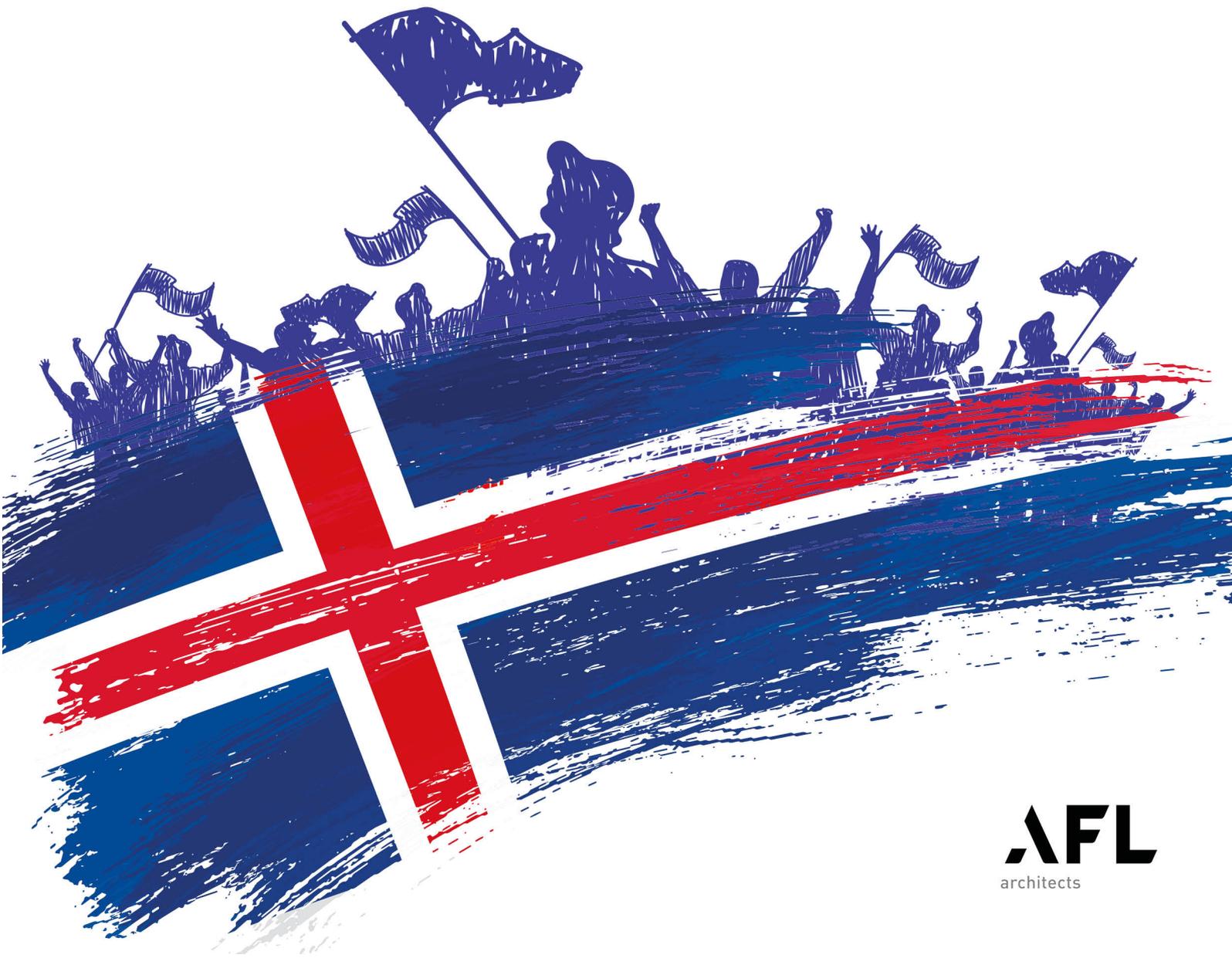




Iceland National Stadium

Outline Business Case

11th September 2020 - Rev C02 (Final Approved)





Iceland National Stadium Outline Business Case – Rev C02 Final Approved

Document QA

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1. Executive Summary

AFL Architects and their consultant team were appointed in early 2020 by the National Stadium Board to produce an **Outline Business Case (OBC)** for the redevelopment of the National Football Stadium of Iceland – Laugardalsvöllur.

Laugardalsvöllur was built in 1957 and has been renovated in several phases since. The stadium's current (all-seated) capacity is c. 9,800. This is the **second smallest capacity** of any national stadium for any European currently ranked in the FIFA World Top 100 teams (behind only Luxembourg – c. 8,100 capacity). The stadium is **not fully compliant with UEFA Category 4** and on large international fixtures the existing players changing areas, mixed zone and media facilities are inadequate and require significant temporary overlay to function. Chapter 3 analyses the existing venue and addresses the key Stadium design and operational decisions.

At the same time, Iceland is one of just three Nations League participants classified by UEFA as being **'high risk' due to its climate**. This is illustrative of the challenging climatic conditions, and currently impacts the development of the Nations League fixture schedule and the schedules of other major event qualifying matches. It is the only League A participant in this category (Finland – League B; Faroe Islands – League D).

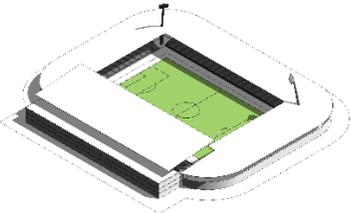
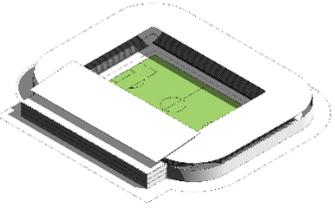
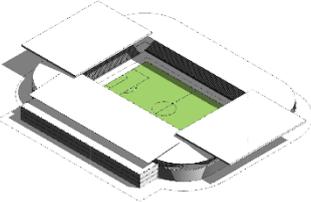
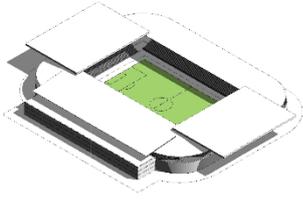
Iceland's **men's team reached a peak world ranking of 18** and are currently ranked 39th - only 10 years ago they were outside the top 130 teams in the world. The **women's national team is currently ranked 19th** in the world by FIFA. Iceland has also delivered very **high levels of community engagement and sports development** with some of the highest football participation rates in Europe. It is clear that investment in the current stadium is required to match the success of the senior teams on the pitch and the growing interest in the game from the nation's population.

In response to these issues the AFL team has completed **extensive analysis** of the current position and **key international data/ benchmarks** to develop and test a series of **potential development scenarios**. This has included developing initial layouts for each option (Chapter 5), together with detailed **capital cost projections and 15-year P&L projections** (Chapter 6). **The options are as follows:**

- Option A – Minimum refurbishment works
- Option B -The refurbishment plus upgrades to make UEFA Category 4 compliant
- Option C – A completely new football only stadium – of circa. 15,000 capacity - with and without a retractable roof.
 - Option C1 - As (C) but with the current West Stand retained
- Option D – A completely new football stadium – of circa. 17,500 capacity - with and without a retractable roof.
 - Option D1 - As (D) but with the current West Stand retained

These are illustrated diagrammatically with summary SWOT analysis in the matrix overleaf (Chapter 5 expands each option out in more detail):



Option	Option
<p>A</p>  <p>Carry out the minimum work to maintain the current stadium.</p> <ul style="list-style-type: none"> - Light refurbishment to building - New Pitch and build-up - Concert capacity 20,000 plus <p>Strengths - Cheapest option; least upheaval</p> <p>Weaknesses – Not UEFA Cat 4 compliant; high temporary overlay costs for events; does not deliver new income streams; does not address extending playing season. Stadium continues to age.</p>	<p>B</p>  <p>Existing stadium refurbished to UEFA Cat 4 requirements</p> <ul style="list-style-type: none"> - New changing rooms and media areas - New Pitch, build-up & under pitch heating - Concert capacity 20,000 plus <p>Strengths – Low capital investment; minimal upheaval</p> <p>Weaknesses – does not deliver new income streams; pitch heating extends pitch use but does not address playing in the heavy winter season; Stadium continues to age especially the East stand.</p>
<p>C</p>  <p>New 15,000 seat stadium</p> <ul style="list-style-type: none"> - Increased capacity Hospitality provision - Good quality Spectator seating and facilities - No running track - Concert capacity up to 27,500 <p>Strengths – Optimum capacity for National Team games; new income streams from increase premium seating offer; improved football viewing experience; simple structure.</p> <p>Weaknesses – does not address playing in the heavy winter season; Does not maximise one-off super event appeal and revenues</p>	<p>D</p>  <p>New 17,500 seat stadium</p> <ul style="list-style-type: none"> - Increased capacity Hospitality provision - Good quality Spectator seating and facilities - No running track - Concert capacity up to 29,100 <p>Strengths – Capacity facilities bigger / one off super events; new income streams from increase premium seating offer; improved football viewing experience; simple structure</p> <p>Weaknesses – does not address playing in the heavy winter season; increased capital expenditure on additional seats that are rarely used</p>
<p>C Retractable roof</p>  <ul style="list-style-type: none"> - The roof surface will all have to be at a higher level to allow 20m clear space below the retractable roof structure trusses for the ball movement and sight lines. - The larger gap between the rear of the seating and the higher roof will require additional cladding. <p>Strengths – Scope to generate tremendous atmosphere and maximise 'home advantage'; Deliver a true 'Living Stadium' with community uses to meet local need; Create a more balanced calendar and host events on the pitch year-round</p> <p>Weaknesses - Does not maximise one-off super event appeal and revenues; Expensive build solution for limited events; Requires full stadium closure and new build.</p>	<p>D Retractable roof</p>  <ul style="list-style-type: none"> - The fixed roof surface already at a higher level for larger stands. - 20m clear space below the retractable roof structure trusses for the ball movement and sight lines. <p>Strengths – Scope to generate tremendous atmosphere and maximise 'home advantage'; Deliver a true 'Living Stadium' with community uses to meet local need; Create a more balanced calendar and host events on the pitch year-round; Maximise one-off super event appeal and revenues</p> <p>Weaknesses – Most expensive build solution for limited events; Capital expenditure on additional seats that are rarely used; Requires full stadium closure and new build.</p>



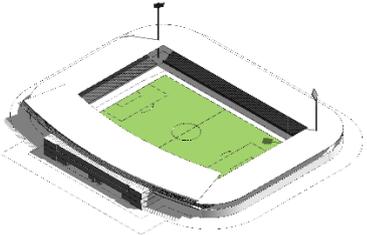
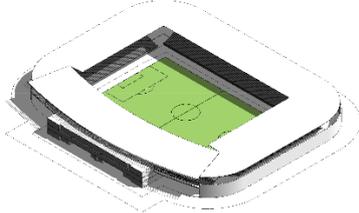
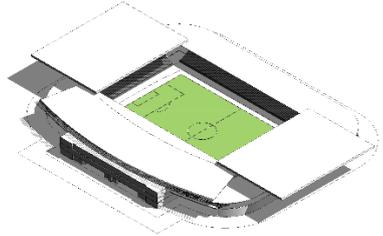
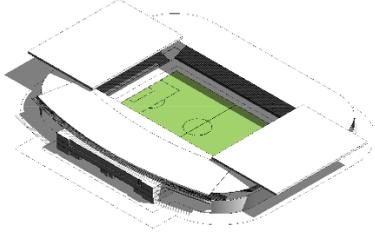
Option	Option
<p>C1</p>  <p>As C with retained existing West Stand</p> <p>Existing Hospitality and Spectator provision in West Stand</p> <p>Strengths – Reuses part of the existing stadium and therefore consider to be more sustainable; Lower cost than rebuilding new main stand</p> <p>Weaknesses - Lack of continuity of structural solution between old and new structure; Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable; dose not deliver the new stadium effect for the West Stand</p>	<p>D1</p>  <p>As D with retained existing West Stand</p> <p>Existing Hospitality and Spectator provision in West Stand</p> <p>Strengths – Reuses part of the existing stadium and therefore consider to be more sustainable; Lower cost than rebuilding new main stand.</p> <p>Weaknesses – Higher capital expenditure on seats that get rarely used; Lack of continuity of structural solution between old and new structure; Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable; dose not deliver the new stadium effect for the West Stand</p>
<p>C1 Retractable roof</p>  <p>As C – retractable roof and</p> <p>Strengths – Reuse of existing stand</p> <p>Weaknesses - The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction; More complex to redevelop the west stand at a later date.</p>	<p>D1 Retractable roof</p>  <p>As D – retractable roof and</p> <p>Strengths – Reuse of existing stand</p> <p>Weaknesses - The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction; More complex to redevelop the west stand at a later date.</p>

Table 1.1 overleaf summarises the capital and revenue implications of the development Options (Chapter 6 expands on this in more detail).



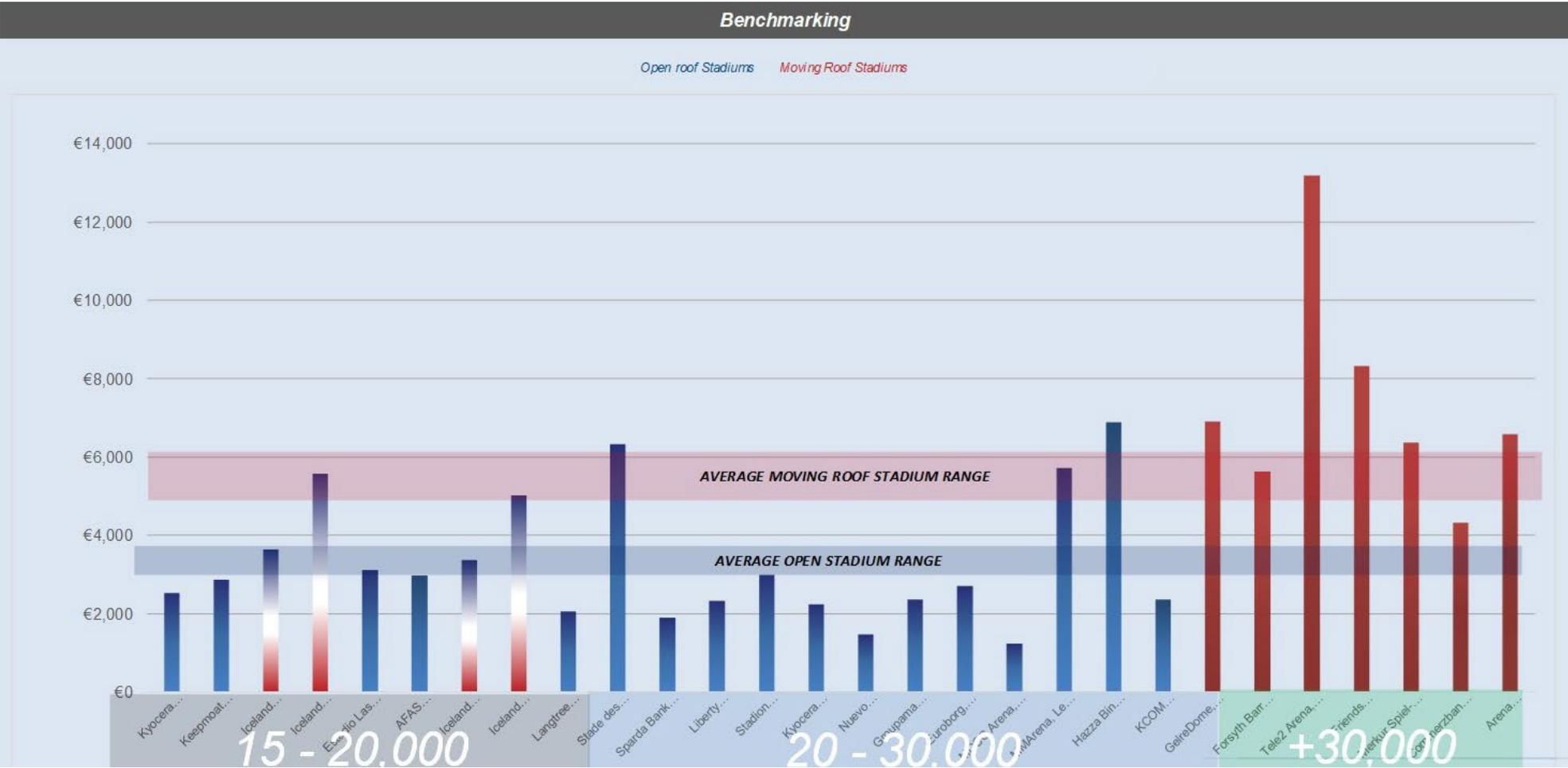
Table 1.1 Summary financial and economic projections – full new build stadium options (15 years)

Option	Outturn cost	Average EBITDA		'No Worse off' EBITDA projection incl. Facility Fee*		Economic impact (base case assumptions)	
		Incl. taxes	Excl. taxes	Incl. taxes	Excl. taxes	Annual Fiscal benefits (ISK million)	Cumulative GVA (ISK million)
Option A: Do Minimum	ISK 485,000,000	-ISK 69,000,000	-ISK 43,000,000	-ISK 69,000,000	-ISK 43,000,000	128	5,051
Option B: Minor improvements	ISK 1,925,000,000	-ISK 68,000,000	-ISK 42,000,000	-ISK 68,000,000	-ISK 42,000,000	128	6,606
Option C: 15,000 cap. (open)	ISK 10,523,000,000	-ISK 107,000,000	-ISK 3,000,000	ISK 80,000,000	ISK 183,000,000	294	15,349
Option C: 15,000 cap. (roofed)	ISK 15,045,000,000	-ISK 195,000,000	-ISK 39,000,000	ISK 4,000,000	ISK 161,000,000	367	17,866
Option D: 17,500 cap. (open)	ISK 11,246,000,000	-ISK 140,000,000	-ISK 29,000,000	ISK 48,000,000	ISK 159,000,000	301	15,169
Option D: 17,500 cap. (roofed)	ISK 15,829,000,000	-ISK 216,000,000	-ISK 52,000,000	-ISK 15,000,000	ISK 150,000,000	229	17,804
Option C1: 15,000 cap. (open)	ISK 8,616,000,000	-ISK 237,000,000	-ISK 134,000,000	-ISK 51,000,000	ISK 53,000,000	-	-
Option C:1 15,000 cap. (roofed)	ISK 13,138,000,000	-ISK 325,000,000	-ISK 169,000,000	-ISK 126,000,000	ISK 30,000,000	-	-
Option D1: 17,500 cap. (open)	ISK 9,634,000,000	-ISK 270,000,000	-ISK 159,000,000	-ISK 83,000,000	ISK 29,000,000	-	-
Option D1: 17,500 cap. (roofed)	ISK 14,217,000,000	-ISK 346,000,000	-ISK 182,000,000	-ISK 145,000,000	ISK 19,000,000	-	-

* Sensitivity whereby Project Partners are 'no worse off' than currently as per 6.13.8 description – KSI rent at 50% of ticketing revenue; city grant reinstated (and Facility Fee chargeable under development scenarios). NB Options A & B have not been amended in 'No Worse Off' sensitivity above. Figures are rounded



Table 1.2 Benchmarking - applicable stadia costs per seat (Multicoloured bars indicate the options C, C1 & D, D1 respectively)





Based on the analysis that the AFL team has completed in the course of this appointment, we believe that **c.15,000 is the right capacity for KSÍ** (driven by average ticket demand for the Men's National Team) – refer to Chapter 4.

For both commercial and strategic/ aspirational reasons we recommend that **Options C1 & D1 are removed from consideration** (i.e. retaining the existing West Stand but building three new stands). The existing Main West Stand does not allow for the required increase in hospitality and VIP provision. We recommend that all the main stadium facilities are located in one stand for a stadium of this scale to optimise construction and operational costs. We also believe that **Options A & B are not appropriate long-term solutions** for Iceland and should be removed from consideration.

In pure financial terms, the 15,000 capacity Option C (without retractable roof) is projected as delivering the **best outcome of the development options**, albeit under the base case it is anticipated to operate at broadly breakeven over 15 years before Real Estate Taxes (an average shortfall of c. ISK 107m/ annum over 15 years excluding Real Estate Taxes). With specific interventions (such as the re-introduction of the City grant and the payment of a higher rent from KSÍ from their higher revenues) there is clear potential for this option to achieve an operating surplus while no stakeholder is worse off than currently.

The comparison between the development options (15,000 and 17,500 capacity, with and without retractable roof), will need to be weighed by the client team based on a series of financial and non-financial factors. There are strategic and economic factors which will also impact the decision. In particular:

- Given Iceland's climate and the current international fixture calendar (with matches in November and March) there is a **case for a retractable roof to ensure that games can be scheduled and played year-round**, particularly given Iceland's **current UEFA 'high risk' categorisation**
- **Maximising the potential for concerts and other entertainment events**
- **A larger capacity stadium has the potential to deliver greater economic impact**, with higher revenues (but higher costs)
- Any potential wish to further future-proof the stadium by building out a capacity which exceeds current demand
- The specific drivers of any ultimate funding solution.

There has already been research commissioned by KSÍ to quantify the **social and economic impact of football in Iceland**, which has identified and quantified the significant social and other value that football drives in Iceland. We expect the new National Stadium to deliver significant economic impact, both through the construction phase and once operational (Chapter 7). The **wider Economic and Social Impact** will be further enhanced through **creating a larger stadium that can capitalise on latent demand in the market and support the National Teams' further successes**.

We expect the new Laugardalsvöllur to **achieve higher attendances/** penetration rates – thereby increasing the visibility of the national teams and levels of sporting aspiration in society (particularly amongst young people). **The New Stadium Effect** is anticipated to boost ticket sales, even though Iceland's penetration rate is already the highest in Europe. Developing a great football stadium that attracts more fans has potential to inspire more children to participate in the sport having seen matches live. The new Stadium will **increase Hospitality revenue** while also creating **more accessibly-priced tickets**.



A **Comparison Matrix** was created based on the potential of each option to meet what we have identified in the course of the appointment as **Critical Success Factors (CSFs)** – i.e. the items that are most important in ensuring the overall success of the national stadium moving forward (refer to Section 10.2). This particularly includes:

- Delivering a facility that **meets international stadium standards** – health & safety, UEFA grading requirements etc
- A stadium that **maximises economic impact/ fiscal benefit** for Iceland, driving value for the economy and revenue for the city and state via taxes etc
- A solution that is **future proofed against potential future market changes**
- A stadium that delivers an **optimised event experience** for matches and concerts etc – creating a quality, intense atmosphere and encouraging repeat visits – i.e. the right size and the right quality
- A stadium that **maximises social benefit** for Iceland, delivering on the social and competitive/ sporting considerations noted previously in this report
- A stadium that **encourages maximum usage** for football and other events and for non-matchday uses (with options scored against the maximum projected event attendance across the schemes).

On this basis of the application of the matrix (Table 10.2), the options are ranked as follows:

Options	Rank	Score
Option C (retractable roof)	1=	58
Option D (retractable roof)	1=	58
Option C	3=	49
Option D	3=	49
Option B	5	25
Option A	6	21

Based on the initial comparison of options, **Option C (retractable roof), with Option D offering a future proofed alternative, appear to be the best overall solutions** from a purely qualitative perspective. This is subject to further discussion and comparison with the client team. Key factors which might change this emerging position include:

- Capital cost budgets/ funding position
- A wish to safeguard against potential future increased demand (though likely offset by pricing reductions in the short/ medium-term as a minimum)
- A view that the additional capacity in concert mode is more important than the football experience and would attract more events
- A view that 'bigger is better' from a national perception perspective.

The **Next Steps** for the National Stadium Board (detailed in Section 10.5) are as follows using a business plan led best in class approach. Once the report is signed off the wider Stakeholder engagement can start in September 2020. The client and consultant team will need to establish the stadium outline brief/programme, capacity and provision of a retractable roof. Consideration should also be made of additional stadium features including an ancillary venue (e.g. sports and events) and social infrastructure such as a museum. A funding model is to be established exploring additional financial and commercial modelling along with agreeing a contract to get funding support from relevant parties. The ownership model for the stadium and KSI use will need finalising to allow the procurement and delivery strategy for the operator. As the above is being completed a concept design can be started two months into this next stage to aid operator procurement and lead into detailed design and construction.



2. Background

2.1 Background to Appointment

An open selection process was launched at the end of 2019 to procure a team to produce an outline business case for Renewal of The National Football Stadium of Iceland at Laugardalur in Reykjavik. The procurement exercise was led by Thjóðarleikvangur EHF (Þjóðarleikvangur ehf), hereafter referred to as “National Stadium”, a private limited company established for the sole purpose of preparing for the construction of a national stadium.

Based on the detailed provision of our experience on similar projects, and the assembly of a specialist team supported by skilled, local representation, a consortium led by AFL Architects (AFL) was awarded this commission in April 2020.

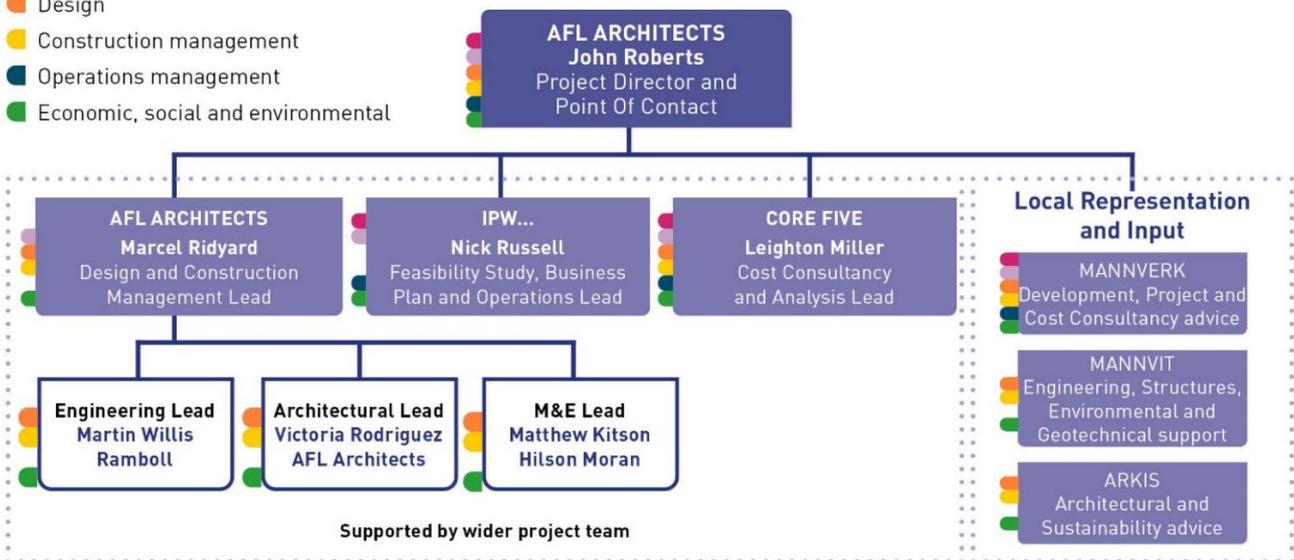
2.2 Team Structure and Experience

2.2.1 Introduction and Organogram

The team is a consortium of AFL / IPW... / Core Five / Hilson Moran and Ramboll. Local representation includes Mannverk, Mannvit and Arkis. AFL is acting as Lead Consultant for the consortium. The below organogram details the lead specialists and their key deliverables for each facet of the scope of works.

Key Inputs

- Feasibility (all staff involved in input)
- Business plan
- Project management
- Design
- Construction management
- Operations management
- Economic, social and environmental





AFL Architects

AFL Architects is a Sports & Leisure specialist practice, delivering stadia, arenas, training facilities and event masterplans. Since incorporation in 1997, our teams have worked across 25 countries on stadia, arenas, training facilities and event masterplans, ranging from 3,500-capacity multi-use venues up to 90,000-capacity national stadia. For major events alone, our team have delivered 13 international projects for the FIFA World Cup, UEFA European Championship and the Champions League.

Creating a stirring atmosphere is a journey of multi-faceted decisions, from the first conversation to the final kick-off. We consider the smallest details on our client's journey that have the biggest impacts – from the initial business plan, feasibility and masterplan, to the fan experience and right into the centre of the action on the pitch. This approach ultimately results in the creation of spaces that meet and surpass the standards of international authorities: optimising sound, sightlines, safety and inclusivity.

We have created an international reputation for collaboration, commitment and responsiveness in the face of any challenge. Our architectural design tools are world-leading and are being used on the most high-profile stadia being constructed today.

We create Architecture For Life.



IPW...

IPW... is a collaborative company that brings together key partners in the sport, entertainment, leisure, entertainment and culture sectors, with a particular focus on delivering successful venues and facilities. Our in-house team combines feasibility and business planning expertise with specialist financing and procurement skills to provide a complete package to clients from both the public and private sectors.

Our clients include governments, municipalities/ local authorities, professional sports clubs, national governing bodies, venue operators, producers, content providers and developers.

The IPW... team has worked together in a national and international setting for more than 25 years, unlocking a wide range of projects with our industry experience, contacts and innovative thinking. We provide the full range of consultancy services including:

- Feasibility studies and market appraisals
- Venue planning
- Business planning
- Due diligence
- Consultation and soft market testing
- Operator procurement/ contracting
- Economic impact assessments
- Venue technical /space planning
- Project management
- Development management



Core Five

Core Five is an independent partnership, formed by experienced construction professionals focused on delivering commercial advice and exceptional client solutions. Through our forward-looking reporting and focus on the wider commercial issues surrounding every project, we have developed a reputation for driving outcomes. From our wealth of data and benchmarking, we are able to deliver very reliable cost advice from very early in the design which enables robust decisions from the outset.

We have an exceptional track record of delivering our projects on budget. Since our inception, we have procured over £2 billion of construction work, 78% of which has delivered it on, or within, budget. This increases to 86% procured at less than 2% over budget, with everything procured within 4% of the original budgets set.



Hilson Moran

Hilson Moran is a leading international environmental engineering consultancy. Our building services and sustainability groups work alongside specialist teams focused on vertical transportation, smart buildings, acoustics, fire engineering, security and infrastructure. Using the most advanced digital simulation software to analyse the performance of buildings and the external environment to provide expert advice on energy, sustainability and environmental issues. We deliver all projects in a full BIM environment and have developed in house technologies to improve collaboration to produce and simplify more complex and intricate designs. We are committed to creating buildings and urban spaces which are enjoyable to use and respect the environment.



Ramboll

Ramboll is a leading engineering, design and consultancy company founded in Denmark in 1945. With more than 300 offices in 35 countries, Ramboll combines local experience with a global knowledgebase, constantly striving to achieve inspiring and exacting solutions that make a genuine difference to our clients, the end-users, and society at large. By applying our “Liveable Buildings” concept, we integrate engineering, design, architectural, and consultancy services to balance the cultural, social and physical values of buildings. This enhances quality of life for users whilst improving financial viability for developers and owners.



Mannverk

Mannverk was established in 2012, and the company now employs 20 people in its Reykjavik offices, advising on projects ranging from residential buildings to complex industrial schemes. They employ a dynamic team of experienced engineers and technically trained employees, with a wide range of experience in construction and engineering. Their focus is on sound and professional advice in developing projects, design, management contracting and construction. Extensive engineering knowledge, forward thinking and cohesion characterise Mannverk’s team of employees.



Mannvit

Since 1963, Mannvit has provided services for a wide range of public and private projects. The company’s operation is split into three core divisions; Infrastructure, Renewable Energy & Transmission and Industry. Mannvit experts have the knowledge necessary to resolve a diversity of challenges, whether they are at the preliminary design phase, project design phase or construction phase. Their experts have decades-long experience in all fields of design and construction. These include buildings, transportation infrastructure, traffic and planning, environmental studies issues, hydrography measurements, land surveys, geology and acoustics.



ARKÍS

ARKÍS is a progressive design partnership practicing architecture, design, planning and green design consultancy. From the firm’s founding in 1997, ARKÍS have executed projects at various scales and levels of complexity. The practice are founding members of the Icelandic Green Building Council. In addition, partners of ARKÍS architects have edited the City of Reykjavik’s Goals for Sustainable Neighbourhoods and Buildings and are authoring the chapter on green building materials for the Dawn of Sustainability course material package sponsored by the European Union’s Leonardo fund.

2.3 Scope of works

Our remit, established and agreed at tender stage, is to provide an Outline Business Case (OBC) with detailed analysis of different scenarios for the redevelopment of the National Football Stadium of Iceland - Laugardalsvöllur, addressing all the options available for deciding and then resolving this project.



2.3.1 Four scenarios were originally proposed:

- A. The same current facilities with only minimum improvements
- B. Improve and further develop the current facilities in order to meet international standards (UEFA-category 4) at minimum cost.
- C. A new open football stadium at the site of current facilities with a capacity up to 17,500 seats.
- D. A new multi-functional stadium, with a retractable roof at the site of current facilities with a capacity up to 20,000 seats.

We were asked to evaluate the use or demolition of current stadium structure (west stand) in options C & D (as Options C1 & D1).



2.3.2 Refined Options

The original four scenarios have been slightly adjusted in the course of this work to align with our initial findings presented to the board. This report goes into greater detail on how we arrived at these final options (Section 4), and the resulting financial, social and economic analysis (Section 6 onwards).

- Option A – Minimum refurbishment works required for the City of Reykjavik and the KSÍ to continue to operate and maintain the stadium.
- Option B -The refurbishment in Option A plus works that are needed to make the stadium reach the UEFA Category 4 standard without the continued use of temporary overlay.
- Option C – A completely new stadium – of circa. 15,000 capacity - fully compliant with UEFA Category 4 and hospitality optimised for the OBC. No running track. With and without a retractable roof.
 - Option C1 - As (C) but with the West Stand retained in its entirety broadly refurbished as per Option B, with the existing Hospitality and VIP facilities provision remaining the same. With and without a retractable roof.
- Option D – A completely new stadium – of circa. 17,500 capacity - fully compliant with UEFA Category 4 and hospitality optimised for the OBC. No running track. With and without a retractable roof.
 - Option D1 - As (D) but with the West Stand retained in its entirety broadly refurbished as per Option B, with the existing Hospitality and VIP facilities provision remaining the same. With and without a retractable roof.

2.3.3 Deliverables

Our team was tasked to deliver an Outline Business Case (OBC) that outlines the pros, cons, risks, gains, and costings of each scenario, using the respective best in class specialists in the AFL consortium to provide their findings in a detailed manner. This includes:

- SWOT analysis
- Definition of main risk items, both development and operational risks.
- Market analysis and identification of commercial opportunities
- Use or demolition of current stadium structure (west stand)
- VIP rooms/boxes
- Evaluation of Stadium Façade in scenarios C and D
- Evaluation of artificial or natural grass turf
- Outline of a business plan and feasibility study
- Construction cost projection
- Social, environmental, and economic Impact analysis
- Development of a comparison matrix based on defined criteria
- Funding Options

We have included a section demonstrating how our Business Driven Approach to the design, construction, governance and stadium management structures creates a cohesive economically viable venue.



This work is summarised in an overall assessment with recommendations and next steps.

2.4 Report Structure

This report is structured as follows:

3. Key Stadium Design and Operational Decisions
4. Optimum Stadium Capacity – Here we explore what the ideal capacity should be for a new build stadium in Iceland based on international benchmarking, local penetration rates and the 'new stadium' effect.
5. The Strategic Case – The Final Business Case Options – This section details all the options that have been explored in this study. The pros and cons for each option are analysed together in a SWOT analysis matrix.
6. The Financial Case – What it will cost to design and construct each of the options
7. The Economic Case – What each of the options will generate in terms of profit and loss, including a look at the wider Social, Environmental & Economic impacts to the surrounding area, Reykjavik and Iceland as a whole.
8. The Management Case – An analysis of the best ways to operate the stadium in each of the options.
9. Business Driven Approach – The process of designing, constructing, and operating the venue cohesively to achieve the best outcomes for the National Stadium and the local community.
10. Summary and Next Steps



3. Key Stadium Design and Operational Decisions

3.1 Introduction

3.1.1 This section of the report summarises our team’s analysis of a number of the key practical operating considerations impacting the future of Iceland National Stadium - Laugardalsvöllur – specifically:

- The potential continued provision of athletics at the Stadium
- An evaluation of artificial vs. natural grass turf
- An introduction to the ‘Living Stadium’ concept and its potential applicability to this market.

3.2 The current facilities



Laugardalsvöllur and the wider sports complex in the citywide context

3.2.1 Laugardalsvöllur was built in 1957 and has been renovated in several phases since. The stadium’s current (all-seated) capacity is c. 9,800 – across permanent East and West Stands. Renovation and expansion works on the Main (West) Stand were completed in 2007 – it has a capacity of c. 6,300 seats (increased from c. 3,500). The East Stand was built in 1997 and has a capacity of c. 3,500 seats.



Laugardalsvöllur - pre 2007 expansion of the West Stand



Laugardalsvöllur - post 2007 expansion of the west stand

3.2.2 The Main Stand also houses seating areas for those with a disability, a ‘VIP section’ and a new main sponsor area on either side of the VIP area.



Main West Stand Entrance completed in 2007



Hospitality Lounge in the West Stand



Seating in the West Stand with Hospitality section in the foreground

3.2.3 Laugardalsvöllur has the second smallest capacity of any national stadium for any European currently ranked in the FIFA World Top 100 teams (behind only Luxembourg – c. 8,100 capacity)

3.2.4 The stadium is not fully compliant with UEFA Category 4. Furthermore, feedback from the stadium facility management team was that on large international fixtures the existing players changing areas and media / mixed zone were inadequate and require significant temporary overlay to function. A detailed assessment of the stadium against UEFA Stadium Infrastructure regulations 2018, UEFA Café Good Practice regulations for accessibility and UK Internationally recognised stadia document known as the Guide to Safety at Sports Grounds 6th Edition, has been undertaken and is available in Appendix C Design Comments Matrix.



3.2.5 Conditions survey – A high level rooms conditions survey was undertaken which can be found in Appendix B. This has been used to establish any refurbishment that may be required for all options where the West Stand is retained, though the building is generally in good condition.



Main VIP Entrance West Stand



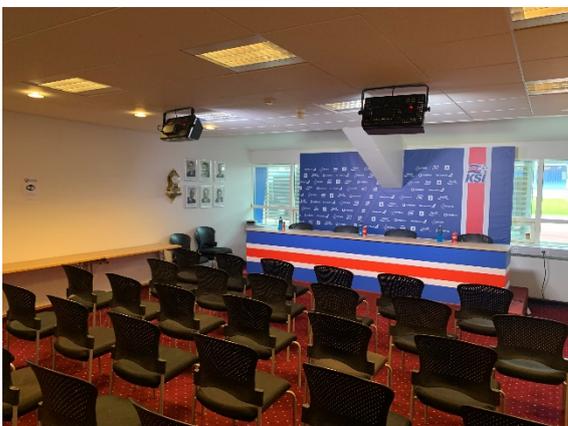
West Concourse



Changing room



Through hall under the west stand adjacent to the changing areas



Press conference room



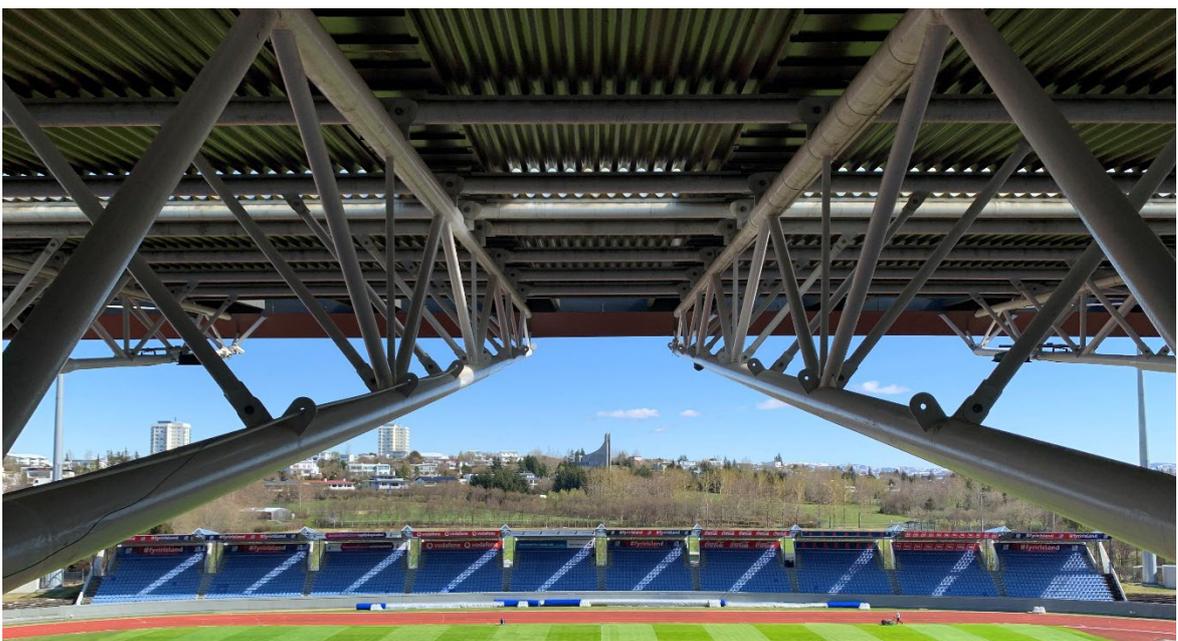
Additional Hospitality Lounge space

3.3 Existing structure

- 3.3.1 The front central section of the west stand was constructed in approximately 1997 with the rear section, additional seating areas at either end, and the full extent of the cantilever roof added in 2007.
- 3.3.2 Both the original 1997 construction and 2007 superstructure frames are of reinforced concrete construction. The site inspections indicated that the frames were tied together and the recently received structural engineering drawings from the 2007 work have confirmed this. There is a basement across the older and newer sections constructed in reinforced concrete. Due to the pitch being lower than the front entrance to the building access to the pitch from the West stand is at basement level.
- 3.3.3 The roof of the west stand is a cantilever roof system with trusses located at regular grid positions along the length of the stand following the curved profile of the seats at the front of the stand.



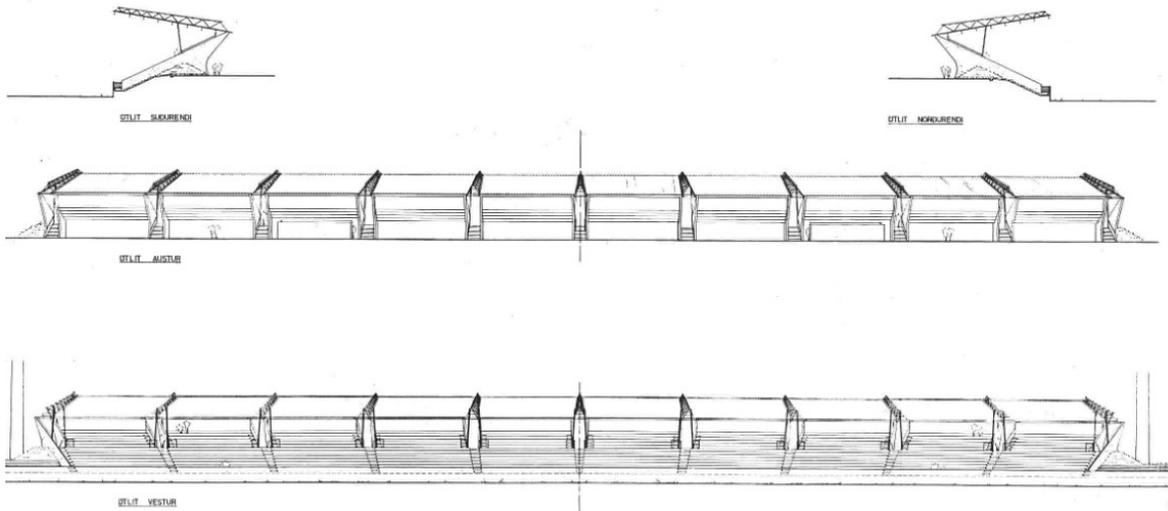
View of the existing Main West stand from the north east of the site



View from under the roof of the Main West stand



- 3.3.4 The east stand consists of a single shallow tier with reinforced concrete structural rakers and precast concrete terrace units. The seating deck is covered by a cantilever roof structure supported on columns within the seating deck, creating restricted view seats towards the rear of the stand. Access to the seats is at mid level.



- 3.3.5 The perimeter wall to the front of the stands that runs around most of the stadium is in very poor condition in places, suffering spalling from frost damage. The north and south stands are concrete terraces, with no fixed seats, which follow the curve of the running track. There are no roofs over the end stands. The perimeter fence that forms the boundary and the effective security line is approximately 2.7m high with opening gates that are used as ingress points as well as emergency escape. There are currently no fixed turnstiles for general admission spectators, with temporary tables and low fences being laid out to form search lanes, with ticket checks being made by hand-held scanners.



View of the existing unused south stand



3.4 Existing MEP

- 3.4.1 The municipal company Veitur (<https://www.veitur.is/>) is responsible for the utility service connections for electrical power supply, hot water for household and district heating, potable water and sewerage.
- 3.4.2 The existing electrical power supply connection is from distribution substation nr.543 owned by Veitur. The substation is located at the north end of the Stadium as shown on the part plan below.

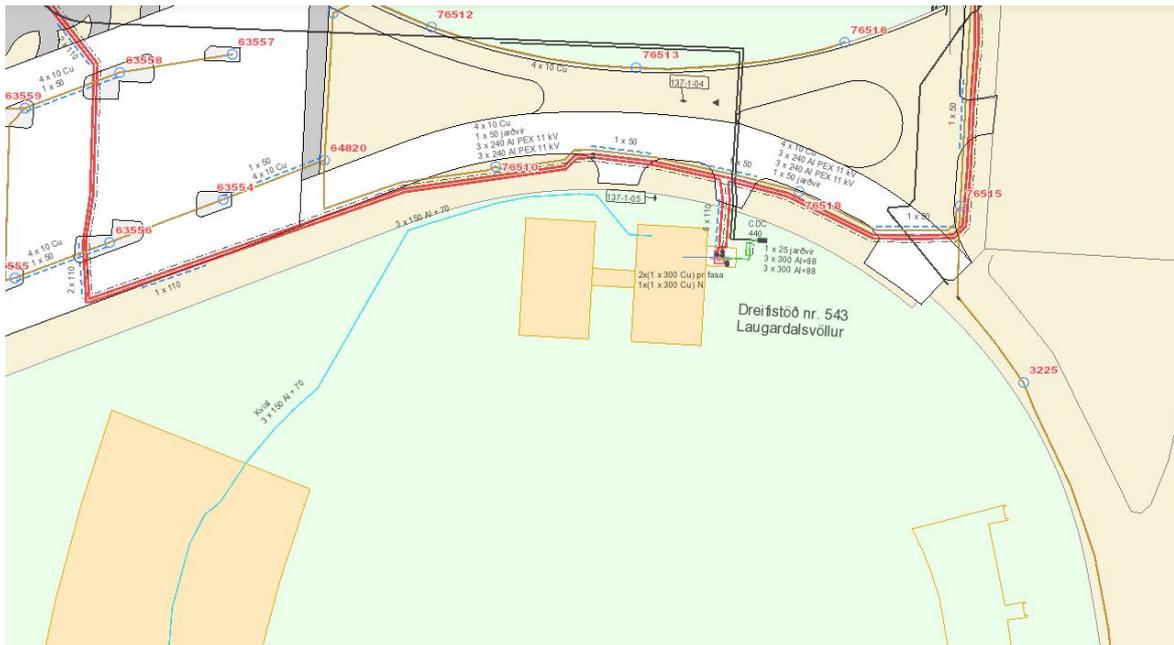


Figure: Electrical Power Supply

- 3.4.3 The electrical power supply connection is:
800kVA (3x400V, 50Hz, 1200A) connected to a 1600A circuit breaker in the substation
The feeder to the Stadium is routed through the substation wall and into the Main Distribution Centre (MDC). From the MDC, a distribution feed is routed, below ground, to the Stadium West Stand connecting to the building Distribution Panel.
The connection to the substation was installed in 2007 and is owned by Veitur. The connection from the MDC to the West Stand Distribution Board is the original 1972 installation and is owned by Veitur.



3.5 Heating and Hot Water Systems

3.5.1 There are three hot water connections to the Stadium from the cities household and district heating system. One connection (1) comes from the main distribution network in Reykjavegur and serves the West Stand. A second connection comes from a distribution branch from the main distribution network in Engjavegur. This serves a room in the East Stand (2) and also continues further north to serve the storage area at the northern point of the Stadium (3).

Connection (1): 40mm insulated pipe; installed 2006; owned by Veitur

Connection (2): 20mm insulated pipe; installed 1996; owned by Veitur

Connection (3): 25mm insulated pipe; installed 2012; owned by Veitur

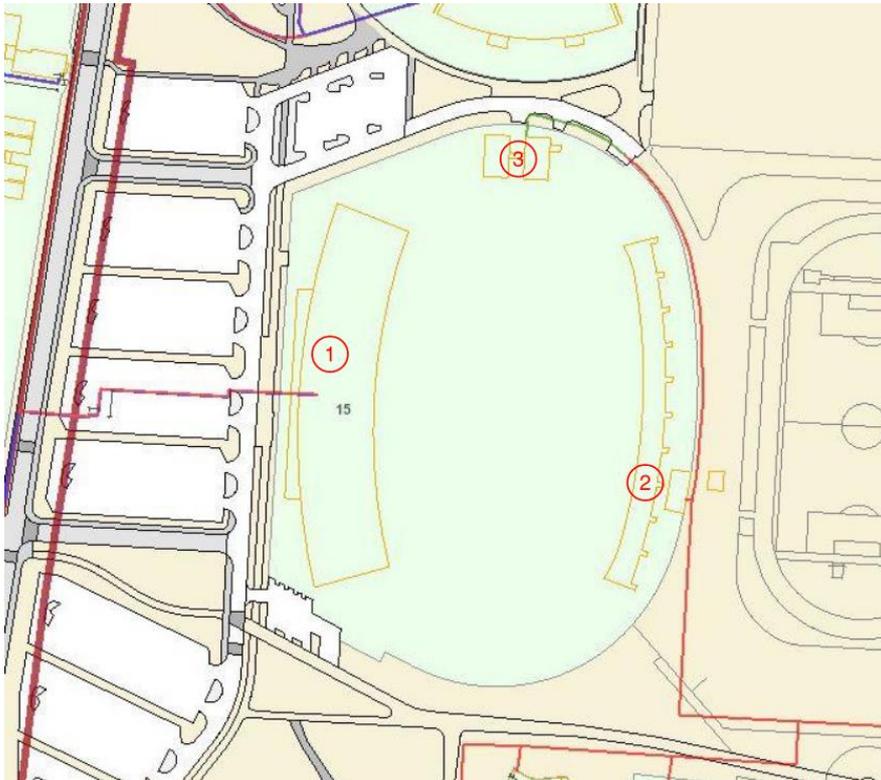


Figure: District Heating Hot Water Connections



3.6 Potable Water

The potable water supply is from the distribution network pipe in Reykjavegur. The water supply to the West Stand (1) is routed below ground from a connection pit located in the Stadium West Car Park. From the connection pit the supply pipework is routed below ground to serve the storage area to the north (2), continuing around to the East Stand Services Room (3).

Connection (1): 90mm PVC pipe; installed 2006; owned by Veitur

Connection (2): 32mm PVC pipe; installed 1987; owned by Stadium

Connection (3): 90mm PVC pipe; installed 2012; owned by Stadium

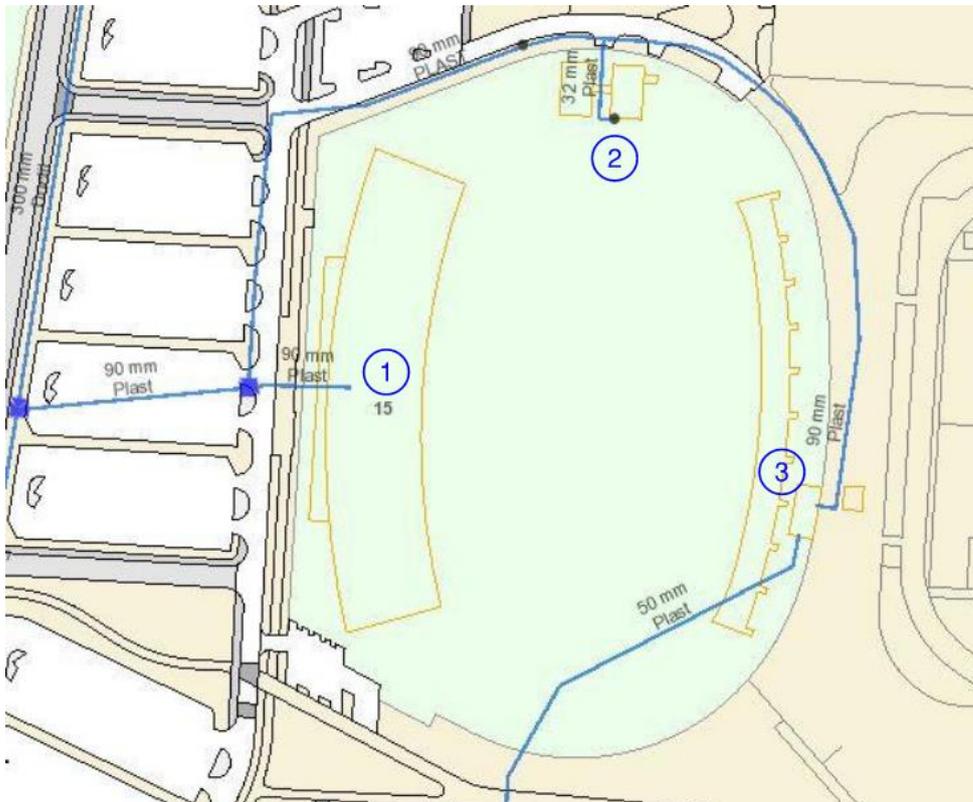


Figure: Potable Water Connections

3.7 Communications

There is currently a fibre network installed from Reykjavegur into the West Stand.



3.8 Key Existing Services

In order to allow the design team to assess any additional requirements or improvements needed to existing services installation we have undertaken a review of the key existing services that are required by UEFA for approved stadia.

Service	Description	UEFA Cat 4 Compliance
Pitch Heating / Pitch Cover	Currently there is no undersoil heating facility. A pitch covering is utilised but reports are that this is inadequate	✗
Flood Lighting	4 Masts (44m height) 2000W in each mast 3 lighting options 600lux (Maintenance) 1000lux (Training) 16000lux (broadcast matches)	✓
Access Control	Currently there are no turnstiles at the Stadium. Currently manually scanned via handheld scanners	✗
Emergency Lighting	A standard lighting installation should have adequate emergency lighting	✓
Public Address	The public address system currently installed only covers the inside seating area of the Stadium. It does not cover the internal office spaces in the West Stand nor outside of the seating area of the Stadium	✗
Control Room	Currently considered suitable	✓
CCTV	2 cameras covering the front of the west stand with the option of pan, tilt and zoom. 1 camera above the pitch covering the stands with the option of pan, tilt and zoom and 6 “regular”. In total there are 43 cameras connected to the system spread around the area. May require further review to ensure full compliance	✓
Media Areas	Reports from the Stadium are that the current facilities are inadequate and outdated	✗



3.9 Athletics track retention vs. removal

KSÍ has argued that, to deliver a quality, modern football stadium the athletics track should be removed. From a purely football perspective, we would agree that this is imperative. However, we do acknowledge that there are wider sporting and social considerations linked to the provision of athletics in Iceland and Reykjavik which ultimately will also inform any decision.

Developing a new stadium without the athletics track would facilitate an architectural solution that brings supporters closer to the field of play – which generates a significantly enhanced matchday atmosphere and in so doing likely increases the ‘home advantage’ observed by economists.

Based on our research, Iceland is one of only three current FIFA top 100-ranked nations playing at a national stadium with a permanent athletics track (NB Stade de France is excluded from this count as it features retractable seating which covers the track in football mode).

From a commercial perspective, removing the track is likely to significantly enhance the ability to generate revenues since moving the crowd closer to the pitch significantly enhances the matchday experience with a knock-on effect on ticket pricing (driven by atmosphere, proximity to the players, quality of sightlines etc) and potentially strengthening the ‘bond’ with the national team and driving repeat ticket purchases. Removal of the track also significantly reduces the cost if a covered stadium is to be considered.

As on-field performances (and world rankings) are prone to fluctuation, a quality matchday environment and atmosphere is considered critical to generating consistent demand and revenues, particularly in an ‘experience economy’ where people increasingly value experiences over things. This latter point also impacts on overall stadium capacity/ demand and the ability to consistently sell out tickets. This will be analysed separately by us to inform the development of the P&L projections.

We understand, anecdotally, that the current track is relatively well-used over the summer period, primarily for training purposes but also for domestic/ community athletics meetings. The city will need to consider whether demand can be absorbed at existing facilities such as Kópavogsvöllur and/ or how and where the track could be relocated to continue to deliver on this community need, potentially with a small stand along the home straight. This could be achieved, and indeed might better suit the needs of athletics rather than having meetings ‘lost’ in a major stadium that is too large for athletics need.

For the purposes of this feasibility study, we have assumed that the track will be removed under Development Options C & D as a minimum. The capital and operating projections that we will prepare exclude for any costs of move/ new venue and continued off-site operation of athletics.



3.10 Pitch type considerations

3.10.1 Current Pitch

The existing pitch has not been rebuilt since it was initially constructed, circa 1957, from adjacent residential development earth arisings. The top 10cm was renovated in in 1978. A major upgrade and replacement is well overdue in international pitch terms. It is primarily a organic (soil based) pitch and hence retains considerable quantity of moisture. Moisture content being measured at 48-50%, unlike a sand-based pitch which are normally in the order of 32-34%.

Its high moisture content makes it very susceptible to frost movement and is also slow to respond in springtime, i.e. the grass growth is retarded.

Essentially, its current condition is maintained because there are few games being played and the additional maintenance.

There is a large sewer pipe that crosses the site, under the pitch. There are 3No Inspection chambers along its route, which are covered by soil at approximately 400mm depth. As the grass growth over these is enhanced (warmer/ drier soil) they show up as a different shade of green. This may be a costly item to move but may need to be rebuilt due to its age/construction.

As the stadium is open and surrounding stands are low, the pitch is rarely overshadowed and there is good air movement to minimise disease.

As the new UEFA tournament games occur in March and November, there is a need to cover the pitch to allow the surface to be playable. The high moisture content of the soil does result in the pitch freezing quickly once the cover is removed and the temperature is -5deg or lower. There is also considerable energy required to raise the temperature because of the pitch make up. Playing games during the spring and autumn season, which coincides with the UEFA international calendar, in Iceland is almost impossible.

3.10.2 Future upgrades

It is essential that the new pitch is upgraded in some way to bring it up to world class playing standards and allow for better playability further across a longer season.

The very minimum solution would be to replace the existing grass and sub-base with a sand-based construction and a naturally seeded grass. An undersoil heating system would also be highly recommended if more significant works are to be undertaken in the stadium.

3.10.3 Playing surface

One key decision that will need to be made for any new Iceland National Stadium at Laugardalsvöllur is whether the stadium features a grass pitch or a synthetic (4G) pitch. This decision should be based on a rounded assessment of likely user requirements (especially KSÍ as the core tenant user) and balancing the particular throughput and financial implications as, for example, a 4G pitch of which there are many in the Reykjavik area, permits more usage (with some accompanying revenues) and is likely to incur reduced maintenance costs. Particularly given that under one of the development scenarios the Stadium will be under a (retractable) roof, the ability to grow quality, strong turf that thrives and does not require regular (and costly) replacement may be challenging – due to restricted sunlight and airflow to the pitch.

Any new synthetic turf pitch at Laugardalsvöllur would need to meet specific UEFA standards in order to be approved to host international competition.

We have summarised below the (very) high-level implications (i.e. strengths and weaknesses) of a modern, synthetic pitch surface.



Strengths

- Increases sporting and community use
- Greater ease of covering pitch to host concerts/ other events
- Reduced water consumption and therefore more environmentally sustainable
- Reduced electricity (light/ heating grow lamps) costs
- Reduced operating (pitch maintenance) costs
- Not impacted by stadium roof (if delivered)

Weaknesses

- No European teams in the FIFA 100-ranked national teams play on artificial for their home games.
- Players/ KSÍ are strongly opposed
- International reputation not maximised (i.e. perception of visiting teams etc)
- Not in keeping with elite international stadia
- Already a number of full size 4G pitches available in the Reykjavik Area for training and community use.

Although it is permissible to use a synthetic pitch at all levels of UEFA/ FIFA competition and in the Pepsi-deild karla, KSÍ has expressed in the course of this engagement that it has a very strong preference for a grass pitch over any synthetic surface, which is consistent with the preferences of most professional and National teams.

Almost half of the current top flight teams, including Breiðablik (Kópavogsvöllur), Gróttá (Vivaldivöllurinn), HK (Kórinn), Valur (Hlíðarendi) and Víkingur (Víkingsvöllur), currently play in grounds featuring synthetic turf solutions – so this option is familiar to domestic football in Iceland.

A number of top flight club teams across Europe (and particularly Northern Europe and Scandinavia) also play in stadia with 4G synthetic surfaces. This includes Young Boys (Switzerland), FC Nordsjælland (Denmark) and Spartak Moscow (Russia) plus multiple clubs in Scotland, The Netherlands, Sweden and Norway (source: team research incl. StadiumGuide.com).

However, it is uncommon for national teams to play competitive matches on these types of surface. Russia (Luzhniki Stadium, Moscow) did until relatively recently do just that but the major countries invariably play their matches on grass. We are not aware of any European teams out of the FIFA top 100-ranked nations playing their home fixtures on a synthetic surface.

In light of our team's knowledge of elite football competition and the preferences of KSÍ and professional footballers/ associations elsewhere, we expect that a synthetic surface, despite its inherent benefits in challenging climates, is unlikely to be palatable for the new National Stadium.

Based on discussions with local groundskeeping experts we have assumed that, under options where the pitch will be replaced, a grass surface will be installed.

We expect that (P&L) costs will include for a full re-laying of the pitch every 10 years. We have assumed that the ultimate design solution developed will allow for the necessary ventilation/ aeration, light and watering required for strong grass growth. This is likely to include an appropriate drainage and under-soil heating solution to optimise the quality of the pitch.

However, given the importance of a quality playing surface, the issues faced by the current grass pitch at Laugardalsvöllur and the climactic conditions in Iceland, the client team could alternatively consider an enhanced, hybrid pitch solution combining synthetic grass woven into natural grass to strengthen the surface. This is the system in place at major national stadia elsewhere in Europe including Luzhniki Stadium (Moscow), Wembley Stadium (London) and Stade de France (Paris), and also at the EFTE roof-covered Forsyth Barr Stadium (Dunedin, New Zealand).

Hybrid pitches are often used in Europe to give extra wear for heavy use through the winter, however they are not ideal in Iceland due to the climatic conditions and limited growing season. To maintain a hybrid pitch it is necessary to remove the top 7cm of construction every



6-7yrs. The new grass will take a minimum of 7 weeks to re-establish, which takes a large portion of the short summer period. A hybrid is only considered necessary if the number of games exceeds 20-25 a year.

Subject to the development of the design solution (and the ability to address the challenges above) there may be a need to revisit this recommended pitch solution further down the line, and we would highlight that there are no significant impediments to this given FIFA and UEFA's stance – though from KSI's perspective this is considered unpalatable.

We would also note that, subject to the client's overall preferences (and requirement that the Stadium be more heavily used by the community etc) there may be benefit in testing the overall financial implications of choosing a synthetic pitch which allows more intensive use. Based on our experiences elsewhere, this could potentially achieve a net benefit to the P&L of c. ISK 15-25m per annum, but would significantly compromise the core usage of the national teams.

Were such an option pursued then a grass or hybrid system could be retro-fitted further down the line should needs change, or a grass field could be added on top for short periods of usage. This works for one-off games but would not be cost efficient if it is to happen several times a year.

Moveable palletised pitches are also possible solutions worth considering allowing for different playing surfaces for different games and revealing a concrete base for events. This would also allow for a fully close stadium to be fully flexible for multiple events.

Modern developments have used a large format scalable size turf trays allowing greater flexibility in integration of the system within a stadium and precinct, for example Tottenham Hotspurs has three large trays. Other systems on the market allow scalable integration with anything between 2 and 200 trays depending on the stadium.

Each of these systems include tried and tested compression joints to provide robust turf tray edge (Ascot and Tottenham). They incorporate sophisticated automated movement system to ensure precise placement, this also enables a fast turnaround - The movement of all modules will take between 6-8 hours.

All the normal pitch systems are integrated including pitch irrigation, drainage and heating systems as well as hybrid grass reinforcement system.

The concrete base gives greater flexibility for the stadium business plan and operational model.

The down sides of moveable pitches are the significant capital cost and the storage requirements for the pitch(es) when not in use.

3.10.4 Other considerations

In a new stadium development, which will be inevitably more enclosed, consideration must be given to pitch grow lights and the storage of these during event days - important as they are space hungry. There are also increased disease pressures unless ventilation and air movement of the pitch is considered.

If the stadium is totally enclosed, the environment may be more conducive to a hybrid pitch as it is possible to regulate the temperature better. More pitch lights will be required due to the increased height of the adjacent stand roofs.

Construction challenges could be had while obtaining suitable pitch materials as these may need to be imported: i.e. importing organic materials requires special permits etc. There are no turf farms in Iceland.

If only a handful of major concert or events are likely to be held each year then these can be scheduled for July/August in open air natural grass stadia when the prevailing weather is good and the sunlight is still at its best for pitch restoration afterwards.



A suitable pitch protection system must be used to protect the playing surface for events and a period of at least a month for recovery needs to be factored in.

3.10.5 Recommendations

A natural grass pitch is the recommended surface for this project in all cases. However, in each of the options being considered the recommended pitch option or a selection of relevant solutions will be discussed with analysis of the pros and con of each system.



3.11 The Living Stadium concept

- 3.11.1 While the stadium is being developed primarily to meet the needs of the national teams, which are such a source of national pride, we believe that there is significant scope to move beyond these football uses and extend the stadium's relevance to the wider society.
- 3.11.2 On previous engagements, our team has developed what we term the 'Living Stadium' concept. The aim of this approach is to extend the building's use beyond the c. 20 sporting fixtures hosted on the pitch enjoyed by spectators, to deliver increased use and social benefit for the significant investment in a community asset.
- 3.11.3 The key goals of the Living Stadium are:
- Bring life and activity to the stadium throughout the year to avoid creating a white elephant/ unused monolith
 - Increase and diversify usage of the facility so that more people engage with the venue
 - Deliver dual use of spaces
 - Efficiently and economically deliver other facilities that public or other partners would otherwise need to build and operate separately
 - Drive enhanced and diversified revenue streams
 - Enhance the social benefit achieved from the investment
 - Encourage activity and economic impact in the surrounding area on as many days as possible.
- 3.11.4 In our experience this is particularly pertinent as a concept for national stadia, which typically host fewer events each year than would a professional club stadium, and which invariably require far greater public investment. Assuming that the public sector will be the primary funder of the stadium, we believe it is important to generate public value in return so as to maximise the efficiency and benefit of any investment in light of wider local/ national government budgeting.
- 3.11.5 A Living Stadium might include uses such as, for example:
- Museum (particularly linked to sports and/ or the city's heritage)
 - Meeting rooms/ conference facilities
 - Sports injury/ rehabilitation clinic
 - Healthcare clinic/ pharmacy/ doctor's surgery
 - Commercial lettings/ offices
 - Education uses (including potential to link to sports-specific school courses)
 - Civic spaces such as a citizens advice
 - Catering schools/ production kitchens
- 3.11.6 In all cases, the goal should be to find potential to dual use spaces which are already built and required in stadium mode, which can be designed flexibly so that they meet the needs of multiple uses without the need for significant additional spending or, particularly, constructing additional space.
- 3.11.7 In the course of this study the advisor team has engaged with a series of stakeholders with a particular potential interest in the Stadium and the infrastructure that will be created, with a



view to taking, or using, spaces at Laugardalsvöllur. This has included speaking to the city, the national government and the NOC.

- 3.11.8 While at this point in the process stakeholders have not in most cases been able to determine specific physical requirements or agree tenancies, there has been strong and consistent support for the value of the concept and the philosophy that the stadium should maximise its usage and its engagement with the wider community.
- 3.11.9 The city of Reykjavik has been working for the last decade to increase density in Reykjavik City and a significant number of building projects are in development which would dramatically increase the population around Laugardalsvöllur. See developments will create a demand for further and additional services for residents in the area from the City.
- 3.11.10 As the stadium is in the middle of a residential area (which continues to develop) it could also serve as a health facility – such as hosting a local pharmacy. To complement the core elite sports usage of the stadium we believe that there is also scope to attract and incorporate a sports rehabilitation clinic/ physiotherapist practice on commercial terms, to support the multi usage of the facility.
- 3.11.11 There is also potential for the stadium to be used as an overflow resource for teaching and creche purposes, based on our stakeholder consultation, but we do not currently assume that this will be a permanent facility and instead will be based around programming a flexible space within the stadium.
- 3.11.12 The City is sponsoring and funding multiple sport clubs around the city (through sponsored lease agreements) that the city could find it favourable to bring together in the new infrastructure that is being considered, including:
- Bogfímifélagið (The Archery Club) at a rent of ISK 1.2 m/ month
 - Tafl félag Reykjavíkur (Reykjavík Chess Club)
 - Klifurhúsið (wall climbing) located in Ármúli and so close to Laugardalsvöllur,



Bogfímifélagið



Tafl félag Reykjavíkur



Klifurhúsið

- 3.11.13 We understand that the government is currently going through a feasibility exercise with the NOC looking at the future physical requirements of indoor sport in Iceland, which may ultimately seek to be a venue that brings together some of these uses.
- 3.11.14 There is also potential to deliver new office facilities for ÍSÍ and related associations, since it is located very close to Laugardalsvöllur on a valuable development site, and there may be benefit in a partial relocation of some office requirements.



- 3.11.15 Based on our discussions to date with stakeholders we have assumed that a new sports museum will be incorporated into the stadium's hospitality lounges (following a similar model to The New England Sports Museum in Boston, USA) enabling matchday guests to enjoy the artefacts during events and schools/ public to visit outside of events. We have had initial discussions with the NOC and KSÍ about securing artefacts/ content for the space. We have also assumed a small private physio clinic will be incorporated into the stadium.
- 3.11.16 While we are confident that the spaces can and will be used by additional city programmes and other needs, based on the current stage of the project feasibility we have been conservative in our assumptions – while highlighting significant scope to achieve additional uses and benefits.



4. Optimum Stadium Capacity

4.1 Introduction

- 4.1.1 The AFL team was appointed to consider, and prepare financial projections for, four primary facility/ capacity options. Within this, the two development options would see significant increases in capacity, as follows:
- C. A new open football stadium with a capacity up to 17,500 seats
 - D. A new multi-functional stadium, with a retractable roof and a capacity up to 20,000 seats.
- 4.1.2 This section summarises our team’s analysis of the key demand considerations impacting the decision as to the optimum capacity of the future Iceland National Stadium at Laugardalsvöllur and the development of P&L projections.
- 4.1.3 We believe that getting the ‘right’ capacity is perhaps the single factor most critical to optimising stadium-related revenue, the balance between maximising ticket prices and atmosphere, and the stadium business case.
- 4.1.4 The previously commissioned Lagardère feasibility study (2016) noted that there was a “general desire and demand in Iceland for a New National Stadium” and identified a preferred capacity of 20,000 in football mode. The study references the “advantage of size” and “continuously increasing demand for football and other events” but we are not clear as to whether a detailed demand analysis to test the optimum capacity has been completed – either by Lagardère, KSÍ’ or Borgarbragur ehf. The analysis presented in this paper has therefore been developed from first principles.
- 4.1.5 This capacity recommendation is based on demographic and spectator/ attendance benchmark analysis. We have also engaged in discussions with KSÍ’s leadership on issues of their aspirations and other strategic factors influencing the stadium development decision, but the analysis presented in this section is purely data-driven.
- 4.1.6 We would note that this study was procured shortly before the full gravity of the Coronavirus was recognised and all major sports events suspended. We have assumed at this stage that professional sport, and in particular spectator appetite and demand for tickets, will return to ‘normal’ in the medium term and before any major stadium intervention work would be complete, in any case.

4.2 Historic attendances at Laugardalsvöllur

- 4.2.1 The primary driver of the capacity decision is the demand for tickets for the Iceland men’s national team, since their requirements are significantly higher than any other usage and drive the greatest overall revenue. Within this, our team strongly believes that you should not ‘build a church for Easter Sunday’ and the stadium capacity should be driven by the core usage and the overall average demand.
- 4.2.2 We have summarised overleaf at Table 4.1 the (categorised) historic attendances over the last 10 years at Laugardalsvöllur. The full detail, by year, is available at Appendix L to this document.



Table 4.1 Historic match attendances at Laugardalsvöllur (2010-2019)

Row Labels	No. of events	Average Attendance	Highest Attendance	Lowest Attendance
Men's Domestic league	82	653	1,987	49
Men's national U17 Team	1	657	657	657
Men's national U21 Team	4	3,414	7,255	1,300
Other	1	801	801	801
UEFA Europa league	2	5,230	9,829	630
Woman's national U17 Team	2	300	317	283
Women's National A Team	26	3,147	9,636	579
Men's national A Team - Friendly	8	6,289	9,723	2,567
Men's Domestic Cup Final	10	4,528	5,751	3,094
Women's Domestic Cup Final	10	1,665	2,435	1,015
Men's national A Team - ECQ	14	8,610	9,767	5,267
Men's national A Team - WCQ	11	9,441	9,775	8,352
Men's national A Team - Nations League	2	9,187	9,710	8,663
Women's Domestic league	1	454	454	454
International preseason	1	6,237	6,237	6,237
Grand Total	175	2,990	9,829	49

Source: IPW... analysis of data provided by KSI

4.2.3 Table 4.2 below highlights the senior (men's and women's) national team attendances over the last 10 years.

Table 4.2 Senior national team match attendances at Laugardalsvöllur (2010-2019)

Row Labels	Average Attendance	Highest Attendance	Lowest Attendance
Men's national A Team - ECQ	8,610	9,767	5,267
Men's national A Team - Friendly	6,289	9,723	2,567
Men's national A Team - Nations League	9,187	9,710	8,663
Men's national A Team - WCQ	9,441	9,775	8,352
Women's National A Team	3,147	9,636	579
Grand Total	6,146	9,775	579

Source: IPW... analysis of data provided by KSI

4.2.4 In particular, as the primary demand driver and ticket/ revenue generator, we have highlighted the attendances achieved by the men's side over the last 10 years at Table 4.3 below.



Table 4.3 Senior men’s national team match attendances at Laugardalsvöllur (2010-2019)

Match Category	No. of events	Average Attendance	Highest Attendance	Lowest Attendance
Men's national A Team - ECQ	14	8,610	9,767	5,267
Men's national A Team - Nations League	2	9,187	9,710	8,663
Men's national A Team - WCQ	11	9,441	9,775	8,352
Men's national A Team - Friendly	8	6,289	9,723	2,567
Grand Total	35	8,374	9,775	2,567
Grand total (competitive only)	27	8,991	9,775	5,267

Source: IPW... analysis of data provided by KSI

4.2.5 The men’s national team attendances have also increased in the last five years, boosting the overall competitive average attendance achieved from c. 9,000 (over the last 10 years) to over 9,300, as shown below in Table 4.4.

Table 4.4 Senior men’s national team match attendances at Laugardalsvöllur (2015-2019)

Match Category	No. of events	Average Attendance	Highest Attendance	Lowest Attendance
Men's national A Team - ECQ	8	9,147	9,767	7,169
Men's national A Team - Nations League	2	9,187	9,710	8,663
Men's national A Team - WCQ	5	9,724	9,775	9,548
Men's national A Team - Friendly	3	9,090	9,723	8,401
Grand Total (all matches)	18	9,302	9,775	7,169
Grand total (competitive only)	15	9,345	9,775	7,169

Source: IPW... analysis of data provided by KSI

4.2.6 KPMG noted that nearly all men's competitive Men’s A team matches were sold out from 2013-2017. Analysis suggests that over this period, average attendance at competitive matches exceeded 96% of (9,800) capacity every year. The average attendance subsequently fell slightly in 2018 (two matches; c. 94% of capacity) and 2019 (five matches; c. 92% of capacity). This could be due to multiple factors – most notably the profile/ calibre of visiting opponents (Andorra, Moldova and Albania in 2019, for example) and the public perception of Iceland’s quality/ Iceland’s FIFA world ranking (which averaged 27 from 2015-2017 and latterly averaged just 38 in 2019).

4.2.7 Friendly matches have typically recorded significantly lower attendances than competitive matches (though this differential has reduced in the last five years). However, with the restructuring of the UEFA calendar (the introduction of the Nations League) there will be fewer/ no non-competitive games moving forward. With the move to the Nations League, this also increases the potential number of competitive home fixtures/ consistency of opponent quality year on year.

4.2.8 These strong attendances have been achieved despite the relatively low quality of the current stadium and the distance from seat to pitch, which significantly negatively impacts the matchday experience. With the ‘New Stadium Effect’ there is also potential for growth in the



average attendance achieved, and with interventions in the seating mix it may also be possible to achieve increased revenues on a per seat basis.

4.2.9 The analysis is primarily based on the number of tickets sold (announced attendance) rather than the turnstile count. Based on anecdotal input from KSÍ, we understand the turnstile count to be c. 95%.

4.3 Benchmarking attendance figures

4.3.1 We have prepared some benchmark analysis of the national team attendances of other European countries with total populations that are comparable to Iceland’s current population of c. 364,000 (per Statistics Iceland). This has identified Montenegro (628,000), Luxembourg (626,000 population) and Malta (442,000) as the closest comparators, followed by Cyprus (1.2m), Liechtenstein (38,000), San Marino and Gibraltar (both c. 34,000).

4.3.2 Of these nations, only Montenegro (64th), Cyprus (95th) and Luxembourg (98th) are ranked inside the top 100 of FIFA’s world rankings, compared to Iceland’s current ranking of 39 (FIFA.com, as of April 2020).

4.3.3 We have completed an analysis of attendances for these nations, with a focus on the penetration rates achieved both nationally and within the capital city metropolitan area, as the assumed primary ticket demand market. This identifies the percentage of the total national or local population attending senior men’s games based on the recent average attendances and the penetration rate required to sell out the stadium. For example, a country with a total national population of 1,000,000 averaging 20,000 attendance is realising an equivalent 2% national penetration rate.

4.3.4 Table 4.5 below summarises the national populations of these comparator nations, set against the national stadia capacities and average attendances achieved by each in the last five years (competitive matches).

Table 4.5 Comparator European country catchment and national target penetration rates

Nation	Average attendance	Capacity	National Population Attendance as % of population	National Population Capacity as % of population
Cyprus	8,500	22,900	0.7%	1.9%
Montenegro	7,500	11,300	1.2%	1.8%
Luxembourg	4,800	8,100	0.8%	1.3%
Malta	8,100	17,000	1.8%	3.9%
Iceland	9,300	9,800	2.6%	2.7%

NB All figures are rounded

Sources: Statistics Iceland; United Nations population data; WorldStadiums.com; ESPN, 11v11; Additional IPW... research plus data provided by KSÍ

4.3.5 The national stadia of Cyprus (c. 23,000 capacity), Montenegro and Malta (both c. 17,000) are all significantly larger than Laugardalsvöllur. Luxembourg (c. 8,000 capacity) is smaller than Laugardalsvöllur. None of these nations achieves a penetration rate even approaching Iceland’s c. 2.6% (national) level.

4.3.6 Expanding the core comparator set, only a handful of top 100-ranked countries (per FIFA World Rankings at April 2020) play in national stadia where a comparable penetration rate/catchment conversion rate is required to achieve full stadium capacity, including:

- Wales: 2.4% penetration rate required (3.14m population; 73,900 capacity stadium)
- Montenegro: 1.8% penetration rate required (0.63m population; 11,300 capacity stadium).



- 4.3.7 Appendix K lists all of the current top 100-ranked European countries, ranked by the effective penetration rate each must hit to achieve stadium capacity. This illustrates that Laugardalsvöllur/ Iceland already has more seats per capita than any other top-100 ranked country and as such must ‘convert’ a greater percentage of the population to sell out matches.
- 4.3.8 Given the significant variations between the land areas and overall national population densities between countries, we have also completed a more micro level analysis to compare capital city populations and therefore more immediate stadium catchment populations. While fans will be drawn from beyond the city metro area, this provides a useful proxy comparator from which to gauge potential market size/ demand.
- 4.3.9 The penetration rates required in each case to achieve sell out are summarised in Table 4.6 below.

Table 4.6 Comparator European country catchment and metro catchment target penetration rates

Nation	Average attendance	Capacity	Metro/catchment Population Catchment population	Metro/catchment Population Attendance as % of population
Cyprus	8,500	22,900	200,000	4.3%
Montenegro	7,500	11,300	185,000	4.1%
Luxembourg	4,800	8,100	116,000	4.2%
Malta	8,100	17,000	394,000	2.1%
Iceland	9,300	9,800	217,000	4.3%

NB All figures are rounded
Sources: Statistics Iceland; United Nations population data; ONS UK population data; WorldStadiums.com; ESPN, 11v11; Additional IPW... research plus data provided by KSÍ

- 4.3.10 At the city region level (and based on a Greater Reykjavik population of c. 220,000), Iceland achieves an average penetration rate of c. 4.3%. This is very comparable to the rates achieved by Luxembourg, Cyprus and Montenegro (all 4.1-4.3%) across their capital city metro populations.

4.4 Latent demand and the New Stadium Effect

- 4.4.1 Based on recent attendances at national team matches, it appears that there is latent demand for tickets that could be met in a new, larger stadium. In addition to this, teams/ franchises moving to a new stadium have consistently achieved increased attendances having developed higher quality facilities, with evidence of this impact across sports and across different markets including in the UK, Europe and North America.
- 4.4.2 While there are few recent examples of new national stadia in Europe, the New Stadium Effect attendance uplift has been consistently exhibited internationally and quantifying the likely impact in Iceland’s specific case is therefore important.
- 4.4.3 Wider market analysis internationally has also sought to quantify the New Stadium Effect across different markets and sports. Historic research and analysis has highlighted examples including:
 - England/ Football League – Across all professional football cases in England since 1992/93 (the advent of the Premier League), the New Stadium Effect has averaged an attendance increase of c. 47%. Excluding any clubs promoted/ relegated in the previous season, the net 'New Stadium Effect' is reduced to c. 41% in Year 1 (source: IPW... research 2018);



- North America/ Major League Baseball - the 14 MLB teams moving to new stadia between 2000-2012 averaged a 20% attendance increase (source: www.foxsports.com). A longer term study separating quality-of-play effects identified attendance increases of 32-37% in the opening year of a new stadium (Clapp & Hakes, 2005);
- Spain/ La Liga football – the seven teams moving stadia in the last c. 15 years have averaged a c. 33% increase in league attendance (source: European Football Statistics);
- Germany/ Bundesliga – teams moving stadia in the last c. 15 years. have averaged a c. 40% increase in league attendance (source: European Football Statistics);
- Secondary European football markets – new club stadia developed in smaller European markets (Albania, Azerbaijan, Belarus, Bosnia, Bulgaria, Cyprus, Serbia and Slovakia) have averaged a c. 47% increase in Year 1 attendance (source: European Football Statistics).

4.4.4 Across multiple sports and markets the New Stadium Effect has been found to average c. 35%. It is also critical to note the importance of considering the stability/ sustainability of any attendance increases.

4.4.5 Attendances in new stadia are not necessarily consistent from Year 1 onwards, and in a number of cases have fallen – suggesting a honeymoon period of sorts. In professional football in England (30+ cases) previous research has illustrated that approximately half of all clubs exhibited reduced attendances after the initial New Stadium Effect, with attendance in Years 2-6 averaging 2% lower than in Year 1.

4.4.6 Applying a projected New Stadium Effect uplift to recent attendances would suggest that the following averages (for competitive internationals only) might be attainable:

- Low end (reflecting Iceland's already high achieved) penetration: 25% increase – 11,600 average
- Conservative case (based on Spain and MLB examples): 32% increase – 12,300 average
- Mid-scale case (based on overall international average): 35% increase – 12,600 average
- Aggressive case (secondary football markets): 47% increase – 13,700 average.

4.4.7 Achieving these average attendances will of course require a larger stadium to cater for bigger matches that drive the average higher. We would recommend that a peak capacity of c. 10-15% seats more than the average would be advisable for the new stadium. This would equate to stadium capacities of:

- Low end – 12,800 capacity
- Conservative case – 13,500 capacity
- Mid-scale case – 13,900 capacity
- Aggressive case – 15,100 capacity.

4.4.8 Based on the current Icelandic national population (per Statistics Iceland) and applied to the capacity scenarios above and previously developed:

- A 12,800 capacity National Stadium would require a national penetration rate of 3.52% to achieve sell out/ capacity (6.45% penetration of city region population)
- A 13,500 capacity National Stadium would require a national penetration rate of 3.71% to achieve sell out/ capacity (6.22% penetration of city region population)
- A (say) 14,000 capacity National Stadium would require a national penetration rate of 3.85% to achieve sell out/ capacity (6.45% penetration of city region population)
- A (say) 15,000 capacity National Stadium would require a national penetration rate of 4.12% to achieve sell out/ capacity (6.91% penetration of city region population)
- A 17,500 capacity National Stadium would require a national penetration rate of 4.81% to achieve sell out/ capacity (8.06% penetration of city region population)



- A 20,000 capacity National Stadium would require a national penetration rate of 5.49% to achieve sell out/ capacity (9.22% penetration of city region population).

4.4.9 Following discussions with the client team, we have separately sought to analyse the New Stadium Effect (international examples) specific to teams moving from open to roofed stadia. This has included European football teams in Germany, Sweden, The Netherlands, and Russia plus the NFL’s Minnesota Vikings as the most recent international example of a team in a similarly cold weather environment. These findings are summarised in Table 4.7 below.

Table 4.7 Attendance impact for teams moving to retractable roofed stadia

Nation	Average Attendance
Vitesse Arnhem (s-term)	65%
Vitesse Arnhem (l-term trend)	27%
Minn. Vikings	27%
Schalke	32%
Djurgarden	5%
Hammarby	69%
Ajax	101%
Zenit SP	137%
Dinamo Bucharest	7%
Average	51%

Sources: IPW... research including European Football Statistics

4.4.10 This is a smaller sample size than is available for the New Stadium Effect more widely, and the table illustrates the significant variation between cases. Based on our research the New Stadium Effect for teams moving to new retractable roofed stadia is c. 51% (NB this analysis takes the longer term increase for Vitesse Arnhem as their attendances significantly settled at +27% after a +65% Year 1). This is a slightly higher average than in the overall analysis set, but given the range and the size of the data set we would urge caution over assuming that this percentage increase could or should be applied at the new Laugardalsvöllur.

4.4.11 Iceland currently performs at the upper end of the benchmark penetration range across the comparator set, despite the significant limitations of the current stadium. This is testament to the nation’s passion for football and, in the last five years in particular, the tremendous success of the national side(s). While there is potential to achieve further increases in attendance through the New Stadium Effect, the fact that attendance is already very high relative to the national and metro level populations suggests that this scope might be lower than previously assumed by Lagardère (particularly if ticket prices/ yields are not to be further compromised).

4.4.12 On this basis, we believe that a smaller capacity stadium (i.e. less than the 17,500 – 20,000 seats noted in the original client brief) should be considered in the Business Case.

4.5 Seating composition

4.5.1 The current national stadium provides no dedicated hospitality/ Premium Seat offerings for private customers. Other than visiting team/ UEFA dignitaries and VIPs, we understand that only certain partners are allowed access to the designated areas within the West Stand as part of their sponsorship deals. This shortage of available premium inventory (c. 450 seats/ c. 4.5% of capacity) and inability to sell packages limits the revenue currently achievable, with only General Admission (GA) seats available.



- 4.5.2 The Lagardère study recommended that 642 seats be developed (we assume in addition to the VIP seats which are not sold. If added to the existing c. 450 seats, c. 1,100 total seats equates to 7.2% of a 15,000 capacity stadium/ 6.2% of 17,500 capacity/ 5.4% of 20,000 capacity. If not added to the current supply, 642 seats equates to 4.3% of a 15,000 capacity stadium/ 3.7% of 17,500 capacity/ 3.2% of 20,000 capacity.
- 4.5.3 Internationally, we typically expect Premium Seats to constitute c. 8-10% of all available seats. However Lagardère rightly highlighted the shortage of dedicated hospitality concepts and offers in Reykjavik and Iceland as challenges to the preparation of robust demand projections, packages and pricing approaches. In developing the seating mix further, additional international benchmarking will be required overlaid with an appreciation of the unique economic conditions in Iceland (including levels of disposable income).
- 4.5.4 On the basis of our initial analysis, we have identified the following indicative Premium Seating mix for Laugardalsvöllur at Table 4.8 below.

Table 4.8 Indicative seating mix (Premium offer) – New National Stadium

Offer	Number	Capacity	Total seats	% of capacity
Party boxes	3	24	72	0.5%
Boxes	10	12	120	0.8%
Tunnel Club	1	50	50	0.3%
Lounge 1	2	125	250	1.7%
Lounge 2	2	175	350	2.3%
Premium GA	2	250	500	3.3%

NB % of capacity calculated on the basis of 15,000 capacity stadium

- 4.5.5 Following international trends, we have assumed a more social approach to Premium Seating rather than being primarily built around exclusive, small skyboxes. This encourages networking and responds to Iceland’s close kinship relations and the tight social networks of Icelanders. We have also suggested the inclusion of a Premium GA price band which acts as a lower priced entry point to Premium Seating. This mix provides the potential for a range of offers and a value add at different price points.
- 4.5.6 This mix is indicative and should be subject to further testing on the selection of an operating partner to complete fuller analysis of the market.
- 4.5.7 The databook accompanying this report contains further information around the assumed sales of these seats (seasonally vs. match to match). The Premium Seats (excluding Premium GA, we currently assume) would be considered ‘off manifest’ for concert/ event promoters and therefore available for the stadium to sell and generate key revenue from.

4.6 Capacity recommendation

- 4.6.1 This section has provided a commentary on our capacity recommendations for the new Iceland National Stadium at Laugardalsvöllur, based on market analysis and international benchmarking. We have also drawn on research across other sports and markets.
- 4.6.2 As ticketing revenue (from GA and Premium Seats) is the central income stream that will underpin KSÍ's finances and the Stadium's operating position and overall affordability (regardless of the operating model/ solution) this is a critical consideration.
- 4.6.3 Based on international best practice and benchmarks, the potential for fluctuations in the quality of the Men's National Team and, importantly, their opponents, we do not believe that creating a 17,500+ capacity stadium is likely to maximise the business case. In our experience, delivering excess supply invariably:



- places downward pressure on pricing
 - reduces the intensity of the atmosphere (home advantage) and matchday experience
 - results in additional capital investment to create seats that are rarely sold.
- 4.6.4 Our previous New Stadium Effect research looking at clubs in England has shown that clubs developing new grounds have increased capacity by an average of 65% compared to an attendance increase of 47%. This illustrates that many teams have over-expanded their stadia having attempted to future proof capacity or been overly optimistic as to the level of demand. This has effectively resulted in additional expenditure to deliver larger grounds than needed, in many cases. The differential is seemingly lower in Germany, with our research suggesting that clubs have increased capacity by an average of 45% compared to an average attendance increase of c. 40%.
- 4.6.5 Based on the analysis that we have completed in this engagement, we would identify that, from the perspective of core football demand, the Men's national Team could average c. 12-13,000 attendees per game at a new National Stadium at Laugardalsvöllur (competitive matches only - subject to the number of matches/ quality of opponents).
- 4.6.6 In light of our analysis and allowing for peak game demand, we believe that the client team should consider alternative, lower capacity stadium solutions (i.e. less than 20,000 capacity). The data suggests that attendances of c. 14-15,000 could be achievable and targeting a new home of this type of scale would be likely to be preferable from a commercial/ Business Case perspective to a larger capacity stadium.
- 4.6.7 Subject to the design of the stadium intervention and the appropriate GA/ Premium GA/ Hospitality mix, at this capacity we expect that the stadium/ KSÍ will be able to:
- capitalise on potential latent demand suggested by current high levels of occupancy and associated with the New Stadium Effect - thereby achieving increased attendances
 - increase total ticketing revenue (from its current level of c. ISK 180m/ annum), to increase KSÍ's overall financial sustainability and the amount that can contribute to project funding
 - achieve sell out for games without resorting to discounting, and retain a scarcity value/ buzz (enabling Tournament Ticket combo numbers to be maximised to boost cashflow if required)
 - facilitate extending the range from low-high across ticket pricing (with a value-based model for fans at all levels) without compromising yield per seat
 - focus on enhancing the matchday experience to increase the quality of the Stadium offer for fans and thereby maximise secondary revenues
 - capitalise on/ enhance the current 'home advantage' generated by the crowd atmosphere.
- 4.6.8 A decision to extend beyond this capacity range should be dictated by a clear wish to maximise the stadium's accessibility to fans (at discounted prices i.e. for strategic/ social rather than financial goals), a strategic decision linked to the perception of achieving a certain 'number', or should a non-football rationale be identified requiring a larger total capacity.
- 4.6.9 These findings were presented to, and discussed with, the client team in the course this engagement. On the basis of this research, it was agreed that the advisor team would prepare analysis of the following alternative stadium models:
- 15,000 capacity stadium
 - 15,000 capacity stadium with retractable roof
 - 17,500 capacity stadium
 - 17,500 capacity stadium with retractable roof.
- 4.6.10 These options are introduced further in Section 5 below.
- 4.6.11 The attendance assumptions included in the future case P&Ls (see Section 6) will be informed by this analysis to create robust financial projections.



5.The Strategic Case – The Final Business Case Options

5.1 Approach to the options

5.1.1 Options

The following section outlines the final options that form part of the final analysis. These are strategic and although they show layouts and capacities these are intended as indicative only. Options A & B both look at the existing stadium. Option A is light touch face lift and Option B a facelift plus additional works to bring the stadium up to UEFA Cat 4 compliance, while maintaining the existing Hospitality/VIP offer.

Options C & D both essentially look at new larger stadium solutions while also meeting UEFA Cat 4 requirements and improving the Hospitality and VIP offer.

The retention of the existing West Stand in its entirety into the scheme has been shown in options C1 & D1. We have assumed that the same Option B upgrades would be applied to the West Stand achieving UEFA CAT 4 compliance but maintaining the existing hospitality and VIP offer. Further remodelling of the existing West Stand to increase the hospitality provision would incur significant costs and would involve moving the current stadium offices out of the venue.

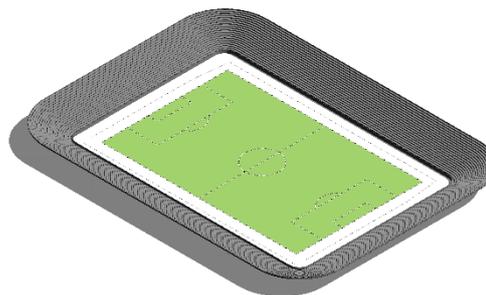
5.1.2 Capacities

As discussed earlier in Section 4 it has been agreed with the board to amend the capacities in options C and D from 17,500 and 20,000 down to 15,000 and 17,500 respectively. This aligns better with the projected attendances for football and music events.

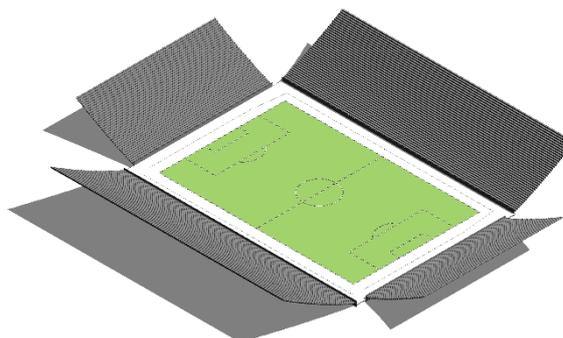
5.1.3 Bowl Shape

There are two essential bowl shapes possible for any future replacements of the existing infrastructure: A continuous seating bowl and four separate stands.

A continuous bowl is often considered the ideal modern approach to new stadia as it creates a 360-degree cauldron for the fans and the players alike. This is well suited in stadia at capacities of 20/30k or larger but for small stadia at 10-15k capacity it has the effect of spreading the spectators evenly around the field of play reducing the visual impact and is proportionately more expensive to construct.



A four-stand solution as well as being simpler to build, packs the spectators together in steeper banks creating more imposing walls of fans and generally producing a more intense atmosphere. It also allows future expansion to be easily accommodated in the corners.





5.1.4 West Stand as Main Stand

The outline business case options C and D looked at the most cost-effective way of delivering a new stadium, with the option of retaining the existing west stand.

In smaller stadiums 30K and under it is most cost effective to place all the hospitality into one stand along with the other key uses such as Players and Media facilities, all requiring a higher level of internal fit-out, heating, and mechanical ventilation. With 7 day a week access planned for non-matchday uses, only one stand needs to be opened and operated regularly leaving the other stands to be closed when not in use meaning cheaper running costs.

Stadia are recommended to be orientated north-south or with sun path analysis for the region they are located, so that for the low mid-afternoon sun and evening games the sun sets behind the main stand containing the media and TV cameras and typically the VIP. The existing Laugardalsvöllur is orientated in this way.

Splitting the VIP/Hospitality seats across two stands is possible but is not recommended for stadia of this scale as it reduces the efficiencies in construction and operation.

Placing all the main stand facilities on the East is not recommended as the TV cameras and commentary positions need to remain in the west and this will split some or all of the media from the players areas. There would also be the need to provide direct and secure routes for team buses and other vehicles to the 'front door' which would not be possible without acquiring extensive additional land.

5.1.5 Retractable roof

The benefits of making Iceland's National Stadium an all year-round venue are clearly appealing and we explore the issues in Section 5.8. We explore various retractable roof arrangements and support systems in Section 5.9. One of these has inboard masts on the four corners of the field of play reducing the overall spans and optimising the structure and costs. A four-stand solution allows this approach to work well.

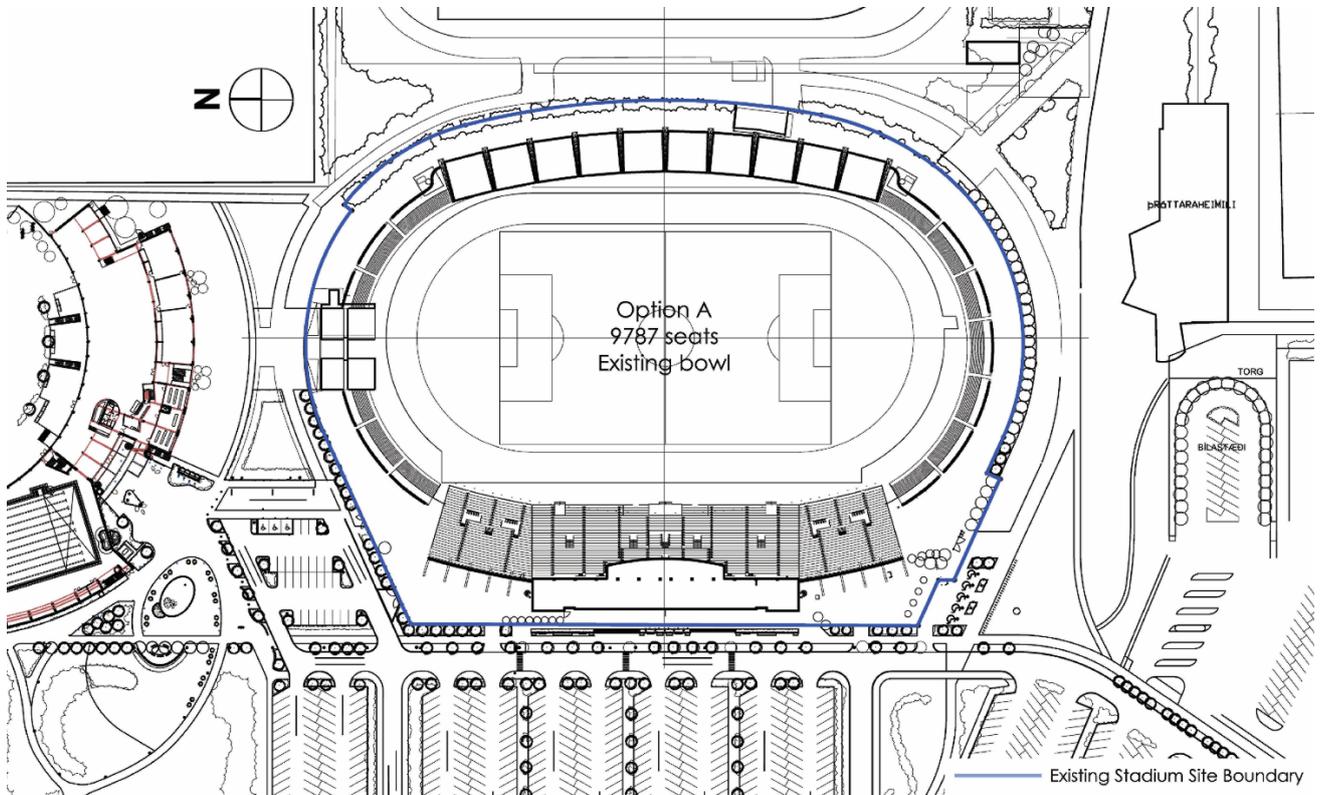
5.1.6 Summary

All of the seating and structural arrangements can be explored in much more detail in the feasibility stage, but for the purposes of this Outline Business Case study we have chosen to explore the four stand option as it allows for all the sub-options to be compared, like for like, highlighting the economics more directly: New West Stand vs Existing West Stand and Open Roof vs Retractable Roof.



5.2 Option A – Carry out the minimum work to maintain the current stadium

5.2.1 Existing Configuration



List of refurbishments - Option A

In this option there will be only very light refurbishment to areas in need of minor upgrades (fit-out) Circa 5200m².

There will be a new sand-based pitch to improve use during the freezing weather but no under pitch heating which requires significant infrastructure.

No floodlighting will be upgraded.

The running track will remain and will not be upgraded/ resurfaced.





5.2.2 Capacities - Option A

Seating Zone	Seat Type		Existing Seating
West GA	GA		5754
North West GA	GA		0
South West GA	GA		0
West Hospitality	VIP		445
West Sky Boxes	SB		0
West Media	M		68
Sub-total West			6267
North GA	GA		0
Sub-total North			0
East GA	GA		3500
Sub-total East			3500
South GA	GA		0
Sub-total South			0
Sub-total All Stands			9767
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000		20
GA Wheelchair Companion			0
GA Amenity Seats			0
Hospitality Wheelchair Positions			0
Hospitality Wheelchair Companions			0
Hospitality Amenity Seats			0
Sub Total Accessible seats			20
TOTAL			9787



5.2.3 List of changes upgrades - Option A

- In this option there will be only very light refurbishment to areas in need of minor upgrades (fit-out) Circa 5200m².
- There will be a new sand-based pitch to improve use during the freezing weather but no under pitch heating which requires significant infrastructure.
- No floodlighting will be upgraded.

5.2.4 Concert/Event layout - Option A

- In its current form, Laugardalsvöllur can host major concerts of 20,000+ capacity in end-stage mode, with the stage built at the [South] end of the stadium. While the seating capacity is limited, the presence of the athletics track does significantly increase the standing capacity in this format. The stadium has recently hosted Ed Sheeran (two nights, 2019) and Guns & Roses (2018) – where the events have sold tickets at rates amongst the highest prices of any stop on their world/ European tours despite the limitations of the stadium experience.
- The wider stadium design and access is far from ideal for effective and efficient events, resulting in higher costs for the event promoter which reduce the overall bottom line and in turn make it difficult to bring lots of shows to the stadium. The site's challenges are an influencing factor in promoter rent payments being significantly lower at Laugardalsvöllur than we would expect in other similarly sized venues.
- A further limiting factor of the concert economics of the current stadium is the shortage/ absence of Premium Seats which would typically be off-manifest for the promoter under the terms of the hire agreement, and instead available for the stadium to sell directly. In selling directly the stadium operator can realise generate maximum revenue through achieving face value for the tickets rather than a small percentage of the value as an extension of the rent payable by the promoter.
- We would also note that the absence of a retractable over the field of play means that Iceland effectively has a short concert season which largely overlaps with the festival period for major artists, making it difficult to secure content.

5.2.5 Playing Surface - Option A

As the current pitch is very old, of poor surface quality and has a soil based build up, which performs poorly in the freezing weather, the recommendation is that the pitch is replaced with a new sand based build up to improve natural drainage with seeded grass. No under pitch heating is proposed in this option.

Refer to Appendix J for STRI's SWOT analysis of pitch options and the Notes from discussions about the existing pitch.

5.2.6 Structural & Civil Engineering Considerations - Option A West Stand

Non-intrusive structural inspections have been undertaken to inform the outline business case, the initial findings of the surveys indicate that the both the original 1997 construction and the extension built in 2007 are generally in a satisfactory condition.

The roof steelwork is generally in good condition and on the assumption no further load is applied to the roof it should be adequate to continue to function in its current state. There are some structural members that have raised questions, such as tension bracing rods that are not tensioned. We would recommend a detailed structural inspection is undertaken. It is likely that the painted corrosion protection is coming to the end of the period to first maintenance (typically 15 years). An allowance should be included for cleaning, detailed inspection and touching up of the corrosion protection.



Both reinforced concrete frames for the original building and the 2007 extension are largely in good condition. There is cosmetic damage in some areas and there is evidence of water damage from water penetrating the seating terrace into the floors below. Repairs have been carried out to these areas in the past, a more permanent repair may be required if the existing structure is to be retained.

East Stand

The existing concrete structure for the east stand is in satisfactory structural condition, it has been painted in areas which now require redecoration. There is evidence of previous repairs, but this looks to be cosmetic rather than structural. The roof primary roof cantilever structure require maintenance as the corrosion protection is in poor condition. The secondary elements linking the primary elements are also in poor condition and potential may need to be replaced to extend the life of the structure. The support columns for the roof provide restricted views from the rear portion of the stand.

Miscellaneous Structures

The outbuildings to the north end of the stadium that are used as the groundsman's store are typically in poor condition. If Option B is to be taken forward, these will need significant repairs to prolong their life or be replaced.

The perimeter wall to the front of the stands that runs around most of the stadium is in very poor condition in places, suffering spalling from frost damage. If this feature is to be retained repairs or replacement will be required.

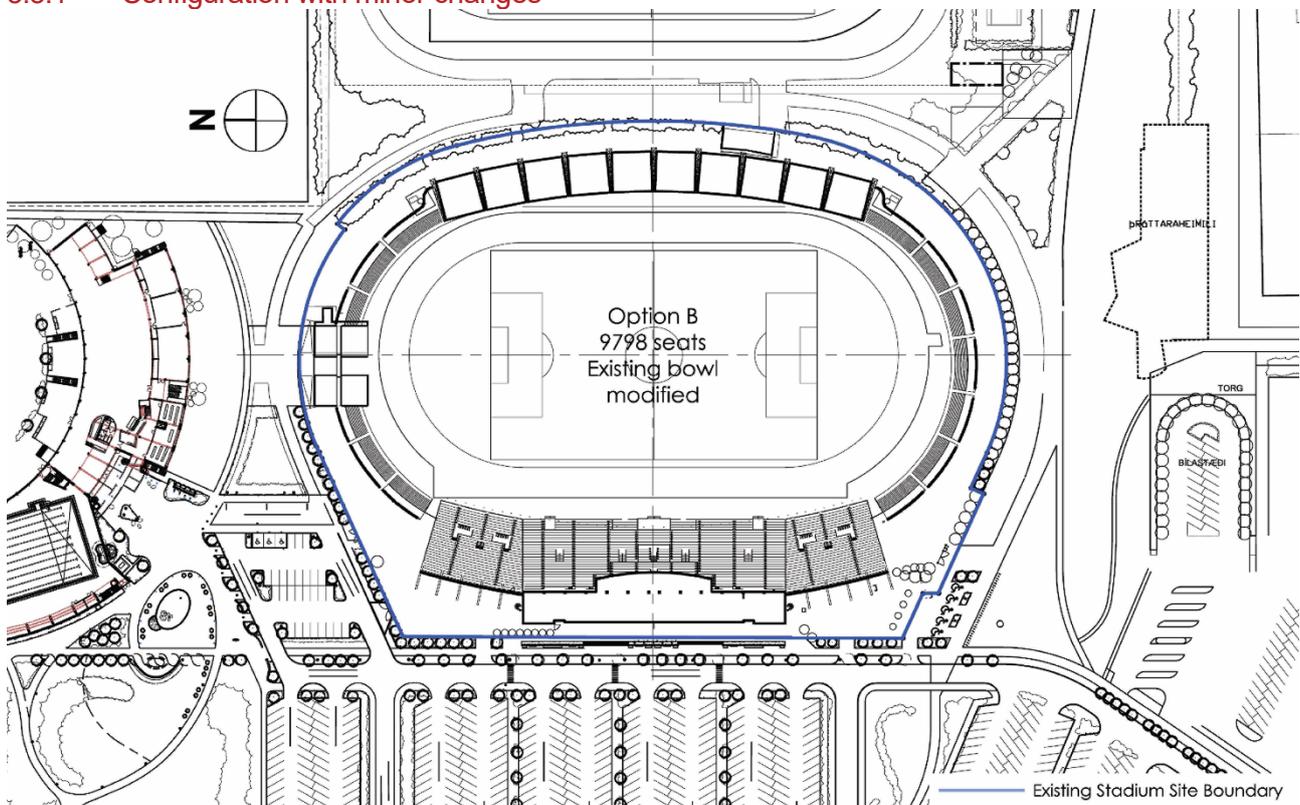
5.2.7 MEP Engineering Considerations - Option A

There are minimal MEP implications with amendments only required to locally reconnect to suit minor refurbishment.

The existing utilities supplies are adequate for the current usage and are therefore to be retained.

5.3 Option B – Existing Stadium refurbished to UEFA Category 4 Requirements

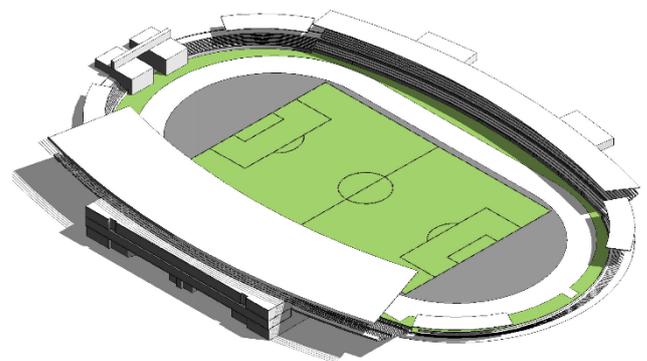
5.3.1 Configuration with minor changes



List of key upgrades - Option B

There will be a light refurbishment to areas in need of minor upgrades (fit-out) Circa 5200m². Major reconfiguration to meet UEFA Cat 4 as follows:

- Basement level completely remodelled to accommodate new Players and Media areas.
- New Turnstiles to the Level 1 concourse areas.
- Male/Female split of existing toilets to be reconfigured in the Level 1 concourse.
- Refurbished Lounges on Level 2
- A new pitch view broadcast studio will be added to level 2 and all TV camera positions will be modified or added.
- Modifications to existing Wheelchair platforms. Additional platforms to be added in the west stand and the unused north and south stands.
- A new toilet block and kiosk for away fans on the North of the East Stand.
- The existing L2 offices are retained.





5.3.2 Capacities - Option B

Seating Zone	Seat Type	Seat Factor Spectators / m2	Existing	Gross change +/-*	New net Capacity
West GA	GA	2.2	5754	-278	5476
North West GA	GA	2.2	0	0	0
South West GA	GA	2.2	0	0	0
West Hospitality	VIP	1.6	445	0	445
West Sky Boxes	SB	0.93	0	0	0
West Media	M	0.5	68	-8	60
Sub-total West			6267	-286	5981
*seats gained in new stand or lost in retained west stand taking into consideration revisions for UEFA compliance.					
North GA	GA	2.2	0	0	0
Sub-total North			0	0	0
East GA	GA	2.2	3500	0	3500
Sub-total East			3500	0	3500
South GA	GA	2.2	0	0	0
Sub-total South			0	0	0
Sub-totals all Stands			9767	-286	9481
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000		20	83	103
GA Wheelchair Companion			0	98	98
GA Amenity Seats			0	98	98
Hospitality Wheelchair Positions			0	6	6
Hospitality Wheelchair Companions			0	6	6
Hospitality Amenity Seats			0	6	6
Sub-total Accessible seats			20	297	317
TOTALS including Accessible Seats			9787	11	9798



5.3.4 List of changes upgrades to achieve UEFA Cat 4 - Option B

Refer to proposed architectural drawings in Appendix F.

5.3.4.1 General comments

- In this option there will be a light refurbishment to areas in need of minor upgrades (fit-out) Circa 5200m².
- There will be a new sand-based pitch to improve use during the freezing weather with under pitch heating.
- No floodlighting will be upgraded.
- The running track will be retained, however there will be no upgrade or resurfacing works.
- The Fencing facility will need to be relocated and a new home found.

5.3.4.2 West Stand

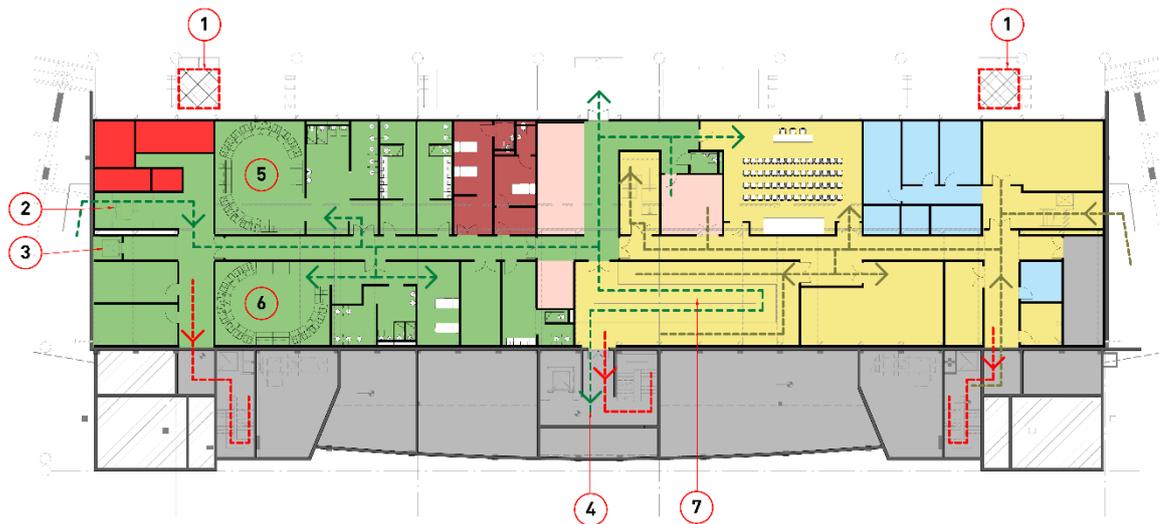
Level B1 / Basement:

The area currently used by the National Fencing team will be used to permanently extend the changing rooms, media, and mixed zone to provide a UEFA Category 4 compliant venue. A lift has been added to aid delivery of home and away match day equipment and help with stretcher exit to awaiting ambulance for injured players.

The existing access for media will be maintained, with an alternative of sharing with hospitality, and a link to the mixed has also been added which will be used for players exit through the mix zone.

The existing kit room and laundry now has direct access to players changing room. The existing players central tunnel has been retained but the 2-pitch access to north and south of west stand have been replaced with accommodation and new bleachers and GA seating facilities.

In providing a compliant Cat 4 UEFA venue, the previous athletic led accommodation layout and functionality has been lost.



Keys & Legends:

- | | | |
|--|--------------|-----------------|
| 1. PROPOSED TERRACE INFILLS | BROADCAST | --- FIRE ESCAPE |
| 2. PLAYERS ENTRANCE/EXIT 1 | COMPETITIONS | --- MEDIA |
| 3. NEW PLAYERS LIFT/GOODS IN | MEDIA | --- PLAYERS |
| 4. PLAYERS EXIT 2 (THROUGH MIXED ZONE) | MEDICAL | --- VIP/OFFICES |
| 5. AWAY CHANGING ROOM | OFFICES | --- SPECTATORS |
| 6. HOME CHANGING ROOM | SECURITY | |
| 7. MIXED ZONE | SERVICES | |



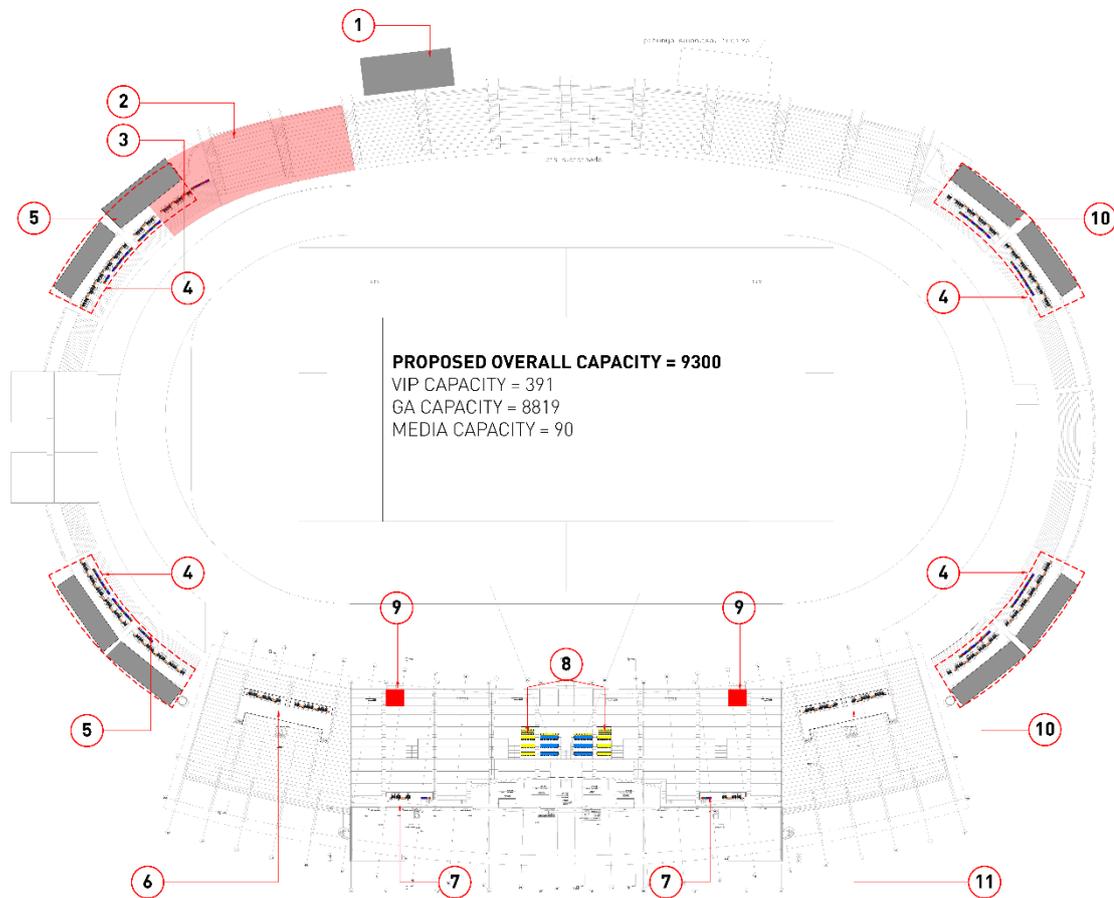
5.3.4.3 Level 1 / Ground:

UEFA requires spectator entrance via turnstiles to achieve an accurate count and for added security, therefore low-level turnstiles will be added.

The Design Comments Matrix document shows the number of existing female toilets are above the minimum requirements yet the male numbers were below minimum. Therefore, it is proposed that the spaces are reconfigured to achieve the correct split and meet UEFA requirements.

The current layout does not have a medical facility for spectators, it is proposed to re-plan the deep plan kiosk and add this facility.

The external concourses, to the north and south ends, are not considered ideal in the Icelandic climate. This reduces the spectator dwell time and potential spend at the stadium before and after the matches. The lack of a good food and beverage offer is also reducing spend.



Keys:

- | | |
|---|-------------------------------|
| 1. PROPOSED EAST STAND FACILITIES | 7. VIP SEATS |
| 2. AWAY SPECTATORS SEATS | 8. PROPOSED MEDIA TRIBUNE |
| 3. AWAY SPECTATORS | 9. PROPOSED TERRACE INFILLS |
| 4. PROPOSED ROOF LINE | 10. GA SPECTATORS SOUTH STAND |
| 5. GA SPECTATORS NORTH STAND | 11. PROPOSED GA SPECTATORS |
| 6. PROPOSED GA SPECTATORS DISABLED PLATFORM | DISABLED PLATFORM |



5.3.4.4 Level 2 / First:

Existing floor plate is used for local and national football offices, it is proposed these are retained. The relocation of these offices with some additional hospitality incorporated was reviewed but as only half optimum hospitality provision could not be met (optimums C & D provision) and the offices would require a new home this was considered not viable on this option. This level also has access for media / commentary bleacher seating.

5.3.4.5 Level 3 / Second –The hospitality lounge will be refurbished to a standard compatible with major international fixtures. This level will also require a kitchen facility dependent upon the food offer. A new pitch view broadcast studio will also be created at this level.

5.3.4.6 Level 4 / TV Camera gantry roof level:

This level is the flat roofed area above level 2 and is used for TV cameras and commentary locations. The commentary locations have restricted views of the pitch due to the roof trusses; these have been relocated on to the bleachers within the media area, centrally located and accessed from level 1. There is a provision for TV cameras at this level but for large international fixtures additional platforms are added as cantilevers from the existing structure, these will have an uninterrupted view of the pitch.

5.3.4.7 Seating Terrace:

The existing wheelchair and amenity seating positions are well below the minimum standards for a category 4 Stadium. A proposed series of independent structures on the unused north and south terracing is envisaged, these will be covered spaces giving wheelchair bound spectators clear uninterrupted views of the pitch together with toilet and kiosks facilities in-line with UEFA requirements. The existing general admission wheelchair platforms in the west stand are reconfigured to have super risers, which will afford the wheelchair occupant pitch views above a standing spectator. Wheelchair platforms have also been provided for Hospitality spectators, again with super risers views at level 2.

As noted above the media area has been increased to give UEFA required written press locations and commentary positions.

5.3.4.8 East Stand:

Seating terrace

It's proposed to keep the existing seating as current. Wheelchair and amenity viewing have been added to the NE and SE corners as independent structures.

Level 0 / Ground floor – The existing toilet block and kiosk is to be retained but a new facility is to be built for the away only.

The location of the existing toilet block and kiosk is not considered ideal, nor is the external concourse in the Icelandic climate. This reduces the spectator dwell time and potential spend at the stadium before and after the matches. The Lack of a good food and beverage offer is also reducing spend.



5.3.5 Concert/Event layout - Option B

We do not expect any of the interventions being considered as part of the Option B proposals to impact the concert/ event layouts or economics at Laugardalsvöllur

5.3.6 Playing Surface considerations - Option B

To meet UEFA Cat 4 requirements, it is recommended that a new naturally seeded grass on a new sand based build up in installed to improve natural drainage along with an under-pitch heating system.

Refer to Appendix J for STRI's SWOT analysis of pitch options and the notes from discussions about the existing pitch.

5.3.7 Structural & Civil Engineering Considerations - Option B

5.3.7.1 West Stand

Non-intrusive structural inspections have been undertaken to inform the outline business case, the initial findings of the surveys indicate that the both the original 1997 construction and the extension built in 2007 are generally in a satisfactory condition.

The roof steelwork is generally in good condition and on the assumption no further load is applied to the roof it should be adequate to continue to function in its current state. There are some structural members that have raised questions, such as tension bracing rods that are not tensioned. We would recommend a detailed structural inspection is undertaken. It is likely that the painted corrosion protection is coming to the end of the period to first maintenance (typically 15 years). An allowance should be included for cleaning, detailed inspection and touching up of the corrosion protection.

Both reinforced concrete frames for the original building and the 2007 extension are largely in good condition. There is cosmetic damage in some areas and there is evidence of water damage from water penetrating the seating terrace into the floors below. Repairs have been carried out to these areas in the past, a more permanent repair may be required if the existing structure is to be retained.

5.3.7.2 East Stand

The existing concrete structure for the east stand is in satisfactory structural condition, it has been painted in areas which now require redecoration. There is evidence of previous repairs, but this looks to be cosmetic rather than structural. The roof primary roof cantilever structure require maintenance as the corrosion protection is in poor condition. The secondary elements linking the primary elements are also in poor condition and potential may need to be replaced to extend the life of the structure. The support columns for the roof provide restricted views from the rear portion of the stand.

5.3.7.3 Miscellaneous Structures

The outbuildings to the north end of the stadium that are used as the groundsman's store are typically in poor condition. If Option B is to be taken forward, these will need significant repairs to prolong their life or be replaced.

The perimeter wall to the front of the stands that runs around most of the stadium is in very poor condition in places, suffering spalling from frost damage. If this feature is to be retained repairs or replacement will be required.



5.3.8 MEP Engineering Considerations - Option B

The following is a summary of the key considerations for this option:

An increase in electrical supply from 800kVA to 1000kVA. The existing supply transformer is assumed to be 1000kVA (based on 80% utilisation) and would need to be upgraded to 1600kVA

Pitch undersoil heating system supplied from the heated water system required

Turnstiles and electronic ticket control systems to be installed at all public entrances – 1 turnstile per 660 seats

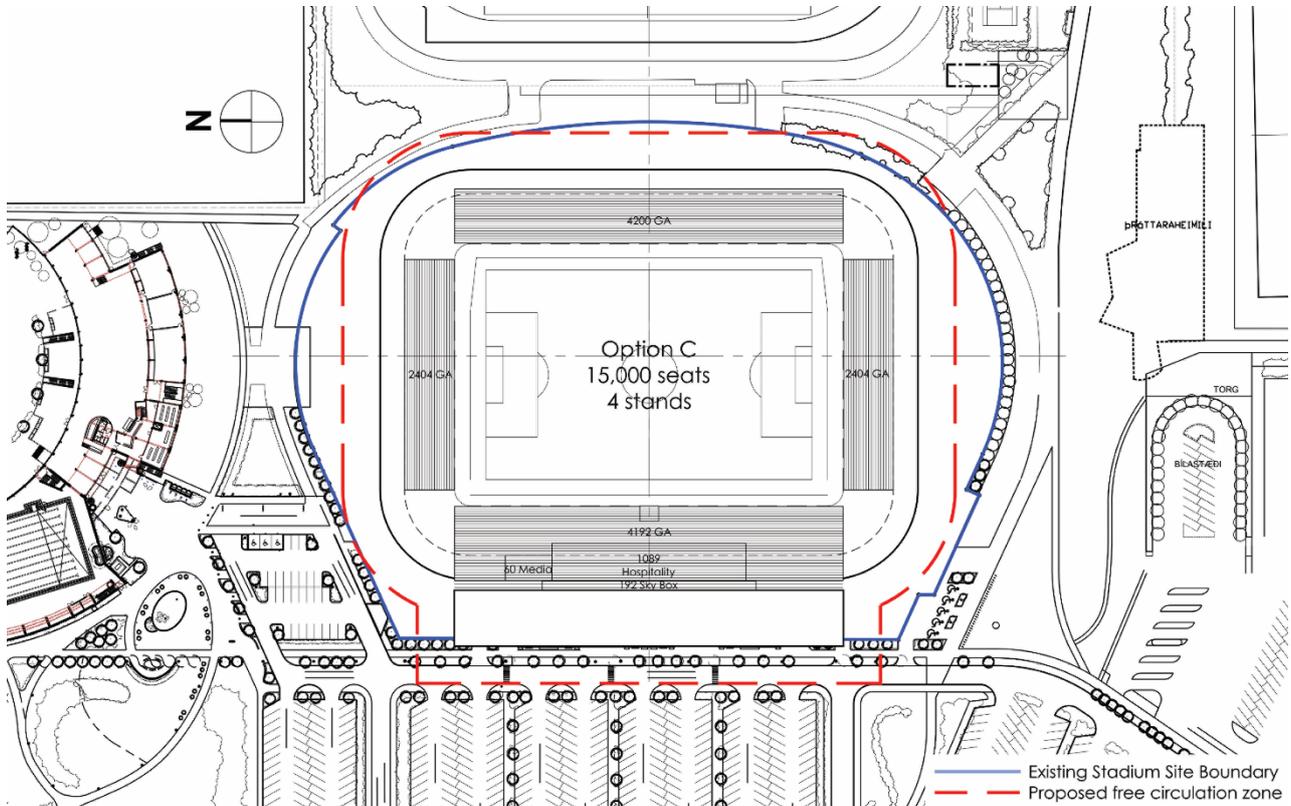
Electronic Public Address System to be upgraded to cover both inside and outside of the stadium and to be connected to an independent power supply

Media Areas to be upgraded and equipped with desks, power and internet for use as a working area – 30 working positions required plus 20 working positions for photographers.
Associated HVAC systems required to suit



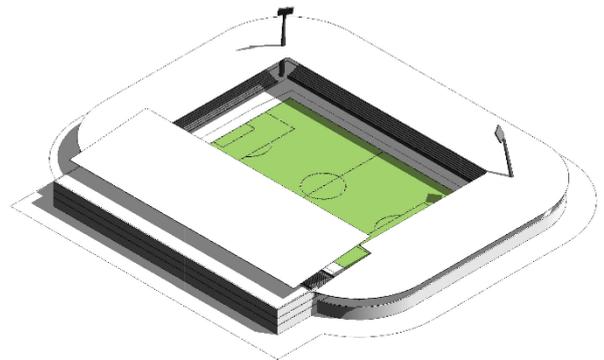
5.4 Option C – New 15,000 capacity stadium

5.4.1 Configuration



List of key features - Option C

- New single tier four stand stadium.
- The new West stand will accommodate all the Players and Media facilities (to UEFA Cat 4)
- Stadium Offices and increased capacity Hospitality lounges will be provided in the west stand along with improved Spectator seating and facilities.
- The other three stands will be single storey and accommodate modern food & beverage kiosks and toilets. The concourse will be fully enclosed with the opportunity to climatically control.
- There will be a fixed drip-line roof over all seats.
- The roof over the North, East and South Stands can be at a lower level than the West stand as the rear of the stands are lower.
- Floodlight masts on the east will be required to achieve the required angles to the pitch.
- The existing perimeter fence line and immediate external works will require reconfiguring to match the new building form and provide safe circulation space.





5.4.2 Capacities - Option C

Seating Zone	Seat Type	Seat Factor Spectators / m2	New Terrace Area m2	Retained Existing	Gross change +/-*	New net Capacity
West GA	GA	2.2	2096	0	4611	4192
North West GA	GA	2.2		0	0	0
South West GA	GA	2.2		0	0	0
West Hospitality	VIP	1.6	745	0	1192	1084
West Sky Boxes	SB	0.93	207	0	192	192
West Media	M	0.5	120	0	60	60
Sub-total West				0	6055	5527
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.						
North GA	GA	2.2	1196	0	2631	2392
Sub-total North				0	2631	2392
East GA	GA	2.2	2200	0	4840	4400
Sub-total East				0	4840	4400
South GA	GA	2.2	1196	0	2631	2392
Sub-total South				0	2631	2392
Sub-Totals all Stands			7760	0	16157	14711
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			0	113	113
GA Wheelchair Companion					113	113
GA Amenity Seats					113	113
Hospitality Wheelchair Positions					13	13
Hospitality Wheelchair Companions					13	13
Hospitality Amenity Seats					13	13
Sub Total Accessible seats				0	375	375
TOTALS including Accessible Seats				0	16532	15086



5.4.3 Concert/Event layout - Option C

The opportunities are particularly maximised under the full new build options. The largest capacities can be achieved with a north (or south) stand set up Diagram 1. With an alternative stage set-up in front of the East Stand Diagram 2 the viewing distances can be shortened for slightly smaller events that do not require an end stage set up.

We have allowed for demountable/retractable seats in central sections of both the north stand and the East stand to minimise seat kills and optimise usage of the raked seating and field of play for additional spectators. Diagram 2a shows that an additional 5000 spectators can be added if the stage can be recessed into the stand.

The development of an operator brief, and the architectural concept design will need to consider the roof heights above stage areas if retractable seats are used under fixed roofs. Large international touring acts can require up to 20-22m clear.

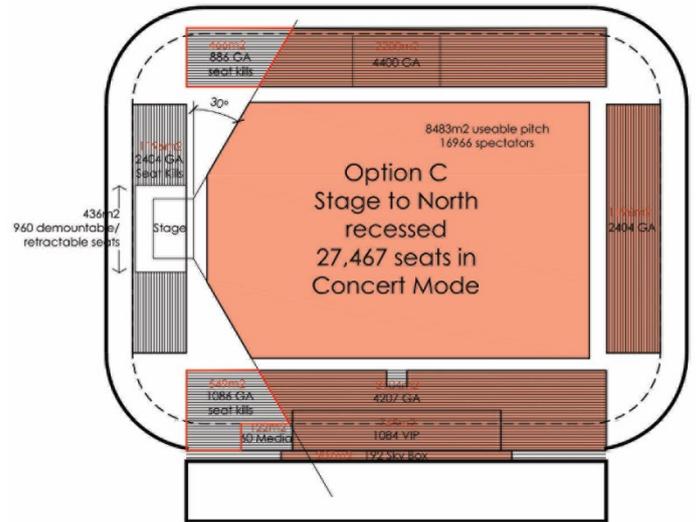


Diagram 1

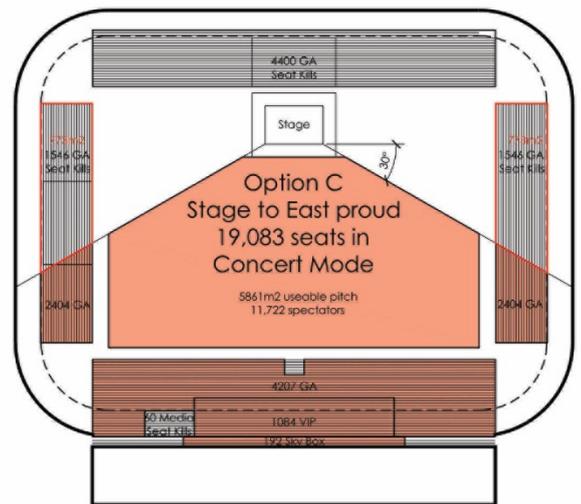
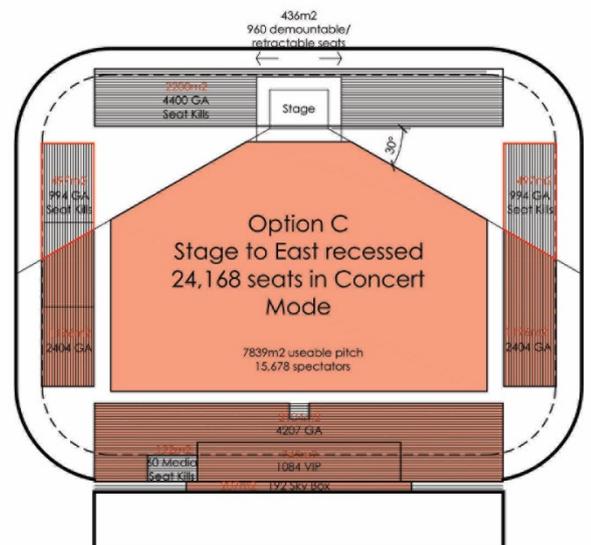


Diagram 2





5.4.4 Capacities Concert/Event – Option C

				Concert Option C North Stage recessed		Concert Option C East Stage recessed	
Seating Zone	Seat Type	Seat Factor Spectators / m2		Seat Kills**	Concert Net	Seat Kills	Concert Net
West GA	GA	2.2		-1098	3094		4192
North West GA	GA	2.2			0		0
South West GA	GA	2.2			0		0
West Hospitality	VIP	1.6			1084		1084
West Sky Boxes	SB	0.93			192		192
West Media	M	0.5		-60	0	-60	0
Sub-total West				-1158	4369	-60	5467
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.							
North GA	GA	2.2		-2392	0	-994	1398
Sub-total North				-2392	0	-994	1398
East GA	GA	2.2		-932	3468	-4400	0
North East GA	GA	2.2		0	0		0
South East GA	GA	2.2			0		0
Sub total East				-932	3468	-4400	0
South GA	GA	2.2			2392	-994	1398
Sub-total South				0	2392	-994	1398
Pitch Concert Mode					16966		15678
Sub-totals stands & pitch				-4482	27195	-6448	23941
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			-34	78	-49	63
GA Wheelchair Companion					78		63
GA Amenity Seats					78		63
Hospitality Wheelchair Positions					13		13
Hospitality Wheelchair Companions					13		13
Hospitality Amenity Seats					13		13
Sub Total Accessible seats				-34	272	-49	227
TOTALS including Accessible Seats					27467		24168



5.4.5 Playing Surface considerations - Option C -

To meet UEFA Cat 4 requirements, it is recommended that a naturally seeded pitch on a sand based build up is installed along with an under-pitch heating system.

Refer to Appendix J for STRI's SWOT analysis of pitch options and the notes from discussions about the existing pitch.

5.4.6 Structural & Civil Engineering Considerations - Option C

5.4.6.1 Covered Stands

For a stadium of this capacity a traditional cantilever roof structure on a regular grid around the stadium would provide an economical solution. Examples where this structural solution has successfully been incorporated into the design of a similar size stadium include the 18,000 capacity Stadion Widzewa in Poland and the Liberty Stadium in Swansea, Wales.



Liberty Stadium, Wales



Stadion Widzewa, Poland

The key benefit of the cantilever solution would be the option to fill in the corners and have a continuous bowl. It is also easy to achieve a continuous roof edge with stands of varying height.

An alternative option would be to span a truss across the front of each stand to support the roof. The DW Stadium in Wigan and the John Smith's Stadium in Huddersfield show how a different shape of truss can give a distinct visual appearance.



DW Stadium, Wigan



John Smith's Stadium, Huddersfield

5.4.7 MEP Engineering Considerations - Option C

The following is a summary of the key considerations for Option C:

For Option C we estimate an electrical load allowance of 1200-1500kVA. This will require an increase in electrical supply from 800kVA to 1500kVA. The existing supply transformer would need to be upgraded to 2000kVA (based on 80% utilisation) and a new mains intake.

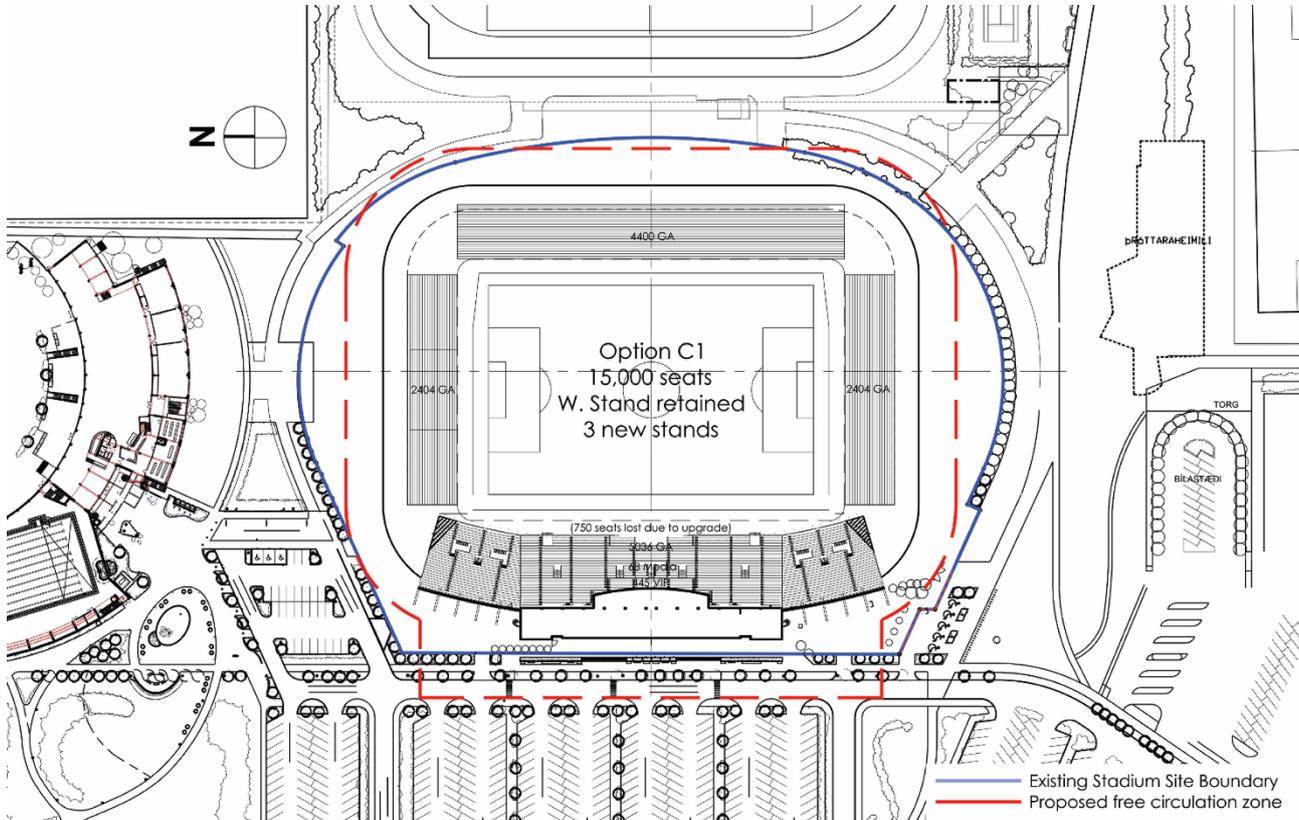
The above electrical load assessments make no allowance for the hosting of concerts or other major events. Rather than having a fixed incoming supply capacity, which would require additional capacity with its attendant increase in reinforcement cost and ongoing capacity charges, consideration should be given to the use of mobile generators to provide for such events. The distribution infrastructure would be provided with a plug in supply point for the generators along with strategically located feeder pillars and plug in outlet points provided to supply lighting rigs and stage power and mixer desk positions in the case of concerts and distributed booth supplies in the case of other events.

All other MEP works will be new and designed to meet UEFA Cat 4 requirements



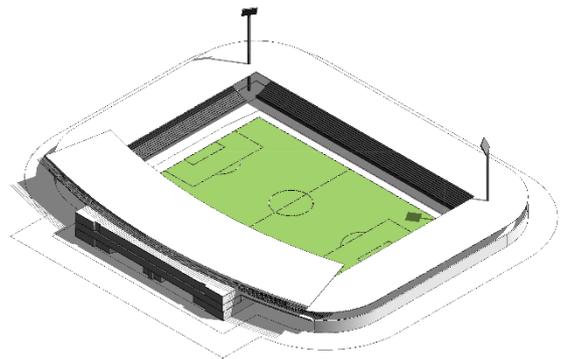
5.5 Option C1 - New 15,000 capacity stadium – Existing West Stand retained

5.5.1 Configuration



List of key features - Option C1

- Three new single tier stands
- The existing West stand will be retained in full, with the upgrades described in Option B. Note the existing smaller hospitality provision and external concourses.
- The other three stands will be single storey and accommodate modern food & beverage kiosks and toilets. The concourse will be fully enclosed with the opportunity to climatically control.
- The new concourses will be fully enclosed spaces with the opportunity to climatically control.
- New fixed drip-line roof over all new seats.
- The roof over the North, East and South Stands can be at a lower level than the West stand as the rear of the stand is lower.
- Floodlight masts on the east will be required to achieve the required angles to the pitch.
- The existing perimeter fence line and immediate external works will require reconfiguring.





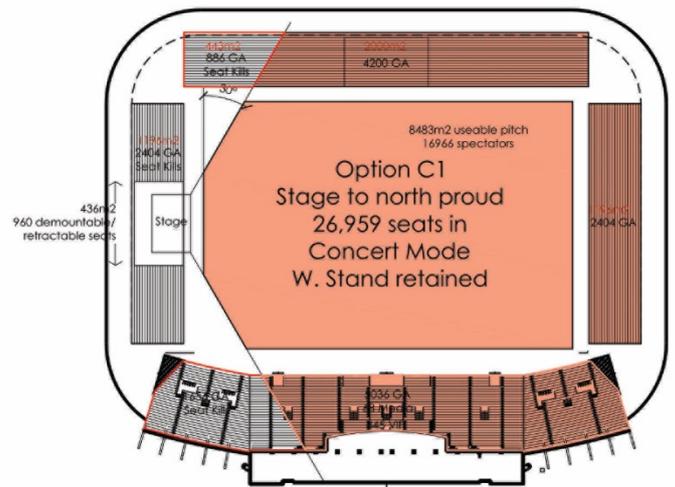
5.5.2 Capacities – Option C1

Seating Zone	Seat Type	Seat Factor Spectators / m2	New Terrace Area m2	Retained Existing	Gross change +/-*	New net Capacity
West GA	GA	2.2		5754	-718	5036
North West GA	GA	2.2		0	0	0
South West GA	GA	2.2		0	0	0
West Hospitality	VIP	1.6		445	0	445
West Sky Boxes	SB	0.93		0	0	0
West Media	M	0.5		68	-8	60
Sub-total West				6267	-726	5541
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.						
North GA	GA	2.2	1196	0	2631	2392
Sub-total North				0	2631	2392
East GA	GA	2.2	2200	0	4840	4400
Sub total East				0	4840	4400
South GA	GA	2.2	1196	0	2631	2392
Sub-total South				0	2631	2392
Sub-totals all Stands			4592	6267	9376	14725
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			20	93	113
GA Wheelchair Companion					113	113
GA Amenity Seats					113	113
Hospitality Wheelchair Positions					13	13
Hospitality Wheelchair Companions					13	13
Hospitality Amenity Seats					13	13
Sub Total Accessible seats				20	355	375
TOTALS including Accessible Seats				6287	9731	15100



5.5.3 Concert/Event layout – Option C1

Although almost the same concert and event capacities can be reached as in option C, the opportunities for Hospitality revenue generation are less promising with only the smaller number of VIP seats retained in the existing stand.



5.5.4 Capacities Concert/Event layout – Option C1

				Concert Option C1 North Stage	
Seating Zone	Seat Type	Seat Factor Spectators / m2		Seat Kills**	Concert Net
West GA	GA	2.2		-1656	3380
North West GA	GA	2.2			0
South West GA	GA	2.2			0
West Hospitality	VIP	1.6			445
West Sky Boxes	SB	0.93			0
West Media	M	0.5		-60	0
Sub-total West				-1716	3825
North GA	GA	2.2		-2392	0
Sub-total North				-2392	0
East GA	GA	2.2		-886	3514
Sub total East				-886	3514
South GA	GA	2.2			2392
Sub-total South				0	2392
Pitch Concert Mode					16966
Sub-totals all Stands				-4994	26697
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			-38	74
GA Wheelchair Companion					74
GA Amenity Seats					74
Hospitality Wheelchair Positions					13
Hospitality Wheelchair Companions					13
Hospitality Amenity Seats					13
Sub Total Accessible seats				-38	261
TOTALS including Accessible Seats					26957



5.5.5 Playing Surface considerations – Option C1

To meet UEFA Cat 4 requirements, it is recommended that a naturally seeded pitch on a sand based build up is installed along with an under-pitch heating system.

Refer to Appendix J for STRI's SWOT analysis of pitch options and the notes from discussions about the existing pitch.

5.5.6 Structural & Civil Engineering Considerations – Option C1

As per the notes for Option C, and Option B for the retained West stand.

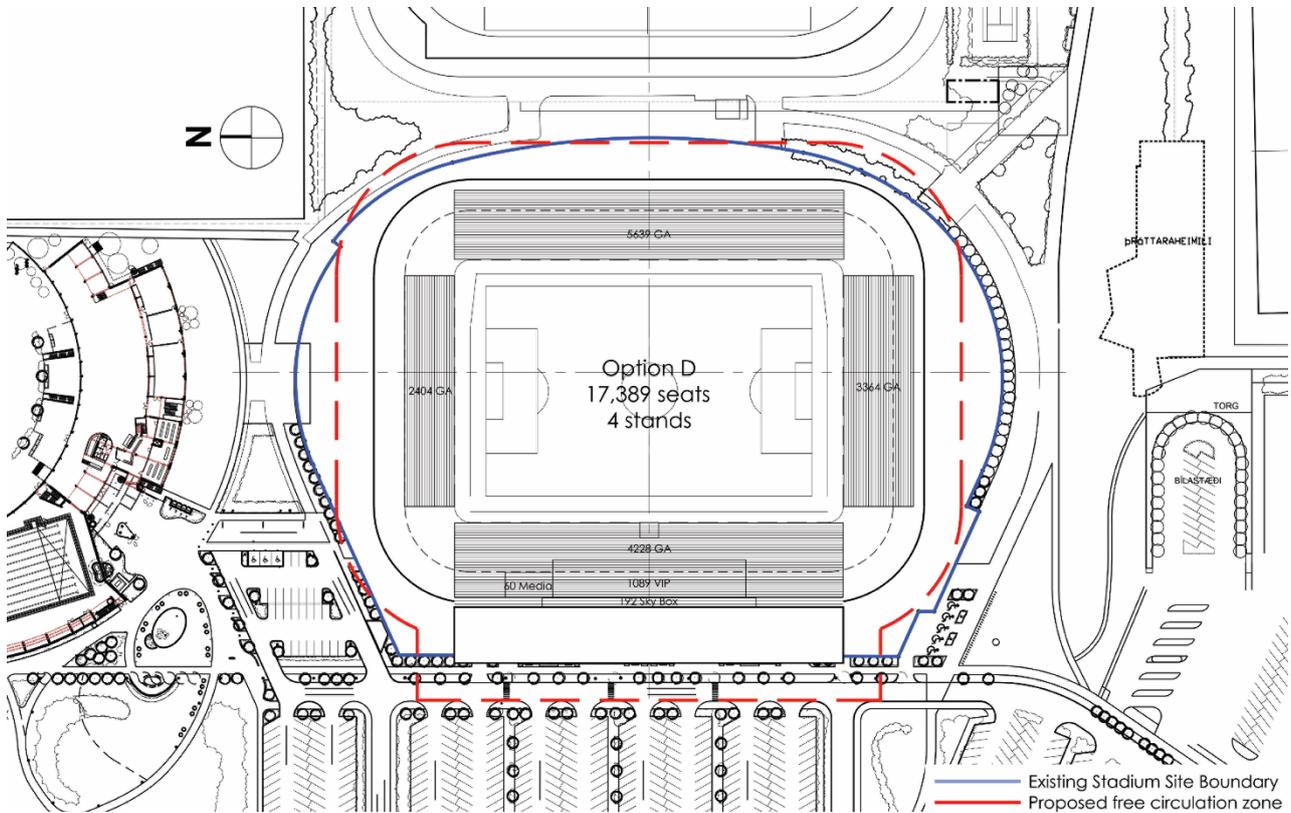
5.5.7 MEP Engineering Considerations – Option C1

As per the notes for Option C, and Option B for the retained West stand.



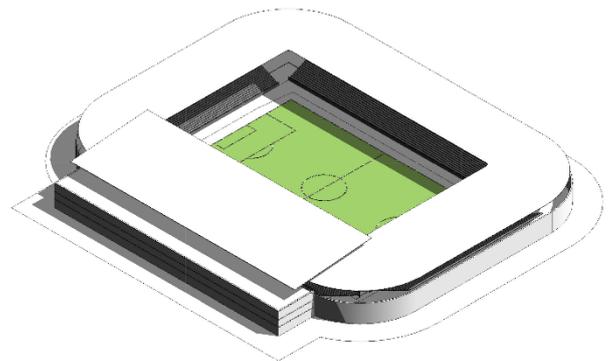
5.6 Option D - New 17,500 capacity stadium

5.6.1 Configuration



List of key features - Option D

- New single tier four stand stadium. The East and South being larger with the North Stand being the smallest to optimise concert/event ticket sales of seats in the other stands.
- The new West stand will accommodate all the Players and Media facilities (to UEFA Cat 4)
- Stadium Offices and increased capacity Hospitality lounges will be provided in the west stand along with improved Spectator seating and facilities.
- The other three stands will be single storey and accommodate modern food & beverage kiosks and toilets. The concourse will be fully enclosed with the opportunity to climatically control.
- There will be a fixed drip-line roof over all seats.
- Floodlights will be able to be placed under the leading edge of the roof on the East Stand due to a higher roof plane.
- The existing perimeter fence line and immediate external works will require reconfiguring to match the new building form and safe circulation space.





5.6.2 Capacities - Option D

Seating Zone	Seat Type	Seat Factor Spectators / m2	New Terrace Area m2	Retained Existing	Gross change +/-*	New net Capacity
West GA	GA	2.2	2104	0	4628	4228
North West GA	GA	2.2		0	0	0
South West GA	GA	2.2		0	0	0
West Hospitality	VIP	1.6	745	0	1192	1089
West Sky Boxes	SB	0.93	207	0	192	192
West Media	M	0.5	120	0	60	60
Sub-total West				0	6072	5569
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.						
North GA	GA	2.2	1196	0	2631	2404
Sub-total North				0	2631	2404
East GA	GA	2.2	2806	0	6173	5639
Sub total East				0	6173	5639
South GA	GA	2.2	1674	0	3682	3364
Sub-total South				0	3682	3364
Pitch Concert Mode						
Sub-totals all Stands			8852	0	18558	16975
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			0	124	124
GA Wheelchair Companion					124	124
GA Amenity Seats					124	124
Hospitality Wheelchair Positions					14	14
Hospitality Wheelchair Companions					14	14
Hospitality Amenity Seats					14	14
Sub Total Accessible seats					414	414
TOTALS including Accessible Seats				0	18972	17389



5.6.3 Concert/Event layout - Option D

The opportunities are particularly maximised under the full new build options. In this 17,500 capacity option the additional seats have been shown on the East and South Stands keeping the North Stand smaller. This has the affect of reducing the seats lost by the stage and maximising the built seats for concert/event sale.

The largest capacities can be achieved with a north (or south) stand set up Diagram 1. With an alternative stage set-up in front of the East Stand Diagram 2 the viewing distances can be shortened for slightly smaller events that do not require an end stage set up.

We have allowed for demountable/retractable seats in central sections of both the north stand and the East stand to minimise seat kills and optimise usage of the raked seating and field of play for additional spectators. Diagram 2a shows that an additional 5000 spectators can be added if the stage can be recessed into the stand.

The development of an operator brief, and the architectural concept design will need to consider the roof heights above stage areas if retractable seats are used under fixed roofs. Large international touring acts can require up to 20-22m clear.

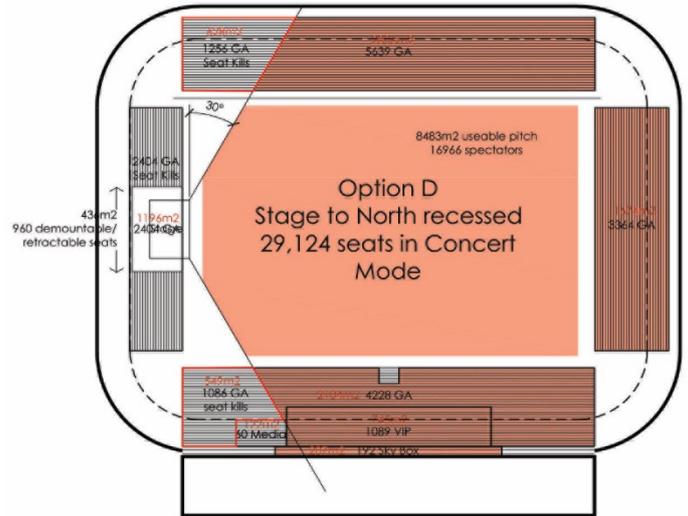


Diagram 1

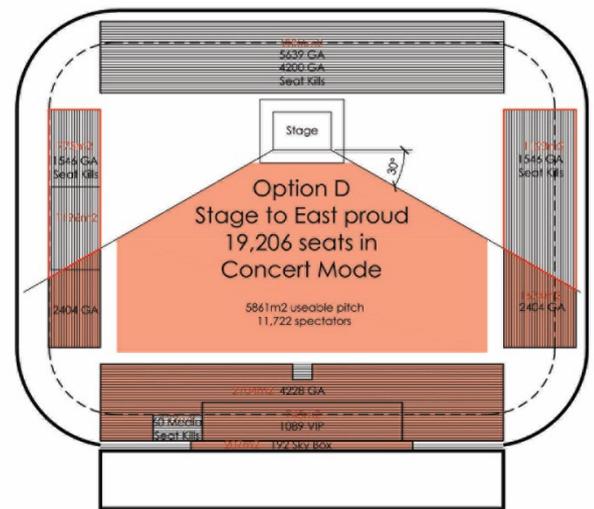


Diagram 2

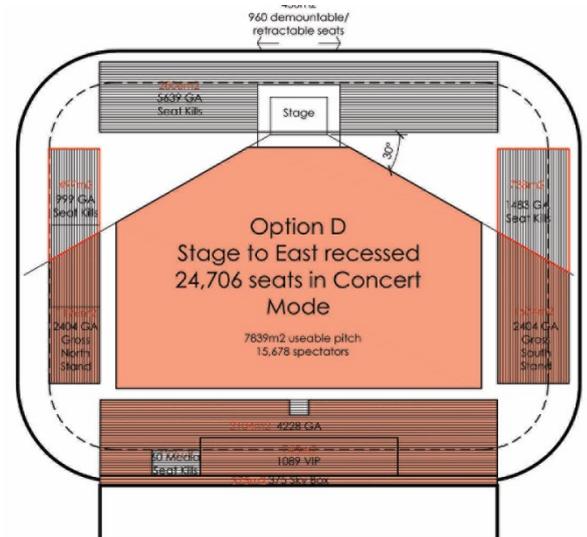


Diagram 2a



5.6.4 Capacities Concert/Event - Option D

				Concert Option D North Stage recessed		Concert Option D East Stage recessed	
Seating Zone	Seat Type	Seat Factor Spectators / m2		Seat Kills	Concert Net	Seat Kills	Concert Net
West GA	GA	2.2		-1098	3130		4228
North West GA	GA	2.2			0		0
South West GA	GA	2.2			0		0
West Hospitality	VIP	1.6			1089		1089
West Sky Boxes	SB	0.93			192		192
West Media	M	0.5		-60	0	-60	0
Sub-total West				-1158	4411	-60	5509
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.							
North GA	GA	2.2		-2404	0	-999	1405
Sub-total North				-2404	0	-999	1405
East GA	GA	2.2		-1256	4383	-5639	0
Sub total East				-1256	4383	-5639	0
South GA	GA	2.2			3364	-1483	1880
Sub-total South				0	3364	-1483	1880
Pitch Concert Mode					16966		15678
Sub-totals all Stands				-4818	29124	-8181	24472
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			-35	89	-60	64
GA Wheelchair Companion					124		64
GA Amenity Seats					124		64
Hospitality Wheelchair Positions					14		14
Hospitality Wheelchair Companions					14		14
Hospitality Amenity Seats					14		14
Sub Total Accessible seats				-35		-60	234
TOTALS including Accessible Seats					29124		24706



5.6.5 Playing Surface considerations - Option D

To meet UEFA Cat 4 requirements, it is recommended that a naturally seeded grass on a sand based build up is installed along with an under-pitch heating system.

Refer to Appendix J for STRI's SWOT analysis of pitch options and the notes from discussions about the existing pitch.

5.6.6 Structural & Civil Engineering Considerations - Option D

As per the notes for Option C

5.6.7 MEP Engineering Considerations - Option D

For Option D we estimate the electrical load allowance will require an increase in supply capacity to 2000kVA. This will require an increase in electrical supply from 800kVA to 2000kVA. The existing supply transformer would need to be upgraded to 2400kVA (based on 80% utilisation) and a new mains intake. An upgrade to the local 11kV network has been advised by Veitur if the load exceeds 1600kVA.

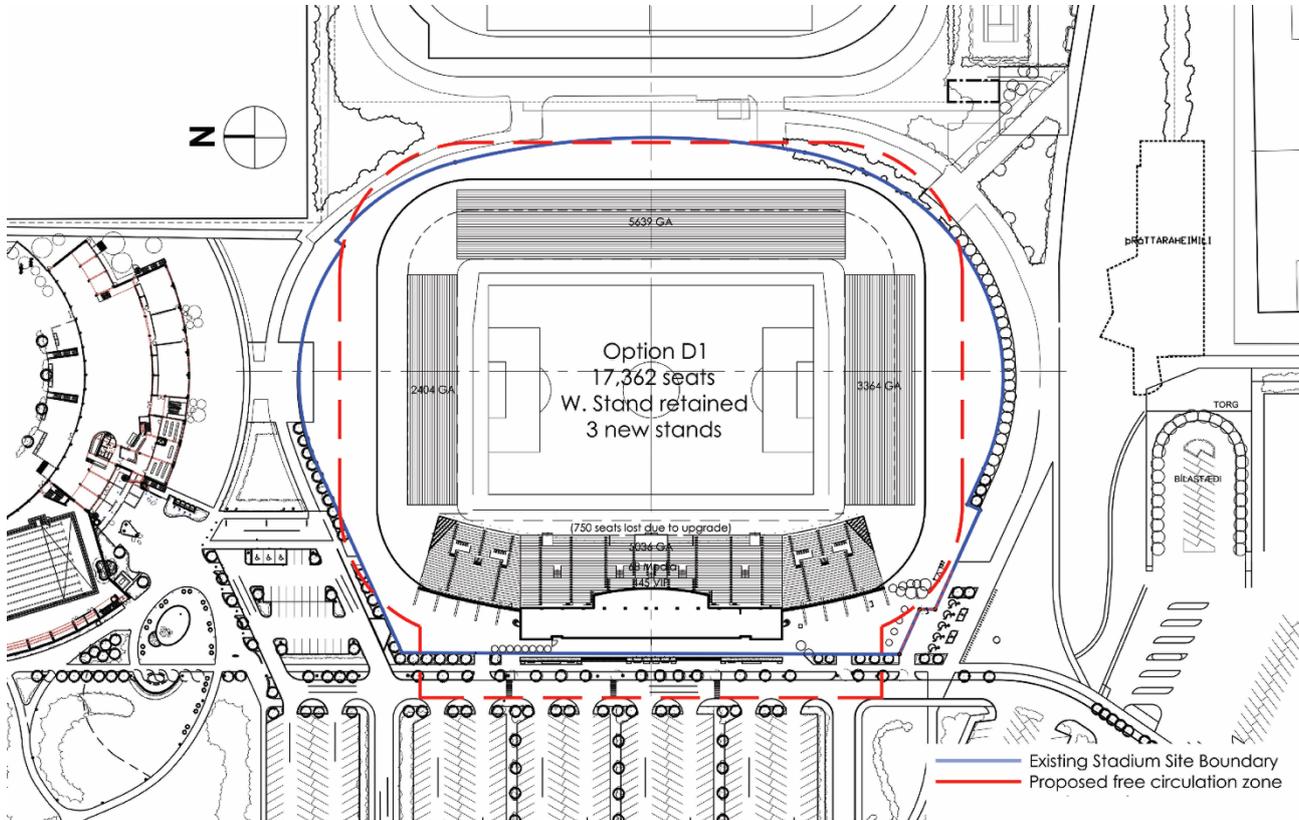
The above electrical load assessments make no allowance for the hosting of concerts or other major events. Rather than having a fixed incoming supply capacity, which would require additional capacity with its attendant increase in reinforcement cost and ongoing capacity charges, consideration should be given to the use of mobile generators to provide for such events. The distribution infrastructure would be provided with a plug in supply point for the generators along with strategically located feeder pillars and plug in outlet points provided to supply lighting rigs and stage power and mixer desk positions in the case of concerts and distributed booth supplies in the case of other events.

All other MEP works will be new and designed to meet UEFA Cat 4 requirements



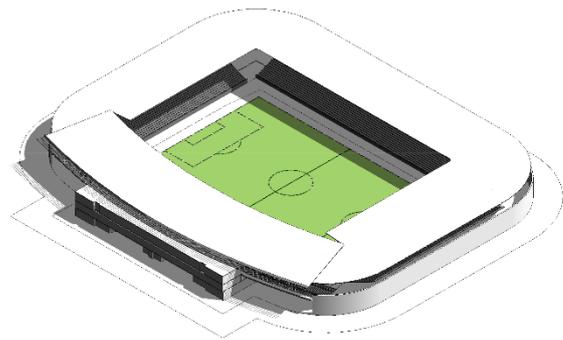
5.7 Option D1 - New 17,500 capacity stadium – Existing West Stand retained

5.7.1 Configuration



List of key features - Option D1

- Three new single tier stands
- The existing West stand will be retained in full, with the upgrades described in Option B including existing smaller hospitality provision and external concourses.
- The other three stands will be single storey and accommodate modern food & beverage kiosks and toilets. The concourse will be fully enclosed with the opportunity to climatically control.
- The new concourses will be fully enclosed with the opportunity to climatically control.
- There will be a new fixed drip-line roof over all new seats. The interface with the existing roof will be consideration.
- The roof over the North, East and South Stands can be at the same level as the West stand accommodating all the pitch floodlights under the leading edge.
- The existing perimeter fence line and immediate external works will require reconfiguring





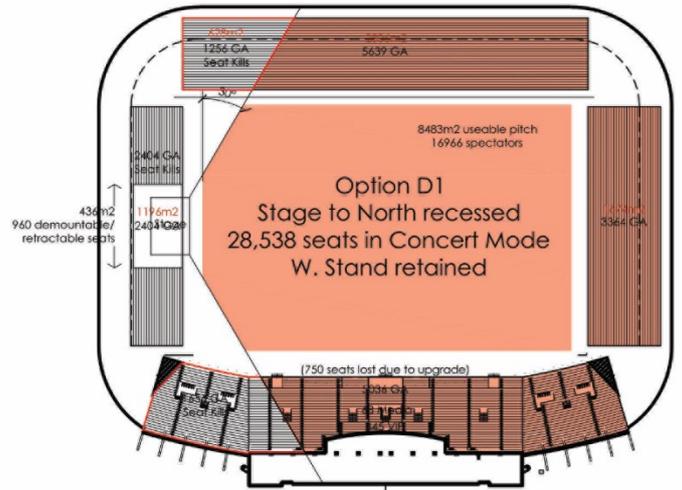
5.7.2 Capacities – Option D1

Seating Zone	Seat Type	Seat Factor Spectators / m2	New Terrace Area m2	Retained Existing	Gross change +/-*	New net Capacity
West GA	GA	2.2		5754	-718	5036
North West GA	GA	2.2		0	0	0
South West GA	GA	2.2		0	0	0
West Hospitality	VIP	1.6		445	0	445
West Sky Boxes	SB	0.93		0	0	0
West Media	M	0.5		68	-8	60
Sub-total West				6267	-726	5541
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.						
North GA	GA	2.2	1196	0	2631	2404
Sub-total North				0	2631	2404
East GA	GA	2.2	2806	0	6173	5639
Sub total East				0	6173	5639
South GA	GA	2.2	1674	0	3682	3364
Sub-total South				0	3682	3364
Sub-totals all Stands			5676	6267	11760	16948
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			20	104	124
GA Wheelchair Companion					124	124
GA Amenity Seats					124	124
Hospitality Wheelchair Positions					14	14
Hospitality Wheelchair Companions					14	14
Hospitality Amenity Seats					14	14
Sub Total Accessible seats					394	414
TOTALS including Accessible Seats				6267	11968	17362



5.7.3 Concert/Event layout – Option D1

Although almost the same concert and event capacities can be reached, the opportunities for Hospitality revenue generation are less promising with only the smaller number of VIP seats retained in the existing stand.



5.7.4 Capacities Concert/Event layout – Option D1

				Concert Option D1 North Stage recessed	
Seating Zone	Seat Type	Seat Factor Spectators / m2		Seat Kills	Concert Net
West GA	GA	2.2		-1656	3380
North West GA	GA	2.2			0
South West GA	GA	2.2			0
West Hospitality	VIP	1.6			445
West Sky Boxes	SB	0.93			0
West Media	M	0.5		-60	0
Sub-total West				-1716	3825
*seats gained in new stands or lost in retained west stand taking into consideration revisions for UEFA compliance.					
North GA	GA	2.2		-2404	0
Sub-total North				-2404	0
East GA	GA	2.2		-1256	4383
Sub-total East				-1256	4383
South GA	GA	2.2		0	3364
Sub-total South				0	3364
Pitch Concert Mode					16966
Sub-totals all Stands				-5376	28538
GA Wheelchair Positions	at 1/100 up to 10000 & then 1/200 up to 20000			-45	79
GA Wheelchair Companion					124
GA Amenity Seats					124
Hospitality Wheelchair Positions					14
Hospitality Wheelchair Companions					14
Hospitality Amenity Seats					14
Sub Total Accessible seats				-45	369
TOTALS including Accessible Seats					28907



5.7.5 Playing Surface considerations – Option D1

To meet UEFA Cat 4 requirements, it is recommended that a naturally seeded new sand based build up to improve natural drainage is installed along with an under-pitch heating system installation.

Refer to Appendix J for STRI’s SWOT analysis of pitch options and the notes from discussions about the existing pitch.

5.7.6 Structural & Civil Engineering Considerations – Option D1

As Option C

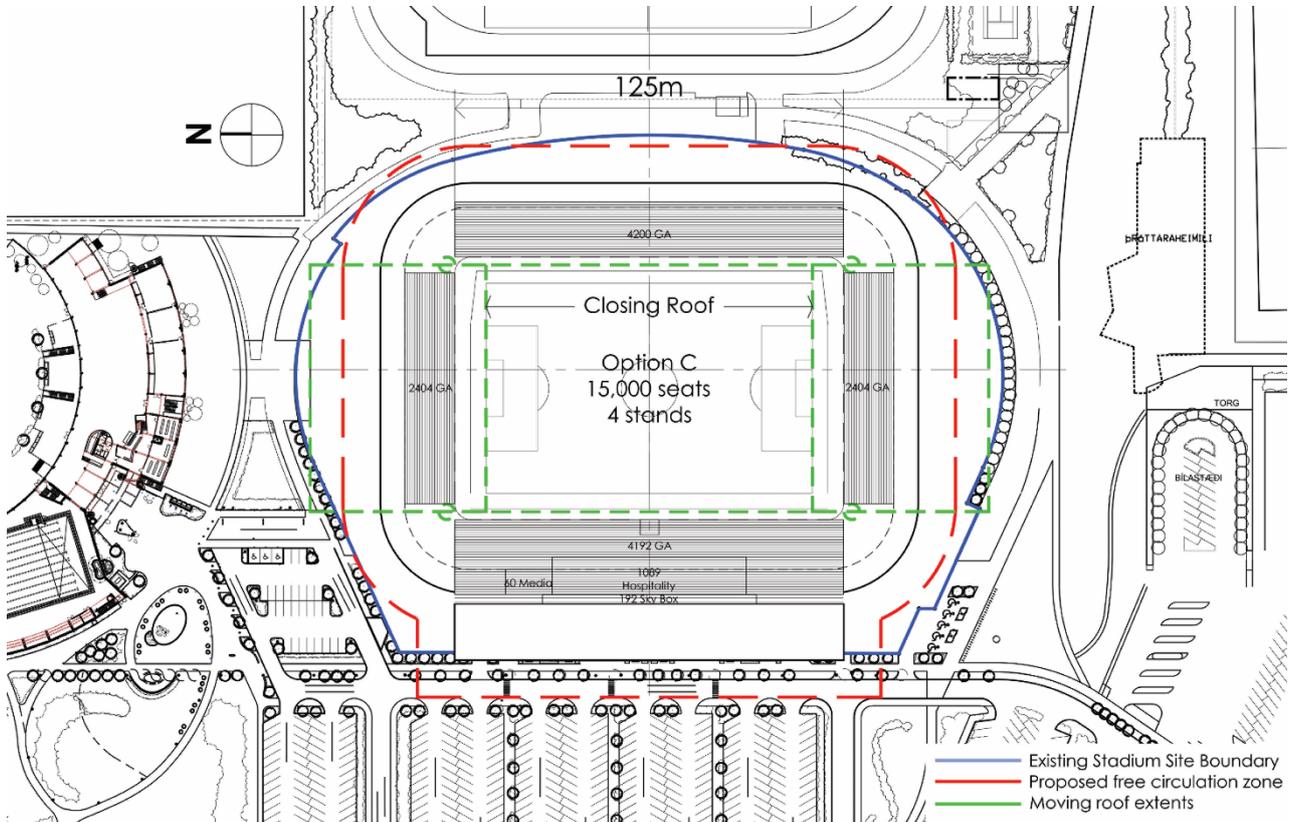
5.7.7 MEP Engineering Considerations – Option D1

As Option D



5.8 Options C, C1, D & D1 - Retractable roof

5.8.1 Option C – Retractable roof Configuration



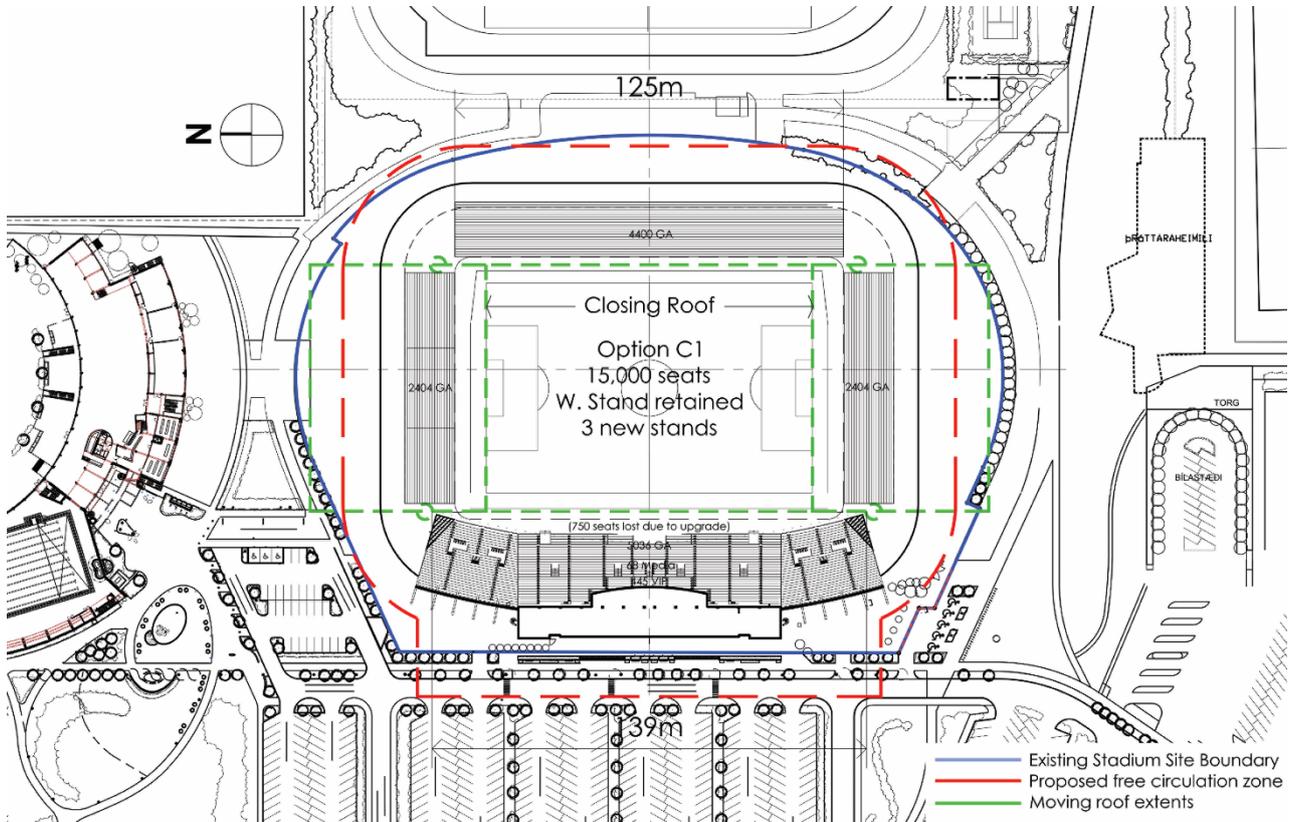
Key issues

- The roof surface will all have to be at a higher level to allow 20m clear space below trusses to allow for the ball movement and sight lines.
- The larger gap between the rear of the seating and the higher roof will require additional cladding.
- All floodlighting will have to be under the roof edge. No masts will be required.
- Additional plant requirements for retractable roof equipment and ventilating the internal space.
- If additional roof supporting structure is placed at the four corners of the field of play the maximum truss span will be 125m. This dimension will be greater (with increased costs) if the structure is placed to the rear of the seating bowl





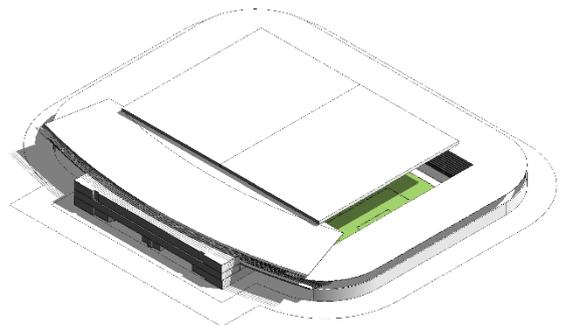
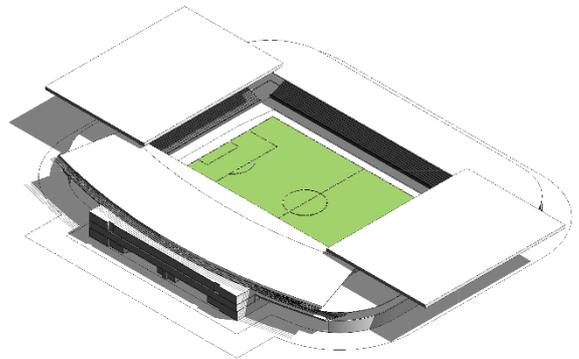
5.8.2 Option C1 – Retractable Roof configuration



Key issues

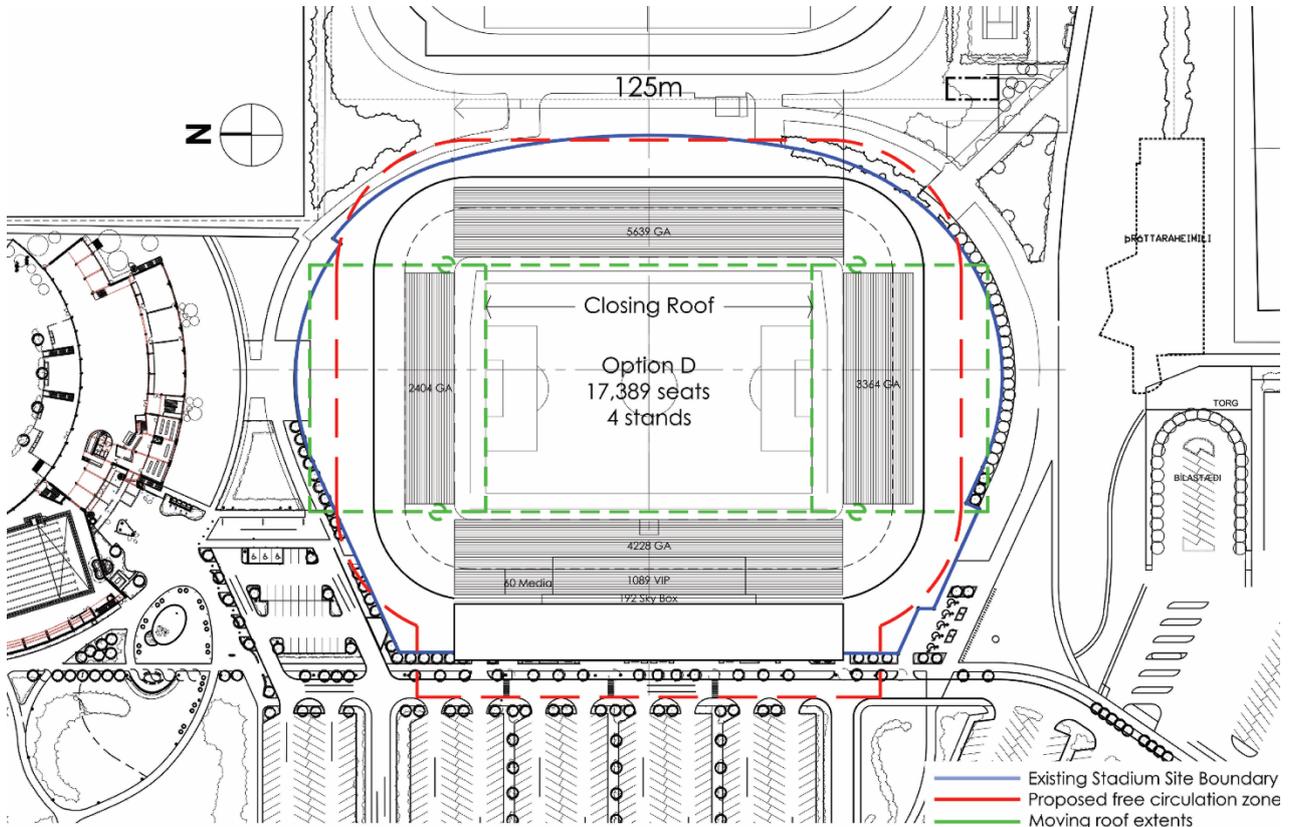
All issues as C – Retractable Roof. In addition:

- The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction.
- Maintaining air-tightness between new and old roofs/cladding is complex.
- Increased snow/ice loads due to large step in roof will increase structural loads and increase costs.
- The retention of the whole of the existing west stand means that the supporting structure for the new retractable roof on the western side would need to span 139m, the east could still be a 125m span.



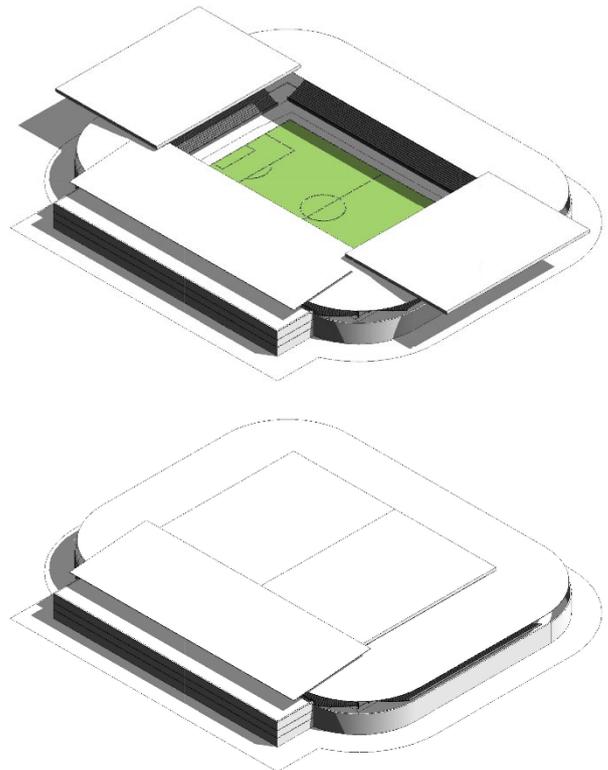


5.8.3 Option D – Retractable roof



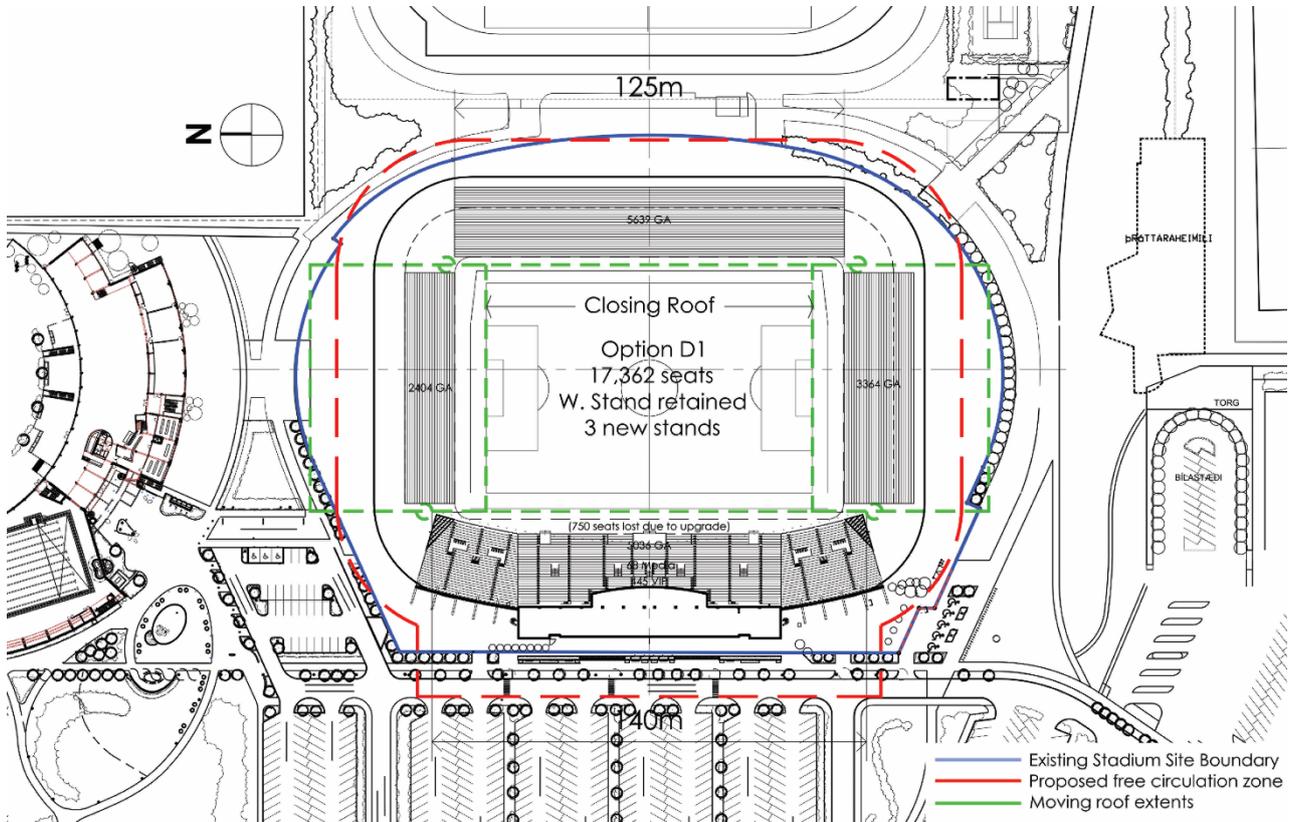
Key issues

- No change in the new main roof plane due to retractable roof already at higher level in option D.
- There will still be additional cladding and structure to accommodate the retractable roof above that.
- Additional plant requirements for retractable roof equipment and ventilating the internal space.
- If additional roof supporting structure is placed at the four corners of the field of play the maximum truss span will be 125m. This dimension will be greater if the structure is placed to the rear of the seating bowl





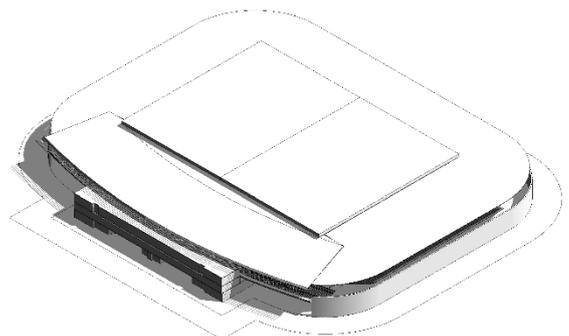
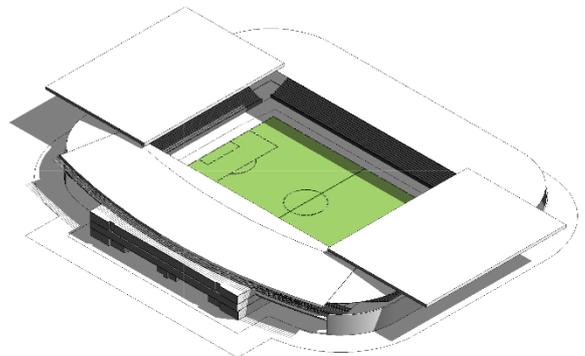
5.8.4 Option D1 – Retractable roof



Key issues

All issues as (D – Retractable roof). In addition:

- The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction.
- Maintaining air tightness between new and old roofs/cladding is complex.
- Increased snow/ice loads due to large step in roof will increase structural loads and increase costs.
- The retention of the whole of the existing west stand means that the supporting structure for the new retractable roof on the western side would need to span 139m, the east could still be a 125m span.





5.8.5 Playing Surface considerations in a retractable roof stadium

To meet UEFA Cat 4 requirements, it is recommended that a naturally seeded grass on a sand-based build-up is installed along with an under-pitch heating system installation.

Often there is concern about growing natural grass in stadia with retractable roofs due to the higher roof and smaller opening shading the grass from precious natural sunlight. However, if properly managed a natural surface can perform well in this environment.

Most modern stadia use pitch grow lights to deal with reduced natural light from overshadowing stands and, although a more enclosed roof will be installed in these options, as the stands are only single storey compared to many bigger venues the effect will be less severe.

Furthermore, the closed roof can allow the pitch environment to be improved from the extremes of the cold, snow and rainy winter conditions prevalent in the Icelandic winter months. Paired with grow lights this could improve the growing conditions for the grass from the current exposed situation.

Most pitch protection systems designed for the one-off concerts work well on grass pitches around the world.

Sub note: Artificial grass in the retractable roof stadium would allow more use outside of the scheduled international fixtures however it is still recommend that allowance would need to be made to overlay a natural turf pitch for the main games. This would be a costly exercise unless the non-international football use throughout the year is to be significant.

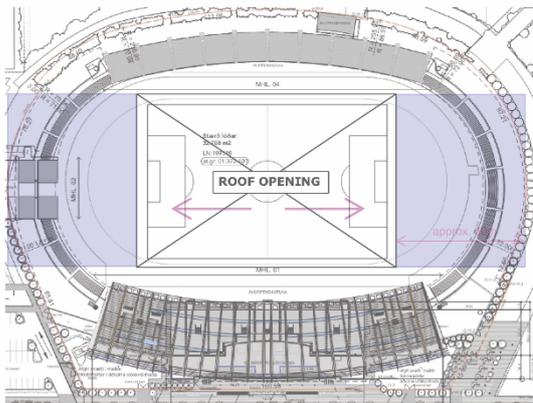
Refer to Appendix J for STRI's SWOT analysis of pitch options and the notes from discussions about the existing pitch.



5.9 Engineering Considerations of Retractable roof and optimal structure

The opening enclosed by the moving section of roof on a football stadium is similar regardless of the number of the seats in the stadium. The addition of a retractable roof will increase the cost by a relatively fixed cost rather than costs that can be linked to the number of seats. To maintain an economic solution for the roof we have studied conventional opening mechanisms.

OPTION 1 - 2 PANELS TO STADIUM ENDS

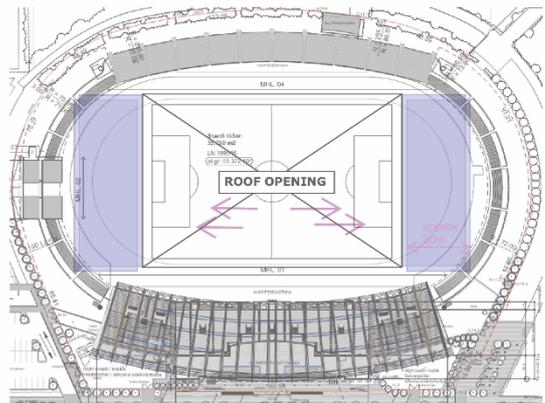


OPENING ROOF IN 2 PANELS SLIDING TO ENDS OF STADIUM BEHIND GOALS

APPROX WIDTH OF ROOF PANELS = 60m

PANELS LIKELY TO BE WIDER THAN REQUIRED DEPTH OF STAND & EXTEND BEYOND THE BOUNDARY OF THE SITE WHEN OPEN

OPTION 2 - 4 PANELS 'STACKED' AT STADIUM ENDS



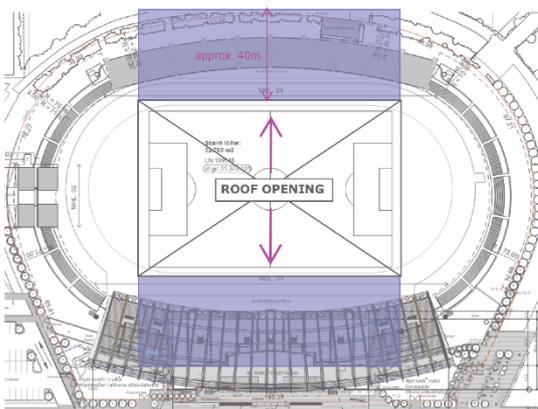
OPENING ROOF IN 4 PANELS SLIDING TO ENDS OF STADIUM BEHIND GOALS & STACKED IN PAIRS

APPROX WIDTH OF ROOF PANELS = 30m

PANELS LIKELY TO BE APPROX. SIMILAR WIDTH TO REQUIRED DEPTH OF STAND & WITHIN THE SITE BOUNDARY WHEN OPEN

STEPS BETWEEN ADJACENT ROOF PANELS COULD INCREASE SNOW LOAD & MAKE WATER TIGHTNESS COMPLEX

OPTION 3 - 2 PANELS TO STADIUM SIDES



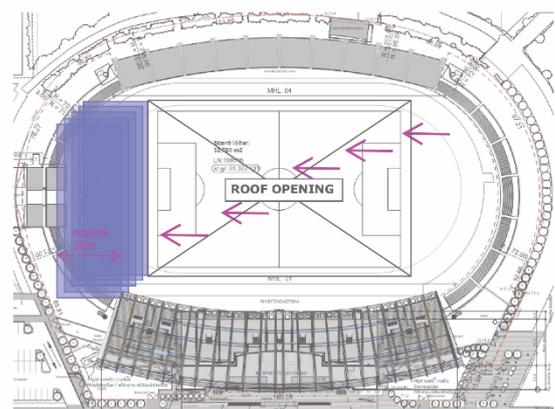
OPENING ROOF IN 2 PANELS SLIDING TO SIDES OF STADIUM OVER EAST AND WEST STANDS

APPROX WIDTH OF ROOF PANELS = 40m

PANELS LIKELY TO BE SIMILAR WIDTH TO REQUIRED DEPTH OF STAND BUT WOULD EXTEND BEYOND THE EAST BOUNDARY OF THE SITE WHEN OPEN

GREATER IMPACT ON RE-USE OF EXISTING WEST STAND ROOF

OPTION 4 - 5 PANELS 'STACKED' AT ONE END



OPENING ROOF IN 5 PANELS SLIDING TO NORTH END OF STADIUM BEHIND GOAL TO IMPROVE SUNLIGHT ON PITCH

APPROX WIDTH OF ROOF PANELS = 30m

PANELS LIKELY TO BE APPROX. SIMILAR WIDTH TO REQUIRED DEPTH OF STAND & WITHIN THE SITE BOUNDARY WHEN OPEN

STEPS BETWEEN ADJACENT ROOF PANELS COULD INCREASE SNOW LOAD & MAKE WATER TIGHTNESS COMPLEX

Retractable roof options; larger version available in Appendix H



The simplest form would be to split the roof in half either along the centre of the pitch from goal to goal with the opening sections moving over the west and east stand roofs. Or, to split the roof along the halfway line with the opening panels moving over the north and east stands. A variation to this would be to split the roof into four panels with two panels stacking over the north stand and two stacking over the south. A more complex option would be for all four panels and a moving south stand roof panel to stack over north stand. This gives solution would allow sunlight on to the pitch with a view to minimising the requirement for grow lights on a natural pitch. The roof on the Pierre Mauroy Stadium in Lille splits the roof into four panels allowing the open roof sections to park cleanly over the end stands of the stadium.



Pierre Mauroy Stadium Lille

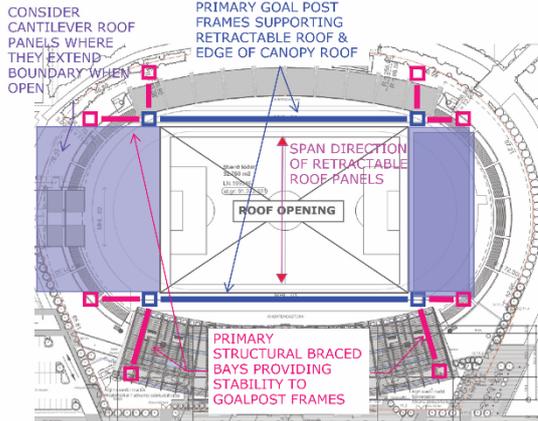


Pierre Mauroy Stadium Lille

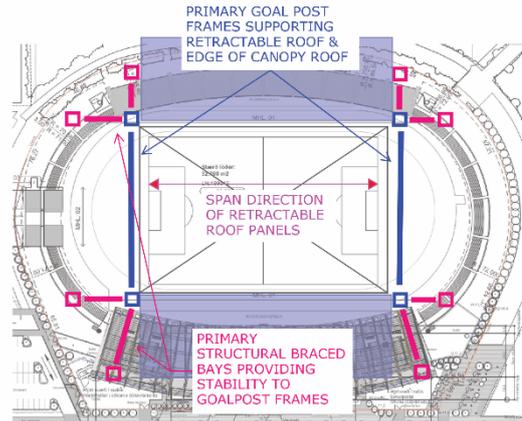


The snow loads in Reykjavik are high and with such a long span roof these are likely to be one of the key factors driving the size and form of the structural elements in the roof. With such high loads we have primarily looked at solutions that limit the span of the key structural elements. In this scenario mega columns would be located in the corners of the stadium giving the opportunity to create individual stands and 'Kop' stands at each end of the stadium. The Gelredone (Arnhem) uses this solution as shown in the following images.

STRUCTURAL SUPPORT FOR ROOF OPENING TO ENDS



STRUCTURAL SUPPORT FOR ROOF OPENING TO SIDES



NOTES FOR BOTH SOLUTIONS

SPAN OF PRIMARY 'GOALPOST' FRAMES KEPT TO A MINIMUM TO PROVIDE EFFICIENCY TO DESIGN DUE TO VERY HIGH SNOW LOADS.

SUPPORT COLUMNS FOR 'GOALPOST' FRAME LIMITS THE OPTION FOR FULL BOWL AND SEATS IN THE CORNERS

CREATES THE OPORTUNITY FOR 'KOP' TYPE ENDS

LOCATE PRIMARY BRACED BAYS IN END WALLS OF STANDS

WHERE RETRACTABLE PANELS EXTEND BEYOND BOUNDARY WHEN OPEN, PANELS TO BE DESIGNED TO CANTILEVER OVER BOUNDARY. CAN BE DESIGNED TO PROVIDE ADDITIONAL SHADING/COVER IF REQUIRED

Project No.: | Scale: | Date: | Drawn:

Structural support options; larger version available in Appendix H





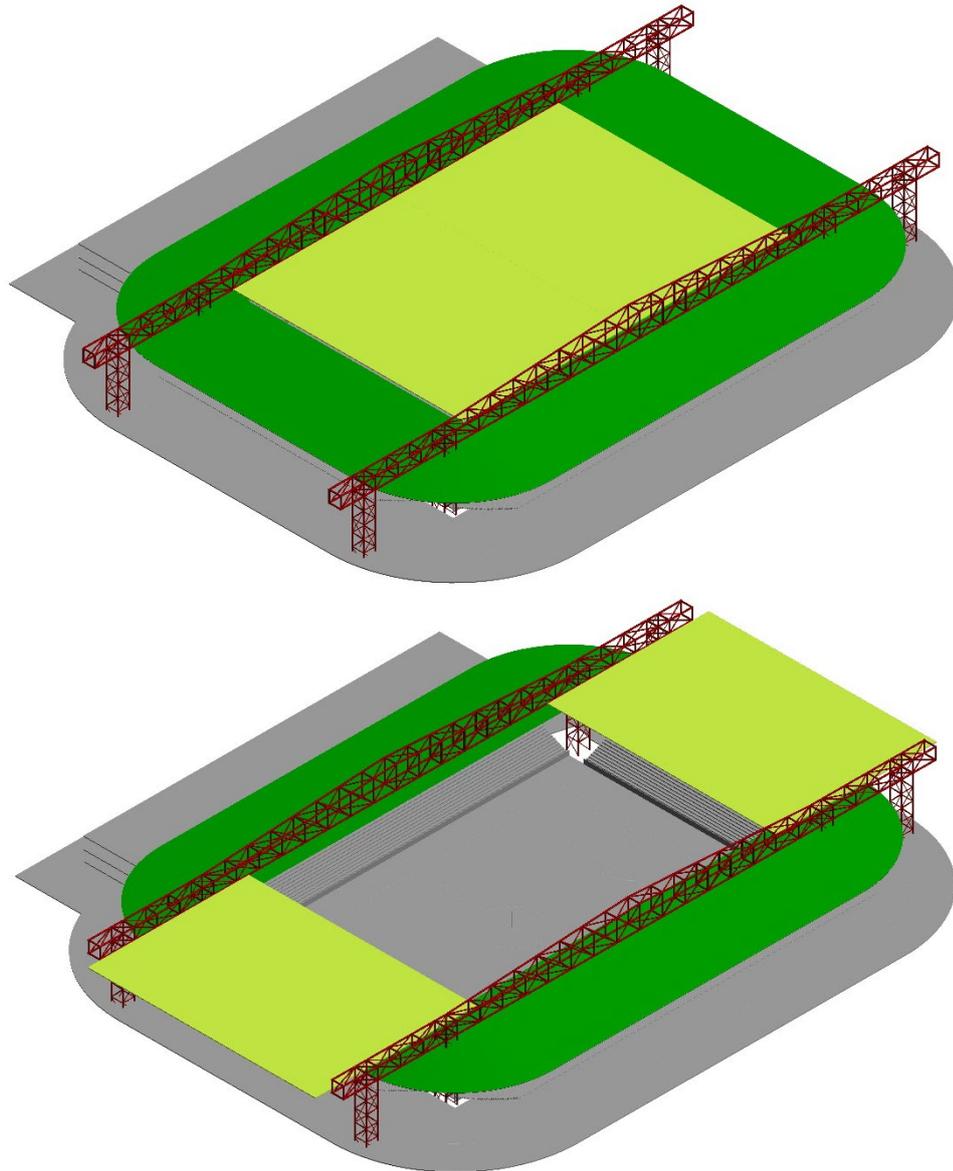
Gelredone; closed roof; arena use; open roof

With a roof over the pitch sightlines from the back row of seats need to achieve a clear view of 20m above the centre circle of the pitch. This is 5m higher than the requirement for an open stadium which effectively increases the volume within the stadium, raising the height of the roof and potential increases the façade height to the perimeter. The location of the floodlights will also have an impact on the height of the roof, these will have to be kept out of the sightlines, be a suitable height to avoid glare and under the roof to allow them to be used with the roof closed.

Having primary structural trusses beneath the roof would push the overall height of the roof up even further adding more unnecessary volume in the stadium. At this stage we have considered having the mega roof trusses positioned above the roof line.

Potential options considered at this stage are as follows:

Option 1 - mega trusses spanning north to south along the length of the pitch to support the retractable roof. The roof panels would move from their closed position and over the north and south stands in the open position. The mega columns would be in the corners of the bowl to limit the span of the mega trusses and the roof panels. Having a mega truss spanning north to south where the existing west stand is retained would provide support to the 'infill' piece of roof that would likely be required at the front of the west stand.



Option 1: Mega trusses

Option 2 - a similar structural philosophy to option 1 but with the span of the mega trusses turned 90 degrees so they span east to west. In the option the roof panels in the open position would park over the east and west stands.

Option 3 - provides a solution for keeping the mega columns out of the stadium bowl allowing a continuous bowl to be created if desired. The span of the trusses increases significantly adding to the volume of steel required to create the opening roof.

Option 4 - allows for a continuous bowl but with shorter span mega truss by supporting these on eight external mast structures. The mast structures would be a more complex solution that providing mega columns as the other options but provide a potentially iconic solution visible from further distances. This option is similar in principal to the Principality Stadium in Cardiff.

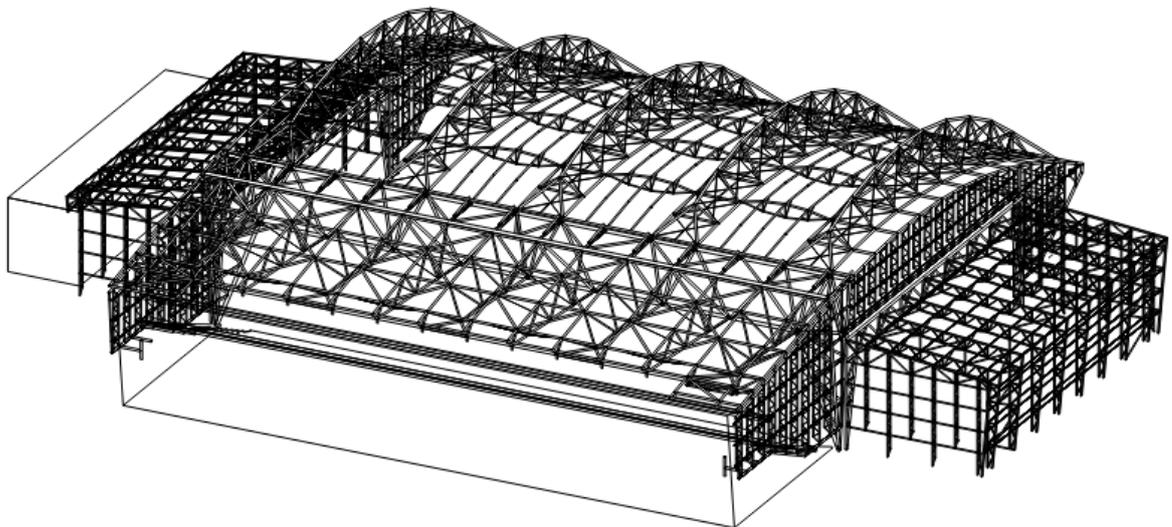


Principality Stadium, Cardiff

5.9.1.1 Fixed Roof Option

As an alternative to an opening roof solution a fixed roof solution could be considered. The Forsyth Barr Stadium in Dunedin, New Zealand provides a good example of this. On this solution permanent trusses span the width of the pitch with ETFE cladding to provide cover and good light transmission to the pitch. Standard ETFE would not be suitable on the whole roof due to the high snow loads we would experience in Reykjavik. However, ETFE may be suitable on steeper slopes with polycarbonate or glass on shallower sloped areas. With the snow loading being high the weight of the cladding material might not be critical in the design of the primary structural elements.

An ETFE/ polycarbonate roof may not be suitable for other climatic or operational reasons and would need to be fully considered at the design stage.



Fixed roof model



5.10 MEP Engineering Considerations of Retractable roof

5.10.1 Air Quality

With any covering of an occupied area, consideration must be given to the air quality for the spectators within the closed stadium.

A new National Stadium could see a number of different scenarios:

- For a Football match, typically a spectator will be in the stadium anywhere between 2hrs for a standard match up to 3.5hrs should a match go to extra time/penalty shoot-out.
- A music concert could see people in the stadium in excess of 5hrs when considering that a typical concert will have a supporting act ahead of the headlining act.
- An Exhibition Fair on the pitch could have visitors on the pitch over a 10hr period for maybe 3 consecutive days.

The large volume of the stadium and an operational philosophy that the stadium roof/ envelope would only close on the day/ day before the event should ensure that vast amounts of fresh air is available to suit the majority of events within the stadium.

Together with careful and considered design, a passive ventilation system can be adopted to ensure suitable ventilation rates are maintained at all times, minimising the build-up of unwanted carbon dioxide levels.

5.10.2 Key design features should consider the following:

A permeable façade that allows air flow. The level of permeability can vary to suit façade orientation and local climatic conditions.

Open, naturally ventilated concourses can act as the lungs of the stadium breathing fresh air to the bowl of the stadium.

Open vomitories that can provide an even distribution of natural air paths from the naturally ventilated open concourse to the bowl.

Lower vomitories can help to provide good levels of natural air flow to the lower seating levels and to the field of play.



5.11 SWOT analysis of all options

Option A – Carry out the minimum work to maintain the current stadium	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Minimises capital investment required •New pitch will be installed •Maximises usage of 2007 refurbished main stand •No down time for events due to construction •No need to consider any alternative athletics provision •Minimal operating risk relative to development options •No upheaval for KSÍ •Project Partners not saddled with debt 	<ul style="list-style-type: none"> •Does not meet UEFA Cat. 4 compliance requirements •No under pitch heating •Unpleasant experience for travelling teams used to 'home comforts' of modern stadia •Parts of the stadium to the old disused north and south terraces are of a poor quality •Cannot capitalise on latent ticket demand and help to grow football and sport in Iceland •Does not deliver new/ enhanced income streams to diversify stadium revenues •The running track around the does not maximise atmosphere/ home advantage •Does not create any usage/ community benefit outside matchdays •Does not deliver an economically-optimised solution for concert/ event promoters •Gives poor international impression of Iceland •High temporary overlay costs for event •Does not project Iceland's commitment to sustainability, wellbeing, climate emergency and innovative technology
Opportunities	Threats/Risks
<ul style="list-style-type: none"> • Provides scope to revisit best solution in post Covid-19 'new normal' 	<ul style="list-style-type: none"> •Stadium continues to age, and replacement is not planned •Maintenance cost will rise in future years. •Playing Season is very short - Autumn, Winter & Spring games called off •National Team home advantage not maximised, potentially harming results •Ticket demand may fall as event experience does not meet modern expectations •May jeopardise future major event (e.g. Women's Euros) hosting bids •May reduce aspiration to play for the national team one day •Existing/ potential KSÍ sponsors may be lost in absence of suitable inventory



Option B – Upgrade the existing stadium to UEFA Cat 4	
Strengths	Weaknesses
<ul style="list-style-type: none"> • Achieves UEFA Cat. 4 compliance requirements • Low capital investment requirement • Minimal down time for events due to construction • No need to consider any alternative athletics provision • Minimal operating risk relative to development options • No upheaval for KSÍ • Slightly increases stadium capacity • Project partners not saddled with debt 	<ul style="list-style-type: none"> • Unpleasant experience for travelling teams used to 'home comforts' of modern stadia • External concourses decrease spectator dwell time and spend • Cannot capitalise on latent ticket demand and help to grow football and sport in Iceland • Does not deliver new/ enhanced income streams to diversify stadium revenues • With the running track around the pitch the stadium does not maximise potential atmosphere/ home advantage • Does not create any usage/ community benefit outside matchdays • Does not deliver an economically-optimised solution for concert/ event promoters • Gives poor international impression of Iceland • Does not project Iceland's commitment to sustainability, wellbeing, climate emergency and innovative technology
Opportunities	Threats/Risks
<ul style="list-style-type: none"> • Provides scope to revisit best solution in post Covid-19 'new normal' 	<ul style="list-style-type: none"> • Stadium continues to age and suitable long-term replacement is not planned • Playing Season - even with under pitch heating - Winter games may be called off • Momentum behind identifying/ delivering long-term stadium solution lost • National Team home advantage not maximised, potentially harming results • Ticket demand may fall as event experience does not meet modern expectations • May reduce aspiration to play for the national team one day • Existing/ potential KSÍ sponsors may be lost in absence of suitable inventory



Option C – New 15,000 stadium	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Achieves UEFA Cat. 4 compliance requirements •Optimum capacity for National Team demand, based on data analysis •Potential to maximise potential atmosphere/ home advantage •Enables National Team to attract new fans and extend pricing range •Most financially sustainable development solution, without resorting to discounting •Creates new Premium Seating offer to drive and diversify revenue •Removal of athletics track optimises matchday experience and ticket demand •Complete new build maximises quality and safeguards full New Stadium Effect •Simple structural solution possible and Building heights optimised •Potential to project Iceland's commitment to sustainability, wellbeing, climate emergency and innovative technology via new design 	<ul style="list-style-type: none"> •Does not maximise one-off super event appeal and revenues •Does not maximise calendar/ fixture schedule flexibility due to lack of roof •Floodlight towers still potentially needed on East Stand •Ideally Requires full stadium closure and new build, though could be phased at greater construction cost
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •Create an iconic design •The new floodlight towers offer a creative opportunity •Attract new fans •Deliver a true 'Living Stadium' with community uses to meet local need •Additional business networking opportunities created for KSÍ sponsors/ other business •Design should strive to ensure that the new development does not use more finite resources (water and energy) than the current stadium despite the increase in capacity. A new development should have a positive impact or environmental/biodiversity net gain 	<ul style="list-style-type: none"> •If international schedule shifts to intensify Winter usage then a lack of roof is problematic



Option D – New 17,500 stadium	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Achieves UEFA Cat. 4 compliance requirements •Potential to maximise atmosphere/ home advantage •Enables National Team to attract new fans and extend pricing range •More economical solution than delivering a roof •Creates new Premium Seating offer to drive and diversify revenue •Removal of athletics track optimises matchday experience and ticket demand •Complete new build maximises quality and safeguards full New Stadium Effect •Capacity facilitates bigger/ super events •Simple structural solution possible •Building heights optimised •Potential to project Iceland's commitment to sustainability, wellbeing, climate emergency and innovative technology via new design 	<ul style="list-style-type: none"> •Spending money (capital and revenue) on seats that are very seldom used •Does not maximise calendar/ fixture schedule flexibility due to lack of roof •Ideally Requires full stadium closure and new build, though could be phased at greater construction cost
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •Attract new fans •Deliver a true 'Living Stadium' with community uses to meet local need •Additional business networking opportunities created for KSÍ sponsors/ other business •Design should strive to ensure that the new development does not use more finite resources (water and energy) than the current stadium despite the increase in capacity. A new development should have a positive impact or environmental/biodiversity net gain 	<ul style="list-style-type: none"> •Potentially may have to discount tickets to achieve sell out, based on data analysed •If international schedule shifts to intensify Winter usage then lack of roof is problematic



Option C – Retractable roof - New 15,000 stadium Comments as Option C plus additional comments below	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Attract new fans •Scope to generate tremendous atmosphere and maximise 'home advantage' •Deliver a true 'Living Stadium' with community uses to meet local need •Additional business networking opportunities created for KSÍ sponsors/ other business •Create a more balanced calendar and host events on the pitch year-round •Can respond to all FIFA/ UEFA fixture schedule possibilities •Potential to appeal for major event hosting opportunities (eg Women's Euros) 	<ul style="list-style-type: none"> •Does not maximise one-off super event appeal and revenues •Larger building height due to depth long span structure •Expensive build solution for limited events •More expensive operationally than open stadium with very little extra revenue •Requires full stadium closure and new build
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •Attract new fans •Scope to generate tremendous atmosphere and maximise 'home advantage' •Deliver a true 'Living Stadium' with community uses to meet local need •Additional business networking opportunities created for KSÍ sponsors/ other business •Create a more balanced calendar and host events on the pitch year-round •Potential to appeal for major event hosting opportunities (eg Women's Euros) 	<ul style="list-style-type: none"> •Expansion may not be possible •Roof reliant on technology and exposed to expensive maintenance works



Option D – Retractable roof - New 17,500 stadium Comments as Option D plus additional comments below	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Potential to create loud atmosphere/home advantage •Enables National Team to attract new fans and extend pricing range •Creates new Premium Seating offer to drive and diversify revenue •Removal of athletics track optimises matchday experience and ticket demand •Complete new build maximises quality and safeguards full New Stadium Effect •Retractable roof maximises future flexibility •Maximise one-off super event appeal and revenues •Maximise international visibility and profile for Iceland and National Teams 	<ul style="list-style-type: none"> •Expensive build solution for limited events •Spending money (capital and revenue) on seats that are very seldom used •More expensive operationally than open stadium with very little extra revenue •Requires full stadium closure and new build •Potential additional costs associated with electrical substation upgrades and network reinforcement
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •Attract new fans •Scope to generate tremendous atmosphere and maximise 'home advantage' •Deliver a true 'Living Stadium' with community uses to meet local need •Additional business networking opportunities created for KSÍ sponsors/ other business •Create a more balanced calendar and host events on the pitch year-round •Can respond to all FIFA/ UEFA fixture schedule possibilities •Potential to appeal for major event hosting opportunities (eg Women's Euros) 	<ul style="list-style-type: none"> •Potentially may have to discount tickets to achieve sell out, based on data analysed •Roof reliant on technology and exposed to expensive maintenance works



Option C1 – New 15,000 stadium with retained West stand Comments as Option C plus additional comments below	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Reuses part of the existing stadium and therefore consider to be more sustainable 	<ul style="list-style-type: none"> •Lack of continuity of structural solution between old and new structure •Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable •Does not deliver the 'New Stadium' affect in the main West Stand. Some concourses still external
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •West Stand could be upgraded/redeveloped at a later date. 	<ul style="list-style-type: none"> •Existing West Stand continues to age and replacement is not planned. Higher cost risk due to complex interfaces •Maintenance cost will rise in future years.
Option D1 – New 15,000 stadium with retained West stand Comments as Option D plus additional comments below	
Strengths	Weaknesses
<ul style="list-style-type: none"> •Reuses part of the existing stadium 	<ul style="list-style-type: none"> •Lack of continuity of structural solution between old and new structure •Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable •Does not deliver the 'New Stadium' affect in the main West Stand, some concourses are still external
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •West Stand could be upgraded at a later date. 	<ul style="list-style-type: none"> •Existing West Stand continues to age and replacement is not planned Higher cost risk due to complex interfaces •Maintenance cost will rise in future years.



Options C1 & D1 – Retractable roof – New stadium with retained West stand	
Comments as Options C1 & D1 plus additional comments below	
Strengths	Weaknesses
	<ul style="list-style-type: none"> •Interface with the existing west stand roof, curved in plan, and the new retractable roof is complex •More complex to redevelop the West Stand at a later date
Opportunities	Threats/Risks
<ul style="list-style-type: none"> •West Stand could be upgraded at a later date. 	<ul style="list-style-type: none"> •Interface with the existing west stand roof is prone to maintenance problems and leaks in the future.

5.12 Summary

- 5.12.1 The analysis completed by our team has illustrated significant strategic need and demand for an enhanced National Stadium at Laugardalsvöllur. The current stadium is already operating at capacity for Men’s National A Team matches, and has major limitations in terms of the quality of playing surface and the presence of the athletics track – the latter of which is particularly atypical in the context of modern top-level international football.
- 5.12.2 There is a strategic case for an enhanced stadium that better meets the long-term needs of KSÍ and delivers an improved matchday/ event experience at Laugardalsvöllur. Developing the facilities also creates the opportunity to deliver wider community sporting, social and educational uses that create a ‘Living Stadium’ and maximise the benefit of any public investment.
- 5.12.3 The small capacity limits the number of Icelanders that are able to attend matches, impacts KSÍ’s ability to directly engage with fans and generate (ticketing) revenues to support its ongoing development programmes, and limits the ‘home field advantage’ achievable with more fans in attendance at games.
- 5.12.4 The current stadium also does not maximise the ability to host other sporting and cultural events (concerts etc) and does not exist as a ‘living’ building outside of c. 10-12 events per year.
- 5.12.5 With investment in a modern, fit-for-purpose stadium (be it with or without a roof) reflecting a world top 40-ranked nation, Iceland has significantly enhanced opportunities to present a modern image to the world via sport, and significantly greater potential to attract and host major sporting events such as the Women’s European Championships (in conjunction with other host countries).
- 5.12.6 Section 6 of this report tests the key financial implications of the stadium development options under consideration. Section 7 sets out the key economic and social impacts of the alternative stadium projects.
- 5.12.7 Section 10 summarises all the inputs in a Comparison Matrix where the options are scored against project success factors.



6. The Financial Case

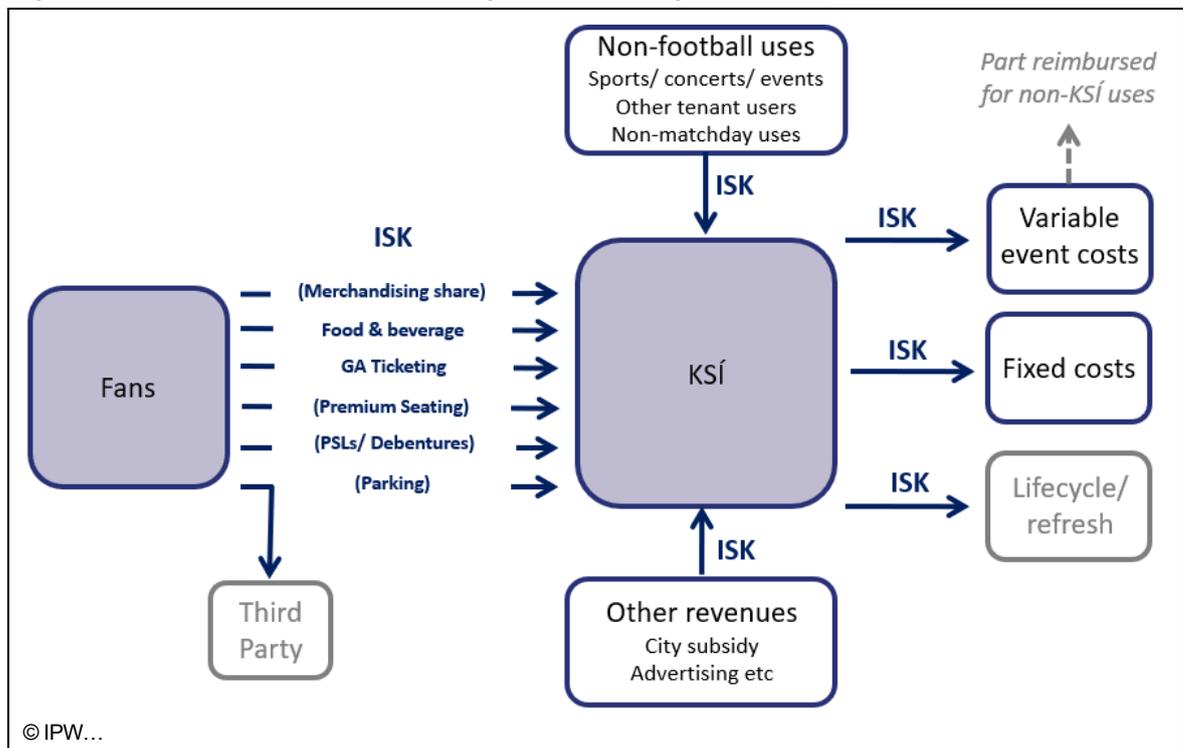
6.1 Introduction

6.1.1 The advisor team has completed significant analysis of the financial implications of developing/ expanding Laugardalsvöllur. This has included preparing detailed capital cost estimates and long-term (15 year) P&L projections to identify the annual operating position at the stadium level.

6.2 Current operating position

6.2.1 Under the current model, Laugardalsvöllur is owned by the City and managed by KSÍ. The broad flow of revenues and costs across this operating model is illustrated below at Figure 6.1, and is broadly consistent with an international model whereby the tenant team (be it a club or national side) is the owner/ operator of a stadium.

Figure 6.1 Illustrative current operating model at Laugardalsvöllur



6.2.2 Under this operating structure, the City pays an annual subsidy to KSÍ (average c. ISK 43m over the last three years) to cover part of the stadium running costs. KSÍ collects all stadium revenues and is responsible for meeting any operating losses each year, effectively through its ticketing (and other) revenues.

6.2.3 The stadium operates with a skeleton staff and a limited budget which is significantly lower than that at other national stadia, reflecting a reduced programme of activities and facilities and, outside of the General Admission ticketing for national team matches, does not drive significant or varied/ diversified revenue streams.

6.2.4 As discussed previously in Section 4, the stadium has only minimal Premium Seating (which are solely for KSÍ partners and not on sale to businesses or private users on event days) and, other than the tenancy of the Fencing Club and KSÍ's offices, does not generate any non-matchday activity or revenue. The current F&B operation is outsourced to a local sports club



resulting in an offer that does not meet modern fan expectations and demands and generates very little net profit for the stadium – at only c. ISK 1m per annum across football activities.

6.2.5

Over the last three years, the stadium has operated at an average loss of c. ISK 26m, which has been met by KSÍ. Over this same period, revenues from ticketing have averaged c. ISK 163m per annum, which have effectively been used to cover stadium losses. The operating position for the last three years is summarised below at Table 6.1.

Table 6.1 Current stadium P&L position (excl. Real Estate Taxes and concert use).

Item	2017	2018	2019	3-year average
Revenue				
City of Reykjavik grant	ISK 46,648,644	ISK 44,542,464	ISK 38,511,791	ISK 43,200,000
Food & beverage sales	ISK 900,000	ISK 900,000	ISK 1,000,000	ISK 900,000
Final Cups stadium rent	ISK 2,000,000	ISK 2,000,000	ISK 2,000,000	ISK 2,000,000
National games stadium rent	ISK 12,500,000	ISK 10,500,000	ISK 10,500,000	ISK 11,200,000
Other rent	ISK 3,631,741	ISK 2,785,981	ISK 4,875,247	ISK 3,800,000
Total Revenue	ISK 65,700,000	ISK 60,700,000	ISK 56,900,000	ISK 61,100,000
Expenditure				
Staff costs (salaries, on costs)	ISK 33,695,663	ISK 34,992,544	ISK 41,849,780	ISK 36,900,000
Telephone	ISK 125,864	ISK 150,081	ISK 302,037	ISK 200,000
Auditing	ISK 1,805,333	ISK 2,169,542	ISK 1,663,449	ISK 1,900,000
Travel & car costs	ISK 982,328	ISK 1,291,460	ISK 861,193	ISK 1,100,000
Insurance	ISK 297,007	ISK 115,545	ISK 118,832	ISK 200,000
Admin cost	ISK 302,278	ISK 286,579	ISK 424,987	ISK 300,000
Maintenance	ISK 5,644,719	ISK 6,687,510	ISK 9,956,372	ISK 7,400,000
Utilities (electricity, heat, water)	ISK 9,583,568	ISK 11,103,586	ISK 12,147,336	ISK 11,000,000
Cleaning	ISK 6,238,471	ISK 6,992,364	ISK 10,591,337	ISK 7,900,000
Garbage/ containers/ additional WCs	ISK 1,968,795	ISK 3,551,631	ISK 3,984,981	ISK 3,200,000
Match day Security -& Ticketing	ISK 12,393,784	ISK 13,953,643	ISK 15,393,924	ISK 13,900,000
Other housing cost	ISK 3,002,913	ISK 2,266,232	ISK 4,033,889	ISK 3,100,000
Bank cost	-ISK 53,528	-ISK 10,914	-ISK 51,539	ISK 0
Total Expenditure	ISK 76,000,000	ISK 83,500,000	ISK 101,300,000	ISK 86,900,000
Net operating position	-ISK 10,300,000	-ISK 22,800,000	-ISK 44,400,000	-ISK 25,800,000
KSÍ ticketing revenues	ISK 127,800,000	ISK 176,000,000	ISK 185,000,000	ISK 162,900,000
Net KSÍ position including Ticketing	ISK 119,600,000	ISK 155,900,000	ISK 144,000,000	ISK 139,800,000
% of ticket revenue needed as 'rent' for stadium to break even	8%	13%	24%	15%
Attendance (football events)	51,345	56,853	54,381	54,200

Information provided by KSÍ. NB Depreciation is excluded and totals are rounded. 3-year averages are rounded and may not tally



6.2.6 Table 6.1 excludes Real Estate Taxes (which KSÍ accounts for at the organisational level rather than apportioning to the stadium). We have been advised that this equates to an additional ISK 22m per annum in costs, which increases the current operating loss to c. ISK 48m per annum. It also excludes costs and revenues associated with hosting concerts. In 2019, for example, Laugardalsvöllur hosted two Ed Sheeran concerts which generated a rental payment of c. ISK 44m and incurred costs of c. ISK 11m.

6.3 Construction cost projections

6.3.1 Initial indicative construction cost estimates have been prepared for the various proposed design studies / options for the development of Iceland National Football Stadium. These costs are summarised in this section. The full cost estimates are provided in Appendix A.

6.3.2 The costs are based on very little design input and therefore make a number of assumptions in terms of scope and specification. The basis and assumptions made within the costs are detailed in Section 6.0 of Appendix A.

6.3.3 Based on the information prepared by the team for the purpose of the Outline Business Case study, indicative costs for each of the options are summarised below (rounded). Options C, C1, D and D1 include for a new fixed "drip line" roof to new build areas. An additional extra-over cost to provide a retractable roof to these options has also been shown "below the line". Further detail to these costs is provided in Section 5.0 of Appendix A.

Figure 6.2 Project outturn cost projections

Description	Option A Total (ISK)	Option B Total (ISK)	Option C Total (ISK)	Option C.1 Total (ISK)	Option D Total (ISK)	Option D.1 Total (ISK)
Demolitions	17,000,000	32,000,000	48,000,000	50,000,000	48,000,000	50,000,000
Construction Works	187,000,000	993,000,000	5,664,000,000	4,553,000,000	6,090,000,000	5,193,000,000
External Façade	N/A	55,000,000	515,000,000	325,000,000	582,000,000	375,000,000
Pitch	94,000,000	157,000,000	314,000,000	314,000,000	314,000,000	314,000,000
External Works	N/A	N/A	557,000,000	557,000,000	557,000,000	557,000,000
Main Contractor Prelims/OHP	54,000,000	223,000,000	993,000,000	812,000,000	1,063,000,000	908,000,000
Total Construction Cost	352,000,000	1,460,000,000	8,091,000,000	6,611,000,000	8,654,000,000	7,397,000,000
Professional Fees & Surveys	70,000,000	175,000,000	809,000,000	661,000,000	865,000,000	740,000,000
Loose Furniture & Equipment	N/A	39,000,000	250,000,000	220,000,000	260,000,000	240,000,000
Design Contingency	63,000,000	251,000,000	1,373,000,000	1,124,000,000	1,467,000,000	1,257,000,000
Total Cost (Excl Moving Roof)	485,000,000	1,925,000,000	10,523,000,000	8,616,000,000	11,246,000,000	9,634,000,000
Extra Over for Moving Roof	N/A	N/A	4,522,000,000	4,522,000,000	4,583,000,000	4,583,000,000
Total Cost (Incl Moving Roof)	N/A	N/A	15,045,000,000	13,138,000,000	15,829,000,000	14,217,000,000

6.3.4 Costs reflect total project costs, thus are inclusive of Demolitions, Constructions Works, Pitch, External Works, Contractor's Preliminaries, Overheads & Profit, Loose Furniture & Equipment, Professional fees and Design Contingency.

6.3.5 A full list of exclusions is provided in section 7.0 of Appendix A, however some key exclusions from the costs are; overlay works, maintenance, operations and inflation (costs are based at Q2 2020 prices).

6.3.6 A cost benchmarking analysis of the estimated costs against comparable stadium projects is provided in section 8.0 of Appendix A.

6.3.7 Financial projections are based on construction costs only, thus exclude the cost of the pitch, Loose Furniture & Equipment and Professional fees. The capital construction costs used for the financial projects therefore differ from the project costs set-out above. For clarity, the construction only costs used for the financial projections are summarised below in Figure 6.3.



Figure 6.3 Project construction cost projections

Description	Option A Total (ISK)	Option B Total (ISK)	Option C Total (ISK)	Option C.1 Total (ISK)	Option D Total (ISK)	Option D.1 Total (ISK)
Demolitions	17,000,000	32,000,000	48,000,000	50,000,000	48,000,000	50,000,000
Construction Works	187,000,000	993,000,000	5,664,000,000	4,553,000,000	6,090,000,000	5,193,000,000
External Façade	0	55,000,000	515,000,000	325,000,000	582,000,000	375,000,000
Pitch	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
External Works	N/A	N/A	557,000,000	557,000,000	557,000,000	557,000,000
Main Contractor Prelims/OHP	37,000,000	194,000,000	950,000,000	768,000,000	1,019,000,000	865,000,000
Professional Fees/Surveys	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
Loose Furniture & Equipment	Excluded	Excluded	Excluded	Excluded	Excluded	Excluded
Design Contingency	36,000,000	191,000,000	1,160,000,000	938,000,000	1,244,000,000	1,056,000,000
Construction Cost (Exc. Moving Roof)	277,000,000	1,465,000,000	8,894,000,000	7,191,000,000	9,540,000,000	8,096,000,000
Extra Over for Moving Roof	N/A	N/A	4,522,000,000	4,522,000,000	4,583,000,000	4,583,000,000
Construction Cost (Inc. Moving Roof)	277,000,000	1,465,000,000	13,416,000,000	11,713,000,000	14,123,000,000	12,679,000,000



6.4 Operating projections – development options

- 6.4.1 The team have prepared long-term (15 year) P&L projections for each stadium development scenarios. This exercise has been informed by:
- Historic performance data and information provided by KSÍ
 - Benchmark data from the teams database
 - The demand/ capacity analysis presented in Section 3 of this report
 - The advisor team’s combined experience of international best practice
 - Additional secondary research and local/ international benchmarking.
- 6.4.2 The financial model is made available to the client team alongside this report. An overview of the key assumptions informing the financial projections is provided in databook format at Appendix M.
- 6.4.3 The basis of the long-term model is a projected event programme. This study has prepared three core event programme scenarios, as follows:
- Event Profile 1 is considered the base case – World Cup Qualifier/ Nations League A/ European Championship Qualifying (rotating, depending on the year) for Men’s National Team, home matches for Women’s National Team, occasional friendlies for each, age-grade representative matches, semi-finals and finals of the domestic cup competitions – an increase over current to reflect an increased pitch capacity and greater emphasis on programming ‘the home of football in Iceland’
 - Event Profile 2 is a conservative case with participation in Nations League B, domestic cup finals only and fewer age-grade representative matches
 - Event Profile 3 is a more aggressive case – mirroring Event Profile 1 but with the addition of another age-grade match, 2x Meistar meistaranna matches (men’s and women’s) and 2x Europa League matches per year.

All event profiles include for concert use, though the number of acts that can be attracted are more likely to be contingent on delivering a roof solution to extend the concert ‘season’ from the current shortened Summer window.

These three scenarios were validated by KSÍ in July 2020 as representative of the likely scenarios at the stadium. Unless otherwise stated projections presented in this section reflect Event Profile 1. All references to Options C and D reflect a full new build, including replacing the West Stand. The implications of the C1 and D1 options are considered separately, relative to the full new build options.

Lifecycle is included as a below the line item in all projections, starting at Year 5. Given the scale of capital costs associated with the development options, this is a significant sum in all development options, and particularly those with a roof. The provision for this sinking fund is at the discretion of the stadium owner (in consultation with the operator) and the owner could, as is relatively common, choose not to account for this but instead make capital investments on a business case basis over time.

Under Options A & B, we have assumed that the current operating model will remain in place since the stadium’s operation does not particularly necessitate outside third party expertise and the levels of revenue and costs do not support it.

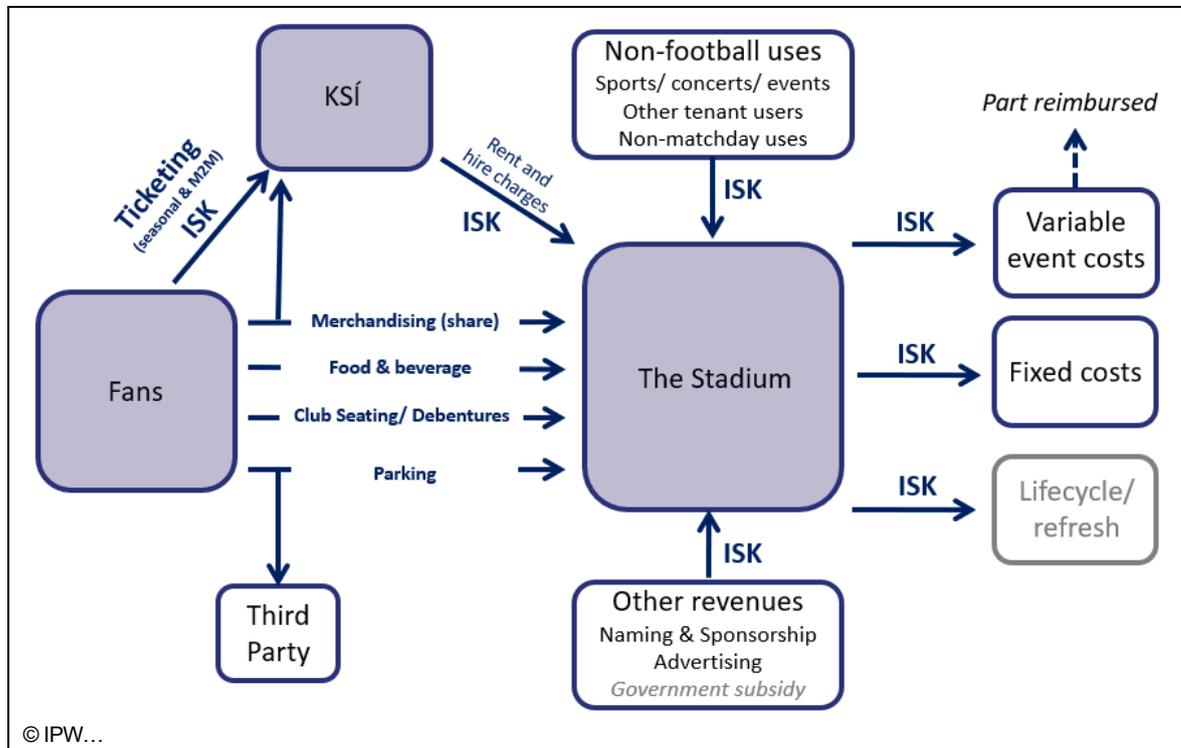
Under the development options (C & D) however we have assumed that a new operating model will be instituted and implemented, with a third party operator establishing a bigger staff team and operating the stadium in line with international practices and benchmarks.

While we currently expect a new stadium would continue to be publicly-owned (this is a complex issue that will be shaped by the funding mix), the model will shift towards a third party operator structure with resulting impact on the apportionment of costs and revenues.



6.4.4 The broad flow of revenues and costs across this (anticipated) revised operating model is illustrated below at Figure 6.4. KSÍ will be free to focus on its development programmes and the operation and administration of the national teams.

Figure 6.4 Illustrative operating model for development options C & D



6.4.5 Options C1 & D1 crucially include the Premium Seating offer set out in Section 4 of this report. This is a key addition to the seating mix with the potential to drive significant revenues. We have assumed that the Premium packages will be sold on a seasonal (5-year contract) basis with a 75% uptake. We have assumed that Premium GA tickets will be sold match to match/ event to event with an uptake mirroring GA sales patterns.

6.5 Option A

6.5.1 Option A effectively equates to a continuation of the current operation and financial performance of Laugardalsvöllur. We would note that currently:

- KSÍ operates the facility on behalf of the city and effectively takes the risk and reward
- KSÍ makes a nominal payment as rent to the stadium P&L to cover home matches at the Stadium
- The City makes an annual grant contribution towards the stadium's operation/ to partly meet the annual operating shortfall. This is currently c. ISK 43m per annum (three year average) though we understand from discussions with KSÍ that there are ongoing negotiations about the potential to increase this to ISK 80m to cover the ongoing losses
- The F&B concession sits with a local sports club and has poor infrastructure – this means low spends per head and only a nominal return each year for KSÍ (equivalent to c. ISK 1m per annum from football events)
- Current revenues are constrained by the shortage of GA seats and, particularly, the shortage of Premium Seats which are purely available for KSÍ sponsors and are not available for general sale.



- 6.5.2 Option A is projected to continue along its current financial trajectory, with minimal changes to the revenue generated or costs incurred.
- 6.5.3 Table 6.2 overleaf summarises the operating projections associated with Option A. The key variations from the current position shown at Table 6.1 above are:
- The inclusion of costs and revenues associated with concerts (one per annum) rather than accounting for these separately
 - The inclusion of Real Estate Taxes
 - The removal of the City grant to enable a like for like comparison of stadium operating position (pre-subsidy) across options
 - An alternative presentation of KSÍ's rent (compared to Table 6.1) whereby payment is linked to ticketing revenues (20% of income) rather than a (small) flat rental payment as currently – to standardise across options.
- 6.5.4 With the assumptions used (and summarised in the databook appended to this report – Appendix M), Laugardalsvöllur is projected to operate at an ongoing loss and will not generate additional events, attendances or non-matchday uses.



Table 6.2 Option A (Do Minimum) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5	15-yr ave.
GA ticket revenue/ matchday rent	ISK 46,752,000	ISK 39,432,000	ISK 50,361,000	ISK 41,265,000	ISK 51,204,000	ISK 51,010,000
Premium ticket revenue (net)	ISK 7,760,000	ISK 6,350,000	ISK 6,497,000	ISK 6,646,000	ISK 6,799,000	ISK 7,420,000
F&B revenue - football-related (net)	ISK 1,220,000	ISK 1,081,000	ISK 1,313,000	ISK 1,133,000	ISK 1,336,000	ISK 1,360,000
F&B revenue - other (net)	ISK 4,824,000	ISK 4,935,000	ISK 5,049,000	ISK 5,165,000	ISK 5,284,000	ISK 5,680,000
Contributions and grants	ISK 0					
Commercial rights and other revenues	ISK 15,082,000	ISK 15,429,000	ISK 15,784,000	ISK 16,147,000	ISK 16,519,000	ISK 17,770,000
Parking revenue (net)	ISK 0					
Total revenue	ISK 75,600,000	ISK 67,200,000	ISK 79,000,000	ISK 70,400,000	ISK 81,100,000	ISK 83,200,000
Licenses and insurance	ISK 0					
Staff and related costs	ISK 38,079,000	ISK 38,956,000	ISK 39,848,000	ISK 40,765,000	ISK 41,707,000	ISK 44,860,000
Maintenance and landscaping	ISK 21,200,000	ISK 21,690,000	ISK 22,190,000	ISK 22,700,000	ISK 23,220,000	ISK 24,980,000
Admin and other expenses	ISK 23,640,000	ISK 24,184,000	ISK 24,740,000	ISK 25,309,000	ISK 25,891,000	ISK 27,850,000
Variable costs	ISK 24,952,000	ISK 22,869,000	ISK 26,992,000	ISK 23,932,000	ISK 27,328,000	ISK 28,240,000
Total expenditure	ISK 107,900,000	ISK 107,700,000	ISK 113,800,000	ISK 112,700,000	ISK 118,100,000	ISK 125,900,000
EBITDA	-ISK 32,300,000	-ISK 40,500,000	-ISK 34,800,000	-ISK 42,300,000	-ISK 37,000,000	-ISK 42,700,000
Real Estate Taxes	ISK 22,000,000	ISK 22,500,000	ISK 23,000,000	ISK 23,600,000	ISK 24,100,000	ISK 25,900,000
Profit/ loss incl. Real Estate Taxes	-ISK 54,300,000	-ISK 63,000,000	-ISK 57,800,000	-ISK 65,900,000	-ISK 61,100,000	-ISK 68,600,000
Total KSÍ ticketing revenue (before rent)	ISK 195,000,000	ISK 157,000,000	ISK 211,000,000	ISK 164,000,000	ISK 213,000,000	ISK 208,870,000



6.6 Option B - Existing Stadium refurbished to UEFA Category 4 Requirements

- 6.6.1 Option B broadly mirrors the current operation and financial performance of Laugardalsvöllur, with only very minor (incidental) changes to the business plan brought about by the interventions required to bring the stadium to Category 4 status. Section 4 summarises the interventions anticipated, but ultimately these will not significantly shift the stadium's capacity or quality of offer.
- 6.6.2 The Stadium's operations and financial performance are assumed to be broadly unchanged, though KSÍ's rent is modelled as being linked to ticketing revenues (20% of income).
- 6.6.3 Table 6.3 overleaf summarises the operating projections associated with Option B.



Table 6.3 Option B (Minor improvements) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5	15-yr ave.
GA ticket revenue/ matchday rent	ISK 46,798,000	ISK 40,392,000	ISK 50,398,000	ISK 42,271,000	ISK 51,254,000	ISK 51,560,000
Premium ticket revenue (net)	ISK 7,760,000	ISK 6,350,000	ISK 6,497,000	ISK 6,646,000	ISK 6,799,000	ISK 7,420,000
F&B revenue - football-related (net)	ISK 1,220,000	ISK 1,081,000	ISK 1,313,000	ISK 1,133,000	ISK 1,336,000	ISK 1,360,000
F&B revenue - other (net)	ISK 4,824,000	ISK 4,935,000	ISK 5,049,000	ISK 5,165,000	ISK 5,284,000	ISK 5,680,000
Contributions and grants	ISK 0					
Commercial rights and other revenues	ISK 15,082,000	ISK 15,429,000	ISK 15,784,000	ISK 16,147,000	ISK 16,519,000	ISK 17,770,000
Parking revenue (net)	ISK 0					
Total revenue	ISK 75,700,000	ISK 68,200,000	ISK 79,000,000	ISK 71,400,000	ISK 81,200,000	ISK 83,800,000
Licenses and insurance	ISK 0					
Staff and related costs	ISK 38,079,000	ISK 38,956,000	ISK 39,848,000	ISK 40,765,000	ISK 41,707,000	ISK 44,860,000
Maintenance and landscaping	ISK 21,200,000	ISK 21,690,000	ISK 22,190,000	ISK 22,700,000	ISK 23,220,000	ISK 24,980,000
Admin and other expenses	ISK 23,640,000	ISK 24,184,000	ISK 24,740,000	ISK 25,309,000	ISK 25,891,000	ISK 27,850,000
Variable costs	ISK 24,952,000	ISK 22,869,000	ISK 26,992,000	ISK 23,932,000	ISK 27,328,000	ISK 28,240,000
Total expenditure	ISK 107,900,000	ISK 107,700,000	ISK 113,800,000	ISK 112,700,000	ISK 118,100,000	ISK 125,900,000
EBITDA	-ISK 32,200,000	-ISK 39,500,000	-ISK 34,800,000	-ISK 41,300,000	-ISK 36,900,000	-ISK 42,100,000
Real Estate Taxes	ISK 22,000,000	ISK 22,500,000	ISK 23,000,000	ISK 23,600,000	ISK 24,100,000	ISK 25,900,000
Profit/ loss incl. Real Estate Taxes	-ISK 54,200,000	-ISK 62,000,000	-ISK 57,800,000	-ISK 64,900,000	-ISK 61,000,000	-ISK 68,000,000
Total KSÍ ticketing revenue (before rent)	ISK 195,000,000	ISK 157,000,000	ISK 211,000,000	ISK 164,000,000	ISK 213,000,000	ISK 211,600,000



6.7 Option C: 15,000 capacity, no roof

- 6.7.1 Option C delivers an increased capacity, with the stadium capable of accommodating c. 15,000 spectators in football mode – a c. 53% increase in capacity over the current stadium.
- 6.7.2 Table 6.4 summarises the operating projections associated with Option C (no roof). This highlights both significantly higher projected revenues and costs at the stadium level. With the increased capacity, KSI is projected to significantly increase its ticketing revenues. Its deal with the stadium operator is assumed to be based on a percentage of this income.
- 6.7.3 We would particularly highlight the following key base assumptions associated with Option C (no roof) as those having the most significant impact on the operating projections:
- Significant additional maintenance costs over Options A & B, linked to the capital cost of the new stadium and the requirement for more diligent maintenance of a major asset
 - Significant additional Real Estate Taxes payable linked to the capital cost of the new stadium
 - KSI's rent is linked to ticketing revenues (20% of income)
 - The delivery of new revenue-generating spaces, most notably a segmented Premium inventory with multiple price points
 - The inclusion of commercial rights revenues (naming rights and partner sponsor rights) with the development of an asset that has greater activation and monetisation potential for prospective sponsors.
- 6.7.4 Over the first 15 years of operation, Option C (no roof) is projected to broadly breakeven (average loss of c. ISK 3m per annum) before accounting for Real Estate Taxes (average loss including Real Estate Taxes of c. ISK 107m per annum). KSI's ticketing revenues (before rent) are projected to increase by c. ISK 80m (38%) in an average year.



Table 6.4 Option C (15,000 capacity, no roof) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5	15-yr ave.
GA ticket revenue/ matchday rent	ISK 61,597,000	ISK 53,199,000	ISK 67,984,000	ISK 55,676,000	ISK 67,462,000	ISK 68,380,000
Premium ticket revenue (net)	ISK 91,890,000	ISK 93,530,000	ISK 95,190,000	ISK 96,900,000	ISK 98,650,000	ISK 107,160,000
F&B revenue - football-related (net)	ISK 12,182,000	ISK 10,511,000	ISK 13,193,000	ISK 11,001,000	ISK 13,342,000	ISK 13,440,000
F&B revenue - other (net)	ISK 20,883,000	ISK 21,363,000	ISK 21,855,000	ISK 22,357,000	ISK 22,872,000	ISK 24,600,000
Contributions and grants	ISK 0					
Commercial rights and other revenues	ISK 145,790,000	ISK 149,155,000	ISK 152,581,000	ISK 156,080,000	ISK 159,676,000	ISK 171,770,000
Parking revenue (net)	ISK 6,760,000	ISK 6,550,000	ISK 7,100,000	ISK 6,840,000	ISK 7,420,000	ISK 7,770,000
Total revenue	ISK 339,100,000	ISK 334,300,000	ISK 357,900,000	ISK 348,900,000	ISK 369,400,000	ISK 393,100,000
Licenses and insurance	ISK 10,750,000	ISK 10,997,000	ISK 11,250,000	ISK 11,509,000	ISK 11,774,000	ISK 12,670,000
Staff and related costs	ISK 119,073,000	ISK 121,812,000	ISK 124,612,000	ISK 127,479,000	ISK 130,410,000	ISK 140,290,000
Maintenance and landscaping	ISK 75,053,000	ISK 76,779,000	ISK 113,449,000	ISK 116,058,000	ISK 118,728,000	ISK 129,690,000
Admin and other expenses	ISK 70,000,000	ISK 71,610,000	ISK 73,257,000	ISK 64,386,000	ISK 65,867,000	ISK 72,880,000
Variable costs	ISK 36,086,000	ISK 33,198,000	ISK 39,084,000	ISK 34,742,000	ISK 39,522,000	ISK 40,920,000
Total expenditure	ISK 311,000,000	ISK 314,400,000	ISK 361,700,000	ISK 354,200,000	ISK 366,300,000	ISK 396,500,000
EBITDA	ISK 28,100,000	ISK 19,900,000	-ISK 3,800,000	-ISK 5,300,000	ISK 3,100,000	-ISK 3,400,000
Real Estate Taxes	ISK 88,100,000	ISK 90,100,000	ISK 92,100,000	ISK 94,300,000	ISK 96,400,000	ISK 103,700,000
Profit/ loss incl. Real Estate Taxes	-ISK 60,000,000	-ISK 70,200,000	-ISK 95,900,000	-ISK 99,600,000	-ISK 93,300,000	-ISK 107,100,000
Total KSÍ ticketing revenue (before rent)	ISK 262,000,000	ISK 219,000,000	ISK 291,000,000	ISK 229,000,000	ISK 287,000,000	ISK 287,400,000



6.8 Option C: 15,000 capacity, retractable roof

- 6.8.1 Table 6.5 summarises the operating projections associated with Option C (roofed). This highlights slightly increased projected revenues and significantly increased costs relative to the option without a roof. With the roof in place, there is enhanced scope to attract more concerts (through extending the available event window) and to achieve slightly increased attendances at football events.
- 6.8.2 We would particularly highlight the following key base assumptions associated with the roofed solution relative to the option without a roof:
- Significant additional maintenance costs relative to the open stadium option equating to c. ISK 35m higher costs in a mature year, linked to the capital cost of the roof solution and the requirement for enhanced maintenance of this component of the facility
 - Significant additional Real Estate Taxes payable linked to the capital cost of the new stadium (given the cost of the roof)
 - KSÍ's rent is linked to ticketing revenues (20% of income)
 - Enhanced scope to attract an additional concert each year
 - The inclusion of commercial rights revenues (naming rights and partner sponsor rights) with the development of an asset that has greater activation and monetisation potential for prospective sponsors, and a facility that attracts more visitors each year.
- 6.8.3 We have assumed a slight increase in the staffing structure/ costs (linked to the building's complexity) and in the commercial rights values – responding to the projected increases in attendance (linked to the appeal associated with an enhanced matchday experience).
- 6.8.4 Over the first 15 years of operation, Option C (roofed) is projected to operate at an average loss of c. ISK 39m per annum before accounting for Real Estate Taxes (average loss including Real Estate Taxes of c. ISK 195m per annum). KSÍ's ticketing revenues (before rent) are projected to increase by c. ISK 80m (38%) in an average year.
- 6.8.5 KSÍ's ticketing revenues (before rent) are projected at c. ISK 92m/ 44% higher under Option C (roofed) than under Option A. KSÍ's ticketing revenues (before rent) are projected to increase by c. ISK 13m (5%) in an average year compared to the no roof option.



Table 6.5 Option C (15,000 capacity, roofed) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5	15-yr ave.
GA ticket revenue/ matchday rent	ISK 64,184,000	ISK 55,656,000	ISK 71,368,000	ISK 58,246,000	ISK 70,296,000	ISK 71,540,000
Premium ticket revenue (net)	ISK 91,890,000	ISK 93,530,000	ISK 95,190,000	ISK 96,900,000	ISK 98,650,000	ISK 107,160,000
F&B revenue - football-related (net)	ISK 15,142,000	ISK 13,327,000	ISK 16,370,000	ISK 13,947,000	ISK 16,585,000	ISK 16,840,000
F&B revenue - other (net)	ISK 27,045,000	ISK 27,667,000	ISK 28,304,000	ISK 28,955,000	ISK 29,621,000	ISK 31,860,000
Contributions and grants	ISK 0					
Commercial rights and other revenues	ISK 162,457,000	ISK 166,205,000	ISK 170,023,000	ISK 173,924,000	ISK 177,928,000	ISK 190,050,000
Parking revenue (net)	ISK 6,760,000	ISK 6,550,000	ISK 7,100,000	ISK 6,840,000	ISK 7,420,000	ISK 7,770,000
Total revenue	ISK 367,500,000	ISK 362,900,000	ISK 388,400,000	ISK 378,800,000	ISK 400,500,000	ISK 425,200,000
Licenses and insurance	ISK 12,000,000	ISK 12,276,000	ISK 12,558,000	ISK 12,847,000	ISK 13,143,000	ISK 14,140,000
Staff and related costs	ISK 127,350,000	ISK 130,280,000	ISK 133,275,000	ISK 136,341,000	ISK 139,477,000	ISK 150,050,000
Maintenance and landscaping	ISK 93,010,000	ISK 95,149,000	ISK 149,989,000	ISK 153,438,000	ISK 156,967,000	ISK 168,540,000
Admin and other expenses	ISK 75,000,000	ISK 76,725,000	ISK 78,490,000	ISK 80,295,000	ISK 82,142,000	ISK 88,370,000
Variable costs	ISK 37,794,000	ISK 34,630,000	ISK 40,871,000	ISK 36,241,000	ISK 41,392,000	ISK 42,770,000
Total expenditure	ISK 345,200,000	ISK 349,100,000	ISK 415,200,000	ISK 419,200,000	ISK 433,100,000	ISK 463,900,000
EBITDA	ISK 22,300,000	ISK 13,800,000	-ISK 26,800,000	-ISK 40,400,000	-ISK 32,600,000	-ISK 38,700,000
Real Estate Taxes	ISK 132,800,000	ISK 135,900,000	ISK 139,000,000	ISK 142,200,000	ISK 145,500,000	ISK 156,500,000
Profit/ loss incl. Real Estate Taxes	-ISK 110,500,000	-ISK 122,100,000	-ISK 165,800,000	-ISK 182,600,000	-ISK 178,100,000	-ISK 195,200,000
Total KSÍ ticketing revenue (before rent)	ISK 272,000,000	ISK 229,000,000	ISK 306,000,000	ISK 239,000,000	ISK 298,000,000	ISK 300,400,000



6.9 Option D: 15,000 capacity, no roof

- 6.9.1 Option D delivers an increased capacity and the largest facility option modelled, with the stadium capable of accommodating 17,500 spectators in football mode – a c. 79% increase in capacity over the current stadium.
- 6.9.2 Table 6.6 overleaf summarises the operating projections associated with Option D (no roof). This highlights the slightly higher projected revenues and costs at the stadium level relative to the 15,000 capacity Option C. Despite the increased capacity, KSÍ is not projected to significantly increase its ticketing revenues as we have assumed that New Stadium Effect demand (+40%) will be applicable under both scenarios.
- 6.9.3 We would particularly highlight the following key base assumptions associated with Option D (no roof) as those having the most significant impact on the operating projections, relative to Option C:
- Marginal additional maintenance costs over Option C equating to c. ISK 5m higher costs in a mature year, linked to the increased capital cost of the larger stadium
 - Marginal additional Real Estate Taxes payable linked to the capital cost of the new stadium
 - No increases to revenues associated with Premium Seating, commercial rights and other non-matchday revenues, as these are assumed to not be impacted.
- 6.9.4 Over the first 15 years of operation, Option D (no roof) is projected to operate at an average loss of c. ISK 39m per annum before accounting for Real Estate Taxes (average loss including Real Estate Taxes of c. ISK 195m per annum). KSÍ's ticketing revenues (before rent) are projected to increase by c. ISK 80m (38%) in an average year.



Table 6.6 Option D (17,500 capacity, no roof) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5	15-yr ave.
GA ticket revenue/ matchday rent	ISK 61,739,000	ISK 53,282,000	ISK 69,055,000	ISK 55,761,000	ISK 67,618,000	ISK 68,800,000
Premium ticket revenue (net)	ISK 91,890,000	ISK 93,530,000	ISK 95,190,000	ISK 96,900,000	ISK 98,650,000	ISK 107,160,000
F&B revenue - football-related (net)	ISK 14,853,000	ISK 13,143,000	ISK 16,082,000	ISK 13,754,000	ISK 16,266,000	ISK 16,560,000
F&B revenue - other (net)	ISK 21,225,000	ISK 21,714,000	ISK 22,213,000	ISK 22,723,000	ISK 23,246,000	ISK 25,010,000
Contributions and grants	ISK 0	ISK 0	ISK 0	ISK 0	ISK 0	ISK 0
Commercial rights and other revenues	ISK 147,630,000	ISK 151,036,000	ISK 154,507,000	ISK 158,049,000	ISK 161,690,000	ISK 173,940,000
Parking revenue (net)	ISK 6,760,000	ISK 6,550,000	ISK 7,100,000	ISK 6,840,000	ISK 7,420,000	ISK 7,770,000
Total revenue	ISK 344,100,000	ISK 339,300,000	ISK 364,100,000	ISK 354,000,000	ISK 374,900,000	ISK 399,200,000
Licenses and insurance	ISK 12,500,000	ISK 12,788,000	ISK 13,082,000	ISK 13,383,000	ISK 13,690,000	ISK 14,730,000
Staff and related costs	ISK 119,073,000	ISK 121,812,000	ISK 124,612,000	ISK 127,479,000	ISK 130,410,000	ISK 140,290,000
Maintenance and landscaping	ISK 80,775,000	ISK 82,633,000	ISK 121,973,000	ISK 124,778,000	ISK 127,648,000	ISK 138,960,000
Admin and other expenses	ISK 79,100,000	ISK 80,919,000	ISK 82,780,000	ISK 84,685,000	ISK 86,632,000	ISK 93,200,000
Variable costs	ISK 36,086,000	ISK 33,198,000	ISK 39,084,000	ISK 34,742,000	ISK 39,522,000	ISK 40,920,000
Total expenditure	ISK 327,500,000	ISK 331,400,000	ISK 381,500,000	ISK 385,100,000	ISK 397,900,000	ISK 428,100,000
EBITDA	ISK 16,600,000	ISK 7,900,000	-ISK 17,400,000	-ISK 31,100,000	-ISK 23,000,000	-ISK 28,900,000
Real Estate Taxes	ISK 94,446,000	ISK 96,618,300	ISK 98,840,500	ISK 101,113,800	ISK 103,439,400	ISK 111,280,000
Profit/ loss incl. Real Estate Taxes	-ISK 77,846,000	-ISK 88,718,300	-ISK 116,240,500	-ISK 132,213,800	-ISK 126,439,400	-ISK 140,180,000
Total KSÍ ticketing revenue (before rent)	ISK 262,000,000	ISK 219,000,000	ISK 296,000,000	ISK 229,000,000	ISK 287,000,000	ISK 289,130,000



6.10 Option D: 17,500 capacity, retractable roof

- 6.10.1 Table 6.7 overleaf summarises the operating projections associated with Option D (roofed). This highlights slightly increased projected revenues and significantly increased costs relative to the option without a roof. As with Option C, the inclusion of a retractable roof increases the potential to attract more concerts (and bigger events given the increased capacity) and to achieve slightly increased attendances at football events.
- 6.10.2 We would particularly highlight the following key base assumptions associated with the roofed Option D solution relative to this option without a roof:
- Significant additional maintenance costs relative to the open stadium option equating to c. ISK 36m higher costs in a mature year, linked to the capital cost of the roof solution and the requirement for enhanced maintenance of this component of the facility
 - Significant additional Real Estate Taxes payable linked to the capital cost of the new stadium (given the cost of the roof)
 - Enhanced scope to attract an additional concert each year
 - The inclusion of higher commercial rights revenues (naming rights and partner sponsor rights) with the development of an asset that has greater activation and monetisation potential for prospective sponsors, and a facility that attracts more visitors each year.
- 6.10.3 Over the first 15 years of operation, Option D (roofed) is projected to operate at an average loss of c. ISK 52m per annum before accounting for Real Estate Taxes (average loss including Real Estate Taxes of c. ISK 216m per annum). KSÍ's ticketing revenues (before rent) are projected to remain broadly in line with revenues under Option C – at c. ISK 15m (6%) higher in an average year compared to the no roof option.

Table 6.7 Option D (17,500 capacity, roofed) – P&L projections

Item	Year 1	Year 2	Year 3	Year 4	Year 5		15-yr ave.
GA ticket revenue/ matchday rent	ISK 65,317,000	ISK 56,210,000	ISK 72,529,000	ISK 58,825,000	ISK 71,535,000		ISK 72,540,000
Premium ticket revenue (net)	ISK 91,890,000	ISK 93,530,000	ISK 95,190,000	ISK 96,900,000	ISK 98,650,000		ISK 107,160,000
F&B revenue - football-related (net)	ISK 15,547,000	ISK 13,702,000	ISK 16,805,000	ISK 14,339,000	ISK 17,027,000		ISK 17,300,000
F&B revenue - other (net)	ISK 27,387,000	ISK 28,018,000	ISK 28,662,000	ISK 29,321,000	ISK 29,995,000		ISK 32,270,000
Contributions and grants	ISK 0		ISK 0				
Commercial rights and other revenues	ISK 163,397,000	ISK 167,166,000	ISK 171,007,000	ISK 174,930,000	ISK 178,958,000		ISK 192,520,000
Parking revenue (net)	ISK 7,130,000	ISK 5,800,000	ISK 9,020,000	ISK 7,240,000	ISK 5,790,000		ISK 8,240,000
Total revenue	ISK 370,700,000	ISK 364,400,000	ISK 393,200,000	ISK 381,600,000	ISK 402,000,000		ISK 430,000,000
Licenses and insurance	ISK 13,250,000	ISK 13,555,000	ISK 13,867,000	ISK 14,185,000	ISK 14,512,000		ISK 15,610,000
Staff and related costs	ISK 127,350,000	ISK 130,280,000	ISK 133,275,000	ISK 136,341,000	ISK 139,477,000		ISK 150,050,000
Maintenance and landscaping	ISK 98,961,000	ISK 101,237,000	ISK 158,991,000	ISK 162,648,000	ISK 166,389,000		ISK 178,320,000
Admin and other expenses	ISK 84,100,000	ISK 86,034,000	ISK 88,013,000	ISK 90,038,000	ISK 92,108,000		ISK 94,700,000
Variable costs	ISK 37,794,000	ISK 34,630,000	ISK 40,871,000	ISK 36,241,000	ISK 41,392,000		ISK 42,770,000
Total expenditure	ISK 361,500,000	ISK 365,700,000	ISK 435,000,000	ISK 439,500,000	ISK 453,900,000		ISK 481,500,000
EBITDA	ISK 9,200,000	-ISK 1,300,000	-ISK 41,800,000	-ISK 57,900,000	-ISK 51,900,000		-ISK 51,500,000
Real Estate Taxes	ISK 139,817,700	ISK 143,033,500	ISK 146,323,300	ISK 149,688,700	ISK 153,131,600		ISK 164,730,000
Profit/ loss incl. Real Estate Taxes	-ISK 130,617,700	-ISK 144,333,500	-ISK 188,123,300	-ISK 207,588,700	-ISK 205,031,600		-ISK 216,230,000
Total KSÍ ticketing revenue (before rent)	ISK 278,000,000	ISK 231,000,000	ISK 312,000,000	ISK 242,000,000	ISK 304,000,000		ISK 305,200,000



6.11 Summary

- 6.11.1 This section has summarised the extensive financial analysis prepared by the advisor team, including capital and revenue projections. It is clear that the new stadium will require significant funding to deliver the capital build and also, potentially, support the operations of the stadium (subject to the KSÍ deal structure and the treatment of Real Estate Taxes).
- 6.11.2 Table 6.8 below summarises the capital and revenue implications of Options A-D as presented above, illustrating the significant differences between the options with and without roofs. The addition of a retractable roof is a bigger driver of difference than a change in capacity. In purely financial terms, the development options with roofs are significantly more expensive in both capital and revenue terms.

Table 6.8 Summary financial projections – full new build stadium options (15 years)

Option	Outturn cost	Average EBITDA incl. Real Estate Taxes	Average EBITDA excl. Real Estate Taxes
Option A: Do Minimum	ISK 485,000,000	-ISK 69,000,000	-ISK 43,000,000
Option B: Minor improvements	ISK 1,925,000,000	-ISK 68,000,000	-ISK 42,000,000
Option C: New stadium, 15,000 cap. (open)	ISK 10,523,000,000	-ISK 107,000,000	-ISK 3,000,000
Option C: New stadium, 15,000 cap. (roofed)	ISK 15,045,000,000	-ISK 195,000,000	-ISK 39,000,000
Option D: New stadium, 17,500 cap. (open)	ISK 11,246,000,000	-ISK 140,000,000	-ISK 29,000,000
Option D: New stadium, 17,500 cap. (roofed)	ISK 15,829,000,000	-ISK 216,000,000	-ISK 52,000,000

NB EBITDA averages are not NPVs

- 6.11.3 This illustrates that Option C without a roof is projected, in pure financial terms, to be the development scenario with the best operating performance (i.e. the lowest loss per annum).
- 6.11.4 Table 6.8 compares the development options with Options A & B. However, as noted previously in this section, this is not a true like for like comparison as Options A & B assume that the current management structure will broadly remain as is (with very minimal costs that are not reflective of a quality long-term stadium solution). This approach reduces the differential between the minimal schemes and the maximised schemes.
- 6.11.5 The differences between the with roof and without roof options (15,000 to 17,500) are relatively small in the overall financial scheme. The incremental outturn cost between 15,000 capacity without roof and 17,500 capacity without roof is c. ISK 720m (c. 7% increase). The incremental outturn cost between 15,000 capacity with roof and 17,500 capacity with roof is c. ISK 780m (c. 5% increase).

6.12 Development options – retention vs. removal of existing West Stand

- 6.12.1 As detailed previously in this report, the client group has asked that the AFL team consider sub-options within Options C & D related to the potential to retain the current West Stand or building a completely new stadium. Section 5 summarises the characteristics of these stadium development options.
- 6.12.2 While we have modelled the projected operating performance of Options C1 & D1 (both with and without roof) they are not detailed in their entirety in this section. Although this approach is expected to yield some capital cost savings (subject to the degree of risk and uncertainty inherent in retaining existing structures) it will also yield significantly lower revenues, including:



- c. ISK 150m less total revenue (and c. ISK 90m less gross revenue) from Premium Seating (as these offers cannot be delivered in retaining the stand)
- c. ISK 27m less total revenue (and c. ISK 15m less gross revenue) from conferencing activities
- the exclusion of revenue-generating spaces (though relatively marginal in overall terms) such as the museum.

- 6.12.3 In light of the above, and the cost risk associated with retaining existing structures within a more modern stadium solution, we have focused on pure new build solutions for each (15,000 and 17,500 capacity stadia with and without retractable roofs) on the basis of a new build. The summary operating projections associated with C1 & D1 options are presented in the P&L model provided alongside this report.
- 6.12.4 In both roofed and non-roofed (full new build) options there is a significant enhancement of the Premium Seating offer (as summarised in Sections 4 and 5, and does not change between Option C and Option D) and an assumed revision of the catering offer and deal structure, which are both projected to yield significant increased revenues.
- 6.12.5 Table 6.9 below summarises the projected financial (capital and revenue) implications of the development options (C1 & D1) whereby the existing West Stand would be retained. This illustrates the indicative investment (outturn cost) that could be saved by building three new stands rather than four (c. ISK 1.6 to ISK 1.9 billion depending on option).
- 6.12.6 Importantly, it also illustrates the significantly worse revenue position (c. ISK 130m per annum EBITDA reduction under all options) projected due to the fact that these options will not deliver the Premium Seats and other revenue generating opportunities that a new West Stand stands to create.

Table 6.9 Summary financial projections – West Stand retention options (15 years)

Option	Outturn cost	Average EBITDA incl. Real Estate Taxes	Average EBITDA excl. Real Estate Taxes
Option C1: 15,000 cap. (open)	ISK 8,616,000,000	-ISK 237,000,000	-ISK 134,000,000
Option C1: 15,000 cap. (roofed)	ISK 13,138,000,000	-ISK 325,000,000	-ISK 169,000,000
Option D1: 17,500 cap. (open)	ISK 9,634,000,000	-ISK 270,000,000	-ISK 159,000,000
Option D1: 17,500 cap. (roofed)	ISK 14,217,000,000	-ISK 346,000,000	-ISK 182,000,000

NB EBITDA averages are not NPVs

- 6.12.7 Before acknowledging the risk (unknown costs etc) associated and the additional challenges and likely reduced design quality of retaining the West Stand, in purely operational terms we do not expect it to be optimal. The incremental revenue (c. ISK 130m) has a total 15-year NPV which is in excess of the build cost differential and as such is likely to be the best solution from a purely business case perspective.
- 6.12.8 Beyond the pure financial projections associated directly with the stadium, we would also highlight that there are a number of further benefits associated with delivering new stadia. These are also explored in Section 7.

6.13 Sensitivities

- 6.13.1 The projections presented above are derived using assumptions that are considered conservative and achievable as a base case. The P&L enables a series of key sensitivities



and scenarios to be tested (either separately or overlaid) that have the potential to improve the EBITDA achievable, including (all values noted are effects in isolation, rather than compounded):

- Alternative event profiles – Event Profile 3 increases events and throughputs with resulting impacts on primary and secondary revenues (EBITDA impact of + ISK 5-6m in Year 1)
- Facility Fee – there is scope to charge a Facility Fee on all tickets (at say ISK 280 per attendee) with this revenue flowing directly to the stadium (EBITDA impact of + ISK 51-58m in Year 1)
- City grant contribution – potential to re-institute the City’s annual grant payment under the development options (net EBITDA impact of + ISK 21m in Year 1)
- Naming/ commercial rights upside – if achieving a 20% increase in commercial rights values there is potential to drive improved performance (EBITDA impact of + ISK 10-11m in Year 1).

- 6.13.2 Each of these sensitivities has the potential to improve the overall finances of the stadium’s operation and move the position towards breakeven or into an annual surplus. We would recommend testing these sensitivities with prospective operators through the procurement process, at which point you will also test the deal structure (Management Agreement vs. Lease) and the commercial terms between the parties.
- 6.13.3 In addition there are additional upsides that can be captured including the use of a Facility Fee, increases associated with Fixture Profile 3 and the potential fiscal benefits (explored later in this report).
- 6.13.4 The ultimate details as to levels of funding from/ returns for the project partners (including KSÍ’s contribution given its likely increased ticketing revenues) will need to be agreed amongst the parties in formalising their arrangements.
- 6.13.5 We would also note that, with a quality new stadium in place, there is far greater opportunity for Iceland to attract and host international tournament matches (in partnership with other nations), which have scope to deliver additional stadium revenues and significant economic impact which have not been considered in this report. As such, the National Government might also consider awarding an ongoing grant for the stadium’s operation, potentially offset by some of the economic impact/ fiscal benefits that the scheme stands to generate (subject to the funding/ financing solutions introduced later in this report).
- 6.13.6 Table 6.10 and 6.11 below illustrate some indicative P&L sensitivities associated with applying assorted scenarios in isolation. Table 6.10 shows the sensitivities against the base P&L projections including Real Estate Tax. Table 6.11 shows the sensitivities against the base P&L projections excluding Real Estate Tax.
- 6.13.7 The sensitivities include the impact of increasing stadium rent to 30% or 40% of ticketing revenues (rather than 20% under the base case) and the impact of introducing a Facility Fee.

Table 6.10 P&L sensitivities – including Real Estate Tax (15 year average EBITDA projections)

Option	Base projection	Rent at 30%	Rent at 40%	Incl. FF
Option A: Do Minimum	-ISK 69,000,000	-ISK 43,000,000	-ISK 18,000,000	-ISK 69,000,000
Option B: Minor improvements	-ISK 68,000,000	-ISK 42,000,000	-ISK 16,000,000	-ISK 68,000,000
Option C: 15,000 cap. (open)	-ISK 107,000,000	-ISK 73,000,000	-ISK 39,000,000	-ISK 49,000,000
Option C: 15,000 cap. (roofed)	-ISK 195,000,000	-ISK 159,000,000	-ISK 124,000,000	-ISK 129,000,000
Option D: 17,500 cap. (open)	-ISK 140,000,000	-ISK 106,000,000	-ISK 71,000,000	-ISK 82,000,000
Option D: 17,500 cap. (roofed)	-ISK 216,000,000	-ISK 180,000,000	-ISK 144,000,000	-ISK 150,000,000



Table 6.11 P&L sensitivities – excluding Real Estate Tax (15 year average EBITDA projections)

Option	Base projection	Rent at 30%	Rent at 40%	Incl. FF
Option A: Do Minimum	-ISK 43,000,000	-ISK 17,000,000	ISK 8,000,000	-ISK 43,000,000
Option B: Minor improvements	-ISK 42,000,000	-ISK 16,000,000	ISK 10,000,000	-ISK 42,000,000
Option C: 15,000 cap. (open)	-ISK 3,000,000	ISK 31,000,000	ISK 65,000,000	ISK 55,000,000
Option C: 15,000 cap. (roofed)	-ISK 39,000,000	-ISK 3,000,000	ISK 33,000,000	ISK 27,000,000
Option D: 17,500 cap. (open)	-ISK 29,000,000	ISK 6,000,000	ISK 40,000,000	ISK 30,000,000
Option D: 17,500 cap. (roofed)	-ISK 52,000,000	-ISK 15,000,000	ISK 21,000,000	ISK 15,000,000

- 6.13.8 We have also modelled indicative scenarios for the 15,000 capacity stadium options, whereby the Project Partners are no worse off than under the status quo (Option A). This means re-instituting the city's grant and increasing the rent payable by KSÍ. Based on our analysis, we estimate that KSÍ has effectively cleared an average of c. ISK 105m per annum over the last three years from its activities at the stadium (based on ticketing revenue less stadium rent, Real Estate Taxes and the balance of operating costs not covered by the city grant). Over this same period the city has made an average net contribution of c. ISK 21m (average grant of c. 43m offset by an average Real Estate Taxes receipt of c. ISK 22m). Adopting the principle that the Project Partners should be no worse off on development of the new stadium, we estimate that KSÍ should indicatively pay c. 50% of ticketing revenue as rent (thereby retaining average net revenue of c. ISK 105m). The national government does not currently make a contribution to the operating performance of the stadium. However, the investment in the facilities are projected to drive significant incremental fiscal benefits at the national level, which the state could contribute to fund the necessary capital investment while being no worse off than its current position.
- 6.13.9 Implementing a Facility Fee has potential to generate an additional c. ISK 58-66m to the average stadium EBITDA, in addition to the increased city and KSÍ Payments. In implementing these sensitivities, we project that both development options would be operationally sustainable – the 15,000 (open) stadium would achieve an EBITDA of c. ISK 80m and the 15,000 (roofed) stadium would achieve an EBITDA of c. ISK 4m.



7. The Economic Case

7.1 Overview

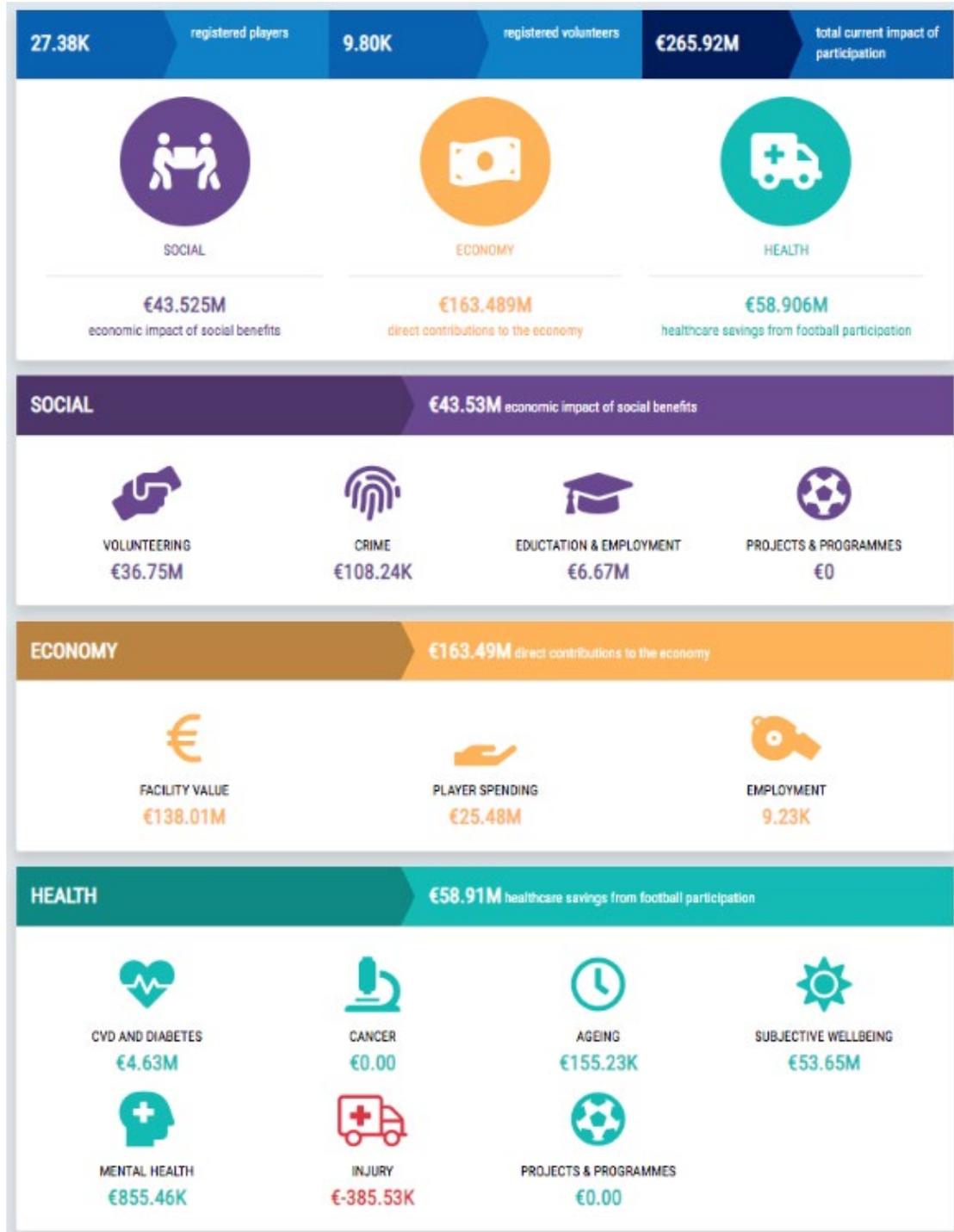
- 7.1.1 Alongside the development and ambition of the men’s and women’s national teams, getting the right solution for Laugardalsvöllur is also key for the city and for Iceland more widely, as a major development anchor for Laugardalur and a source of social and economic impact and of civic pride.
- 7.1.2 We have identified four priority benefits that should be achieved with a new National Stadium:
- **People:** The redevelopment of the National Stadium should aspire to the highest quality and comfort with a positive contribution to the physical and mental wellbeing of all people that work or visit the Stadium and for the community as a whole.
 - **Place:** The National Stadium should be a place which nourishes and delights all human needs and experiences, contributing to civic heritage and delivers an outstanding contribution to Reykjavik and to Iceland.
 - **Planet:** We should look to deliver a National Stadium which optimises resource efficiency and effectiveness through design, construction and operation, which recognises the need to be zero carbon, air positive, to be responsive to changing climate and which challenges innovation of building form, function, technology and experience to deliver and support a resilient and sustainable building over its lifetime.
 - **Prosperity:** To deliver a National Stadium for all community stakeholders to thrive reflective of a considered evolution of environmental, social and economic changes and requirements. This impact prosperity intrinsically delivers attractive, sustainable and resilient investment returns to investors.
- 7.1.3 This section of the report identifies and provides initial analysis of the myriad impacts that we anticipate for a new National Stadium for Iceland.
- 7.1.4 In developing this study, we have prepared a headline economic commentary and economic benefits appraisal to demonstrate the potential value of the investment being considered. We would recommend that the partners consider commissioning a full economic impact assessment to determine the implications in further detail, as we expect this will be a helpful tool in developing the funding package and in monitoring the returns achieved once operational.

7.2 Social benefits

- 7.2.1 KSÍ recently commissioned a research exercise to quantify the social and economic impact of football in Iceland (SROI index/ valuation). The findings of this assessment were circulated to the AFL team in July 2020. This exercise identified and quantified the significant social and other values that football drives in Iceland, as summarised overleaf.



Figure 7.1 SROI analysis – the social, economic and health value of football in Iceland



Source: Analysis commissioned by KSÍ, completed Summer 2020

7.2.2 An improved stadium stands to **facilitate the hosting of additional major concert events** through delivering a fit-for-purpose facility that creates a more economic solution for promoters such as Sena Live looking to bring content to Iceland. This in turn creates more entertainment options for Icelanders and potentially also drives music-related tourism. By creating a venue that is fit-for-purpose (particularly under the retractable roof scenarios) Laugardalsvöllur has potential to create a better economic outcome for promoters than the current stadium which will boost their ability and appetite to bring events to Iceland. With the better surroundings it could be the best fit place to hold more events as well as tie together



grand acts for music festivals like Secret Solstice and Iceland Airwaves, which already attract music-related tourism.

- 7.2.3 Laugardalsvöllur is already an imposing and difficult stadium for opposing nations to visit and improving the stadium should secure that further. **Boosting the home-field advantage** created by having a ‘12th man’ of increased fan numbers in closer proximity to the pitch has the potential to improve results achieved and the success of Iceland’s teams.
- 7.2.4 Were a retractable roof stadium to be developed, this would **overcome Iceland’s ‘high risk’ classification (per UEFA) and enable home matches to be played in March and November**. This would allow the men’s and women’s national teams to play the group stage’s most important games at home, a small but significant difference that could result in more qualification for major tournaments.
- 7.2.5 Like Harpa, Hallgrímskirkja and the country’s natural environment, a new stadium could be a proud feature for all Icelanders, **creating a facility portraying Iceland’s success to the world** and boosting Icelandic national pride.
- 7.2.6 “National sport success and the emergent social atmosphere: The case of Iceland” by Vidar Halldorsson and other similar studies have clearly illustrated how the success of the national teams football positively affects the mood and attitude of Icelanders. With a new stadium in place, there is increased **potential to capitalise on the social and integrative function of football** for Icelandic society.
- 7.2.7 A new stadium has the potential to **drive enhanced revenues for KSÍ, meaning that more money can therefore be invested in grassroots development programmes** for football – creating new players and offering sporting opportunities for more children. We assume that KSÍ is looking to invest any additional revenue that KSÍ generates in creating the Sigurdssons and Gudjohnsens of the future. The country’s investment in artificial turf and indoor sports halls created a whole new generation of skilled footballers that now work professionally all around the world earning great income that they ultimately bring back home to Iceland and the Iceland economy and there is scope to deliver more programmes and interact with more young children and aspiring players.
- 7.2.8 With a facility that is active beyond 15-20 matches per year, there is scope to offer **facilities/programming opportunities for other social activities** (education, health etc) in creating new spaces within a Living Stadium. This means that the stadium has greater opportunities to engage with more Icelanders by touching people beyond football.
- 7.2.9 As a major investment and development project, there is great potential to **deliver training opportunities during the construction and during the operational phase** to develop skills across a range of areas and industries, including security, hospitality etc.
- 7.2.10 As previously noted, the advisor team has engaged with the NOC and KSÍ about the potential to incorporate a new museum in the premium spaces at the stadium, filled with artefacts curated by the two organisations. **Creating a home for museum content to showcase Iceland’s sporting history** has the potential to highlight the nation’s successes and educate/inspire future generations. This is one facility that has scope to bring everyday activity to the Stadium making it a place for children, schools and tourists to visit.

7.3 Fiscal benefits

- 7.3.1 We expect the new National Stadium to deliver significant economic impact, both through the construction phase and once operational. Based on our team’s international experience overlaid with critical local knowledge, we have started to explore some of these key fiscal benefits including:
- Tram/ public transport implications: The Borgarlinan will pass by Laugardalur through Suðurlandsbraut. Having a one point of axis to stop for major events in Reykjavík could greatly support the business case for the Borgarlina project itself



7.4 Quantifying the Economic Impact of development –

- 7.4.1 Table 7.1 overleaf provides a summary of a high level economic assessment of the options. The analysis focuses on the employment and Gross Value Added (GVA) contribution, alongside the benefits illustrated over a 20-year period compared to the investment required.
- 7.4.2 The employment estimates illustrate the high multiplier impact of the stadium once the indirect and induced benefits of its activity are taken into account. This shows that the new investment options could support between c. 120 and 140 FTE jobs on an annual basis¹.
- 7.4.3 The annual GVA (direct, indirect and induced) is in the region of ISK 850-890m for the open stadium options, and in the region of ISK 920-950m for the roofed stadium options. In all cases these impacts are significantly above Options A & B.
- 7.4.4 We would highlight that the value of the investment enabling greater fixture flexibility by facilitating matches in the Winter months for the National Team (in particular, but also domestic showpiece matches) cannot be fully quantified/ reflected in this form of assessment (i.e. the value attributed to overcoming Iceland's 'high risk' classification, per UEFA).

¹ The off site expenditure and off-site jobs estimate is based on data from Iceland Tourism Statistics 2018 for tourism revenue, visitor numbers and expenditure per job and IPW assumptions. The direct expenditure and GVA is drawn from the financial model



Table 7.1 High level economic impact assessment – Iceland National Stadium development options

Summary Economic Contribution	Option A: Do Minimum	Option B: Minor improvements	Option C: New stadium, 15,000 cap. (open)	Option C: New stadium, 15,000 cap. (roofed)	Option D: New stadium, 17,500 cap. (open)	Option D: New stadium, 17,500 cap. (roofed)
Capital investment	ISK 485,000,000	ISK 1,925,000,000	ISK 10,523,000,000	ISK 15,045,000,000	ISK 11,246,000,000	ISK 15,829,000,000
Sports attendances	82,860	82,860	116,100	121,760	116,100	121,760
Concert events	21,000	21,000	61,000	79,000	61,000	80,000
Total attendees	103,860	103,860	177,100	200,760	177,100	201,760
Direct employment	3	3	11	12	11	12
Jobs (Direct, Indirect & Induced)	57	57	120	138	123	141
Gross Value Added (Direct, Indirect & Induced) Annual	ISK 380,200,000	ISK 459,000,000	ISK 886,900,000	ISK 949,300,000	ISK 851,200,000	ISK 921,200,000
Fiscal benefits (Annual)	ISK 127,600,000	ISK 127,600,000	ISK 294,100,000	ISK 367,200,000	ISK 300,800,000	ISK 229,100,000
Cumulative GVA (20 years, 3.5% DR)	ISK 5,051,000,000	ISK 6,606,000,000	ISK 15,350,000,000	ISK 17,867,000,000	ISK 15,168,000,000	ISK 17,805,000,000
Cumulative fiscal benefits (20 years, 3.5% DR)	ISK 1,749,000,000	ISK 1,749,000,000	ISK 4,032,000,000	ISK 5,034,000,000	ISK 4,124,000,000	ISK 3,141,000,000



7.5 Environmental impact

7.5.1

In addition to the social and economic factors identified above, we have highlighted below some of the key environmental impact considerations associated with the new stadium. These include:

- **Energy:** the risk of increased energy demand on the development compared to the previous stadium. We will seek to utilise renewable technology (Geothermal and hydro) to provide heating and cooling plus the potential for PV panels for supplementary electricity pending a viability analysis
- **Environmental:** the rejuvenated area will be designed to encourage biodiversity, the building and surrounding landscape will be designed to enhance the environment, with green areas, permeable surfaces, sustainable drainage solutions and vegetation.
 - Water attenuation will be a key part of the design, reducing water run off levels to an accepted rate
 - The development will be designed to understand the impact of climate, reducing its overall CO2 emissions so that it minimally contributes to climate change through emissions. Assessment systems such as BREEAM/ LEED should be considered, as such assessments now common practice in public developments both by the Icelandic National Government and the City of Reykjavík
 - To consider air quality, electric vehicles and public transport (see below) should be encouraged, and electric charging points made available near the stadium, and in the local area
- **Sustainable Transport**
 - Safe cycle facilities to lock up bikes, and for those working in the area, should be made available – potentially with showers and lockers
 - Pedestrian and cycling access should be encouraged by connecting into the local cycle paths and pedestrian paths, and developing new routes where needed
 - The nearby Borgarlína transport axis provides a sustainable transport amenity for the site, that should be encouraged (and stadium activity also supports the Business Case for public transport interventions)
- **Embodied energy:** impact on environmental resources. The development will be designed to minimise the embodied energy of the development, looking at how materials in the current stadium can be reused, recycled, and move to the new stadium. Increasing the use of materials with low embodied energy, with materials that can be reused after the life of the building.

7.6 Risk assessment

An approach has been made to Veitur (Utility Supply Company) regarding the additional load requirements under the different options. We anticipate that Veitur will require a design fee to undertake a full design analysis, however from preliminary feedback on the proposals Options B and C will likely require upgrades to the existing substation only, whilst Option D would require reinforcement of the local 11kV network in addition to the substation upgrade. This would entail the running of a new cable from a substation some 800m from the existing, as shown in the diagram from Veitur reproduced below.

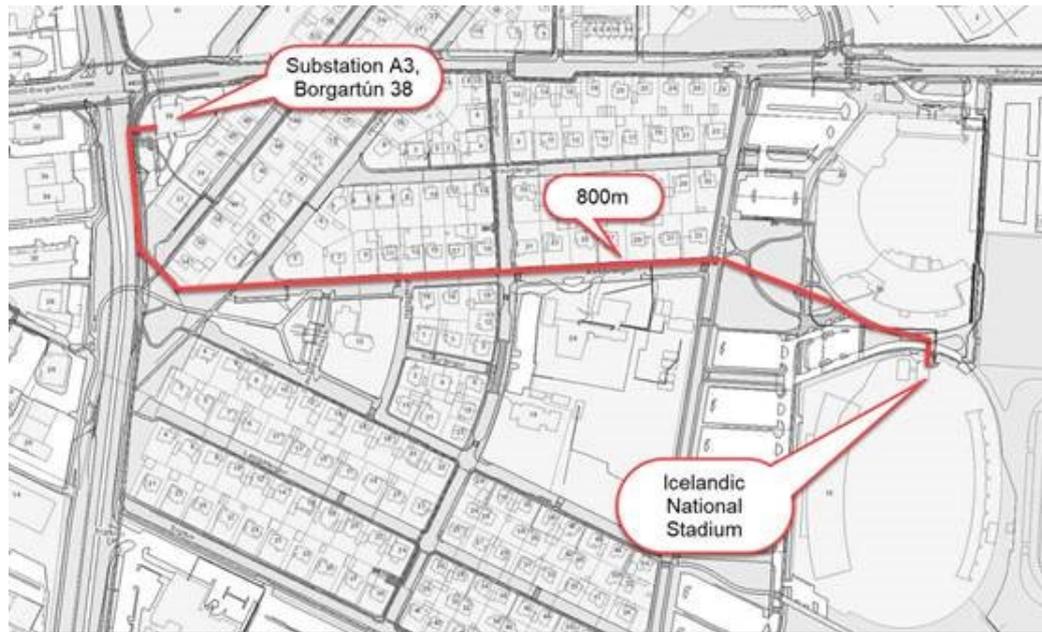


Figure: Proposed route of cables required for network reinforcement associated with Option D



7.7 Developing a complementary indoor venue to increase project benefits

- 7.7.1 Based on the specific requirements of Iceland and the attributes of the population, our team has started to explore the potential to deliver a complementary indoor venue. We have looked at this in a couple of UK markets for professional football clubs.
- 7.7.2 The concept is to create a flexible 'box' adjoining the main (West) stand, enabling the creation of a fanzone on matchdays and a space that could host concerts and conferences/ exhibitions/ other events on other days. This would have the following potential uses and benefits:
- Matchday fanzone encouraging fans to arrive early and congregate/ socialise, creating opportunities to drive additional F&B revenues and scope for sponsor activation initiatives, with associated income
 - Concert hosting filling a gap and market need at c. 3,000 capacity, sitting between Harpa (1,600) and Laugardalshöll (1,500) and responding to promoter feedback
 - Conference hosting enabling the city to attract bigger events than it can currently (Harpa – 1,600) and achieving a city aspiration at this scale
 - Exhibition and indoor sports uses.
- 7.7.3 We would expect that any venue would use the hospitality infrastructure (boxes/ lounges and catering/ kitchens etc) required at the stadium, delivering dual use and saving space and cost. Similarly, the space could be managed by the stadium team with no need for additional staff overhead (other than during events).
- 7.7.4 We have not at this stage prepared design layouts or developed indicative P&L projections for this space, but we have tested the need with key stakeholders such as Sena Live and Meet In Reykjavik, both of whom have identified demand consistent with this size of facility. We anticipate a flexible flat floor space but anticipate that capital costs would be kept to a minimum and as such, its appropriateness as a conference location in particular needs additional analysis should the Project Partners consider it worthy of consideration
- 7.7.5 Further work will be required to determine whether this concept adds value to the overall proposition, though we believe it has some merit and potential to add to the overall appeal and sustainability of a new stadium's operations. We believe that there is potential for this type of space to add to the overall sustainability of the stadium and potentially improve the operating bottom line, if it can be delivered economically.
- 7.7.6 As noted previously in this report, we understand that the government is currently going through a feasibility exercise with the NOC looking at the future physical requirements of indoor sport in Iceland, which may ultimately have synergies with these proposals if delivered at Laugardalsvöllur.



8. The Management Case

8.1 Introduction

8.1.1 This section of the report introduces the initial considerations impacting the ongoing successful management of the new stadium at Laugardalsvöllur, based on our team's experience in this area. As set out in Section 7, we anticipate a move away from the current model whereby KSÍ effectively staffs and operates the stadium through a simple, lean management structure. With the potential move to a more substantial, complex stadium it is sensible to consider alternative structures that might be implemented to operate the facilities.

8.2 Governance and stadium management

8.2.1 There are a range of deal structures including PPP models, lease models, management agreement models and special purpose vehicle (SPV) models that could potentially be implemented for the new stadium at Laugardalsvöllur. As noted in Section 6, we assume that external operating expertise will be sought by the Project Partners, in a move away from the current (basic) structure, which is not suited to a larger, more modern stadium.

8.2.2 A public/ private partnership (PPP) could be created for the design, build, finance and operation of the stadium. Examples of such a model include Singapore Sports Hub, where our team advised on the tender for consortia to undertake all these services for the new National Stadium, arena and aquatics complex.

8.2.3 While we understand that there is likely appetite from pension funds for this type of project, the difficulty with this approach for Iceland would be the scale of the project potentially being less attractive especially when recognising the small catchment of users for any additional activities in the stadium.

8.2.4 The development of PPP and PFI schemes over the 20+ years since their original inception has often revolved around whether the best solution for designing, building, operating and funding a specific venue is the best outcome.

8.2.5 The financial parameters in more recent times have been recognised as being best provided by the public sector (local city authority or central government) rather than by the private sector mainstream funders. There is a very strong competitive market for low cost private borrowing underwritten by public sector bodies which tends to provide the most economic outcome for a stadium or arena.

8.2.6 Our models seek to maximise the potential for utilising this route alongside the other inherent benefits of the PPP approach, notably that the design of the venue is produced for the best commercial and operating outcomes. The early appointment of the operating partner (see Section 9) seeks to secure this benefit.



- 8.2.7 Operator lease deals are becoming more common in the European arena market following the schemes we have delivered in Leeds (UK) and Copenhagen (Denmark). Such deals in European stadia are less prevalent on a whole stadium basis.
- 8.2.8 It is possible to secure guaranteed revenues on the hospitality arrangements for stadia and indeed this is a common route for funding stadia across Europe. Usually, however, the stadium has greater throughput with either a team playing in a major league or a very flexible stadium providing for both sport and entertainment.
- 8.2.9 The concern for Iceland would be that we have a comparatively small number of events to maximise an operator return in a comparatively small market. This is borne out by the financial projections. It is not impossible that, with the right competitive process, the Project Partners can achieve a lease or guaranteed payment model but this will need to be tested in a procurement process alongside a management agreement route.
- 8.2.10 The management agreement route for an operator ensures that we have an experienced operator bringing their processes and buying power to the management of the stadium. This is particularly helpful in the early stages of the set-up and early years of operation. Once the stadium has been established it is easier to manage the venue thereafter. For this reason such management agreements are often for an initial 5-10 year period.
- 8.2.11 Any management agreement should look to incentivise the operator to make a financial return for both the stadium company and the operator. We believe this is the most likely successful outcome for Laugardalsvöllur with potential interest from a number of operating partners on this basis.
- 8.2.12 The final analysis of the best approach between a management agreement and a lease will be dependent upon the Project Partners' final agreement of the operating model and tenancy/ rent/ pricing solutions alongside the appetite for risk and maximising revenue.
- 8.2.13 Occasionally in difficult or small markets where there is little operator interest, or where an organisation is comfortable assuming the risk, there is the potential to set up a special purpose vehicle for the operation of the stadium. This vehicle is likely to be owned by the stakeholders or the stadium company – for example Wembley National Stadium Limited, the company that operates Wembley Stadium, is a fully owned subsidiary of The English FA.
- 8.2.14 If created in Iceland the SPV would then look to headhunt a high quality management team with a strong track record who would use their personal knowledge and experience to set up the operating company for the venue rather than rely upon an established operator seeking a corporate profit.

8.3 Funding options

- 8.3.1 There are many ways that stadia and national stadia around the world are funded. The Laugardalsvöllur project is unique in terms of its scale and catchment. We have



considered many of the usual routes but the overall projected operational position of the stadium means that the principle approach should be to:

- Maximise the operational performance of the stadium to seek to minimise any subsidy requirements on its operation and preferably make an operating surplus
- Seek capital grants from stakeholders for the construction of the stadium itself.

8.3.2 We have identified in Section 7 some of the opportunities to maximise the revenue and profit for the stadium operation. Through ticket pricing and rental deals and possible additional events there is the potential for additional revenue on an annual basis to be generated. These monies can be used to fund a debt facility to support the construction of the stadium.

8.3.3 In particular, if monies are raised against public borrowing the amount of monies available can be maximised. The opportunities to maximise the operator revenues are linked to:

- The ticket pricing for matches
- The subsequent rental level between KSÍ and the stadium company
- The inclusion and level of a Facility Fee
- The number of commercial events and commercial lettings within the stadium including concerts and conferencing in the hospitality suites and areas
- Maximising the hospitality and sponsorship income available from the stadium.

8.3.4 The current stakeholders have present commitments to the operation of the existing stadium (though we have in our base case assumed that the city's subsidy is removed). Over the last three years the city has provided an average subsidy of ISK 43m and KSÍ has effectively paid an average of ISK 37m (in rent and underwriting losses) – these figures exclude for Real Estate Taxes at a further c. ISK 22m. If these were to be maintained that would allow for the maximum rental levels to be charged from KSÍ and for the city to continue to contribute for a major community and economic resource

8.3.5 By using annual revenue streams to support debt funding the implications upon individual stakeholders are best managed whilst providing for the maximum capital contribution towards the stadium development.

8.3.6 Grant funding from stakeholders should be sourced from both the national government and the city but also the football family and in particular UEFA. We understand that there are ongoing discussions between KSÍ and UEFA to seek funds towards the new stadium development and to encourage the development of men and women's football in Iceland.

8.3.7 There is a strong need for a new stadium which aligned with the recent successes of the national teams suggest that it would be a good project for UEFA to support financially.

8.3.8 FIFA's development programme is one of the priorities of FIFA's global strategy, as the mission of "developing football everywhere and for all" justifies FIFA's existence as an organisation. One of FIFA's goals is "to improve the game of football constantly and promote it globally in the light of its unifying, educational, cultural and humanitarian values, particularly through youth and development programmes" and "to promote the



development of women’s football and the full participation of women at all levels of football governance” (cf. art. 2 (a) and (f) of the FIFA Statutes).

- 8.3.9 Through the FIFA Forward programme, up to \$2,000,000 (i.e. c. ISK 275m) is available for the 2019-2022 cycle, to be granted to projects that are tailored according to the specific needs and priorities of the member association.
- 8.3.10 Based on feedback from KSÍ, we understand that the association has had assurances of a grant of €1m and has a further grant of 400,000 euros available (total €1.4m euros/. c. ISK 200m).
- 8.3.11 KSÍ has also argued that UEFA should award a further grant as the changes in the international game calendar intensify the potential need for interventions to overcome the climatic challenges inherent in being a ‘high risk’ classified location.
- 8.3.12 In terms of the national picture the Government would be encouraged to consider the wider economic impact benefits of creating a new national stadium. In particular, there will be direct fiscal benefits attributed to the new stadium including increased tax revenues from construction and operation, employment tax and sales tax on services and goods bought at the stadium. With the significant increase in hospitality provision and total number of staff in the new facility this will create new revenue streams which can be directed towards funding the stadium itself.
- 8.3.13 Although the stadium operations are not projected to deliver an operating surplus, we have identified a series of potential solutions beyond FIFA and UEFA grants that may contribute to the overall funding of the project – based on international best practice from across Europe and North America. Some of the initial options that we have considered are introduced in turn below.
- 8.3.14 As shown in Section 7, KSÍ is projected to significantly increase its revenues from ticketing in a new stadium through increased ticket sales volume. This could increase annual ticketing revenues to c. ISK 250m+, meaning an increase of up to c. 40%+ on the current position. We have assumed that were KSÍ to target being no worse off with the new stadium than at the current Laugardalsvöllur position this would have potential to introduce additional new funding for the stadium project which is not shown in the base P&L (but can be shown as an illustrative sensitivity through amending the percentage of ticketing revenue payable as rent).
- 8.3.15 The model currently does not show any operating subsidy under the development options payable by the city (though this has historically been in the order of c. ISK 38-46m per annum). This constitutes a potential revenue saving for the city (versus Options A & B) which could be used to part fund the project’s cost.
- 8.3.16 While there is currently no charge for parking at Laugardalsvöllur (where the stadium controls c. 530 spaces), we are confident that there is scope to charge for events – as Harpa does, for example. The P&L model shows that there is potential to capture up to c. ISK 7m per annum from directly-owned/ controlled parking spaces at the stadium. However, we expect demand to significantly exceed supply and as such there will be leakage and other parking spaces in the neighbourhoods around Laugardalsvöllur will (continue to) be used. Were the city so minded, it could explore the potential to capture



more of this potential lost revenue by introducing a wider charging zone, with revenues generated on event days being used to part-fund the required repayments.

- 8.3.17 Subject to the ultimate cost of the stadium and the valuation (Rateable Value calculation) model used, there is the potential that the stadium could be required to pay an annual fee of ISK 100m+ (increased from the current level of c. ISK 22m). We understand that there is not likely to be potential for the city to waive this payment, which thus generates significant incremental revenue for the city that would not otherwise exist without the new stadium.
- 8.3.18 In light of that, the city could potentially choose to recycle the collected taxes to part-fund the project, with scope for this to generate significant money.
- 8.3.19 Beyond these measures, the Project Partners could also consider investigating additional fiscal benefits identified above/ potential sources of funding including VAT receipts. Although VAT is not charged on event tickets (which are the largest revenue stream associated with the stadium business) there are other transactions that are subject to VAT and will therefore generate additional money for the exchequer. For example, the VAT payable on GA and Premium GA F&B is projected at up to c. ISK 24m per annum (compared to c. ISK 3m currently).
- 8.3.20 In applying a selection of deliverable sensitivities, the 15,000 capacity options are able to achieve an operating surplus, with the fiscal benefits generated then used to (part) fund the capital outlay.

8.4 Risk analysis

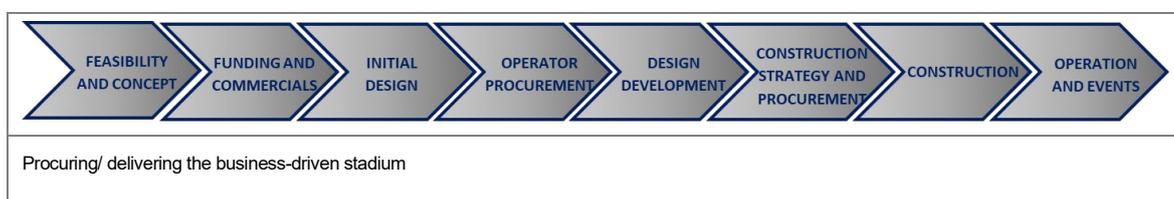
- 8.4.1 Based on our team's analysis, we would identify the following key risks impacting the national stadium investment decision:
- Failing to invest may reduce ticket demand and attendances as the stadium experience continues to worsen relative to market expectations
 - Trends in society's engagement with live sport (the in-person viewing experience) change in light of societal shifts including the rise of at-home watching and the 'new normal' in the wake of Covid-19 reduce ticket demand
 - The international fixture calendar shifts in future towards a more Winter-focused programme and Iceland's "high risk" status without a roofed stadium is exacerbated
 - Major stadium investment may create long-term debt repayment obligations that are unsustainable with downturns in performance



9. Business Driven Approach

9.1 Overview

9.1.1 Best practice in developing stadia and arenas has been to ensure that the commercial operation of the venue, be it a stadium or an arena, is maximised and that the development and design of the venue ensures that the operation of the venue is at the forefront of the design thinking. Our team has developed an approach in the arena and stadium market that ensures that these business principles are followed and that create a 'business driven' solution for the delivery of the stadium.



9.1.2 Key external parties in the stadium delivery process include:

- Operator
- Tenant team(s) – KSÍ in this case
- Architect/ design team
- Client Representative and Business Plan Advisor
- Contractor

9.1.3 This section sets out our overall approach to procuring stadia and the component disciplines that are required in order to maximise the quality of outcome for the Project Partners.

9.1.4 Overall it is important to consider the net cost of the stadium thus potentially allowing for a higher construction cost as long as additional features generate additional revenue to fund the additional cost to a base model.

9.1.5 The procurement of the appropriate partners to facilitate this business-driven outcome can be undertaken in a series of different ways. We would highlight that if the procurement were structured for a single party to design, build and operate the venue then there is only a limited number of parties in existence who could fulfil this brief.

9.1.6 In addition to the two or three possible parties who have an existing corporate entity to take on these responsibilities, there might be a series of consortia who could be brought together to fulfil this multi-service brief. The risk associated with this approach is that there is only a very limited number of existing multi-service providers which may well be uncompetitive in providing a fully costed service.



- 9.1.7 Alternatively, the consortia run the risk of having additional layers of profit required for each consortium member. In addition, with consortia there is often an inequality between the service providers, i.e. there may be a very strong contractor partner with a weaker operating partner or vice versa.
- 9.1.8 The alternative approach would be to seek the best in class for each of the key services required, i.e. operation, design, construction, and potentially funding. These can be procured with a central spine and ethos that ensures the business focus of the stadium is maintained.
- 9.1.9 By procuring an operating partner at an early stage in the project their operating principles and preferences can be ingrained into the design and subsequent construction of the stadium. In our experience ensuring you have best in class for each of the services provides for a better outcome than seeking one party with all of these services but with less competition and usually reduced quality in at least one service area.

9.2 Operator procurement

- 9.2.1 One of the critical features to the successful commercial operation of the stadium will be the appointment of an operating partner. We have assumed that the project will be successful in appointing a partner based on a lease or management agreement deal.
- 9.2.2 To achieve this will require a structured approach to negotiating with/ selecting an operator. This process can be delivered in parallel with the early design development (RIBA Stage 2). To achieve this will require a comprehensive suite of documents to guide the process and deal including:
- ITT
 - Facilities Requirements/ Facilities Description
 - Services Specification
 - Legals/ Heads of Terms.
- 9.2.3 The operator procurement process should seek to negotiate with prospective partners to deliver on the client's objectives (financial, programming, service quality etc) and to determine the deal structure. This will require clear documentation with robust evaluation criteria and weightings.
- 9.2.4 Based on our team's past experience developing and delivering solutions in the market, the key principles of the approach to procuring an operator would be as follows:
- Develop a facility mix that responds to the specific needs of the market and key end users/ the tenant(s)
 - Create initial layouts to inform overall capital cost projections and inform P&L
 - Appoint operator through competitive process based on a commercial (P&L backed) proposal to underpin project funding - with potential to vary concept design
 - There is the opportunity for continued design development linked to the timing of the build contractor appointment



- Refine facility design to minimise net cost to the project - not just operations but also construction cost
- The major draw down of finance would follow the tasks undertaken above minimising the financial outlay before the full confidence in the operating outcomes and construction costs
- Construction appointment would follow with potential design appointments as part of the construction appointment. However, in the Iceland market we should test the management contractor route in view of the small number of main contractors available in the market place
- Retain business-driven focus on any design changes to quantify net cost to the project. This core spine to the approach will ensure that the operator does not encourage an overspend to benefit their ends rather than the stadium owner's whilst seeking to ensure the construction only builds out what is required to maximise the financial performance of the stadium
- Once the stadium has been completed and handed over to the stadium company and the operator, then the operation can commence with the incentivised operator maximising the number of events at the stadium.

9.2.5 We have set out below in further detail the key design considerations and timeframes.

9.3 Contractor procurement

9.3.1 Options

There are various contractor procurement options available, each dealing with time, cost, quality and risk transfer in various ways. Although there are various nuances to each, the fundamental procurement principles can be summarised under three main headings, namely:

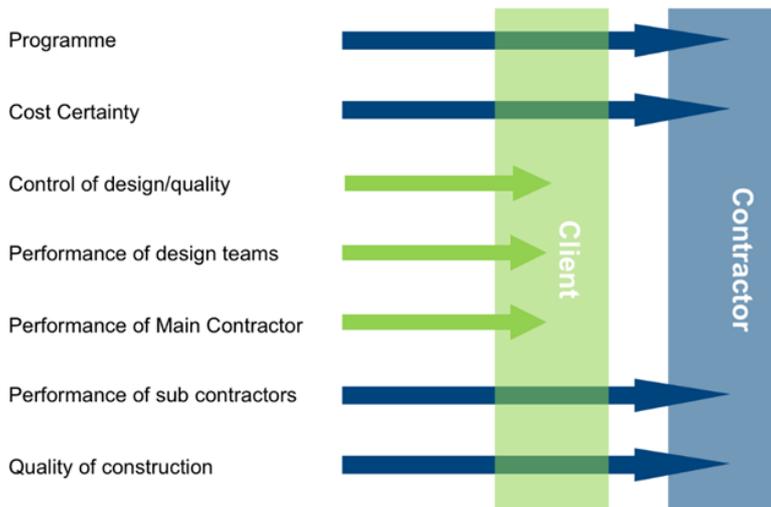
- 1 Traditional;
- 2 Design & Build;
- 3 Management.

9.3.2 Traditional:

whereby the Design team are under the Client's control throughout the project. The Client therefore maintains control, and subsequently risk, over development of design and hence quality. Design is fully developed by the design team prior to contract award to the main Contractor. Traditional procurement tends to have a longer pre-construction period due to the time required to complete the design before construction commences, thus will have a later completion date.



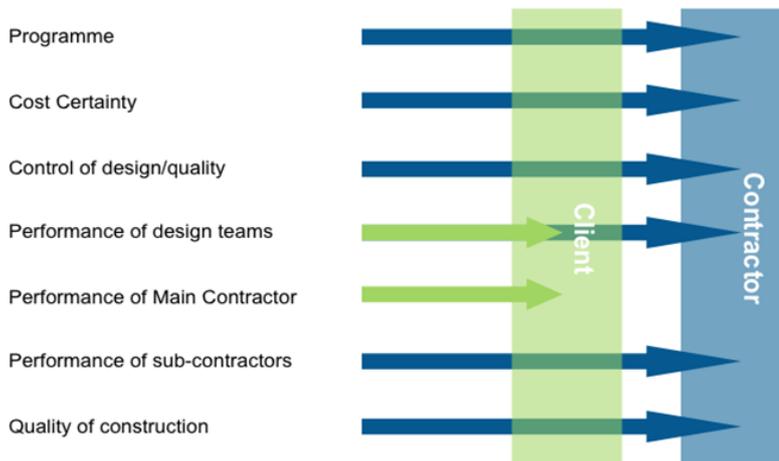
RISK ALLOCATION



9.3.3 Design & Build:

Under a 'design and build' route, a single Contractor assumes the risk and responsibility for completing the design and building the project. The design is developed to a suitable level by the design team, at which point it becomes the Employer's Requirements issued to main Contractors, who submit their Contractor's Proposals, lump sum tender and agreed programme. The main Contractor has an obligation to deliver the project as defined within their Contractor's Proposals (which are a development of the Employer's Requirements) to the cost and programme agreed within their tender return. The Contractor accepts responsibility for the design and design development.

RISK ALLOCATION

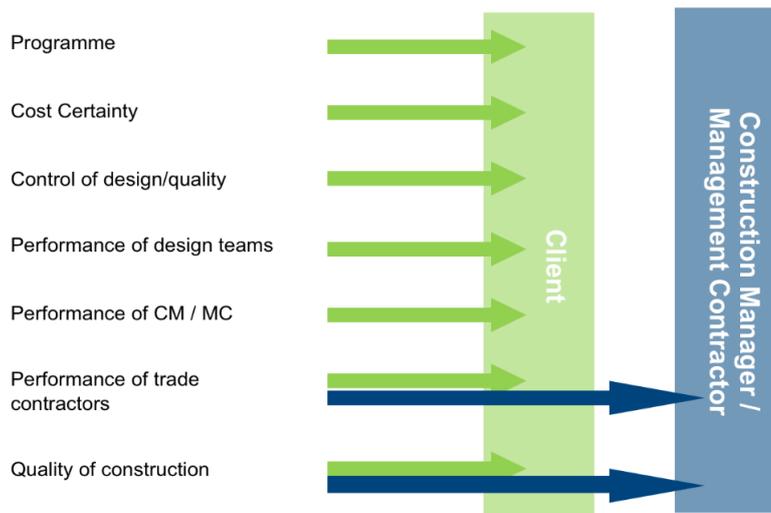


9.3.4 Management:

Under a management route, the Client does not allocate risk and responsibility to a single main Contractor. Instead, the Client employs the design team, with a construction manager/management Contractor engaged as a fee earning professional to manage, programme and co-ordinate the design and construction activities.



RISK ALLOCATION



Construction work is carried out by individual trade/works Contractors, often specialists, through direct contracts with the Client for distinct trade or work packages. Each trade Contractor will be appointed when their contribution is required. The arrangement enables the design process to overlap with the construction process to some extent and therefore is usually adopted where the primary objective for the Client is relative speed to completion. However, this is a strategy with little cost certainty for the Client at the outset, because the costs of the trade contracts will often be unknown until that work is let.

9.3.5 Single and Two Stage Tendering

Both Traditional and Design & Build procurement can be undertaken in either a single-stage or two-stage tender process. The principles of risk transfer primarily remain the same once the formal building contract is executed, but under a two-stage process design development and tendering activities are overlapped. Typically, a Contractor is appointed at the end of stage one (normally based on preliminaries costs, early work packages, OH&P and experience). During the second stage the Contractor is then engaged to procure individual works packages/sub-contracts as the design develops to the level required for tender (this is fully designed under Traditional, but to an appropriate level under Design & Build).

The culmination of the second stage occurs when all work packages have been procured by the main Contractor allowing a fixed contract sum to be established. During the second stage tender period the Contractor is typically appointed under a Pre-Construction Services Agreement (similar to a consultant appointment rather than a building contract) and is paid for their services.

9.3.6 Most Appropriate Procurement for Iceland Stadium

Recent trends in stadium procurement have favoured a Design & Build approach, more typically via a two-stage tendering route. This is primarily to achieve maximum risk transfer to the contractor as stadium projects are considered higher risk than other more traditional building developments. This risk is usually considered best managed by the appropriate, expert contractor. However, the viability of this approach is reliant on the contracting market having sufficient capacity and experienced contractors to undertake a stadium project. It is questionable whether the Icelandic contracting market



has this level of capacity, which could result in limited competition and hence cost premiums, or time and quality failure.

In Iceland, a project of this magnitude and speciality would more commonly follow a management type of procurement arrangement, whereby Trade Contracts are individually sourced under a construction manager rather than a single contract with one main contractor. Whilst this will delay cost certainty and increase interface risk, it can benefit competition as smaller sized packages are more aligned with local contracting capacity.

That said, the opportunity to explore a Design & Build route should be investigated given the overarching risks associated with a stadium project. The preferred solution in reducing the risks associated with the capacity of Design & Build market in Iceland would be to ensure that the design is developed to a level that they would recognise, typically 'Technical Design' (RIBA Plan of Work 2020 – Stage 4). This ensures quality is maintained, but also reduces contractors risk premiums that may be incurred if the market perceives significant design risk in the project.

The alternative Design & Build route whereby a contractor is appointed on limited design information at a very early stage (Brief or Concept) has been considered. This is common in some mature Western European markets where contractors have the appropriate capacity and capability (and culture), such as Germany, however this does not align itself with the Icelandic contracting market for the reasons identified above. The local market is unlikely to be willing or able to undertake this, and if they did, may either require a significant cost premium to do so or provide a product that does not meet the Client's quality expectations.

In any design and build route, but particularly the 'early' option, a joint venture may be required between an Icelandic contractor and an international contractor. This would likely result in an overall increase and duplication of costs, such as preliminaries, in addition to limiting competition at the tender stage and potentially reducing its appeal to the local contracting market.

At this stage it is difficult to ascertain the most appropriate contractor procurement approach without further market engagement and a considered procurement strategy report, which is beyond the scope of this report.

It is recommended that a detailed procurement strategy study is undertaken in the next stage, when the preferred development option has been selected (i.e. a single main contractor approach will be more achievable in the Icelandic market for development Options A and B than it would be for Options C and D). It is however expected that either a Design & Build or Management arrangement will be the most preferable approach. The procurement strategy will need to consider the following issues in some detail before concluding the preferred strategy:

1. Project objectives;
2. Risk transfer;
3. Cost and cost certainty;
4. Quality and programme;
5. Market capacity and competition



10. Summary and Next Steps

10.1 Summary assessment

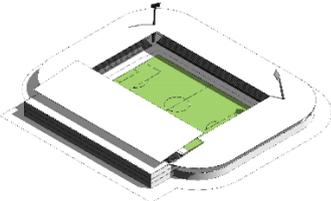
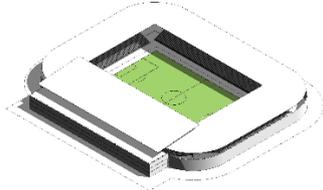
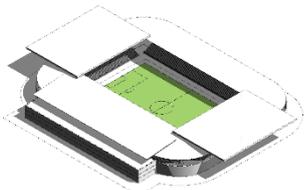
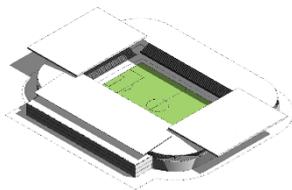
- 10.1.1 As a nation, Iceland has an incredible passion for football. Based on the current limitations of Laugardalsvöllur KSÍ, the city of Reykjavik and the national government are keen to understand the optimum solution for the future of the stadium.
- 10.1.2 From our team's perspective, the primary driver of the development and capacity decision is the demand for tickets for the Iceland men's national team, since their requirements are significantly higher than any other usage and drive the greatest overall revenue.
- 10.1.3 Less than 10 years ago, the men's national team was ranked outside the top 130 countries in the world. Improvements post 2012 were initially achieved under Lars Lagerbäck and notable successes were achieved at Euro 2016 and again at the World Cup in 2018 and beyond under Heimir Hallgrímsson and Erik Hamrén – reaching a peak world ranking of 18 and currently ranked 39th. The women's national team has also continued its consistent success – currently being ranked 19th in the world by FIFA and having achieved an average ranking of 18 since the creation of this metric in 2003.
- 10.1.4 These successes have been delivered despite a very small national population of c. 360,000. In large part the national teams' achievements have been driven by major investment in a series of indoor football facilities and the development of a network of professional coaches, which has produced a 'golden generation' of players and an ongoing legacy of participation and quality. Participation rates in football are high across the development spectrum (from amateur to professional and across age groups).
- 10.1.5 These improvements mean that the lack of investment in the national stadium is particularly pronounced. Laugardalsvöllur has the second smallest capacity of any national stadium for any European currently ranked in the FIFA World Top 100 teams (behind only Luxembourg – c. 8,100 capacity) – per IPW... research. Furthermore the stadium is not fully compliant with UEFA Cat 4 requirements and requires significant remodelling to bring it up to the minimum standards and create players facilities of a similar quality to those of other National Team Stadia.
- 10.1.6 The men's national team attendances for competitive matches have averaged c. 9,300 attendance over the last five years. These attendances have been achieved despite the relatively low quality of the current stadium and the distance from seat to pitch, which significantly negatively impacts the matchday experience. With the 'New Stadium Effect' there is also potential for growth in the average attendance achieved, and with interventions in the seating mix it may also be possible to achieve increased revenues on a per seat basis.



- 10.1.7 At the same time, Iceland is one of just three Nations League participants classified by UEFA as being 'high risk' due to its climate. It is the only League A participant classified in this way (Finland – League B; Faroe Islands – League D). This is illustrative of the challenging climatic conditions, and currently impacts the development of the Nations League fixture schedule and the schedules of other major event qualifying matches.
- 10.1.8 This strategic and competitive consideration is a key driver for KSI's desire for a retractable roof stadium solution. At the most basic financial level, our analysis has highlighted the significant incremental costs (capital and revenue) associated with delivering a roof. However, adding a roof would deliver on a number of other strategic objectives, particularly including increasing Iceland's potential to host major concerts/entertainment events year-round.
- 10.1.9 In response to these issues the AFL team has completed extensive analysis of the current position and key international data/ benchmarks to develop and test a series of potential development scenarios. This has included developing initial layouts for each option, together with detailed capital cost projections and 15-year P&L projections including:
- Option A: Do Minimum
 - Option B: Minor improvements to the Stadium to meet UEFA Category 4 compliance guidelines
 - Option C: Development of a new open 15,000 capacity stadium
 - Option C Retractable roof: Development of a new 15,000 capacity stadium with retractable roof
 - Option D: Development of a new open 17,500 capacity stadium
 - Option D Retractable roof : Development of a new 17,500 capacity stadium with retractable roof

These are summarised on the following page.



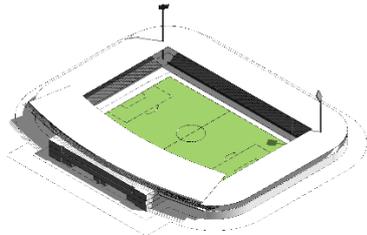
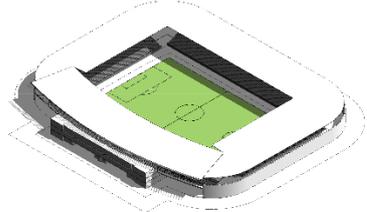
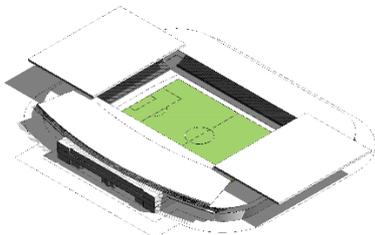
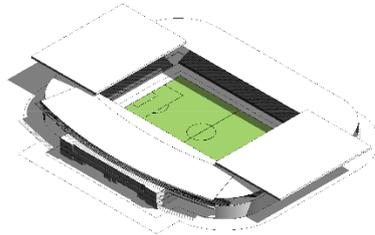
Option	Option
<p>A</p>  <p>Carry out the minimum work to maintain the current stadium.</p> <ul style="list-style-type: none"> - Light refurbishment to building - New Pitch and build-up - Concert capacity 20,000 plus <p>Strengths - Cheapest option; least upheaval</p> <p>Weaknesses – Not UEFA Cat 4 compliant; high temporary overlay costs for events; does not deliver new income streams; does not address extending playing season. Stadium continues to age.</p>	<p>B</p>  <p>Existing stadium refurbished to UEFA Cat 4 requirements</p> <ul style="list-style-type: none"> - New changing rooms and media areas - New Pitch, build-up & under pitch heating - Concert capacity 20,000 plus <p>Strengths – Low capital investment; minimal upheaval</p> <p>Weaknesses – does not deliver new income streams; pitch heating extends pitch use but does not address playing in the heavy winter season; Stadium continues to age especially the East stand.</p>
<p>C</p>  <p>New 15,000 seat stadium</p> <ul style="list-style-type: none"> - Increased capacity Hospitality provision - Good quality Spectator seating and facilities - No running track - Concert capacity up to 27,500 <p>Strengths – Optimum capacity for National Team games; new income streams from increase premium seating offer; improved football viewing experience; simple structure.</p> <p>Weaknesses – does not address playing in the heavy winter season; Does not maximise one-off super event appeal and revenues</p>	<p>D</p>  <p>New 17,500 seat stadium</p> <ul style="list-style-type: none"> - Increased capacity Hospitality provision - Good quality Spectator seating and facilities - No running track - Concert capacity up to 29,100 <p>Strengths – Capacity facilities bigger / one off super events; new income streams from increase premium seating offer; improved football viewing experience; simple structure</p> <p>Weaknesses – does not address playing in the heavy winter season; increased capital expenditure on additional seats that are rarely used</p>
<p>C Retractable roof</p>  <ul style="list-style-type: none"> - The roof surface will all have to be at a higher level to allow 20m clear space below the retractable roof structure trusses for the ball movement and sight lines. - The larger gap between the rear of the seating and the higher roof will require additional cladding. <p>Strengths – Scope to generate tremendous atmosphere and maximise 'home advantage'; Deliver a true 'Living Stadium' with community uses to meet local need; Create a more balanced calendar and host events on the pitch year-round</p> <p>Weaknesses - Does not maximise one-off super event appeal and revenues; Expensive build solution for limited events; Requires full stadium closure and new build.</p>	<p>D Retractable roof</p>  <ul style="list-style-type: none"> - The fixed roof surface already at a higher level for larger stands. - 20m clear space below the retractable roof structure trusses for the ball movement and sight lines. <p>Strengths – Scope to generate tremendous atmosphere and maximise 'home advantage'; Deliver a true 'Living Stadium' with community uses to meet local need; Create a more balanced calendar and host events on the pitch year-round; Maximise one-off super event appeal and revenues</p> <p>Weaknesses – Most expensive build solution for limited events; Capital expenditure on additional seats that are rarely used; Requires full stadium closure and new build.</p>



10.1.10 We have also considered alternative options for the 15,000 and 17,500 capacity stadium options retaining the existing West Stand– identified as C1 and D1. Based on initial financial analysis we project that the C1 and D1 options are less desirable and less financially sustainable.

- Option C1: Development of an open 15,000 capacity stadium retaining the West Stand
- Option C1: Development of a 15,000 capacity stadium with a retractable roof retaining the West Stand
- Option D1: Development of an open 17,500 capacity stadium retaining the West Stand
- Option D1: Development of a 17,500 capacity stadium with retractable roof retaining the West Stand

These are summarised below:

Option	Option
<p>C1</p>  <p>As C with retained existing West Stand Existing Hospitality and Spectator provision in West Stand Strengths – Reuses part of the existing stadium and therefore consider to be more sustainable; Lower cost than rebuilding new main stand Weaknesses - Lack of continuity of structural solution between old and new structure; Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable; dose not deliver the new stadium effect for the West Stand</p>	<p>D1</p>  <p>As D with retained existing West Stand Existing Hospitality and Spectator provision in West Stand Strengths – Reuses part of the existing stadium and therefore consider to be more sustainable; Lower cost than rebuilding new main stand. Weaknesses – Higher capital expenditure on seats that get rarely used; Lack of continuity of structural solution between old and new structure; Does not deliver new/ enhanced income streams to diversify stadium revenues - overall less financially viable; dose not deliver the new stadium effect for the West Stand</p>
<p>C1 Retractable roof</p>  <p>As C – retractable roof and Strengths – Reuse of existing stand Weaknesses - The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction; More complex to redevelop the west stand at a later date.</p>	<p>D1 Retractable roof</p>  <p>As D – retractable roof and Strengths – Reuse of existing stand Weaknesses - The interface between the new retractable roof structure and the curved plan form of the existing roof is a complex junction; More complex to redevelop the west stand at a later date.</p>



- 10.1.11 Table 10.1 overleaf summarises the capital and revenue implications of the development Options.
- 10.1.12 In pure financial terms, the 15,000 capacity (no roof) Option C is projected as delivering the best outcome of the development options, albeit under the base case it is anticipated to operate at broadly breakeven over 15 years before Real Estate Taxes (an average shortfall of c. ISK 107m/ annum over 15 years after Real Estate Taxes). With specific interventions (such as the re-introduction of the City grant and the payment of a higher rent from KSÍ from their higher revenues) there is clear potential for this option to achieve an operating surplus.
- 10.1.13 However, beyond the pure financial case there are strategic and economic factors which will also impact the decision. In particular:
- Given Iceland's climate and the current international fixture calendar (with matches in November and March) there is a case for a retractable roof to ensure that games can be scheduled and played year-round, particularly given Iceland's 'high risk' categorisation re. UEFA
- Maximising the potential for concerts and other entertainment events
- A larger capacity stadium has the potential to deliver greater economic impact, with higher revenues (but higher costs)
 - Any potential wish to further future-proof the stadium by building out a capacity which exceeds current demand
 - The specific drivers of any ultimate funding solution.



Table 10.1 Summary financial projections – full new build stadium options (15 years)

Option	Outturn cost	Average EBITDA		'No Worse off' EBITDA projection incl. Facility Fee*		Economic impact (base case assumptions)	
		Incl. taxes	Excl. taxes	Incl. taxes	Excl. taxes	Annual Fiscal benefits (ISK million)	Cumulative GVA (ISK million)
Option A: Do Minimum	ISK 485,000,000	-ISK 69,000,000	-ISK 43,000,000	-ISK 69,000,000	-ISK 43,000,000	128	5,051
Option B: Minor improvements	ISK 1,925,000,000	-ISK 68,000,000	-ISK 42,000,000	-ISK 68,000,000	-ISK 42,000,000	128	6,606
Option C: 15,000 cap. (open)	ISK 10,523,000,000	-ISK 107,000,000	-ISK 3,000,000	ISK 80,000,000	ISK 183,000,000	294	15,349
Option C: 15,000 cap. (roofed)	ISK 15,045,000,000	-ISK 195,000,000	-ISK 39,000,000	ISK 4,000,000	ISK 161,000,000	367	17,866
Option D: 17,500 cap. (open)	ISK 11,246,000,000	-ISK 140,000,000	-ISK 29,000,000	ISK 48,000,000	ISK 159,000,000	301	15,169
Option D: 17,500 cap. (roofed)	ISK 15,829,000,000	-ISK 216,000,000	-ISK 52,000,000	-ISK 15,000,000	ISK 150,000,000	229	17,804
Option C1: 15,000 cap. (open)	ISK 8,616,000,000	-ISK 237,000,000	-ISK 134,000,000	-ISK 51,000,000	ISK 53,000,000	-	-
Option C:1 15,000 cap. (roofed)	ISK 13,138,000,000	-ISK 325,000,000	-ISK 169,000,000	-ISK 126,000,000	ISK 30,000,000	-	-
Option D1: 17,500 cap. (open)	ISK 9,634,000,000	-ISK 270,000,000	-ISK 159,000,000	-ISK 83,000,000	ISK 29,000,000	-	-
Option D1: 17,500 cap. (roofed)	ISK 14,217,000,000	-ISK 346,000,000	-ISK 182,000,000	-ISK 145,000,000	ISK 19,000,000	-	-

* Sensitivity whereby Project Partners are 'no worse off' than currently as per 6.13.8 description – KSÍ rent at 50% of ticketing revenue; city grant reinstated (and Facility Fee chargeable under development scenarios). NB Options A & B have not been amended in 'No Worse Off' sensitivity above. Figures are rounded



10.2 Comparison matrix based on Critical Success Factors

- 10.2.1 Based on the analysis completed to date, we have prepared an initial comparison of the core stadium development options to illustrate their relative merits (Refer to table 10.2 overleaf). This consolidates and builds upon the SWOT analysis presented previously in this report (Chapter 5).
- 10.2.2 The comparison has been based on the potential of each option to meet what we have identified in the course of the appointment as Critical Success Factors (CSFs) – i.e. the items that are most important in ensuring the overall success of the national stadium moving forward. This particularly includes:
- Delivering a facility that **meets international stadium standards** – health & safety, UEFA grading requirements etc
 - A stadium that **maximises economic impact/ fiscal benefit** for Iceland, driving value for the economy and revenue for the city and state via taxes etc
 - A solution that is **future proofed against potential future market changes**
 - A stadium that delivers an **optimised event experience** for matches and concerts etc – creating a quality, intense atmosphere and encouraging repeat visits – i.e. the right size and the right quality
 - A stadium that **maximises social benefit** for Iceland, delivering on the social and competitive/ sporting considerations noted previously in this report
 - A stadium that **encourages maximum usage** for football and other events and for non-matchday uses (with options scored against the maximum projected event attendance across the schemes).
- 10.2.3 It was determined that financial considerations (capital cost and projected operating position) should be excluded from the comparison matrix and these factors considered separately.
- 10.2.4 No weightings have been applied to this initial analysis to identify the most important factors. Table 10.2 overleaf summarises the initial application of scores (0-10) against these CSFs. This scoring highlights that Options A and B are not appropriate long-term solutions for the national stadium, scoring very low marks in all areas other than the cost CSF, where the negligible investment requirements mean they are significantly cheaper than the new build options.
- 10.2.5 On the basis of the comparison scoring, Option C (roofed) and Option D (roofed) are identified as the likely best overall solutions, facilitating the fixture flexibility and future-proofing required by KSÍ. They also enable year-round concerts and extends the domestic football calendar.
- 10.2.6 Options C and D (no roof options) are ranked joint third . These options are however significantly cheaper (in capital and revenue terms) than the roofed options. The primary limitation of these options is that they do not give the full level of calendar flexibility and certainty that KSÍ seeks for the future success of the national teams.



Table 10.2 Comparison matrix based on Critical Success Factors– stadium options

Critical Success Factor	Option A	Option B	Option C (open)	Option C (retractable roof)	Option D (open)	Option D (retractable roof)
Meet international stadium standards	4	6	10	10	10	10
Maximise economic impact/ fiscal benefit for Iceland	4	4	8	9	8	9
Future proof against future market changes	0	1	6	9	7	10
Deliver optimum event experience	4	5	8	10	7	9
Maximise social benefit	4	4	9	10	9	10
Maximise usage	5	5	8	10	8	10
Total	21	25	49	58	49	58
Rank	6	5	3=	1=	3=	1=
Average attendance (5 yrs)	104,000	104,000	177,000	201,000	178,000	202,000

10.2.7 The options are therefore ranked as follows:

Option C (retractable roof)	1=	58
Option D (retractable roof)	1=	58
Option C	3=	49
Option D	3=	49
Option B	5	25
Option A	6	21



10.3 Recommendations

- Our team has completed significant analysis in the course of delivering this engagement – including design, capital cost and operating projections work.
- For both commercial and strategic/ aspirational reasons we recommend that Options C1 & D1 (i.e. retaining the existing West Stand but building three new stands) be removed from consideration.
 - There is scope to achieve capital cost savings by building three new stands rather than four – i.e. retaining the West Stand (c. ISK 1.6 to ISK 1.9 billion depending on the option). However this approach is projected to deliver a significantly worse revenue position (c. ISK 130m per annum EBITDA reduction under all options) as additional spaces cannot be delivered in the Main West Stand to diversify and increase the stadium’s operating revenues.
 - While these sub-options have some intuitive appeal given that the West Stand is relatively new and the potential to achieve capital cost savings, these solutions are considered a significant compromise in operating terms (since they inhibit any ability to add quality revenue-generating areas such as Premium Seats/ lounges) and also carry associated risk and uncertainty – particularly were a retractable solution to be pursued.
- We believe that getting the ‘right’ capacity is perhaps the single factor most critical to optimising stadium-related revenue, the balance between maximising ticket prices and atmosphere, and the stadium business case.
- Based on the analysis that the AFL team has completed in the course of this appointment, we believe that c. 15,000 is the right current capacity for KSÍ (driven by average ticket demand for the Men’s National Team).
- Based on the analysis of the core six options, we also believe that Options A & B are not appropriate long-term solutions for Iceland, and should be removed from consideration. The comparison between the development options (15,000 and 17,500 capacity, with and without retractable roof), will need to be weighed by the client team based on a series of financial and non-financial factors.
- From a purely financial perspective, we project that Option C (no roof) is the optimum solution. While this option makes an operating loss under the base assumptions used in our modelling, there remains scope to potentially achieve operational breakeven. It is also achievable with the lowest capital investment of the options under consideration and, based on our data analysis, the most appropriate capacity for the Iceland market based on demand and pricing factors.
- However, we would note that there are other benefits associated with delivering a retractable roof stadium – most notably the practical fixture considerations and the impact on the competitiveness of the national teams given Iceland’s current ‘high risk’ classification per UEFA. A roof gives additional future-proofing, albeit at a high (relative to overall) capital cost.
- Based on the initial comparison of options, Option C (retractable roof), with Option D offering a future proofed alternative, appears to be the best overall solution. This is subject to further discussion and comparison with the client team. Key factors which might change this emerging position include:
 - Capital cost budgets/ funding position
 - A wish to safeguard against potential future increased demand (though likely offset by pricing reductions in the short/ medium-term as a minimum)
 - A view that the additional capacity in concert mode is more important than the football experience and would attract more events
 - A view that ‘bigger is better’ from a national perception perspective.



10.4 Delivery timetable

10.4.1 Timeline

The indicative timeline shown in Figure 10.1 overleaf shows a single-phase process based on Options C/D Roofed. This is a three-year process meaning that if move things forward starting this September (2020) a new facility could feasibly be in operation by the 2023/24 football season.

10.4.2 Phasing

Phasing is a possible solution if a non-roofed option is pursued and the retention of the west stand is considered viable - Options C1/D1. Phasing may also be considered if the finance dictates that cash flow needs to be spread over a longer period, however the total cost of the development is likely to be higher. It will be difficult to add a retractable roof using this approach due to the risk of delay between phases and the associated risk of maintaining a single contractor over the period.

Phased construction of the stadium will have a direct impact on the structural solutions adopted in the design. Phasing the construction can allow the stadium to remain operational during the construction works keeping seats available for spectators during this time. An example of a phased approach that would work with the structural solution described in option C1 would be as follows:

- The first 14 months in the programme unchanged
- Year 1 - Retain west stand and build new east stand. Remove the running track and move the pitch
- Year 2 - Building new north & south stands
- Year 3 - Replace west stand (optional)



10.5 Next steps

We have provided an outline of the key tasks that need to be undertaken to progress the project. In addition, we have highlighted key responsibilities for undertaking the tasks and an indicative timeframe for the tasks being undertaken.

	Task	By who	By when
T1	Approve receipt of OBC Report from consulting team	Board	August 14
T2	Present report to key stakeholders with approval to progress scheme through the next stage of development	Board & consulting team support	Sept 20 – Nov 20
T3a	Agree in principle stadium capacity and roof provision	Board & stakeholders & consulting team support	Sept 20 – Nov 20
T3b	Agree to consider additional stadium features including ancillary venue (sports and events) and social infrastructure (museum). Commission additional study on business case for these additions	Board & stakeholders & Consulting Team support	Sept20 – Nov20
T4	Agree funding model including additional financial and commercial modelling as required. Contract funding support from relevant parties	Board & KSI & Consulting Team & Government & Municipality & KSI & UEFA	Sept 20 – Mar 21
T5	Agree ownership model for the stadium and KSI use agreement	Board, KSI & Consulting Team	Sept 20 – Nov 20
T6a	Agree procurement and delivery strategy for operator, design and construction with business plan led best in class approach	Board & Consulting Team	Sept 20 – Dec 20
T6b	Progress operator procurement	Consulting Team	Dec 20 – Jun 21
T7a	Concept designs to Stage 2 to support operator procurement	Consulting team	Nov 20 – Jan 21
T7b	Progress planning documentation and timing for planning application	Consulting Team	Jan 21 – Sept 21
T8	Develop construction and delivery strategy including construction procurement	Consulting Team	Jun 21 – Dec 21
T9	Develop design to Stage 3+ including operator input in preparation for construction delivery	Consulting Team & operator	Jan 21 – Jul 21
T10	Contractor procurement/Technical Design	Consulting Team	Aug 21 – Feb 22
T11a	Enabling Works – pre-construction works	Contractor	Oct 21 – Feb 22
T11b	Commence on site once planning and building agreements in place	Contractor	Feb 22
T12	Test Events	Operator/KSI	Sep 23



Once the Board has received the final report in August (T1) there will be a period for the key stakeholders to approve its contents and progress the scheme to the next stages of development (T2). It will be critical for the Board and stakeholders to agree principle stadium capacity and whether a roof is to be provided (T3a). We have allowed a three month period for these consultations and discussions to take place between the stakeholders. During this period the Board and stakeholders should consider whether an ancillary venue should be included in the design or any other features of social infrastructure, such as a museum. This may require the commissioning of additional information and business case for the ancillary facilities. As long as this is commissioned early in the process the outcomes can dovetail with the rest of the scheme (T3b).

Whilst our report covers headline economic outputs the Board and the Government may feel that they need a full economic impact assessment which should be commissioned in September allowing for the findings to feed into the overall decision-making process. The fiscal benefits, i.e. cash benefits to the Government, form an important part of funding the scheme and should provide a real impetus for Government and Municipality to provide finance for the project. The fiscal benefits are in addition to the wider economic impact which will be created by the scheme.

The final funding model will reflect the different levels of support from the stakeholders whilst recognising the financial benefits that each of them gain from the project. We have assumed a window of three to four months for these commitments to be provided with a further three months for them to be contracted. These agreements will need to be put in place between KSI, the Government, Municipality and potentially UEFA (T4).

As part of the deliberations between the stakeholders they will need to agree the ownership model for the stadium (T5) which will relate closely to the funding model.

The timetable therefore allows a period from receipt of the report in August until November for the key decisions to be made on the progress of the project. Essentially this timetable provides for the project being fully supported and commenced to the next stage of delivery by the end of 2020.

With the progression of the project, agreement on the procurement and delivery strategy will be required (T6a). The report recommends that in the specialist circumstances in Iceland that it will be important to ensure you have a business plan led approach providing for the best in class advisors and deliverers to support the project. A core spine of the process will be the financial performance of the stadium and the operator input throughout the design and construction phase. The operator procurement is thus the first external party to be procured commencing in January 2021 (T6b). Whilst we would expect the preferred operator to be selected in five or six months (it can be done shorter if necessary) there will then be a period to finalise the contracts with the preferred operator.

We will require the development of the designs to support the operator procurement and the wider project. This design phase should commence at the end of this year so that the input is available for the operator competition commencing at the beginning of 2021 (T7a). Once the second stage designs have been progressed the team can progress the planning strategy and lead towards more detailed design being prepared for the subsequent planning application (T7b). The design and the application itself will benefit from the input from the operators during the operator



procurement competition as well as detailed input from the preferred operator in a period up until September 2021 (T9).

The construction and delivery strategy can commence in mid-2021 and the procurement of the construction partners should be completed for the end of 2021 (T8). It is possible to bring forward some of these tasks including the construction strategy, however, the construction partner procurement should follow the development of the planning submission and the operator input. The formal contractor procurement (T10) would commence in the Autumn of 2021 and be concluded for the beginning of 2022. This would allow commencement on site from the Spring of 2022 (T11) allowing for a period of contractor mobilisation once they have been appointed.

This indicative timetable reflects the likely periods when construction can be undertaken in Iceland and the normal periods of time it would take to undertake the key tasks around improving the project, appointing an operator, developing the design and appointing a contractor(s) to be on site in 2022.

We recognise that this high-profile project may require a longer period of stakeholder support and sign-off but hopefully the benefits of the scheme as expressed in the feasibility study will encourage stakeholders to develop the project further during the next few months. The consulting team will obviously be available to support the deliberations of the stakeholders to ensure the most successful outcome for the project.

Appendix

- A. Indicative Cost Estimate
- B. Existing Stadium Room Condition Survey
- C. Review of Existing Facilities against UEFA Cat 4
- D. Existing Architectural Drawings
- E. Proposed Option Diagrams A - D
- F. Proposed Architectural modifications for Option B
- G. Existing Structural & Civil Drawings
- H. Proposed Structural drawings & Documents
- I. Existing MEP drawing/notes
- J. Pitch commentary
- K. Required penetration rates for FIFA top 100-rank European nations to achieve capacity
- L. Historic football events and attendances at Laugardalsvöllur
- M. Laugardalsvöllur P&L assumptions databook

