Date 20 May 2022

**Design contest** 

# NEW STADIUM IN AARHUS JURY REPORT







# JURY REPORT NEW STADIUM IN AARHUS

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Description Jury report

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# 1. INTRODUCTION

This jury report is the decision made in a visionary design contest for a new and ground-breaking football stadium in Aarhus, Denmark, on which six extremely professional and interdisciplinary teams of both Danish and international consultancy firms have performed professional and dedicated work to prepare the best design proposal for the new stadium in Aarhus. On behalf of the jury, the Secretariat of Kongelunden would like to thank all six contesting teams for their great efforts and impressive design proposals.

There is no doubt that the tenderers have put great creative efforts into the work on designing a New Stadium in Aarhus, of which the material shows clear signs. The jury had to take a position on convincing, thoroughly prepared and also very different proposals. All six proposals are consequently outstanding proposals for a solution, and at a very high professional level they have generously contributed to illustrating the design project. The large width of the proposals received has resulted in many exciting discussions in the course of the process.

Based on the three evaluation criteria: "Architecture and functionality", "Technology and the environment" and "Consulting fee", the jury's task was to find the winner/winners of the design contest. It has been a difficult task to have to reject some proposals among the six proposals. The decision has now been made. We are proud to present the jury report and, with it, the three winners who will proceed to the next phase. We are clearly talking about three proposals of very high quality.

It is gratifying that the winning proposals also represent three very different architectural approaches to the task. A fact which also holds interesting aspects in the further processing. The jury would like to use this opportunity to thank all six prequalified teams for their efforts.

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#### 1.1 Procurement procedure

On 29 October 2021, the Municipality of Aarhus publicly announced a design contest pursuant to the Danish Public Procurement Act (udbudsloven) for the construction of a new stadium in Aarhus.

The design contest was announced by way of tender notice no. 2021/S 211-555956.

Based on the selection criteria stated in the tender notice, six applicants were selected to submit design proposals.

The design contest is referred to as the first stage of a two-stage contest. The winners of the design contest will subsequently be invited to participate in a negotiated procedure without prior publication pursuant to s. 82 of the Public Procurement Act.



Figure 1: Procurement compliance project process of New Stadium in Aarhus

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#### 1.2 Contestants

The six teams participating in the design contest were:

No	Submission code	Consulting Team
PROPOSAL 1	ID: #08096803	Cobe AFL Architects Buro Happold (DK)
PROPOSAL 2	ID: #16358500	3XN HKS Architects Schønherr MOE Arup
PROPOSAL 3	ID: #69893385	<b>Zaha Hadid Limited</b> Tredje Natur ApS Sweco Danmark A/S
PROPOSAL 4	ID: #73254597	SCAU (societe de conception d'architecture et d'urbanisme) and Arkitema in consortium LYTT Architecture Buro Happold (UK) Cowi
PROPOSAL 5	ID: #75718830	Dissing+Weitling Kengo Kuma & Associates MASU Planning ApS Moonn Arup Walt Galmarini AG
PROPOSAL 6	ID: #41149550	<b>Dorte Mandrup</b> Kristine Jensen, Landskab & Arkitektur Schlaich Bergermann Partner Søren Jensen Rådgivende Ingeniørfirma

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# 2. CONCLUDING EVALUATION

All six proposals have solved the design project with great conviction and have presented worldclass stadiums. Selected topics have been emphasised below and, in the last paragraph of the report, the individual evaluation of each proposal is described.

#### 2.1 Architecture and functionality

The proposals have been thoroughly prepared and adapt to the historical context in various ways. All projects have a landscape project perfectly dealt with which has been adapted to fit the location with well-functioning fan zones and non-match day activation. Consequently, all proposals work with a 360 degree openness and availability around the stadium.

All six proposals have been thoroughly prepared in respect of functionality. The functional solutions vary in particular in respect of whether variety has been created between VIP levels, access conditions, logistics solutions and the degree of panoramic view from the main stand. In concourse, it varies whether the proposals obtain an optimum flow with a column-free design, whether concourse opens up towards its surroundings and whether the functions in the inner part of concourse have been appropriately organised. As for the stadium bowl, the proposals vary in respect of creating an intimate football experience and particularly the level of detail in the stadium-technical solutions varies from one proposal to another.

All six projects take up an area larger than the area requirement directed in the competition brief, which must be thoroughly processed in the further process for the winning proposals.

Not all design proposals seem equally processed for the purpose of robustness, integrated design and sustainability. Some proposals appear to be architecturally strong in the main concept, but also inflexible in respect of any required further processing. The winning proposals are all characterised by a strong architectural main concept with a convincing robustness when considering further processing in the next phase.

#### 2.2 Technology and the environment

The six proposals differ quite a lot in respect of how the core design has been based on technical coordination of buildability and financial optimisation as the most important design parameters. The projects differ particularly in the selection of supporting main structure, the complexity and buildability of the façades as well as the degree of repetition and homogeneity of the design.

The winning proposals are consequently all based on a relatively simple main construction for supporting stands, roof and façades which is rationally buildable with a high degree of repetition. Proposals 2 and 4 have, however, suggested extremely complex façade and roof constructions which, as compared with the other proposals, are considerably less buildable and financially optimised. Proposal 5 is also based on the prerequisite of an extremely complex and large supporting main structure in a hybrid combination of wood and steel which also appears as a considerably visible part of the architectural concept.

From an overall perspective, it is assessed that, considering their simple constructive main concepts, the winning proposals are so robust that they may be further processed and be scalable in their present form with a view to adapting them to fit within the financial framework.

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Consequently, the assessment is also that the three other proposals may not be adapted to fit within the financial framework without a completely fundamental change of the presupposed supporting constructions as well as the roof and façade constructions which will also change the architectural starting point significantly.

As for sustainability, all proposals demonstrate good initiatives and intentions which will be a good basis for further processing. However, the working methods and the degree of implementation vary between the proposals.

Proposals 2 and 4 are assessed to be subject to a considerable risk of high costs for upkeep and maintenance due to the complex roof and façade structures, whereas proposal 3, due to its present refined and - considering the use - inconvenient choice of fittings, will also mean high maintenance costs.

#### 2.3 Consulting fee

All proposals have offered a fee quote within the expected margin for the performance of the work.

#### 2.4 Conclusion

The winners of the design contest "New Stadium in Aarhus" are:

No.	Submission code	Consulting Team
PROPOSAL 1	ID: #08096803	Cobe AFL Architects Buro Happold (DK)
PROPOSAL 3	ID: #69893385	Zaha Hadid Limited Tredje Natur ApS Sweco Danmark A/S
PROPOSAL 6	ID: #41149550	<b>Dorte Mandrup</b> Kristine Jensen, Landskab & Arkitektur Schlaich Bergermann Partner Søren Jensen Rådgivende Ingeniørfirma

Proposal no. 2, ID: #16358500 from team 3XN has been positioned as no. 2, whereas proposal no. 4, ID: #73254597 from team SCAU/Arkitema ended in a shared third place together with proposal no. 5, ID: #75718830 from Dissing+Weitling.

Proposal 1 has managed to present a beautiful and functional stadium which, by way of a sympathetic architectural simplicity, adapts to the location and shows relevant understanding of the identity of the location. In addition, the project demonstrates great understanding of working integrated with all technical disciplines, respecting the financial framework given.

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Proposal 3 distinguishes itself by way of a uniquely strong main concept – beautiful and poetic section, reaching out to its surroundings and resulting in a spectacular experience around the building. The concept and construction of the proposal are found to be extremely robust.

Proposal 6 is a thoroughly prepared project in which a strong and sympathetic main concept with a clear composition by virtue of the trisection of the building outlines particularly robust and flexible architecture convincingly balancing the iconic status of the building with a sensitive adaptation to the location. The proposal is also based on rational constructions and efficient use of materials.

The three winners have been selected as equal winners who in various ways have distinguished themselves in a highly positive way in respect of obtaining an architectural iconic building with suitable and optimum functions within the cost limit available.

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# 3. DECISION OF THE JURY

The following proposals were selected as winners of the design contest regarding the New Stadium in Aarhus at Ceres Park on 29 April 2022:

PROPOSAL 1, ID: #08096803

PROPOSAL 3, ID: #69893385

PROPOSAL 6, ID: #41149550

Jacob Bundsgaard

Rabih Azad-Ahmad

Steen stawnsbo

Jens Bjerg Sørensen

Henrik Lind

Christian Budde

Martin Krogh

Anne Metter Boye

Anne Metter Boye

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Trine Berthold

# 4. EVALUATION FRAMEWORK

The evaluation is within the general framework set out in the contract documents forming the basis of the design proposals from the contest participants.

When the deadline for submitting design proposals has passed, the client first checks whether the design proposals are compliant. Provided that the design proposals satisfy the compliance criteria, the actual evaluation process commences.

#### 4.1 Criteria for the evaluation of projects

The winner of the design contest will be selected on the basis of one overall assessment of the following criteria (not in order of priority):

#### 1. Architecture and functionality

Importance will be attached to:

- "New Stadium in Aarhus" appearing as a ground-breaking and beautiful building with international stature and quality.
- The holistic solution of the design proposal in relation to the surroundings to a high degree taking into account the cultural historical environment.
- "New Stadium in Aarhus" having insight into and an understanding of creating optimum fan and football experiences.
- The project being characterised by integrated design with realisable and value-creating sustainability solutions.

#### 2. Technology and the environment

- Weight will be given to the proposal's quality and concepts in the areas of sustainability and technical solutions as well as the capability of execution taking into account the framework of the construction economics, and that the proposal is robust enough for scaling in relation to and in terms of future adjustments to the financial framework.
- Weight will furthermore be given to optimising of the operating costs of the proposal in terms of selection of materials and technical solutions.

#### 3. Consulting fee

 Weight will be given to the fee percentage offered, which is to be as low as possible within a realistic framework in respect of the performance specification.

In this report, each design proposal will receive a linguistic evaluation, considering the aforesaid criteria objectively and technically. Thus, the evaluation does <u>not</u> consist of allocation of points or a mathematical model.

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#### 4.2 Evaluation participants

The submitted design proposals have been evaluated by a jury consisting of the following members:

#### The Jury:

Jacob Bundsgaard, Mayor, the Municipality of Aarhus (chairman)

Rabih Azad-Ahmad, Council member, Culture and Public Services

Steen Stavnsbo, Council member, Technology and Environment

Jens Bjerg Sørensen, chairman of the board of directors of Salling Fondene

Henrik Lind, CEO of Lind Invest

Christian Budde, member of political following group

Mette Bjerre, member of political following group

Bjarne Hammer, Architect and member of the Danish Association of Architects, specialist juror appointed by the Danish Association of Architects

Martin Krogh, Architect and member of the Danish Association of Architects, specialist juror appointed by the Secretariat of Kongelunden

Anne Mette Boye, Municipal architect, Municipality of Aarhus

Trine Berthold, Project Manager of New Stadium in Aarhus, the Secretariat of Kongelunden

#### Consultants to the jury:

Søren Bitsch Christensen, keeper of the archives of the city of Aarhus

Charlotte Storm Gregersen, Director of Culture and Public Services

Heidi F. Holch, Administrative Director of Culture and Public Services

Henrik Seiding, Director of Technology and Environment

Luise Pape Rydahl, Administrative Director of Technology and Environment

Alvaro Arriagada, Project Manager, the Secretariat of Kongelunden

Lars Fournais, chairman of the board of directors of AGF

Jacob Nielsen, CEO of AGF

Lars Peder Pedersen, Rambøll, strategic employer's consultant for the Secretariat of Kongelunden

#### Additional consultancy services:

Other consultants have continuously been attached to the project from employer's consultant, the Secretariat of Kongelunden, other administrations, clubs and external experts. This has contributed to clarifying specific themes within, among other things, cultural environment, engineering, construction economics and international stadium expertise.

#### 4.3 Dialogue between the members of the jury and the contest participants

All dialogues conducted with the contest participants concerning the design contest have until submission of the design proposals been conducted via Byggeweb.dk. Following submission of the design proposals, all dialogues with the contest participants have been conducted via Bech-Bruun, the legal adviser to the Municipality of Aarhus. Bech-Bruun has not participated in the meetings of the jury and has exclusively communicated with the advisers to the jury on an anonymous basis in respect of the contest participants. Consequently, no dialogues have been conducted between the contest participants and the members of the jury in connection with the design contest.

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#### 4.4 Evaluation procedure

The evaluation took place by way of jury discussions at three scheduled evaluation meetings:

 Evaluation meeting I – PRESENTATION Date: 8 April 2022, duration: 6 hours

Evaluation meeting II – DISCUSSION
 Date: 20 April 2022, duration: 3 hours

Evaluation meeting III – DECISION
 Date: 29 April 2022, duration: 5 hours

Prior to the evaluation meetings, the participants in the evaluation, including in particular expert jurors and jury consultants, had studied the design proposals received very closely and prepared presentations including expert scrutiny and evaluations of the proposals.

The proposals were presented to the jury from many different aspects in order for the jury to be able to make its decision on a reliable and holistic basis. For example, specialist architectural jurors, municipal architect, keeper of the archives of the city, stadium experts, construction economics experts, engineering and sustainability consultants have made presentations and provided material to the jury during the process.

At the end of the last of three meetings, a unanimous jury was able to select the winners of the design contest, sign the decision and subsequently open the name envelopes and thus cancel the anonymity of the contest participants with a view to identifying the parties making the proposals.

# 5. CONFORMITY

All six contest participants submitted a design proposal before expiry of the deadline for submission of such proposals.

As far as one of the contest participants is concerned, only a partial design proposal was submitted, however, and, consequently, doubts existed as to whether the design proposal could lawfully be taken into consideration. Accordingly, the design proposal was rejected, but subject to a declaration that the Municipality of Aarhus was prepared to let the design proposal be included in the evaluation on an equal footing with the other design proposals provided that the contest participant brought the rejection before the Complaints Board for Public Procurement with a view to clarifying the duty to reject the design proposal.

By order of 27 April 2022, the Complaints Board for Public Procurement decided that the Municipality of Aarhus was not obliged to reject the design proposal from the contest participant. Subsequently, the Municipality of Aarhus reversed its decision to reject the design proposal, and all six design proposals have therefore been included in the evaluation.

Since the relevant design proposal has been included in the jury's evaluation of the tenders on an equal footing with and concurrently with the evaluation of the other design proposals, the case before the Complaints Board has been conducted without the anonymity being compromised.

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# 6. EVALUATION OF DESIGN PROPOSAL 1, ID: #08096803

TEAM: Cobe, AFL Architects, Buro Happold (DK)

#### 6.1 Overall evaluation

All in all, the design proposal is extremely good and has been thoroughly prepared with its sympathetic architectural simplicity and with particularly great robustness as regards further processing.

The proposal demonstrates a convincing holistic and interdisciplinary finish as regards integrated design, sustainability and location.

The proposal is assessed to be based on the financial framework and manages, with great conviction, to base a beautiful design and good functionality on buildable, rational technical solutions. In addition, the fee quote is within the expected margin for the performance of the work.

#### 6.2 Architecture and functionality

The proposal has been thoroughly processed and shows good understanding as well as reading of the potential and nature of the location.

The travel around the stadium has been processed very well and is adapted to the location including a well-functioning fan zone and "non-match day activation", and it thus strengthens the spatial relations in the area. The landscape has generally been skilfully processed and indicates options for relevant variations and programming as a whole.

The proportions, colours, etc., of the stadium courts (*Stadionhallerne*) provide inspiration for a modern construction of façade and architecture, and artificial and natural lighting will make the façade come alive. The proposal has been very carefully processed and offers sympathetic architectural simplicity.

The proposal is deliberately separated from the stadium courts and shows the viability of a new interesting space between "the historic part" and "the new part". In the long term, however, a connection between the Heritage building (Søjlehallen) and the New Stadium will be possible.

The proposal has been made, providing a clever professional reading of the cultural history of the area. The proposal leaves, however, the jury with questions as to whether its architecture will have to stand out more since the iconic value of the proposal is experienced as being not sufficiently convincing.

The stadium bowl design provides a good setup and well-functioning technical solutions inside the stadium. The stand has the same steep incline from the first to the last step, which may particularly challenge the bottom rows in respect of comfort.

The concourse area has been organised very well with a ramp solution and column-free design which ensures a good flow and opens up to the surroundings. It is a naked and quiet space which may accommodate the use to be expected from fans. The organisation of lavatories and Food & Beverage should, however, be processed.

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The main stand is generally organised very well including arrival in the centre, good spatiality and outlook on surroundings at gold level and from the gold lounge. The building should, however, be further processed in respect of access conditions with small lobby areas as well as insufficient panoramic views from silver level.

The proposal has well-argued ambitions in respect of sustainability and reuse and impressively responds to the request that the project must be ready for development having a clear sustainability vision. Sustainability is assessed to have been well integrated in the proposal.

The area of the proposal is close to the directed area requirement laid down in the competition brief, however, with some excess.

The proposal shows a well-functioning approach to integrated design whereby the various technical disciplines support each other.

#### 6.3 Technology and the environment

The proposal is assessed to be clearly based on the financial framework and demonstrates a well-coordinated design whereby the technical disciplines support each other with buildability and financial optimisation in mind.

The design shows a convincing understanding of the project cost drivers and their importance to the financial framework of the overall construction works. The proposal argues, for example, very well in favour of its choice of rational materials.

The proposal distinguishes itself by having a area use almost corresponding to the area requirement stated, which is assessed to be an important prerequisite for being capable of execution within the construction limit. However, a need is still assessed to exist for area reduction in the further course of events – a savings proposal also suggested by the tenderer itself in the proposal documents.

The proposal provides for simple and rational constructions as well as repetition in the solution principle indicating much focus on buildability.

Prefabricated structural components and recycled material, constructionally simple projecting steel beams are primarily used to support roof and façade, and stands will be constructed by using concrete elements. The proposed façade construction is assessed to be a rational and inexpensive solution.

The roof surface is not designed with a transparent inner edge to ensure sunlit field grass. There is no detailed account of this issue in the proposal.

The simple supporting structure and the relatively simple façade construction are assessed to be perfectly scalable for future adjustments to fit within the financial framework.

The proposal works very convincingly and determinedly with sustainability and has, among other things, performed great groundwork for the future process in respect of analysing and mapping out existing conditions. Reuse is suggested of 51% of the existing primary construction elements and materials directly in the construction works. The high degree of reuse from the existing stadium will reduce the carbon footprint of the project, but is also assessed to extend the

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construction period, just as it is assessed doubtful that large construction economics savings may be obtained.

The proposal is assessed to use suitable materials to a high degree, requiring a low degree of maintenance and which have a long useful life. The outdoor pavements of stone dust and gravel are, however, assessed to require a high degree of upkeep and maintenance, and some risk is assessed to exist that birds will pose an inconvenience to the open and perforated façade plates.

#### 6.4 Consulting fee

The fee quote is assessed within the expected margin for the performance of the work. The fee quote is the third lowest in the contest.

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# 7. EVALUATION OF DESIGN PROPOSAL 2, ID: #16358500

TEAM: 3XN, HKS Architects, Schønherr, MOE, Arup

#### 7.1 Overall evaluation

All in all, the proposal is good and beautiful. The proposal is, however, evaluated as having a high complexity both in form, construction and façade. This lack of simplicity gives rise to concerns among the jurors, and it is assessed that, in the event of further processing, the proposal will not maintain the otherwise smart and sympathetic main concept and also observe the financial framework.

The proposal is assessed to obtain less coherence between design, cost drivers and buildability. The proposal is assessed not to be clearly based on the financial framework for construction costs, and there is no coherence between architectural and structural solutions.

The sustainability aspect is generally well processed, and it is clear that the proposal attaches great importance to promoting social sustainability in particular.

A high fee quote has been offered for performance of the project.

#### 7.2 Architecture and functionality

The proposal is expressive of a surprising and exciting reinterpretation of a stadium expression differing from the prevalent perception of a stadium. The new grounds are embraced by a light and organic form which, on the outside, is covered by large almost horizontal lamellae forming an accommodating, warm façade manifestation.

The composition of the building is made up of a division including one material for the façade and a roof surface which on the outside has been covered by another material. Seen from the historical axis from the church of Sct. Lukas, this manifestation does not seem convincing.

The proposal has been thoroughly processed in an architectural sense and shows good understanding of the potential and nature of the location. The landscape project particularly focuses on the potential of the forest surrounding the stadium, which seems sympathetic. The form of the building in its overall composition creates three open spaces with strategically located functions supporting eventful, accommodating and safe 360-degree movement around the New Stadium – also in an everyday situation. The Fan Plaza, however, is too closed towards the square of *John Stampes Plads*, and the junction to the racecourse of *Jysk Væddeløbsbane* is not convincing.

The proposal has a complex form, and no specific elaboration has been made of the structure of lamellae, the underlying structure and its spatial importance, and more information on the lamella façade is requested.

A particularly good solution has been proposed for a stadium bowl creating a strong and intimate stadium experience with a good setup and well-functioning technical solutions inside the stadium. A curved compact bowl and a large LED Media screen provide a 360-degree frame. This solution is a smart, but complex solution challenging the financial framework to a not insubstantial extent. The stand has a steep and varying incline at the top and bottom, which works very well.

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The concourse area has been organised very well with a ramp solution in corners and column-free design which ensures a good flow. The area opens up towards the ground floor surroundings, whereas the lamella façade results in an unwanted reduction of daylight and closes up against the ground floor surroundings. The concourse area is a naked and quiet space which may accommodate the use to be expected from fans. Great concerns, however, exist as to the material of the façade.

The main stand has generally been well organised including arrival in the centre, well-functioning bronze level, gold lounge and terrace overlooking the city. The building, however, needs a link to the Fan Plaza, and logistics within the building are challenged in respect of vertical connections, kitchenettes, insufficient panoramic views from silver level and too low ceiling height at gold level as compared to the other floors.

The proposal provides for good reflections as to sustainability, reuse and upkeep. The said reflections are assessed, however, not to be sufficiently convincingly integrated in the proposal.

The proposal is assessed as having increased the directed area requirement of the competition brief to a not insubstantial extent.

The proposal does not appear to be an integrated design, but instead excess weight is placed on the architectural and artistic elements.

#### 7.3 Technology and the environment

The proposal is assessed to obtain a low degree of coherence between design, cost drivers and buildability. The proposal is assessed not to be clearly based on the financial framework for construction costs, and there is no coherence between architectural and structural solutions. Several of the primary cost drivers, such as façade and roof, have been solved in a complex and expensive manner, including for example an extremely complex façade and extraordinarily large bearing distances in the roof construction. In addition, there is no account of material cost drivers in respect of the façade concerning, for example, quality of material, construction, junctions and underlying supporting system.

Buildability is assessed to be superficially dealt with only.

The roof construction is assessed to be unnecessarily complex and expensive since the structure is supported by four large steel lattice girders with very large bearing distances and consequently large steel quantities with large-scale degree of processing and extensive foundations. As for the size of the stadium, this is assessed not to be the most appropriate construction. In addition, the proposal is short of a detailed account of the roof support and the heavy façade, and, on the face of it, a need is assessed to exist for an additional, supporting steel construction which has not been provided for in the proposal.

The proposal deviates from the competition brief in that the high terrain towards the south has been kept, which reduces the expenses for removal of excavation residues, just as sheet piling towards the racecourse may consequently also be left out. On the face of it, this solution is assessed reasonable, but it must be weighed up against the functionality of concourse in respect of level-free flow. The proposal is, however, short of a description of the issue.

The proposal demonstrates a great suggestion on implementing features in order to make the stadium more sustainable. There is a holistic approach to sustainable design, covering

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environmental, economic, processual and social sustainability, with an extra focus on local biodiversity and social sustainability. There is an overall great effort within social sustainability by approaching design through the users' view. Similarly, the biodiversity effort is impressively based on the existing environment. No argumentation has, however, been provided for the exceptionally high consumption of material seen from a sustainability perspective of efficient use of the materials.

The proposed supporting main structure and complex façade are assessed not to be noticeably scalable for the purpose of adapting it to fit within the financial framework. On the face of it, the assessment is that both parts must be changed fundamentally in order for the project to approach the financial framework.

The lack of information on construction and quality of the façade material has a considerable negative effect on the evaluation since costs of upkeep and maintenance depend thereon in addition to the costs of construction. The suggested façade is also assessed to potentially result in considerable costs of upkeep in connection with cleaning, surface treatment (if any) and risk of limited life. Furthermore, it is unclear how rainwater will be drained from the curved concourse façade, which is assessed to have decisive influence on life of the façade. The structure of the façade made of horizontal lamellae is also assessed to be particularly inviting for birds and, therefore, exposure to inconvenient bird stopovers must be expected.

It remains unclear whether the roof structure may be properly executed considering upkeep and cleaning. Landscape surfaces are, however, evaluated as positive in connection with upkeep and maintenance.

#### 7.4 Consulting fee

The fee quote is assessed to be within the upper margin of the expected margin for the performance of the work.

The fee quote is the second highest in the contest.

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# 8. EVALUATION OF DESIGN PROPOSAL 3, ID: #69893385

TEAM: Zaha Hadid Limited, Tredje Natur ApS, Sweco Danmark A/S

#### 8.1 Overall evaluation

All in all, the proposal is particularly strong, simple and robust, and the poetic and iconic building section creates an impressive adaptation to the location. The strong manifestation of section creates an iconically impressive proposal focusing on the perception of the areas surrounding the stadium.

In its present form, it is assessed that the proposal is not based on the financial framework even though the proposal is rational in respect of technical solutions and buildability particularly if accommodation is rethought.

The assessment is that, when maintaining its qualities and simplification of, among other things, the level of accommodation, the proposal is robust to a degree that, through further processing, the concept may be maintained and moreover strengthened.

In addition, the fee quote is within the expected margin for the performance of the work.

#### 8.2 Architecture and functionality

The proposal shows a stadium which, particularly in the section of the building lines, has been well adapted to fit the location. The section invite the surroundings to enter into a dialogue and enable life in the 360-degree edge part of the stadium. Towards the stadium courts, intermission is created and good spatial relations. Upon arrival from *Stadion Alle*, you are met by simplicity and a beautiful gesture marking the New Stadium in Aarhus as a ground-breaking and beautiful building with international stature and quality.

The proposal provides for a coherent landscape area with a varied finish of plants and the open space which is a flexible and robust city square. The movement around the stadium has consequently been processed very well in terms of space and adapted to the location including a well-functioning fan zone and "non-match day activation".

The basic idea of the proposal is a stylish and clear concept creating a poetically strong and characteristic manifestation in combination with the surroundings and the cultural history of the area. The edge of the building is also enriched by this conceptual touch, which works well in connection with the Fan Plaza and the surroundings. In the proposal's accommodation, however, the execution of the said touch is not sufficiently embedded in the area. When further processing the proposal, it is therefore requested that the proposal be simplified with a view to making it less "sophisticated" in its manifestation. In that way, architecture is created which is seen to work to a higher extent when the building is used.

The stadium bowl design provides a good setup and well-functioning technical solutions inside the stadium. The stand has a steep and varying incline at the top and bottom, which works very well. The large projection including translucent roof provides generous daylight on the field. Sound perception and acoustic regulation have not been described in detail making it difficult to evaluate whether the proposal ensures an intimate stadium experience.

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The structure of the concourse area is well-functioning with a column-free design and concourse at the same level all the way round, ensuring a good flow. The area convincingly opens up towards the ground floor surroundings. The concourse proposal is too "neat". Simplification is thus requested whereby unnecessary surfaces and particularly "wrapping" is removed. Hence, the concourse experience should preferably be unrefined in order to adapt the expression to the football function.

The main stand is structured very well with arrival in the centre as well as lobby towards the Fan Plaza. The VIP levels vary particularly well, and the proposal offers an outlook over the field with panoramic views at both silver and gold levels as well as a gold lounge and terrace overlooking the city at level 4. However, it is considered a negative feature that the office facilities are divided into two separate parts. The interior fitting out is generally of a very high quality, and VIP floors are therefore requested simplified and less refined.

The proposal provides for good reflections as to sustainability. The said reflections are assessed, however, not to be sufficiently integrated in the proposal, and particularly the significant consumption of materials seems to be inconsistent with the sustainability idea.

The architect and the engineer have worked on an integrated design including many repetitions in both lines, façade and in respect of the constructive system. The high level of fittings is, however, not expressive of integrated design and is assessed not to match neither location nor function.

The proposal is assessed as having increased the area requirement defined in the competition brief to a not insubstantial extent.

#### 8.3 Technology and the environment

At its present accommodation level, the proposal is assessed not to obtain a satisfactory coherence between design, cost drivers and buildability. The proposal is assessed not to be sufficiently based on the financial framework for construction costs, and there is no coherence between the architectural ambitions and the structural solutions with buildability and optimisation in mind.

It must particularly be emphasised that the proposal's level of accommodation and performance detail complexity, including, for example, many curved shapes and covering layers both inside and outside, are assessed to be unrealistic within the financial framework of the project.

The proposal's supporting main structure is assessed to be very rational in respect of the use of projecting, grating steel beams, stand structures in prefabricated concrete and concrete columns for roof support as well as the many repetitions in the solution principle supporting upscale buildability in the proposal. However, the proposal is short of a detailed account of the latter.

The proposal is assessed to have an unnecessarily large building envelope considerably burdening construction economics. However, the large roof overhang contributes positively to protecting the vertical building envelope and affording shelter from wind and weather when staying close to the façade.

The proposal demonstrates a good proposal on implementing features in order to make the stadium more sustainable. Initiatives have been taken within environmental, social and economic sustainability. However, important areas, such as material use, energy use and social sustainability, are not concretized in respect of the project, but only treated on a generic level.

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The presentation of a structural concept using great amounts of concrete and metals does not match the ambition seen from a life cycle perspective.

The rational main construction and the many repetitions in the construction imply that the proposal is assessed as being scalable to adapt to the financial framework of the same main principle, but with a changed form of fittings.

The particularly high level of accommodation both in the building envelope and the interior surfaces is assessed to be inappropriate when considering the expected use and conduct by football fans. The level of accommodation is assessed not to be able to resist the high levels of wear and tear without resulting in considerable expenses for upkeep and maintenance. This issue must be considered when processing the proposal further.

In addition, the roof material selected is assessed to potentially result in considerable expenses for upkeep in respect of, for example, cleaning and life. The outdoor pavement of large in-situ concrete squares is assessed to demand a generally low level of upkeep and maintenance.

#### 8.4 Consulting fee

The fee quote is assessed within the expected margin for the performance of the work. The fee quote is the lowest in the contest.

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# 9. EVALUATION OF DESIGN PROPOSAL 4, ID: #73254597

TEAM: SCAU and Arkitema in consortium, LYTT Architecture, Buro Happold (UK), Cowi

#### 9.1 Overall evaluation

All in all, the proposal is good and has been thoroughly prepared. The proposal is, however, assessed to be a too sharp contrast in terms of architecture to the historical facility both in respect of the location, the landscape and the historical buildings.

The proposal is assessed not to obtain coherence between design, cost drivers and buildability. The proposal is assessed not to be clearly based on the financial framework for construction costs, just as the proposal is assessed not to have been sufficiently worked through in respect of coordination of technical disciplines which seem clearly separated in areas of responsibility, without buildability and optimisation in mind.

The proposal is assessed not to be sufficiently robust for tolerating further processing based on the said issues. In addition, a high fee quote is offered.

#### 9.2 Architecture and functionality

The expression of the proposal is that of a sculptural form whereby a draped "cloth" is folded around and across the stadium facility. The "cloth" from concourse and the stand seats provides for a semitransparent experience of daylight or creates, during the dark hours, an opportunity of scenographic lantern effect from the new stadium. The overall form is modelled with rounded corners supporting 360-degree movement around the facility. In the four corners, the draping is raised creating visual fixed points, which works particularly well against Fan Plaza.

The proposal's integration of Court 2 and Fan Plaza works well, and the Heritage building (*Søjlehallen*) has been transformed into an open and public space. The proposal keeps clear of the historical facility, and no physical connection has been established between the new project and the Heritage building. A symbolic connection between the two facilities is instead worked with. The transformation to outdoor space and the symbolic connection are assessed not to work.

Upon arrival from Stadion Allé and when moving around the New Stadium, the form speaks out, but this is in too much contrast to the historical facility which also applies in respect of the façade material selected. The proposal therefore stands out too dramatically using its "own language" both in respect of the location and the historical buildings of the location.

The proposal is an organically shaped landscape project with plateaus where ramps and integrated stairways provide for level changes. Moving around the stadium provides for a well-working fan zone and "non-match day activation" with good separation of fans away from home and home ground fans. The many level changes and the designed landscape, however, do not seem accommodated to fit the location.

The stadium bowl design provides a good setup and well-functioning technical solutions inside the stadium. The stand has a steep and varying incline at the top and bottom, which works very well. The translucent roof provides generous daylight conditions on the field. However, concerns exist as to sound perception since the acoustic regulation has not been described in detail making it difficult to evaluate whether the proposal ensures an intimate stadium experience.

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In concourse, ascent to the stand area takes place via long stairway connections using the "roof" of Food & Beverage as some kind of intermediate landing. This ensures a multidimensional "population" of concourse and seems inviting. The main structure stands out with sloping columns in the middle of the concourse area. Columns, difficult passages in corners and the integrated stairways do not work well in respect of obtaining the required and unimpeded free flow. In addition, Food & Beverage as well as lavatories have not been distributed appropriately in the concourse area.

The main stand has a very characteristic and well-functioning north-west corner approaching Fan Plaza. From there, the main stand may be accessed via spectacular multiple-storey spatiality. In that way, grand visual contact is obtained between several functions, such as Fan Plaza, lobby and Club shop, as well as good visual connection across multiple floors. The main stand is generally very well organised. In addition, the proposal offers an outlook over the field with panoramic views at both silver and gold levels as well as a gold lounge and terrace overlooking the city at level 4. The building is, however, challenged by the low floor height at the highest VIP levels, the office facilities are located on two floors, and there are generally many columns in the Main Stand.

The proposal provides for good reflections as to sustainability. The said reflections are assessed, however, not to be sufficiently integrated in the proposal.

Generally, the proposal is assessed to be good, but not convincingly worked out in respect of integrated design.

The proposal is assessed as having increased the area requirement defined in the competition brief to a not insubstantial extent.

#### 9.3 Technology and the environment

The proposal is assessed to obtain a low degree of coherence between design, cost drivers and buildability. The proposal is assessed not to be clearly based on the financial framework for construction costs.

The proposal is assessed not to have been sufficiently worked through in respect of coordination of technical disciplines which seem separated in areas of responsibility, without coordinated buildability and optimisation of essential cost drivers in mind. The material provides for many varying levels of details and focus areas where, for example, steel structures, reuse and performance have been described in much detail, whereas the roof as the most important cost driver in the proposal is dealt with superficially only.

The stand structure is assessed to be rational, but the construction for roof support and the very high façades are assessed to be excessively complex. The large roof surface is assessed to be very complex by virtue of the very varying geometric shape. The proposal is also short of an account of and argumentation for the sustainability of the roof material, its life and need for upkeep and maintenance, cleaning, etc.

The proposal has been thoroughly prepared including an analysis of terrain conditions and handling of soil, which is weighted as a positive feature. Models were used to define the landscape form for siting the stadium and the surrounding plaza. For example, the pitch remains at the same level as present. The proposal keeps the high terrain towards the south, which reduces the expenses for removal of excavation residues, just as sheet piling towards the racecourse may

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consequently also be left out. On the face of it, this solution is assessed reasonable, but it must be weighed up against the functionality of concourse in respect of level-free flow.

The proposal reuses parts of the existing steel construction, concrete elements and columns, which is fundamentally assessed a positive trend since the large extent of reuse from the existing stadium will reduce the carbon footprint of the project, but it is assessed to potentially also extend the construction period, just as large financial savings are assessed doubtful.

Plan for completion does not seem to have been worked out in respect of, among other things, the separation between construction site and the execution of football events, etc. The construction sequence is described as allowing the team never to leave the stadium. The structural steel solution for the south, east and west stands includes non-standard shapes for the structural members leading to an element of complexity during fabrication. The combination of compression and tension members will also add complexity to the construction sequence and enhances the assessment of the proposal's non-optimised buildability seen in comparison to the financial and timewise preconditions of the project.

The proposal demonstrates a great proposal on implementing features in order to make the stadium more sustainable. A bespoke sustainability framework is presented, serving international and local policies and drivers and executing these with strategies within environmental, social and economic sustainability.

The proposal is assessed to provide for a good indoor environment in concourse due to the closed building envelope.

The complex and large main construction in the roof seems less capable of being scaled without significant changes which will challenge the overall geometry and the architectural concept.

Generally, the proposal is assessed to be poorly capable of optimising the operating expenses through selection of appropriate materials, etc. The material selected for façades and roof is assessed to be very exposed due to the expected heavy use and wear and tear. The surfaces also seem to be difficult to keep up considering expected frequent cleaning in a challenging physical working environment due to heights and complex construction and geometrical characteristics. The outdoor pavement of asphalt is assessed, however, to be very appropriate when considering the expected use and operating expenses.

#### 9.4 Consulting fee

The fee quote is assessed to be within the upper margin of the expected margin for the performance of the work.

The fee quote is the highest in the contest.

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# 10. EVALUATION OF DESIGN PROPOSAL 5, ID: #75718830

TEAM: Dissing+Weitling, Kengo Kuma & Associates, MASU Planning, Moonn, Arup, Walt Galmarini

#### 10.1 Overall evaluation

All in all, the proposal is good and has been thoroughly prepared. The proposal is, however, assessed to be a too sharp contrast to the historical facility both in respect of the location, the landscape and the historical buildings.

The geometrical characteristics and construction of the proposal seem simple, but the scope and dimensions are generally large, which makes the proposal highly more expensive. The proposal is assessed not to be clearly based on the financial framework for construction costs.

The proposal is assessed not to be sufficiently robust for tolerating further processing based on the said issues.

A high fee rate is offered.

#### 10.2 Architecture and functionality

The proposal is described as a nest of openness towards its surroundings. Hence, a *clearing* based on the location interacting with the forest. In a poetic way, the proposal attempts to break down the boundaries between forest and building. At level, the footprint is right-angled with transposed roof heights, but in perspective it is dynamic and complex in the interaction between shapes and sloping columns.

Seen from the historical axis from the church of Sct. Lukas, the new stadium seems very big and tall. This also applies to the movement around the stadium, and the proposal is thus in too much contrast to the historical facility both in terms of the location and the historical buildings.

The proposal is an organically shaped landscape project with plateaus, which also creates an innovative approach to *John Stampes Plads*. The many level changes and the designed landscape, however, do not seem accommodated to fit the location. The movement around the stadium is, however, challenged since the large footprint of the building results in the building being placed too close to the racecourse. Particularly the narrow south-west access is assessed to pose a problem in respect of flow and fire.

"The stadium bowl" design provides a good setup and good technical solutions inside the stadium. The conditions have not, however, been specified enough, which, among other things, applies to information on field and optical axes. The underroof seems very high and opens up a great deal towards the surroundings, which also results in doubt as to whether the solution creates an intimate stadium experience. The stand has the same steep incline from the first to the last step, which may particularly challenge the bottom rows in respect of comfort.

Concourse has been interrupted by several levels (split level) as well as by stairs and sloping columns, which does not work in respect of creating optimum and free flow. The balcony solution creates some kind of intermediate landing which ensures a multidimensional "population" of concourse and seems inviting. The location of Food & Beverage at various levels as well as the overall location of lavatories and Food & Beverage are assessed not to work.

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The main stand is generally organised very well including arrival in a large centre and terraces overlooking the surroundings at the upper levels, particularly with outlook from the gold lounge. The building, however, does not work at ground level at which no connection exists to Fan Plaza via lobby, and the club shop has been divided into two across the arrival lounge. In addition, the panoramic views over the field from silver level are insufficient.

The proposal provides for good reflections as to sustainability. The said reflections are assessed, however, not to be sufficiently integrated in the proposal.

The proposal is assessed to have increased the defined area requirement to a not insubstantial extent.

Generally, the proposal is assessed to be good, but not convincingly worked out in respect of integrated design.

#### 10.3 Technology and the environment

The scope and dimensions of the proposal generally appear large, which makes the proposal highly more expensive. The proposal is assessed not to be clearly based on the financial framework for construction costs.

The building proposed is exceptionally tall and has an extremely large footprint and roof surface, which is assessed unnecessarily cost-intensive both in construction and upkeep. In addition, the proposal's calculation does not include any detailed account of the intentional overstepping of the financial framework which the proposer articulates itself.

The proposal is characterised by having wood as a general material for the extremely large and complex supporting structures, which is assessed to result in some significant negative consequences in the form of high construction complexity with very large wooden dimensions which have to be assembled via steel constructions and complex tightening-up as well as required steel intersections considerably impacting the fitting up of the main building. The stand structures are suggested made of prefabricated concrete, which is deemed a rational and positive feature.

The buildability is challenged by complexity in fabrication of steel members in the south, east and west stands, potential for complex construction sequence of raking primary column propped by rakers ahead of the roof installation, and the roof truss construction has elements of complexity with prestressed cables. Individual frames are complex but nevertheless very repetitive which, however, is assessed as a positive trend.

The proposal keeps the high terrain towards the south, which reduces the expenses for removal of excavation residues, just as sheet piling towards the racecourse may consequently also be left out. On the face of it, this solution is assessed reasonable, but it must be weighed up against the functionality of concourse in respect of level-free flow. The proposal, however, is short of an account of terrain conditions and the solution selected.

The proposal demonstrates a good take on implementing features in order to make the stadium more sustainable. The proposal team touches upon the use of LCA and conducting a separate circular design strategy for the project. The team will be using LCA as a dominant tool throughout the design phase. The proposal touches upon Stewart Brand 6 s model and considers the lifetime of the different construction layers. This contributes positively to the climate impact or overall LCA

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as it may reduce the need for replacements. However, it is supported by a generic concept for the 6 s model, where the correlation with the proposed design is not entirely clear.

The primary structures of the design are steel and wooden truss structure for the roof, and facades are cladded with plywood. The advantageous load capacity of steel could benefit the overall LCA, as it may reduce the number of columns if it was concrete. The wooden truss structure benefits as well.

The complex and large main structure in hybrid wood and steel construction seems less capable of being scaled without significant changes which will challenge the overall geometry and the architectural concept.

The intensive use of wood in the proposal is also assessed to have considerable influence on the resulting expenses for upkeep depending on the quality of the wood. Particularly the naked wood at ground level and concourse is assessed to be exposed to vandalism and, generally, heavy use and wear and tear. The outdoor pavement made of a combination of concrete tiles and gravel is assessed to be appropriate when considering the expected use and expenses for upkeep.

#### 10.4 Consulting fee

The fee quote is assessed within the expected margin for the performance of the work. The fee quote is the third highest in the contest.

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# 11. EVALUATION OF DESIGN PROPOSAL 6, ID: #41149550

TEAM: Dorte Mandrup, Kristine Jensen Landskab & Arkitektur, Schlaich Bergermann Partner, Søren Jensen Rådgivende Ingeniørfirma

#### 11.1 Overall evaluation

All in all, the design proposal is extremely good and has been thoroughly prepared with a strong and sympathetic architectural main concept which provides for a simple and clear composition by way of the trisection of the building. The trisection strengthens the character of the building, focusing on the perception from various distances, location and openness towards the surroundings – and thus balances the status of the building as an icon and adaptation to the location in a beautiful and convincing way.

The proposal is generally assessed to be based on the financial framework of the project and on rational structures, good buildability and effective use of materials. The engineering aspects seem, however, only to a less extent to have been considered in the proposal and consequently appear to be described at the conceptual level only.

The proposal is assessed as particularly robust in its design and technical solutions, and the high quality of the proposal is assessed to be maintainable during further processing of the said issues.

In addition, the fee quote is within the expected margin for the performance of the work.

#### 11.2 Architecture and functionality

The proposal appears as a simple and clear composition with a repetitive system and a classical vertical trisection. The façade trisection of the building enables a grand presentation of the stadium in various contexts: Arriving from *Stadion Allé*, the building appears light and golden in relation to the forest and the stadium courts. At short range, the façade poses a particular quality in respect of staging a mood. At eye level, the ground floor provides maximum openness towards the surroundings and has been pulled somewhat back to the effect that a transition zone between the inside and outside is obtained.

An upper part has been constructed as a roof slice kept clear and underneath it a walkway. The public access creates challenges in connection with football matches and gives rise to operational and security-related concerns at the same time as the value experienced does not seem to counterbalance the construction costs.

The façades and architecture of the proposal are inspired by the proportions and distinctive colours of the stadium courts. The proposal has been made, providing a clever professional reading of the cultural history of the area. The building, however, is very tall as compared to the stadium courts and the "upper part" is thus requested reduced in order to create improved adaptation to the historical buildings.

The movement around the stadium has been processed very well in terms of space and adapted to the location including a well-functioning fan zone and "non-match day activation" with perfect openness and flexibility at Fan Plaza and a plausible flow to/from the racecourse <code>Jydsk Væddeløbsbane</code>. The landscape creates a 360-degree available area around the stadium. However, a free passage at the away zone is also requested. The proposal is distinctive in its use of colours seen in the pavement of the outside area, which also has sports features. Doubt,

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however, exists as to whether the chosen colour is too dominant considering the character of the location.

"The stadium bowl" design provides a good setup inside the stadium. The stadium-technical features, however, have not been specified to the required extent which, among other things, applies to information on and objectives in respect of the field, indication of steepness of the stand, optical axes and seat sizes. The roof is translucent, which provides generous daylight conditions on the field. The underroof seems very high and opens up a great deal towards the surroundings, which must be investigated in further detail in respect of intimacy inside the bowl.

The structure of the concourse area is well-functioning with a column-free design and at the same level all the way round, ensuring a good flow. The area convincingly opens up towards the ground floor surroundings. Concourse has been extended, which creates a well-functioning and spacious concourse, and it also provides for good suggestions for various arrangements of Food & Beverage. On the inside, the colour scheme creates a good atmosphere. Doubts exist, however, as to whether the choice of colour is right for the new stadium.

The main stand is generally structured very well with arrival in the centre. No lobby is, however, provided in the north-west, and the proposal has thus no connection to Fan Plaza, which does not work. The building should also be processed in connection with the location of technical control room, offices, and the panoramic views from silver level are insufficient.

In overall terms, the proposal is expressive of a design with several sustainability perspectives.

The area of the proposal is close to the directed area requirement laid down in the Competition brief, however, with some excess.

Convincing and interdisciplinary processing is called for in respect of integrated design between the stadium-technical, constructive and architectural manifestations.

#### 11.3 Technology and the environment

The proposal is generally assessed to take the financial framework of the project as its starting point and has also specified supplementary savings proposals, which substantiates the robustness of the proposal for adapting it to fit within the financial framework.

The engineering aspects seem not to have been sufficiently analysed in the proposal which leaves an impression that the engineering aspects have been considered as introductory "architectural engineering", whereby several technical issues have merely been considered at concept level. It must be emphasised as a positive feature, however, that the structure of the proposal is generally assessed as being very rational with much repetition of construction and façade principles.

The suggested roof construction in large supporting wooden structures is assessed to have to be performed in very large dimensions and be reinforced by built-in steel, which makes the solution inconveniently complex. The tenderer itself suggests steel rafters as a potential for savings, which is assessed to be more buildable. The stand structures are suggested made of prefabricated concrete, which is deemed a rational and positive feature.

The roof and façade material provides a cost-efficient method of producing texture to the façade.

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Buildability has not been sufficiently considered in the proposal which impacts the evaluation in a negative direction. However, the proposal is in principle assessed to be executable based on a reasonable buildability. A detailed account of buildability must be prepared.

The proposal is assessed to provide for a good indoor environment in concourse due to the closed building envelope.

The proposal demonstrates an excellent proposal on implementing features in order to make the stadium more sustainable. The current brief will be investigated further in the 2nd leg of the competition - the main emphasis in current proposal is on environment and social sustainability (urban integrity). The proposed measures are in compliance with a DGNB scheme, if this is applied at a later stage, furthermore the team wants to follow and fulfil the criteria in VSC /FBK Frivillige Bæredygtighedsklasse.

The simple supporting construction principles and the relatively simple façade construction are assessed to be perfectly scalable for future adjustments to fit within the financial framework.

The proposal is short of a detailed account of the roof and façade materials and their impact on the costs of upkeep and maintenance, particularly with regard to cleaning and life. Asphalt pavement has been used in the entire outdoor area, which is assessed as a rational and low-cost feature.

#### 11.4 Consulting fee

The fee quote is assessed within the expected margin for the performance of the work. The fee quote is the second lowest in the contest.

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