jury

The jury comprised of:

- Jens Kramer Mikkelsen, CEO, CPH City & Port (chairman)
- Michael Nielsen, ATP Ejendomme, CEO (in substitution for Lars Rohde, CEO, ATP)
- Dan Petersen, CEO, Nordkranen
- Henrik Plougmann Olsen, director, City of Copenhagen
- Anne Skovbro, head of planning, City of Copenhagen
- Jan Christiansen, city architect, City of Copenhagen
- Jimmy Richter Nielsen, architect appointed by the Architects' Association of Denmark
- Lars Juel Thiis, architect appointed by the Architects' Association of Denmark
- Ruurd Gietema, architect appointed by the Architects' Association of Denmark

### 5.5 Advisors to the jury

The following persons were advisors to the jury:

- Karl Gustav Jensen, development director, CPH City & Port

- Kirsten Ledgaard, head of planning, CPH City & Port
- Christian Hartmann, head of department, ATP-ejendomme
- MAA Ib Laursen, architect MAA, PLH Architects
- Lise Palm, area manager, City of Copenhagen
- Centerchef Niels Tørslev, City of Copenhagen
- Claus Bjørn Billehøj, senior consultant, City of Copenhagen
- Rebekka Auken Nymark, head of department, City of Copenhagen
- Kim Vindbjerg, City of Copenhagen
- Marc J. Jørgensen, senior consultant, City of Copenhagen
- Brian Hansen, head of section, City of Copenhagen

For the jury's assessment, Rambøll Danmark A/S has evaluated the sustainable and energy-wise solutions and the structural principles of the entries, PLH Architects has evaluated the gross/net areas of the entries, and finally PLH Architects and Rambøll Danmark A/S has estimated the economy of the entries.

#### 5.6 **Competition secretary**

The competition secretary was Helen Kristensen, Rambøll Danmark A/S.

#### 5.7 **Assessment criteria**

The entries were assessed on the basis of their aesthetic and functional qualities and the responses to the requirements set out in the competition brief. Emphasis will be placed on the net to gross ratio and the use of sustainable or carbon-neutral solutions.

An important assessment criterion was that the proposed scheme could be realised within the budgetary framework applying to the project.

#### 5.8 **Assessment period**

The assessment of the entries took place from 9 to 28 October 2008.

#### 5.9 **Publication**

The winning entry was published on 31 October 2008.

København den 28. oktober 2008



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Jens Kramer Mikkelsen



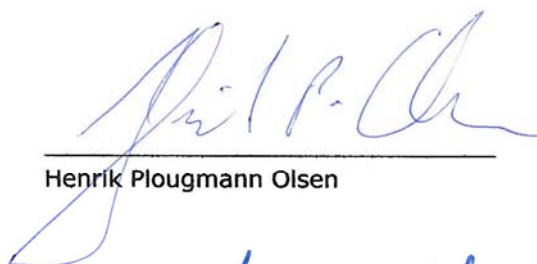
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Michael Nielsen



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Dan Pedersen



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Henrik Plougmann Olsen



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Anne Skovbro



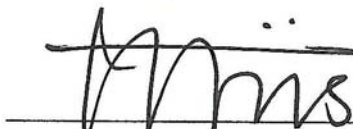
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Jan Christiansen



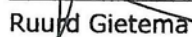
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Jimmy Richter Nielsen



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Lars Juel Thiis



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Ruud Gietema