Transport and Environment Committee

10.00am, Tuesday, 25 August 2015

A Public Park Events Space

Item number	7.4
Report number	
Executive/routine	
Wards	All

Executive summary

At its meeting of 26 August 2014, the Transport & Environment Committee requested a report identifying the most suitable location(s) to create an events space that can be used for both high impact events and recreational activities; the report to detail possible options and likely costs of installation and maintenance, as well as appropriate surcharges for event organisers using the space. This report updates Committee on the progress made in these matters, recommending that The Meadows would be the most suitable location given continued maintenance of recently installed drainage.

Links

Coalition pledges	
Council outcomes	C020
Single Outcome Agreement	

Report

A Public Park Events Space

Recommendations

It is recommended that Committee:

1.1 Considers the reinforced surfacing options available and notes that the most suitable location for these is The Meadows.

1.2 Approves that ongoing maintenance of recently installed drainage is viewed as the most suitable option for The Meadows.

1.3 Refers this report to the Culture and Sport Committee for consideration.

Background

2.1 At its meeting of 18 March 2014, Committee considered the options available should the Council wish to invest in reinforced surfacing or improved drainage/maintenance for locations likely to be regularly used for large scale events. Due to the significant installation costs and maintenance complexities, the report advised that the best value solution was continued investment in high quality drainage and enhanced reinstatement and maintenance standards.

2.2 Since 2013, £500,000 has been committed to improving drainage across twelve public parks. Early indications suggest that this has been successful in reducing the incidence of inundation, thereby enabling more frequent use of parks for sport, recreation and events.

2.3 Progress in implementing the drainage improvement project was reported to Committee at its meeting of 13 January 2015, confirming that of the 26 locations identified as requiring drainage improvements, funding had enabled works to be undertaken in twelve parks. Funding for this initiative has now come to an end.

2.4 At its meeting of 26 August 2014, the Transport & Environment Committee requested a further report identifying the most suitable location(s) to create an events space that can be used for both high impact events and recreational activities; the report to detail possible options and likely costs of installation and maintenance, as well as appropriate surcharges for event organisers using the space.

Main report

3.1 In recent years there has been extensive flooding to, and persistent inundation of, Council parks, gardens and playing fields. As a consequence, some parks

events have had to be cancelled or re-located to better drained sites. Some events on wet ground have resulted in significant reinstatement costs borne by the event organiser, as well as delays to re-use for sport and recreation.

3.2 At its meeting of 7 February 2013, Council agreed to allocate £500,000 to a programme of drainage investigation works. These works are now almost complete, enabling drainage to be improved across twelve parks, including principal event locations like Inverleith Park, the Meadows and Leith Links. To date these works have proven successful in reducing the frequency of inundation and the subsequent scale of ground reinstatement.

3.3 However, recognising the ongoing demand for use of public parks to host community and city events, Parks and Greenspace has undertaken preliminary research into the suitability and costs of establishing reinforced surfaces that can improve resilience to regular use whilst retaining their primary function for recreation.

3.4 The potential to create such a feature in one or more of the Council's public parks was also considered as part of the recent Parks Events Manifesto consultation. The results of this survey showed that 84% of 441 respondents supported establishing a greenspace robust enough to withstand events being sited on it, but which would also be accessible for all other recreational uses. Of the 237 respondents who gave their opinion on where such a space could be located, 30 suggested The Meadows, 22 various or non-specific brownfield sites, and 18 Holyrood Park.

3.5 Given that commercial and large-scale charitable event operators usually seek a central location for their event, suitably large-enough Council-managed park locations for an events space are limited to Princes Street Gardens, Calton Hill, Inverleith Park and The Meadows.

3.6 West Princes Street Gardens already has a hard-standing events space and Calton Hill a tarmac car-park that can be used for events. Given their topography it is not feasible to create a larger permanent events space in either of these locations.

3.7 A permanent events space could however be constructed on the lower lawn of East Princes Street Gardens. This would be potentially beneficial for hosting future Christmas and New Year festivities, although specialist advice would be needed to determine better its ability to recover from use over a seven-week period. It would likely be too small an area for some of the larger events that seek space in Edinburgh's parks each year.

3.8 Inverleith Park has regularly accommodated events on its grass football, cricket, and rugby pitches. Although a permanent surface could be designed to enable sports use, there would still be a requirement to relocate games to other locations during periods when it would be used for events.

3.9 The (East) Meadows is not used for formal sports activities and is of a size that could readily accommodate large events. It is therefore viewed as the most suitable location for a permanent public park events space.

3.10 Three structural options are considered feasible:

- Reinforced Fibre system
- Reinforced Net system
- Improved Drainage and Maintenance regime

3.11 Design and specification detail for each of these is summarised in Appendix 1. In short: a Reinforced Fibre system offers the most robust option, but is the most expensive to install and maintain; a Reinforced Net system is less expensive but limits the possible remedial/reinstatement works often required following use for events unless a hybrid version incorporating artificial “grass” fibres; and Improved Drainage and Maintenance is the least expensive but requires continuous investment in regular sanding, spiking and other intensive maintenance typical of high quality sports pitches.

3.12 Reinstatement is far more difficult in reinforced systems should grass die from the lengthy absence of light, air and water, which typically occurs when events exceed around fifteen days of operation. The Edinburgh Parks Events Manifesto limits the period for events to fifteen days in most parks. Twenty-three days, plus set up and take down period, is the maximum time for events on The Meadows during the Edinburgh Festival. Use of East Princes Street Gardens is also extended to cover the period of the Winter Festival.

3.13 For these reasons, ongoing maintenance of recently installed drainage is viewed as the most suitable option for The Meadows.

Measures of success

4.1 Improved capability to host events in Edinburgh’s public parks.

4.2 Reduced impact on parks infrastructure.

Financial impact

5.1 The design and project management of a reinforced events space will need to be undertaken by specialist consultants. There is no budget for this exercise.

5.2 The cost of constructing a high-quality reinforced events space of sufficient size to accommodate large-scale operations is likely to be between £1,000,000 and £2,000,000. On-going maintenance for this type of surface is estimated at up to £30,000 per year.

5.3 Given the significant costs of installing and maintaining a high quality events space, and the expected reductions in ground reinstatement costs, a premium could be charged to event organisers for use of the space. Recent competitive procurements for events in the Meadows and Princes Street Gardens have shown that event organisers are willing to pay more for premium spaces than the levels traditionally charged.

5.4 Maintenance of recently installed drainage at locations like the Meadows, Inverleith Park and Leith Links would likely be a more cost-effective option. Currently, the Specialist Ground Maintenance Service carry out an annual verti-drain programme, top dressing and re-seeding of area's requiring attention.

Risk, policy, compliance and governance impact

6.1 Changing the surface from grass to a reinforced surface would constitute development, and will therefore require planning permission. Given the nature of the works, the proposals would fall outwith the Permitted Development Rights for Local Authorities, as stated in Part 12, Class 30 of the Town and Country Planning (General Permitted Development) (Scotland) Amendment Order 2014.

Equalities impact

7.1 None identified.

Sustainability impact

8.1 Climate change predictions indicate greater rainfall for Scotland. Investing in a reinforced surface or drainage features/maintenance will be necessary, if the Council's parks and pitches are to remain resilient to the anticipated impacts of events.

Consultation and engagement

9.1 The potential for creating an events space in one or more of the Council's public parks was considered as part of the recent Parks Events Manifesto consultation. 84% of 441 respondents supported establishing a greenspace robust enough to withstand events being sited on it but which would also be accessible for all other recreational uses. Of the 237 respondents who gave their opinion on where such a space could be located: 30 suggested the Meadows, 22 various or non-specific brownfield sites, and 18 suggested Holyrood Park.

9.2 Further consultation on design and location is recommended should Committee favour construction of reinforced surfacing.

Background reading/external references

None

John Bury

Acting Director of Services for Communities

Contact: David Jamieson, Parks and Greenspace Manager

E-mail: david.jamieson@edinburgh.gov.uk | Tel: 0131 529 7055

Links

Coalition pledges	
Council outcomes	C020 – Culture, sport and major events – Edinburgh continues to be a leading cultural city where culture and sport play a central role in the lives and futures of citizens.
Single Outcome Agreement	
Appendices	Appendix 1: Summary of Reinforced Surfacing Options

Appendix 1 Reinforced Surfacing Options for Public Parks

Introduction

In dry weather conditions grass is a suitable surface for hosting events as it will allow marquees to be fixed down with spikes and a reasonable level of vehicular and pedestrian traffic. However, under wet conditions the structure of the soil quickly breaks down and turns to mud, causing long term damage, expensive reinstatement works and often many months for full recovery.

Compaction in soil is caused by pressure applied from above by vehicles or foot traffic. It starts with the removal of air from the spaces between the soil particles, which can stop biological activity. If this pressure is sustained, water is also displaced from between the soil particles. Further pressure means that the soil particles crush together forcing the structure of the soil to collapse and compact. Future rainfall will no longer be absorbed by this soil, causing poor drainage, flooding of the area and increased run off.

Grass and soil will begin to “yellow” under tents and road tracking, but can recover normally if for only a limited duration. Where an event is present for more than a couple of weeks the area of grass which has received no light for an extended period will require cultivation and seeding/new turf.

Recent advances in horticultural technology means that grass surfaces can now be created that make grass and soils more resilient to these forms of damage whilst allowing continued use for sport and outdoor recreation when not being used for large scale events. This preliminary report considers those most suitable for Edinburgh’s public parks.

Events Space Requirements

Large-scale events seek park locations that are:

- Level
- Well drained

And which have:

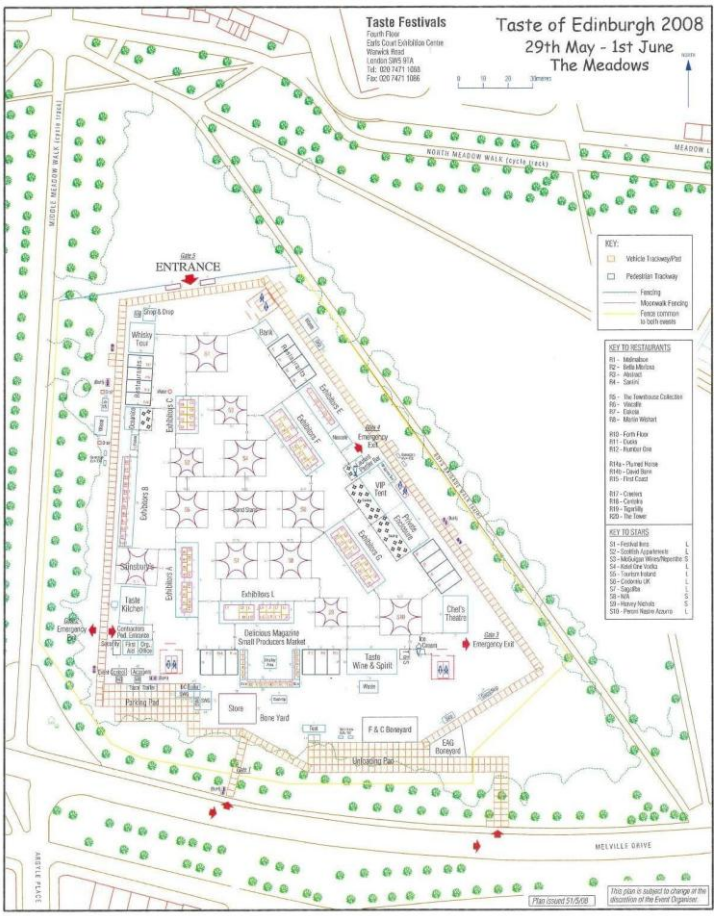
- Good vehicle access
- An area for heavy transport to load/off-load
- Large grass areas that are free from subterranean services so that tents/marquees can be fixed to the ground with large spikes
- Access to power, water and drainage.
- Good public access

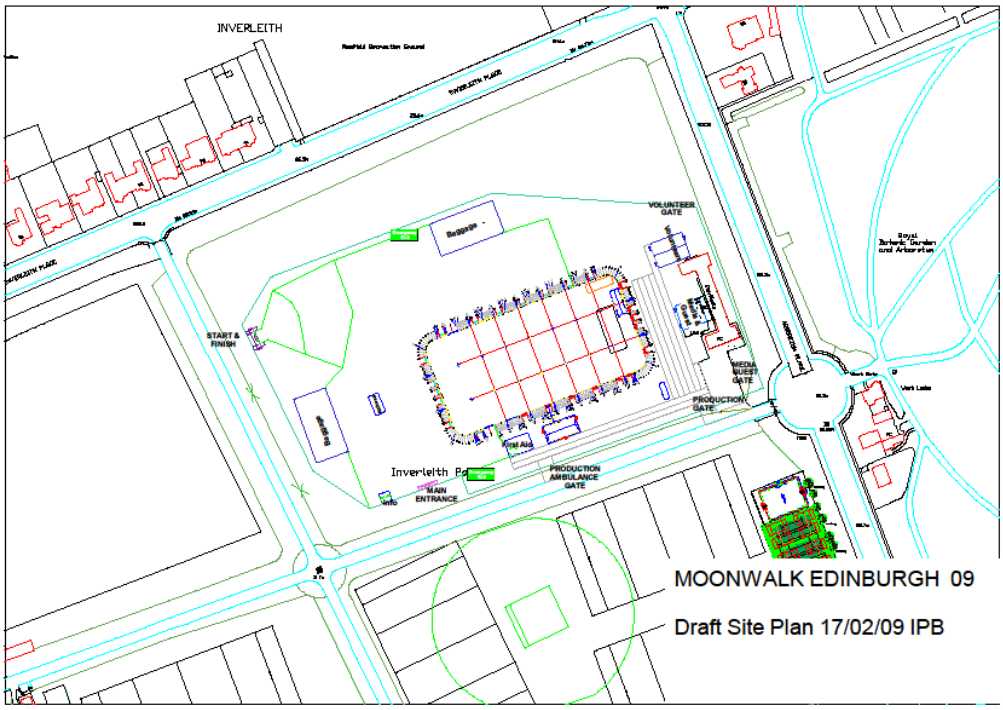
Events Space Sizes and Layouts

Having considered the large events that typically occur in Edinburgh's parks, it is likely that the extent of ground required to be reinforced is as follows:

Park	m^2	Acres	Ha
Calton Hill	1,091	0.27	0.10
West Princes Street Gardens	1,210	0.29	0.12
East Princes Street Gardens	7,805	1.93	0.78
Lauriston Castle	20,770	5.13	2.08
Leith Links	24,782	6.12	2.47
Inverleith Park Moon Walk	35,237	8.70	3.52
Inverleith Park Taste Event	32,324	7.98	3.32
Meadows	25,952	6.40	2.59

This suggests a reinforced events space of around 3ha should be able to accommodate the majority of events. However, as can be seen from the following example layouts, events would need to be arranged in a manner that maximised use of the space:





Surface Options

Three options have been identified as possible solutions to establishing an events space that can sustain regular events and associated traffic whilst retaining its main purpose as a recreational space usable for sports and other outdoor recreational activities:

1. Reinforced Fibre systems
2. Reinforced Net systems
3. Improved Drainage and Maintenance regime

<u>Reinforced Fibre systems</u>

Examples of this type of system are found in a variety of sizes and forms at: Glasgow Green, Quartermile development, Gallery of Modern Art (Charles Jencks Landform sculpture), slope behind the National Gallery on The Mound, Murrayfield “back” pitches outside the main stadium.

Fibreturf/Fibresand is the name given to natural sports turf growing in a sand dominant rootzone that contains synthetic fibres. It has been developed in order to obtain greater use out of natural turf whilst maintaining a high quality sports surface. This is achieved by mixing silica sand and organic matter with polypropylene fibres to produce a ‘fibre reinforced’ upper rootzone. The natural turf finish is then produced by either seeding directly into the rootzone or by laying Fibreturf which has been pre grown by specialist turf growers. This system is common on top grade sports pitches.

An advanced “Terram” version comprises a sandsoil rootzone into which thousands of small interlocking mesh elements have been pre-blended, and

which when installed is supplied with a selected turf finish. As the grass roots develop, they penetrate through the mesh to form a deep-anchored root system and a very stable rootzone. This creates a free-draining natural grass surface with load-bearing capabilities, and has been employed on the Murryfield back pitches and Glasgow Green to accommodate events and car parking.

Fibrelastic is a similar alternative that aims to further improve the characteristics of typical fibre reinforced sand-dominant rootzones by imparting a significant degree of resilience and energy absorption to the surface. This is achieved by mixing silica sand, organic matter, rigid polypropylene fibres and flexible fibres to produce a completely homogeneous blend.

These reinforced systems cost around £50/m^2 to install, a 3ha site costing up to £1.5m. In addition, additional drainage would be necessary, costing an estimated £170k for a 3ha site.

Due to the free draining properties of these systems it is likely that an irrigation system will also need to be installed, along with access to water and a power supply. Cost will be site dependent, and could involve construction of a water tank.

Regular application of fertilizer may also be necessary to replace leached soil nutrients.

Reinforced Net Systems

These typically involve use of a grass mesh and engineered turf, with plastic meshes installed directly onto existing grass surfaces allowing the grass sward to grow through the mesh apertures. The grass roots intertwine with the plastic mesh creating a reinforced base for the roots, protection from wear and ultimately a grassed surface that is capable of resisting a reasonable level of rutting and deformation.

At an estimated £10/m^2, a 3ha site would cost around £300k to install. In addition, as with fibre systems, reinforced net systems require site drainage installed prior to the net going down. This would be a further £170k.

There are more limitations with a net system. Remedial and post-event reinstatement works become more problematic as any ground cultivation would damage the integrity of the net. Grass nets also have the potential to create trip points if exposed, as well as “catch” points to grass cutting machinery.

The installation of this would require the stripping of the existing top soil and, in the case of fibre systems, its removal from the site. Inclusion of a stone layer over 3ha would cost around £150k. Soil removal would cost around £200k, although some of this expense could be recouped by reuse elsewhere or sale. Good quality soil of this extent should generate around £100k.

An alternative reinforced net system is the “hybrid” system. This consists of a natural turf reinforced with a net of artificial turf fibres. The synthetic fibres partially absorb the pressure and wear on the natural grass blades, which makes it more resistant to wear than a standard area of natural grass. Once laid the synthetic grass fibres are filled with a special soil and sand mix and then sown with a grass seed mix. The seed germinates and grows between the artificial turf fibres creating a natural but strong surface with the benefit that if the natural grass is damaged as a result of an event the area remains green until the grass re-establishes. Estimated cost is £20/m^2, however, a drainage system is also recommended for all but the most free-draining sites.

Improved Drainage and Maintenance regime

Recent investment in drainage has greatly improved the capability of a number of parks to host events. On-going maintenance will need to incorporate sanding, spiking, tining, grooving, verti-draining and other surface water management and soil aeration practices. The costs of this maintenance regime vary depending on levels of compaction, soil type and intensity of use, but would typically be around £30,000 per year for a 3ha site.

Light, Air and Water

Whichever option is chosen, the problems caused by length of time the event is in-place remain. If light, air and water are removed from the growing grass for a sustained length of time then the grass will die and need to be replaced via seeding or returfing.

Tracking is extensively used to limit damage from vehicle and pedestrian movements, and it is important that this practice is demanded when deemed suitable.

In addition to this, event organisers using a location for a sustained period are encouraged to use tents and marquees that have panels in the roof structure that permit light penetration. Similarly, flooring made of clear plastic, and ideally incorporating gaps to permit light, air, and even regular watering, is sought.

Conclusions

The three systems examined all seek to protect the living green grass landscape from degrading, breaking down and turning to mud.

A reinforced fibre system will provide the most effective solution to establishing a surface that can adequately cope with regular events use whilst at the same time providing sporting and recreational use when not accommodating events. However, it is expensive at up to £2million for a fully costed installation across 3ha of grassland.

Reinforced net systems are less expensive. However, their use presents potential public safety and operational management concerns, as well as

limitations on site reinstatement works that may still be necessary. A “hybrid” system of natural turf reinforced with a net of artificial turf fibres is a good compromise between cost and usability, at around £1million for a fully costed installation across 3ha of grassland. It will also have ongoing maintenance costs to ensure good drainage, irrigation, and soil enrichment.

Probably the most cost effective solution is therefore continued investment in the maintenance of newly installed drainage systems. Smaller zones of fibre or net reinforced turf could be installed at locations that are likely to suffer the greatest damage from events, typically vehicle entrance points and areas where heavy vehicles offload and collect their loads.