Lee Valley Regional Park Authority	Agenda Item No:
LEE VALLEY REGIONAL PARK AUTHORITY	9
EXECUTIVE COMMITTEE	Report No: E/502/17
25 MAY 2017 AT 12:00noon	

POTENTIAL ICE PAD, COOLING SYSTEM AND BARRIER REPAIR

Presented by the Head of Sport & Leisure

EXECUTIVE SUMMARY

This paper seeks Member approval for a capital sum of £500,000 to be released from the capital programme to fund the repair of the Lee Valley Ice Centre's ice pad, cooling system and barrier. The paper also seeks Member approval to undertake a management fee adjustment under the terms of the Leisure Services Contract to compensate Lee Valley Leisure Trust Ltd for the period of closure required.

The venue's ice pad, cooling system and barrier have been operating and maintained since the centre originally opened 32 years ago. A report undertaken by an ice specialist early this year concluded that the venue was at imminent risk of failure which could cause a prolonged period of closure, resulting in a loss of income, service and reputational damage.

The venue (and catering) continues to operate at an operational surplus of circa £250,000 but there is a significant risk of the ice pad failing leading to the venue having to close in the next 18 months. To protect this financial position and to allow the Authority time to determine the optimum medium and long term ice solution repair works on the existing venue are required immediately.

The window of opportunity to carry out these works and minimise the loss of income is during the summer months prior to the hockey season starting in September.

RECOMMENDATIONS

Members Approve:

(1) a waiver of Financial Regulation 573 to enable commissioning of the works detailed in paragraph 11 of this report.

(2) release of £500,000 from the existing capital programme to undertake refurbishment works as detailed in paragraph 11 of this report;

(3) an adjustment to the management fee to compensate Lee Valley Leisure Trust Ltd, subject to analysis and agreement by both parties at the year end.

BACKGROUND

1 The future for the highly successful 32 year old Lee Valley Ice Centre (LVIC) has been under consideration for the last few years. The Ice Centre has been well maintained during its long life, however, it has reached the point where a significant capital investment will be required to prevent the failure of key plant and equipment and subsequent closure of the venue.

2 The venue continues to perform well, achieving a healthy operational surplus of circa £250,000, attracting circa 365,000 visits per year. The venue continues to operate at capacity, with a small 8 week window of lower usage in the summer months, within which, any repair works required would ideally be planned. Any unplanned reactive undertaking of works outside of this window would take 12 weeks longer (due to lead times for orders and mobilisation) resulting in a significant level of lost income (214% increase compared with the off peak season) and the potential associated reputational damage.

Historically when unplanned closure in the peak winter season has taken place at other UK rinks the entire winter season has been significantly affected. This is due to hockey teams, coaches and regular users finding other facilities not just for the closure period but for the whole season (and sometimes permanently). The current LVIC has benefited from such occurrences in the past 10 years e.g. Romford and Alexandra Palace.

3 In June Members approved the recommendations within paper A/4228/16 to fund the next stage of the new Ice Centre development project following a detailed three part feasibility. In January 2017, the Authority appointed Wrenbridge Land Ltd following an OJEU procurement process to be the lead consultant for the Ice Centre project. Wrenbridge created a design team to lead the Authority through the 7 stage RIBA process. One of the key deliverables of the Ice Centre project is continuity of ice and to understand the current position in more detail. In addition the Authority commissioned a report into the current status of the ice facilities via sub-consultants:

- IPW – Business planning and Ice specialists; and
- Ice Tech – Ice infrastructure specialists.

4 The sub-consultants' report confirmed that the ice facilities are of an age where imminent failure is highly likely and the threat to the continuity of ice is ever more increasing and unpredictable. The key headlines of this report are:

- due to the current system's age/design it is having to operate twice as hard to maintain satisfactory ice conditions. This has resulted in various failures within the system in the past few years, a trend that has shown a worrying increase in recent months;
- due to the demands put on the system there is no capacity to cope with higher temperatures in the summer months which increases the likelihood of the system failing;
- the cooling pipes that are sunk into the concrete slab cannot be inspected and are at significant risk of corrosion and subsequent failure;
- the ice pad barrier which is of an age where its integrity (due to being made from wooden pillars) cannot be guaranteed and is at risk of unexpected failure.

13 other ice centres within the UK of similar age and with the same cooling pipes in a concrete slab as the Authority's have suffered significant unplanned

failure in recent years resulting in prolonged periods of closure.

5 The provision of a temporary ice rink during any construction of a new facility is a work stream that is currently being undertaken and an options paper will be brought to Members in September, along with the findings and results of stages 0 - 2 of the RIBA process. An interim temporary ice rink report was presented to the Member Ice Centre Project Working Group on 27 April 2017 which highlighted any unexpected loss of the facility would affect the provision of service, financial returns and potentially the Authority's reputation. As a result Members requested officers bring a paper back to the Executive Committee detailing options to mitigate this risk.

6 One of the options within the interim temporary ice rink report was to undertake the full programme of repair works totalling £750,000 that were identified within the Ice Tech report, headlined in paragraph 3 of this report. Officers have met with the ice specialists, Lee Valley Leisure Trust Ltd (the Trust) and Wrenbridge to ascertain what could be done now that;

- secures / improves the venue's surplus position;
- secures the ice facilities for at least the next two years when any new build is programmed to begin;
- gives flexibility to the wider ice project via re-usable infrastructure;
- maintains top quality ice;
- achieves value for money from a total project perspective;
- ensures the Authority is in control of the decision making process derisking any unplanned/unexpected failures with the current venue.

THE WORKS AND ASSOCIATED OPTIONS

7 The consultant team have produced a report, see Appendix A to this report, following a series of meetings with the Authority and the Trust which gives a series of options to deliver the requirements laid out in paragraph 6 of this report. From the initial findings, two areas have been identified as vital to protecting continuity of ice:

- the ice pad and associated cooling system;
- the barrier system.

The chillers, also identified in the report, are a lower risk over the next two years and replacement at this point is deemed not appropriate. The risk is low because:

- the venue has two, creating flexibility should one fail;
- temporary chillers are easy to get quickly and relatively cheaply, thus minimising cost and down time, whereas a failure in the other two areas could close the facility for up to 20 weeks;
- the manufacturer has agreed to continue the maintenance giving reassurance they are in a good condition considering their age.

8 The recommendations within the Ice Tech report are made on the basis that:

- the proposed equipment could be re-used in a temporary facility;
- the proposed equipment could be re-used in a newly built permanent facility;
- the proposed equipment can be sold after use, be that 2 or more years depending on the long term future of ice within the Lee Valley;
- can be achieved without removing the existing concrete slab saving

significant time and expense; and
- safeguards the existing operation and its surplus as a priority.

9 THE ICE PAD & COOLING SYSTEM

Following detailed discussion and given the immediacy of the issue, the design team, Authority and the Trust engaged in market research and dialogue with market leading companies (including obtaining quotations on possible solutions) and concluded that there are three realistic options:

Option 1 - ICEGRID overlay costing £253,462
Option 2 - Electro Fusion welded pipework embedded in sand costing £202,586
Option 3 - 'Temporary rink market product' overlaid onto slab costing £188,441

The options were appraised and the findings are detailed in Appendix A to this report along with a scoring matrix in Appendix B.

Looking at the cost comparisons to the end of the project should the Authority undertake a temporary rink and build a new facility the whole costs are identified within the table below:

Work Required	Option 1 £	Option 2 £	Option 3 £
Existing Facility			
Equipment Cost	£174,760	£120,400	£110,450
Design & Shipping	£6,450	£4,650	£4,650
Site works	£24,410	£29,410	£29,410
Install Labour	£24,800	£28,800	£26,800
10% contingency	£23,042	£19,326	£17,131
Relocate to temporary			
Labour and associated costs	£20,800	£26,750	£20,800
Modifications & Repair	£400	£24,000	£8,000
Install Labour	£20,450	£24,800	£22,800
Testing & Ice Build	£8,200	£8,200	£8,200
Removal from Temporary			
Labour and associated costs	£20,800	£9,800	£20,800
Modifications & Repair	£62,800	£0	£0
Build at Permanent Project			
Install Labour	£22,980	£27,600	£27,600
Testing & Ice Build	£9,200	£9,200	£9,200
New Cooling Floor 60m x 30m	£0	£162,000	£162,000
Total Cost across 3 projects	**£419,092**	**£494,936**	**£467,841**

Over the whole project (if undertaken) the ICEGRID would give the Authority the best financial return. In addition to this, Ice Tech have given a buy back guarantee of £43,690 (25% of the purchase price) for the ICEGRID system which if the Authority did not wish to pursue ice further would bring the cost of the system down to £209,772, guaranteed for two years.

10 **THE BARRIER SYSTEM**

In January 2017 Ice Tech via the Authority's term consultants, Pick Everard, were commissioned to undertake a review on the condition of the existing barrier system. The brief was to determine its suitability for ongoing use for a twelve-month period.

The report focused on the elements of the barrier facade above the ice and not the overall structural stability (as this was not part of the brief and realistically cannot be accurately assessed because no access below the ice is possible). The report concluded that with nominal remedial works being undertaken, the consultants had a high degree of confidence that the barrier system would survive a further 12 month operational period.

As dialogue regarding the replacement of the ice pad developed, consideration was given to replacing the barrier system at the same time addressing the following issues:

- its safer and/or less riskier to replace the barrier as opposed to repairing it;
- the implications of ice removal – and ice melt at the barrier base;
- the unknown structural integrity of the timber that is hidden under the ice pad itself. There is a strong possibility that much of the barrier may actually be supported by ice, so if the ice pad is to be removed, any ice at the base of the barrier will melt.

Due to the long lead times (14 weeks), it is unrealistic for the Authority to wait until the ice pad is removed in order to assess the integrity of the barrier as this gives rise to the risk of a prolonged rink closure through the whole peak season. This led to the conclusion that it is better value to design a system that can be easily lifted and rebuilt in a temporary facility with an opportunity to use the same equipment as part of a new ice project.

The cost of a new barrier system from Ice Tech is £244,970 which includes a 10% contingency. As with the ice pad, if there wasn't a long term use within the Authority for the barrier system, it could be sold on the open market or bought back by Ice Tech. Ice Tech are willing to guarantee a buy back price of 25% of the original capital cost (£49,125) guaranteed for two years.

11 In conclusion, a new barrier system and ice floor cooling system can be installed to reduce the risk of imminent failure and forced closure of the existing Ice Centre. It is recommended that the Authority agrees to option 1 (ICEGRID) to replace the ice pad at a cost of £253,462 for the following reasons:

- it is the only system that allows for lifting and relaying in both a temporary and permanent new facility. The other options don't allow for relaying without significant additional costs;
- using the Ice Grid allows the Authority to build over the existing floor, without this the removal costs are between £200,000 – £300,000 extra;
- Ice Grid has improved running costs over the concrete floor option supporting an improved overall surplus position;
- Ice Grid produces the best quality ice.

In addition, due to the unknown risks associated with the barrier system and the long lead times should an issue be discovered when the ice pad is removed, it is recommended a new bespoke designed barrier system be purchased totalling £244,970.

If Members agree to these recommendations then the repair works would total £498,432 which includes a 10% contingency figure.

12 As detailed above, the intention would be to re-use both elements of equipment in future temporary and permanent ice centres, however if these projects are not continued Ice Tech have offered a guaranteed buy back for two years of 25% of the capital equipment totalling £92,815 as per paragraphs 9 and 10 above.

13 Following discussions with the Trust there is a very small window before the peak ice season starts. The most cost effective and displacement option would be to undertake these refurbishment works between 12 July and 4 September 2017. These dates have been fully agreed with the Trust and in order to meet these deadlines any orders must be placed during the last week of May.

THE TRUST'S POSITION

14 The operational surplus achieved by the Ice Centre has been circa £250,000 per year which is accounted for within the Leisure Services Contract (LSC) management fee. The peak ice season is between September and April, with the summer period being traditionally off peak. Any net loss of income will be calculated on:

- casual skating income;
- coaches pad time;
- retail rent;
- offset by savings in normal operational costs e.g. electricity, casual staff etc.

In addition, the coaches whilst not employed directly, rely on the Ice Centre for their livelihood. There is some down time factored in but it is suggested that some financial recompense is offered to coaches as recognition of the short notice and importantly to ensure the ongoing provision of service from the coaches following the temporary works which are vital to the business plan of the venue.

Existing Ice Centre staff will be employed during the closure period at other Trust venues.

15 The Trust operates the LVIC venue via a lease arrangement in line with the specification detailed within the LSC. Clause 22.6 of the LSC details that within 40 days of the Trust receiving a request for change from the Authority the Trust will deliver a charge assessment covering the following relevant to those works:

- impact on the provision of service;
- impact on the Trust to deliver to the specification required by the Authority;
- any associated documentation;
- estimated cost implications of the change; and
- loss of revenue from the change.

Any requirements to adjust the management fee as a result of the change will result in a clause 14 management fee adjustment to compensate for the change. The adjustment will be subject to a detailed analysis of the actual net operational surplus achieved at the year end with figures being reviewed and agreed by both parties.

16 The Trust has confirmed in writing that they agree with the position laid out within this report and the associated recommendations made by officers.

COMMUNICATIONS

17 The Authority's Head of Communications, the Ice Centre project team's communications agency and the Trust will communicate any change in provision in a clear and planned fashion. Key considerations will be retaining the customer base, communicating any closure ahead of time and ensuring that information is clear and easy to access.

There are a variety of audiences who use and have an interest in the venue who will be kept updated. These include:

- staff;
- coaches;
- general visitors;
- skating teams ;
- frequent skaters;
- stakeholders;
- National Governing Bodies;
- nearby residents;
- partners; and
- local authorities.

ENVIRONMENTAL IMPLICATIONS

18 The venue, if the recommendations are approved, would work in a much more efficient manner which has a financial benefit, but would also support the Authority's reduction in carbon emissions.

FINANCIAL IMPLICATIONS

19 The proposals in this report are requesting that Members approve:

	2017/18
Capital	£'000
Investment In Ice Pad & Cooling system	255
Ice Rink Barrier	245
Total Capital Investment	500

There are sufficient budgeted resources in the current capital programme earmarked for smaller schemes investment and this scheme would be regarded as a priority by both the Authority and the Trust.

20 Revenue compensation would need to be funded by General Reserves but is subject to detailed analysis at the year-end by both parties to ascertain the effect on the overall net bottom line surplus. This figure should be reasonably understood by the third quarter and reported to this Committee as part of the normal revenue monitoring for approval.

21 Alternatively Members could decide not to carry out the urgent repairs recommended and save the capital investment up front. The risk of not undertaking these works is that the ice rink fails / the facility closes and this would cost the Authority up to £250,000 a year in an increased LSC management fee, increased maintenance and security to "mothball" the site

estimated at £100,000 and the potential cost of compensation requested by the Trust for any associated redundancies if the current centre were to close (estimated at £136,000).

HUMAN RESOURCE IMPLICATIONS

22 Even though the project would be fully managed by the contractor, the Authority's Asset Protection, Maintenance and Development Team would need to line manage the contractor which would require a revision of their work loads.

LEGAL IMPLICATIONS

23 Waiver of Authority Financial Regulations enables the commissioning of the works detailed in paragraph 11 on the basis of the three options presented in paragraphs 9, 10 and 11.

The £500,000 cost of this project is below the threshold contract value for works contracts set in the Public Contracts Regulations 2015. The contract, therefore, does not require procurement of a supplier through advertisement in the Official Journal of the European Union (OJEU) and following the attendant detailed procedures connected with this procurement route.

Officers have conducted market research and engaged in dialogue with a number of suppliers and obtained quotations as demonstrated in paragraph 9 and concluded that further advertisement on Contracts Finder would not yield any benefits and would jeopardise the viability of the project due to time considerations and result in potential inordinate cost to the Authority as detailed in paragraphs 13 and 17.

RISK MANAGEMENT IMPLICATIONS

24 The main risks associated with this paper are if the works are not undertaken the venue could suffer a long term closure to undertake remedial works which if at peak times would cost more and damage the Authority and venues' reputation within the ice fraternity. The risk is also to the sustainability of the customer base which will find other venues to skate and may not return on re-opening.

EQUALITY IMPLICATIONS

25 There are no equality implications arising directly from the recommendations in this report.

Author: Dan Buck, 01992 709 896, dbuck@leevalleypark.org.uk

APPENDICES ATTACHED

Appendix A	Ice Tech Report
Appendix B	Scoring matrix

LIST OF ABBREVIATIONS

the Trust	Lee Valley Leisure Trust Ltd (trading as Vibrant Partnerships)
OJEU	Official Journal of the European Union
LVIC	Lee Valley Ice Centre
LSC	Leisure Services Contract

LEE VALLEY ICE CENTRE

FUTURE PROOFING THE EXISTING ICE FACILITY AND BEYOND

Prepared by Mark Nelson – Senior Partner

1.0 INTRODUCTION

1.1 Attendance

Summary of attendance and activity :

Site survey at the request of LVRPA	03/02/2017
Site attendance	06/02/2017
Survey Issue Date	15/02/2017
Review Meetings	March – April 2017
Team Meeting Review	02/05/2017
Submit recommendation report	04/05/2017

1.2 Purpose of Report

The intent of this report is to provide a turn-key construction solution for the extended use of Lee Valley Ice Centre for a minimum period of 18 – 24 months or beyond.

Our recommendations are made on the basis that the proposed equipment could be re-used in a temporary facility and/or re-used in a newly built permanent facility and/or be sold after use, be that 2 or more years.

The selection of equipment has been made with affordability, multiple use (i.e that is demountable and can be re-used in another facility), and safeguards the existing operation as a priority.

The ice rink has a pad measuring 56m x 26m. There are currently circa 740 seats located around the perimeter, including larger team benches for ice hockey. The ice pad is surrounded by a 6" timber framework dasher board system with tempered glass providing the upper containment at either end and to the sides.

2.0 EQUIPMENT SELECTION

The equipment selected by Ice Tech UK is listed below in order of priority – i.e to mitigate a risk of imminent or future failure. Please refer to our document "Lee Valley Report 2017 V3", for a more detailed assessment of the perceived risks for each item.

2.1 Ice Rink Cooling Floor

Risk Factor	:	High
Solution	:	Design, supply and install a new cooling floor system.
Timeframe	:	14 weeks including 6-8 weeks manufacture
Risk after work	:	Very low – minimal risk

In the UK, a number of ice rinks of a similar or older age than Lee Valley have opted to over-lay their existing decrepit concrete cooling floors with a new ice pad. Ice Tech UK have been the predominant supplier and industry specialist for this type of refurbishment over a 15 year period.

Below are the product options that we have identified as available to the Client :

Option 1	:	ICEGRID overlay
Option 2	:	Electro Fusion welded pipework embedded in sand
Option 3	:	'Temporary rink market product' overlaid onto slab

Option 1 : ICEGRID

Since it's introduction to the ice rink industry in 2000, ICEGRID is a recognised system for use in both permanent and temporary applications. Ice Tech UK (as co-designer) have exclusive selling rights of the product in the UK.

In 2016, ICEGRID was approved by the **World Curling Federation** for use at the Men's World Curling Championships in Basel, Switzerland.

In 2017, following extensive testing, ICEGRID was approved by the organising team for use in the **2022 Winter Olympic Games**, Beijing, China.

ICEGRID has been used successfully over the past 14 years at the **Somerset House** temporary winter rink, accommodating in excess of 1.4m skaters in all weather conditions.

Pros :

Modular system that is easily installed and removed
Highly efficient cooling floor when compared to concrete floors
Excellent ice quality can be achieved and maintained
Even pipe layout ensures carefully controlled, balanced ice temperature
Heavy duty system is designed for multiple installations
Ribbed pipework for better thermal transfer
Easily repaired by local engineers
Shut off valves on every pipe line for an unrivalled control of ice pad
The only ice rink cooling floor with a 10 year materials warranty
1 year installation warranty as standard
System can be increased in length and width for future use.
Expected lifespan in excess of 25 years with regular maintenance
A proven track history in this application
Higher residual value and demand for eventual resale if required

Cons :

Higher capital cost
Pipe lengths will be 114 linear metres – too short for a 60m rink.

Refurbishment References :

Dumfries Ice Bowl
Ayrshire Curlers
Chelmsford Riverside
Billingham Forum
Galleon Centre, Kilmarnock
Inverness Ice Centre
Doncaster Dome
Hamilton Ice Rink

New Build References :

Dumfries Curling Centre

Soho House Farmhouse, Oxfordshire
Cambridge Ice Arena

Temporary Ice Rinks :

Somerset House, London
The Royal Pavilions, Brighton
Men's World Curling Championships, Basel, Switzerland
The Summer Game 2016, Commerz Arena, Frankfurt, Germany

Equipment Cost	:	**£ 174,760.00 plus VAT**
Labour Costs (Install)	:	**£ 24,800.00 plus VAT**
Design & Shipping	:	**£ 6,450.00 plus VAT**
Associated Site Works	:	**£ 24,410.00 plus VAT**

TOTAL COST : £ 230,420.00 plus VAT
Retained Capital Value : £ 181,210.00 plus VAT (carried to Temporary rink)
Direct Cost to LVIR : £ 49,210.00 plus VAT

Option 2 : ELECTRO FUSION FLOOR – SAND FILLED

This option is not favoured by ITUK but has been considered to evaluate cost v long term use.

Ice Tech UK have previously installed two systems using industry standard PE pipework buried in sand, at the temporary ice rinks in Cardiff (2006) and Altrincham (2007). Other rink suppliers in the UK have installed this type of system as a 'budget' alternative to ICEGRID.

Pros :
- Approximately 25% cheaper than ICEGRID
- 1 year installation warranty as standard
- Expected lifespan in excess of 25 years with regular maintenance

Cons :
- Not modular – very difficult to lift and relay
- Pipe lengths will be 114 linear metres – too short for a 60m rink.
- Sand is difficult to level and may be contaminated
- Requires significant work and cost to be re-used on next rink
- 6 – 8 week manufacturing period, 6 – 8 weeks on site.

Irregular pipe positioning – ice cannot be uniform
High prospect of damage on removal / relay elsewhere
Not easy to clean white paint away on removal – messy
Designed for one-off installations.

Equipment Cost	:	**£ 130,400.00 plus VAT**
Labour Costs (Install)	:	**£ 28,800.00 plus VAT (Includes ice build)**
Design & Shipping	:	**£ 4,650.00 plus VAT**
Associated Site Works	:	**£ 29,410.00 plus VAT**

TOTAL COST : £ 193,260.00 plus VAT
Retained Capital Value : £ 135,050.00 plus VAT (carried to Temporary rink)
Direct Cost to LVIR : £ 58,210.00 plus VAT

Option 3 : TEMPORARY RINK PRODUCT OVERLAID ON SLAB

This option is not favoured by ITUK but has been considered to evaluate cost v long term use.

Ice Tech UK have over 20 years experience in the temporary ice rink market and are familiar with each different type of cooling floor solution being used for this purpose. The options include aluminium pipework systems, EPDM (rubber) systems, and PE tube mat systems.

Pros :
Approximately 30% cheaper than ICEGRID
Expected lifespan in excess of 15 years with regular maintenance

Cons :
Although modular they require a significant number of couplers/joins
Joins are present in the ice field which presents a risk to venue
Limited experience in supply chain of permanent installations
Equipment is easily damaged or defective when transited
Requires significant work and cost to be re-used on next rink
6 – 8 week manufacturing period
Irregular pipe positioning – ice cannot be uniform
High prospect of damage on removal / relay elsewhere
Common to have dips in the ice due to different materials being used

Equipment Cost : £ 110,450.00 plus VAT

Labour Costs (Install) : £ 26,800.00 plus VAT (Includes ice build)

Design & Shipping : £ 4,650.00 plus VAT

Associated Site Works : £ 29,410.00 plus VAT

TOTAL COST : £ 171,310.00 plus VAT

Retained Capital Value : £ 115,100.00 plus VAT (carried to Temporary rink)

Direct Cost to LVIR: £ 56,210.00 plus VAT

ICE COOLING FLOOR ASSESSMENT

Work Required	Option 1 ICEGRID Cost	Option 2 HDPE Sand Floor	Option 3 Temporary Solution
Existing Facility			
Equipment Cost	£174,760	£120,400	£110,450
Design & Shipping	£6,450	£4,650	£4,650
Site works	£24,410	£29,410	£29,410
Install Labour	£24,800	£28,800	£26,800
Relocate to temporary			
Labour and associated costs	£20,800	£26,750	£20,800
Modifications & Repair	£400	£24,000	£8,000
Install Labour	£20,450	£24,800	£22,800
Testing & Ice Build	£8,200	£8,200	£8,200
Removal from Temporary			
Labour and associated costs	£20,800	£9,800	£20,800
Modifications & Repair	£62,800	£0	£0
Build at Permanent Project			
Install Labour	£22,980	£27,600	£27,600
Testing & Ice Build	£9,200	£9,200	£9,200
New Cooling Floor 60m x 30m	£0	£162,000	£162,000
Total Cost across 3 projects	**£396,050**	**£475,610**	**£450,710**

Summary Recommendation

The only solution that offers multiple long term options is ICEGRID. It is a proven product with an excellent track record in the UK spanning 15 years. Over 15% of all UK permanent rinks are now operating with ICEGRID.

The system offers a good deal of flexibility :

- It can be installed in the existing facility, overlaid on the concrete floor.
- It can be lifted and re-laid in a temporary facility
- It can be lifted from a temporary facility and used in a new permanent home (note that pipes need replacing with 122m length to achieve this)
- Ice Tech UK will provide a guaranteed buy-back price*.
- The product will have a residual value for resale

Once installed by Ice Tech UK, it is not necessary for ITUK to be engaged in the lifting and re-laying of the product. This is optional on the Client's part.

ITUK can supply a supervisor only to assist with any ongoing removal/installation.

* If the buy-back option is relied upon, ITUK will need to supervise each and every movement of the ICEGRID system.

2.2 Ice Rink Barrier

Risk Factor	:	High
Solution	:	Design, supply and install a new barrier system.
Timeframe	:	14 weeks including 6 weeks manufacture /4 weeks delivery
Risk after work	:	Very low – minimal risk

In January 2017 we were asked to review the condition of the existing barrier system. Our brief was to determine its suitability for ongoing use for a twelve-month period. At the time of this inspection, we were not aware of plans to replace the ice pad, nor asked to consider ongoing use of the Lee Valley

facility beyond January 2018. In addition, we had not been briefed at this stage on the potential requirement for a temporary ice facility.

Our report focuses on the elements of the barrier fascade that we can see, it does not take into account the overall structural stability of the barrier system as this was not part of our brief, suffice to say that with nominal remedial works being undertaken, we had a high degree of confidence that the barrier system would survive a further 12 month operational period.

The remedial work that we have recommended to improve safety for users is valued at
£ 30,158 plus VAT.

At a meeting on May 3rd 2017, the Client asked us to consider whether replacing the barrier in its entirety would be a viable proposition given that the intent was to construct a new cooling floor. Following lengthy discussion, both internally and externally, we do consider that the widened brief presents several factors which weren't taken into consideration when we prepared our report namely :-

1. Is it better to replace the barrier as opposed to repair it
2. What are the implications of ice removal – and ice melt at the barrier base
3. What is the structural integrity of the timber that is hidden

To the best of our knowledge, the ice was last removed at Lee Valley Ice Centre in 2003.
The ice has built up considerably around the foot of the barrier and inside the plastic fascia panels. It is difficult to assess, without removing all the fascia plastics whether this has caused rot and wear to the timber supports. Furthermore, there is a strong possibility that much of the barrier may actually be supported by ice, so if the ice pad is to be removed, any ice at the base of the barrier will melt.
There is a high possibility that this will weaken the barrier dramatically. The only way to check the full structural integrity of the barrier is to carry out a load test to the midpoint and top rail in line with building code (minimum 2Kn) and ice rink barrier testing procedures. We are relatively confident that when tested in this manner, parts of the existing barrier will buckle and give way under the test load.

It is our view, (subject to manufacture being achieved in time) that now is a good time to replace the barrier in it's entirety. Our intention would be to design a system that can be easily lifted and rebuilt in a temporary facility and there is also an opportunity to use the same equipment as part of a new construction project. Prior to installation in the new build facility, we would recommend that the kicker boards and fascia boards are replaced for new.

Assessment - Refurbishment v New Barrier Supply

Refurbishment of existing Barrier

Pros : Low cost remedial action for existing facility
Improves safety for users
Addresses *existing* rink risks

Cons : Barrier cannot be relocated into temporary facility so future capital expenditure on a replacement barrier is inevitable.
Any capital investment in existing rink is lost when existing rink closes.
Investment only addresses current issues – other problems may occur.
Capital investment does not deal with current/future structural integrity.
Proposed increase in ice hockey business will put more demand on the current, aged barrier and further issues may arise over a 12 – 24 month period.

Replacement of existing Barrier

Pros : New, professional barrier system – trouble free
All safety issues eliminated upon installation
Enhanced safety for users – improved game play
Can be used in existing, temporary and new build projects.
No lost or redundant capital investment
Guaranteed buy back after temporary rink closes.
Improves appearance of existing rink significantly
Improved ice quality at rink perimeter.
Seamless glass system will enhance viewing in existing rink.

Cons : Higher capital investment now.
Manufacturing window is tight.

Lee Valley Regional Park Authority **LEE VALLEY REGIONAL PARK AUTHORITY** **EXECUTIVE COMMITTEE** **25 MAY 2017 AT 12:00noon**	**Agenda Item No:** **10** **Report No:** **E/496/17**

PARTNERSHIP CONTRIBUTION TO THE LONDON STANSTED CAMBRIDGE CONSORTIUM

Presented by the Head of Planning and Strategic Partnerships

EXECUTIVE SUMMARY

The London Stansted Cambridge Consortium is seeking contribution to support its continued work in promoting economic growth in the corridor between north and east London and Cambridge. The Consortium is an umbrella body for key stakeholders in North London, Essex, Hertfordshire and Cambridgeshire, including the local authorities and London regional government, tasked to promote the regeneration of the area.

The importance of partnership working is recognised in the Park Development Framework Vision, Aims and Principles (2010). Finance and Audit Committee agreed a policy framework for how the Authority manages partnerships in June 2008. This requires that the Authority's partnerships are consistent with the delivery of its strategic aims.

The Consortium has a clear focus on the regeneration of the sub-regional economy and strategic transport improvements. These priorities align broadly with the Authority's core business and support its wider strategic objectives. It is recommended that the Authority agrees to the proposed contribution.

RECOMMENDATION

Members Approve: (1) the total contribution of £6,000 to the London Stansted Cambridge Consortium for 2017-18.

BACKGROUND

1 The Authority has worked closely with the North London Strategic Alliance (NLSA) for several years which has been focused on the regeneration of the Upper Lee Valley. In 2012 the NLSA led on the establishment of the London Stansted Corridor Consortium (LSCC) to lobby Government on behalf of the Local Enterprise Partnerships to secure an integrated response on major issues affecting the 'corridor'. In 2013 the NLSA was disbanded.

2 The LSCC budget of £562,800 for 2017-18 is made up of contributions from several sources. Local authorities contribute between £10,000 and £15,000pa each, in addition the 10 Further Education colleges within the corridor plus two of the universities also pay membership fees. A further £100,000 will be achieved through contributions from Local Enterprise Partnerships and the private sector.

3 Finance and Audit Committee agreed a policy framework for how the Authority manages partnerships in June 2008. This requires that the Authority's partnerships are consistent with delivery of its strategic aims. The partnership is consistent with the Authority's adopted aims by working to improve the economic and social well being of people in the north London boroughs. The development of the London Stansted Cambridge Consortium includes both Hertfordshire and Essex.

4 On 9 March 2016 the LSCC Board agreed its three year plan which includes the anticipated contributions from individual authorities and stakeholders which included £12,000 from the Authority and Lee Valley Leisure Trust Ltd (the Trust) for 2016/17. Although the Authority will determine the fee structure each year the LSCC have indicated that the fee will be stable for the next two years.

CURRENT PRIORITIES

5 The LSCC has adopted its three year plan from 2016-2019 focussed on the following areas:

- **Promote the corridor** – which covers supporting the member bodies through a strong and clear narrative enabling positioning with government, Whitehall and the investor community. Within this objective there is a specific task focused on the 'liveability agenda' which identifies the Authority and the Trust as key partners in its delivery;
- **Making the case for infrastructure** – prioritising and focussing on key infrastructure requirements to support growth, including Cross Rail 2;
- **Supporting key sectors** – identifying growth spaces for expansion, supporting labour mobility and encouraging skills development.

6 Although the focus of the LSCC is an umbrella body designed to lobby national and regional government to support economic development of the 'corridor', it maintains the Authority's profile enabling it to engage with a wide group of stakeholders including the private sector in an increasingly complex regeneration agenda. This could become pertinent now that the Authority has adopted its Land and Property Strategy, established the Trust and develops a programme of pro-active engagement with a broad range of commercial partners. Clearly on some projects, such as Cross Rail 2, the Authority's role may be at variance with many partner members but the partnership allows the Authority to be heard and influence the direction of policy. The LSCC as a membership organisation will make decisions by consensus and therefore the Authority, as a full member, will be able to have greater influence by participating in these discussions.

ENVIRONMENTAL IMPLICATIONS

7 There are no environmental implications arising directly from the recommendations in this report.

FINANCIAL IMPLICATIONS

8 The partner contribution represents a one off payment and is available from the Strategic Partnerships Fund. Assessment against the Prudential Code addresses the following points:

- there will be no additional impact on the levy as the costs will be borne from existing budgets;
- there will be no impact on borrowing; and
- the contribution represents value for money given that it will support the delivery of the Authority's strategic aim of improving access for visitors.

9 For 2017-18 the LSCC member authorities will be asked to contribute between £10,000 and £15,000. It is recommended that given its size the Authority will contribute £6,000.

EQUALITY IMPLICATIONS

10 There are no equality implications arising directly from the recommendations in this report.

HUMAN RESOURCE IMPLICATIONS

11 There are no human resource implications arising directly from the recommendations in this report.

LEGAL IMPLICATIONS

12 There are no legal implications arising directly from the recommendations in this report.

RISK MANAGEMENT IMPLICATIONS

13 There are no risk management implications arising directly from the recommendations in this report.

Author: Stephen Wilkinson, 01992 709 828, swilkinson@leevalleypark.org.uk

BACKGROUND REPORTS

LSCC draft 3 year plan

PREVIOUS COMMITTEE REPORTS

Executive	E/06/09	Partnerships	10 September 2009
Executive	E/93/10	Partnership Contribution to NLSA	21 October 2010
Executive	E/174/11	Partnership Contribution to NLSA	16 December 2011
Executive	E/264/13	Partnership Contribution to NLSA	28 February 2013
Executive	E/382/14	Partnership Contribution to LSCC	18 December 2014
Executive	E/428/15	Partnership Contribution to LSCC	17 December 2015
Executive	E/458/16	Partnership Contribution to LSCC	21 July 2016

LIST OF ABBREVIATIONS

NLSA	North London Strategic Alliance
LSCC	London Stansted Cambridge Consortium Or London Stansted Cambridge Corridor according to context
the Trust	Lee Valley Leisure Trust Limited (trading as Vibrant Partnerships)

Ice Pad & Cooling System Scoring Matrix

COOLING FLOOR POINT SCORING

Assessment based on replacing the existing LV cooling floor

3 = Ideal Solution
2 = Mid Choice
1 = Least popular choice
0 = Not an option / not available

DESIGN OBJECTIVES & SCENARIOS	CONCRETE	ICE GRID	SAND FILL / PE	TEMPORARY SOLUTION
New build rink - Multi purpose rink, ice and non ice events	3	1	0	0
New build rink - Mainly ice - occassional non ice event	3	3	1	0
Existing concrete floor requires replacement	2	3	2	1
Floor Needs to be relocated	0	3	1	2
Energy Efficiency	2	3	2	2
Ease of repairs	1	3	1	2
If building over existing floor - impact on ice height	1	3	1	3
Ice Quality	3	3	2	1
Resale Value	0	3	0	2
Independent Shut off for minimal glycol loss	0	3	0	0
Buy Back Option	0	3	0	2
Warranty of 1 year	3	3	3	3
Multiple warranties each time relaid	0	3	1	2
10 Year Materials Warranty	0	3	0	0
Suitability for temporary ice rink and low cost adaptation	0	3	1	2
Suitability for Permanent rink as long term flooring solution	0	3	1	1
Capital Cost	1	1	2	3
Cost with buy back option	0	3	1	2
Ease of lifting and relaying	0	3	1	2
Manufacturing Period / Install and Build Ice	1	3	3	3
Most commonly used in standard ice rink build	3	2	1	0
Most commonly used solution when ice aged floors fail - refurb	2	3	1	0
RESULT	**25**	**61**	**25**	**33**

SELECT 1	SELECT 2
Concrete	Ice Grid
Concrete	Ice Grid
Ice Grid	Concrete / Sand Fill
Ice Grid	Temporary Solution
Ice Grid	
Ice Grid	Temporary Solution
Ice Grid	Temporary Solution
Concrete	Ice Grid
Ice Grid	Temporary Solution
Ice Grid	
Ice Grid	Temporary Solution
Concrete	Ice Grid
Ice Grid	Temporary Solution
Ice Grid	
Ice Grid	Temporary Solution
Ice Grid	
Temporary Solution	Sand Fill
Ice Grid	Temoprary Solution
Ice Grid	Temoprary Solution
IG / Temp / SF	Concrete
Concrete	Ice Grid
Ice Grid	Concrete

This page is blank