DRAFT FOR EXHIBITION

CITY OF RYDE

Sports Fields Action Plan - Towards 2036

FOR PUBLIC EXHIBITION - SEPTEMBER 2022

Through its role in sport and recreation planning and management, the City of Ryde will contribute to the lifestyle, health and wellbeing and social cohesion of Ryde.

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EXECUTIVE SUMMARY

In 2021 Council adopted the Open Space Future Provision Strategy (OSFPS) which considered the capacity of Council's sporting infrastructure to cope with current and future demands (to 2036) in terms of both quantity and accessibility.

This report reviews issues and needs to do with the City's full-size sports fields and develops an implementation plan for the upgrade/expansion of these facilities to meet the 2036 population demand outlined in the OSFPS. This includes a review and update of Council's Synthetic Surfaces Action Plan 2016-26.

This report is an initial response to two Council resolutions;

At its meeting of 24 Nov 2020 Council resolved, in part:

(a) That Council endorse the 'planned' and 'future potential' projects identified with the draft 'City of Ryde Open Space Future Provision Strategy' to be implemented following prioritisation and identification of funding through the development of future City of Ryde Delivery Plans.

At its meeting on 22 March 2022 Council also resolved, in part;

*(c) That the Synthetic Surface Action Plan be reviewed and a report be presented to Council by the end of June with recommendations of implementatio*n.

This Sports Field Action Plan – Towards 2036 presents an Action Plan for meeting the 2036 population demand for full size fields utilised for active recreation.

The Action Plan is based on a thorough review of relevant policy contexts and issues, including:

- The NSW Government's strategic & policy context (i.e. policies and directions of the NSW Office of Sport and the NSW Department of Planning, Industry & Environment (DPIE),
- The regional policy context (i.e. Greater Sydney District Sport Infrastructure Plan and NSROC Sport and Recreation Officers Group strategic initiatives),
- Recent Council initiatives in enhancing sports field capacity,
- Progress and issues with implementation of the Synthetic Surfaces Action Plan 2016-2026, and
- Recent changes in sports facility supply and demand (both in the Ryde LGA and in surrounding LGA's).

The Action Plan recognises that to meet the future active recreation needs of the community, a mix of infrastructure upgrades, not just conversion of natural fields to synthetic, will be required. The recommended options and opportunities include:

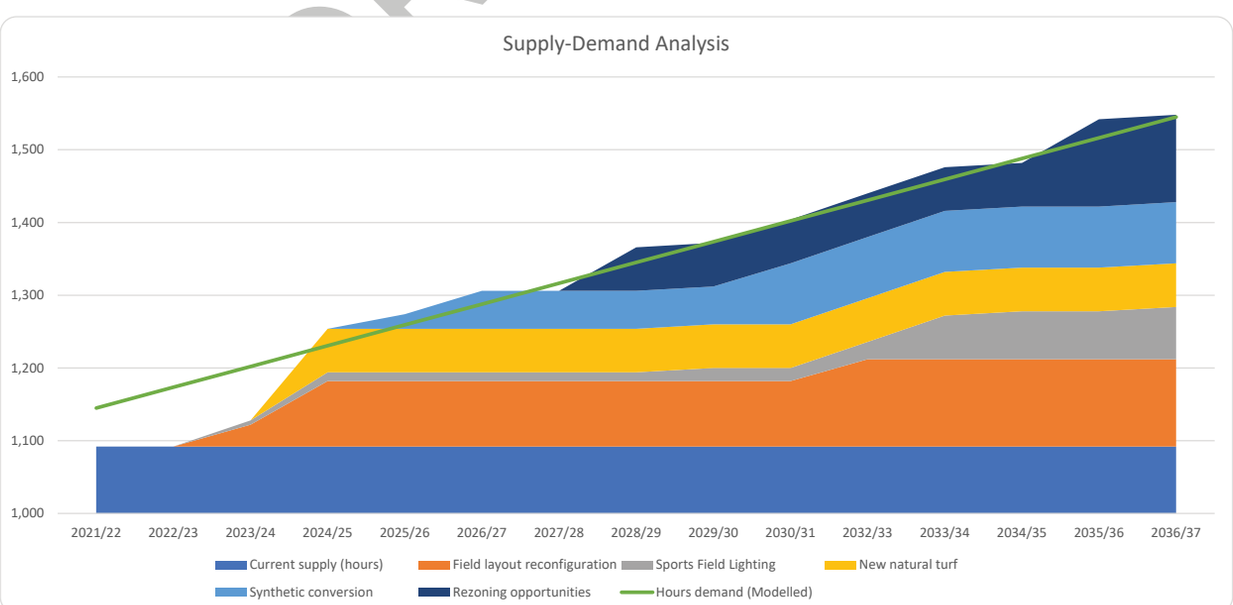
- Sports field lighting,
- Sport field layout optimisations,
- Synthetic conversions,
- Gaining access to school fields,
- Rezoning opportunities to create new fields and synthetic surfaces.

The Action Plan prioritises projects based on their cost effectiveness (i.e. capital investment cost / per additional carrying capacity) and weighted according to how the different enhancement options increase capacity in different ways with some (i.e. sports field lighting) enhancing capacity for mid-week winter night training and others (i.e. synthetics and creation of new fields) increase capacity both for training and weekend sports competitions.

Based on assessment against the criteria identified in the Action Plan, the cost/benefit analysis and Council's adopted Park Masterplans, the following project priorities are recommended:

Project type	Park/location	Project
Synthetic surface	Bremner Park	Synthetic surface conversion + sports field lighting
Synthetic surface	Smalls Road School (Upper)	Synthetic surface conversion + sports field lighting
Synthetic surface	Westminster Park	Synthetic surface conversion
Field layout reconfiguration and Synthetic conversion	Waterloo Park	New synthetic F/S field (1) with sports field lighting + upgrade to synthetic (1)
Rezoning opportunity	New fields at TG Milner site	2 new turf fields + sports field lighting
Rezoning opportunity	CSIRO Marsfield	2 new turf fields + sports field lighting
New shared use natural turf	Shared use of Epping Boys High fields	2 new turf fields + sports field lighting
Sports field lighting	Bill Mitchell Park	F/S field x 1
Sports field lighting	Dunbar Park	F/S field x 1
Sports field lighting	Morrison Bay 3	F/S field x 1
Sports field lighting	Morrison Bay 6	F/S field x 1
Sports field lighting	Peel Park	F/S field x 1
Sports field lighting	Pioneer Park	F/S field x 1
Sports field lighting	Santa Rosa 1	F/S field x 1
Field layout reconfiguration	Meadowbank Park – stage 3 (fields 7 & 8-netball courts conversion)	New F/S (2) + sports field lighting
Field layout reconfiguration	Meadowbank Park – stage 9 (fields 9, 10, 11, 12)	New F/S x 1 + sports field lighting
Field layout reconfiguration	Gannan Park- stage 1	New F/S (1) + sports field lighting
Field layout reconfiguration	Gannan Park- stage 2	New F/S (1)- with loss of 1 junior

Through the delivery of these projects above, Council will continue to be able to meet the demand for full size fields in 2036:



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SECTION 1 - INTRODUCTION

1.1 Purpose of the report

The purpose of this report is to:

- Review and update the *City of Ryde Synthetic Surfaces Action Plan 2016-26* in accordance with the findings and directions of the *Open Space Future Provision Strategy (*OSFPS*)* and to ensure alignment with:
    - Current State Government policies and directions on natural turf and synthetic sports surfaces, and
    - Progress, since 2016, in the planning for and provision of synthetic sports fields in surrounding Council areas
- Develop an implementation plan and schedule for the upgrade/expansion of the City's full-size sports fields, as recommended by the OSFPS.

1.2 Structure of Report

Section 1 details the purpose of the report and identifies the key relevant Council resolutions on implementation of the OSFPS and the initial approach to implementing these resolutions.

Sections 2-4, respectively, detail the strategic contexts for sports field planning, development and enhancement – at the State, Regional and Local levels.

Section 5 and 6 focus on the *Synthetic Surfaces Action Plan 2016-26* – its purpose and directions and the need for review and updating to ensure its consistency with:

- The OSFPS Recommendations,
- Changing NSW Government policies on synthetic sports surfaces, and
- Developments in the planning for/provision of synthetic sports fields in surrounding Council (in the North City District) since 2016.

Section 7 details the implementation status of the *Synthetic Surfaces Action Plan* and issues with its implementation identified in various park masterplans and in the OSFPS.

Section 8 proposes an Implementation Plan, to 2036, for full-size field capacity enhancements, based on cost-effectiveness criteria and maintaining a balance between synthetics and natural grass facilities. The proposed options include:

- Synthetic conversions,
- Field layout optimisations,
- Installation of sports field lighting, and
- New natural turf fields (depending on the availability of suitable land).

1.3 Council resolutions on the OSFPS

Council considered the Draft *City of Ryde Open Space Future Provision Strategy* at its meeting of 24 November 2020 and resolved:

> *(a) That Council endorse the 'planned' and 'future potential' project's identified with the draft 'City of Ryde Open Space Future Provision Strategy' to be implemented following prioritisation and identification of funding through the development of future City of Ryde Delivery Plans.*
>
> *(b) That there will be no loss of bushland or natural area in the implementation of this strategy.*

(c) That the draft "City of Ryde Open Space Future Provision Strategy" Technical and Summary Reports be placed on public exhibition inviting comment for a period of not less than twenty-eight (28) days.

(d) That a further report be provided to Council should any objections be received during the consultation period.

(e) That should no objections be received, the City of Ryde Open Space Future Provision Strategy be adopted and implemented in accordance with the priorities and recommendations outlined in the document.

In accordance with part (c) of Council's resolution, the Draft was placed on public exhibition on 27 November and, due to the Christmas Holiday break, remained on display for a total of 42 days until Sunday 7 February.

Interested residents and others were invited to Have Their Say on the Strategy by providing comments or submissions via an on-line submission form, e-mail or post.

A total of five (5) submissions were received in the public exhibition period.

The submissions received were mainly concerned with:

- What they perceived as too little attention to natural areas management,
- A need to consider impacts of development/population increase on the integrity/capacity of open space, and
- Concerns about the environmental and social impacts of sport field lighting and synthetic turf surfacing and objections to the nature and scope of these project initiatives.

The major objections to the Draft Strategy concerned the perceived environmental and social impacts of sport field lighting and synthetic turf.

These issues were addressed in a report to Council's Works and Community Committee on 21 May 2021. The report addressed the current and forecast demands and needs for sports fields and the social, environmental and economic benefits of the recommended sports lighting and synthetic sports turf projects.

The report considered that the issues raised during the Public Exhibition could be appropriately addressed during the environmental planning processes for specific projects. It also argued that best practice environmental options – such as the continued use of natural infill materials and low-spill sports lighting – would be adopted to mitigate the concerns expressed in submissions received during the Public Exhibition.

Council subsequently resolved (4/21, 25 May 2021):

(a) That Council adopt the City of Ryde Open Space Future Provision Strategy without change to the draft presented to the community during the public exhibition period.

(b) That future projects detailed within the Strategy, when implemented, be subject to the completion of a Review of Environmental Factors or Development Application (as per requirements of the Environmental Planning and Assessment Act 1979) to assess the environmental impacts of the proposed works.

(c) That the City of Ryde Synthetic Surfaces Action Plan be updated following the outcomes of the NSW Governments review of synthetic sports surfaces and returned to Council for consideration and endorsement[1].

1 The NSW Government review findings are expected to be released in June 2022

(d) That staff write to thank all residents who participated in the City of Ryde Open Space Future Provision Strategy and inform them of Council's resolution.

1.4 Implementing the Council resolutions

The focus of this report is on the required enhancements to full size fields and ovals, in order to meet the growing needs for these facilities to the year 2036.

The report also outlines the required updates to the Synthetic Surfaces Action Plan and recommends an approach, subject to the forthcoming (mid-year) outcomes of the State Government's review.

SECTION 2 - NSW Strategic & Policy Context

2.1 NSW Office of Sport

The Office of Sport is the lead NSW Government agency for sport and active recreation.

The Office's Strategic Plan has a Vision ('sport and active recreation creating healthier people, connecting communities and making a stronger NSW) and a Value Proposition ('providing the people of NSW with the leadership, policies, programs, funding and infrastructure necessary to maximise the social, health & economic benefits realised through sport and active recreation)[2].

The Strategic Plan has 4 focus areas – 'Participation', 'Places and Spaces', 'Sector Sustainability' and 'Partnerships and Investment'.

One of these focus areas – 'Places and Spaces'- is particularly relevant to the sports field enhancement theme of the current study. The Goal of this focus area is as follows:

Goal	Rationale	Our Outcomes
Everyone in NSW can access places and spaces for sport and active recreation	Fit-for-purpose facilities and infrastructure are vital to increase the number of people participating in sport and active recreation. A network of sport and active recreation infrastructure allows communities to take part in, watch or host sport and community events. This includes community facilities through to large international venues. In some areas, the demand for facilities exceeds supply due to population growth, higher densities or aging infrastructure. In other areas, facilities are under-utilised due to quality, accessibility, changing demographics or poor design. The Office of Sport plays an important role in planning, coordinating and optimising sport and active recreation infrastructure that are in the public's best interest and provide value for money.	• Increase the number and proportion of fit-for purpose sport and active recreation facilities across NSW. • Increase accessibility to sport and active recreation facilities for everyone. • Increase the availability and use of multi-purpose facilities. • ncrease the number of facilities designated for outdoor recreation.

Specific options for optimising community sport and active recreation infrastructure are addressed in a range of Office of Sport initiatives, including:

- Collaboration with the Greater Sydney Commission on the Greater Sydney District Sport Infrastructure Plan (as discussed in Section 3, below.
- Regional Sports Hub Model
- Facilities Strategy Template
- District Sports Facility Information Packs
- Managing playing surfaces during drought

The *Greater Sydney District Sport Infrastructure Plan* is discussed in Section 3, below. The other initiatives are discussed at Appendix A.

2 Office of Sport, Strategic Plan 2020-24

2.2 NSW Department of Planning, Industry & Environment (DPIE)

Synthetic Turf Study in Public Open Space

The then DPIE recently undertook a study to address community concerns surrounding the increasing adoption of synthetic surface sports fields[3].

The Department recognises the key problem – the need to increase the capacity of the public open space network to address the growing demand for multi-functional and flexible public open spaces.

Capacity enhancement options include upgrading the surface type (either by converting to synthetic turf or replacing poor quality turf with a higher grade of natural turf), improving turf management and/or modifying use patterns.

The findings of the study are discussed in detail in Section 6 of this report.

Synthetic Surface Guidelines

The NSW Government is building on the *Synthetic Turf Study in Public Open Space* with the preparation of Guidelines on the use of synthetic surfaces in public open space.

The Guidelines will be informed by:

- The completed *Synthetic Turf in Public Open Space Study*,
- The findings of an independent review by the Chief Scientist & Engineer on potential risks to the environment and human health from the use of synthetic turf in public open space and alternative approaches and technologies, and
- The outcomes of a public engagement (via the DPIE portal) requesting ideas and feedback on 'what the proposed Guideline should include and the scope of issues that the Chief Scientist & Engineer's investigation should consider.

The Chief Scientist & Engineer issued an interim progress report on the review on 8 February 2022[4]. This summarised activities to date:

- Review of the Ethos Urban/Otium Report
- Initial literature search
- Meetings with scientific and technical experts- to obtain a more granular understanding of existing information and data, and knowledge gaps
- Commencement of an expert roundtable series – to work through identified themes and refine details
- Consultations with other Government agencies councils, industry, and experts from the NSW research sector.

Remaining steps include continued information gathering, data analysis and engagement of subject experts via further roundtable discussions and the commissioning of studies.

The Final Report is anticipated to be delivered in mid-2022.

3 *Synthetic Turf Study in Public Open Space*, August 2021, Report Prepared for the DPIE by Ethos Urban and Otium.
4 https://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0010/496450/CSE-Synthetic-Turf-Review_Progress-report-2022.pdf

SECTION 3 - REGIONAL POLICY CONTEXT

3.1 Greater Sydney District Sport Infrastructure Plan

The NSW Office of Sport is collaborating with the Greater Sydney Commission (GSC) to develop the Greater Sydney District Sport Infrastructure Plan.

The initiative was identified by the GSC in its Draft District Plans[5].

In developing the Plan, the Office of Sport has undertaken substantial work with Sydney Councils, Sports NSW, sporting organisations, Parks and Leisure Australia and various government agencies. Initiatives have included the following:

- Meeting individually with 33 Councils across Greater Sydney
- Completing sports facility inventories across Greater Sydney
- Working with State Sporting Organisations to collect and analyse sport participation data
- Producing maps of sport facilities to provide spatial analysis
- Conducting workshops and forums with Councils and State Sporting Organisations
- Developing comprehensive sports facility planning information packs for each District

According to the Office of Sport's web site, the Plan was expected to be released in 2021 but, at the time of writing (March 2022), this had not occurred.

3.2 NSROC Sport and Recreation Officers Group

The Northern Sydney Regional Organisation of Councils (NSROC) facilitates a variety of cross-council, professional officer groups, including one for sport and open space.

The Sports Officers Group recognises the cross-LGA boundary nature of sports organisation and participation and, accordingly, collaboratively addresses a range of sports coordination and management issues across the region.

The Sports Group produced a *Regional Sportsground Management Strategy* in 2011 to address regional issues, including the substantial shortfall of sportsgrounds and options for addressing shortfalls for both existing and future populations.

The Strategy was reviewed and updated in 2017 with release of the NSROC *Regional Sportsground Strategy Review*[6].

The focus of the 2017 Review was on updating the analysis of current and forecast gaps in the supply of sports infrastructure across the NSROC region.

The Review identified that infrastructure gaps were significant in 2017 (with a shortfall of 27 Ha of playing space across NSROC) and, in the absence of additional supply, this would grow to a 62 Ha deficit in 2026 and 96 Ha in 2036.

To address these gaps, the Review recommended a range of strategies and actions. Those for the City of Ryde are summarised at Appendix C.

5 The GSC's *Draft North District Plan* included an Action to "Develop a North District sport and recreation participation strategy and sport and recreation facility plan" (Action L14). However, this Action was not carried through to the final adopted *North District Plan.*

6 NSROC, *Regional Sportsground Strategy Review Draft Report*, Version 20 Oct 2017

SECTION 4 - SPORTS FIELD CAPACITY EXPANSION INITIATIVIES

4.1 Introduction

Council has, over the past 10 years, both independently and via its membership of NSROC, undertaken several initiatives in the planning of sports fields (including capacity enhancement), as follows:

1. *Best Value Review: Allocation and Management of Sportsgrounds,* 2012
2. *Integrated Open Space Plan,* 2012
3. *City of Ryde Synthetic Sports Surfaces Study,* 2013
4. *NSROC Regional Plan for Synthetic Sports fields,* 2015
5. *Sport & Recreation Strategy 2016-26*
6. *NSROC Regional Sportsground Strategy Review,* 2017
7. *Synthetic Surfaces Action Plan 2016-26*
8. *City of Ryde Open Space Future Provision Strategy,* 2021

This section summarises the status of the field capacity enhancement projects recommended in the first six of these plans and strategies[7].

It provides the background to Council's more recent major initiative in sports capacity planning (i.e. the review/update of the *Synthetic Surfaces Action Plan 2016-26* (discussed in Section 5, below) and the *City of Ryde Open Space Future Provision Strategy* (discussed in Section 6).

4.2 Status of projects adopted 2012-2017

Recommended and adopted sports field capacity enhancement initiatives included in the above strategies are summarised in Table 1.

Table 1: Status of Sports Field Capacity Enhancement Initiatives

Report	Action	Status 2022
Best Value Review, 2012	Consider the strategic provision of synthetic surfaces in conjunction with NSROC Councils and relevant sports codes	Completed – with 2015 Regional Plan for Synthetic Sports fields and the 2016-26 Synthetic Surfaces Action Plan
	Prepare priorities & scopes for a capital improvement program for sportsground fields, lights, irrigation and amenity blocks and associated infrastructure upgrades for the next 10 years, to fit within Council's 4-year delivery program, and review annually	Priorities and scopes prepared via the Sports and Recreation Strategy 2016-26 (see below).
Integrated Open Space Plan (IOSP) 2012	Extend existing sports capacity within existing reserves through a combined Masterplan and Plan of Management process that addresses the proposed 3-level sports facility hierarchy	Ongoing- adopted plans include: Gannan & McCauley Parks MP (Jul '19) Meadowbank & Memorial Parks MP (Nov '19) Westminster Park MP (Feb 20) Magdala Park MP (Aug 2021) ELS Hall Park PoM (Feb 2021) Morrison Bay Park PoM

7 Additional details on the relevant strategic directions of these background plans and strategies are included at Appendix D.

Report	Action	Status 2022
City of Ryde Synthetic Sports Surfaces Study, 2013[8]	A preliminary assessment of all sports fields- with 10 identified for further assessment. From these, four potential sites were identified and assessed: • ELS Hall Park Field 1- recommended as a multi-sports field incorporating One-Turf Standards to accommodate Soccer, Rugby (Tag and Touch), AFL & Cricket • Christie Park Field 2- subject to the complex being repositioned as a community football centre with a clear strategic focus on being more community inclusive. • Eastwood Park Upper Oval- not recommended due to issues associated with late night use and impacts on surrounding residents • Magdala Park 1- not recommended due to issues associated with former tip site	ELS Hall Park Field- completed Christie Park Field 2- completed
NSROC Regional Plan for Synthetic Sports fields, 2015[9]	Identified a range of strategies to increase the supply of sports fields including: • Synthetic options i.e. community access to school synthetic fields; conversion of natural turf to synthetic surfaces • Non-synthetic options- conversion of land (e.g. former tip or industrial sites) to open space; community use of school turf fields; enhanced maintenance of natural turf fields; improved sports field lighting	Updated in 2017 NSROC Regional Sportsground Strategy Review (see below)

8 Smart Connection Company and SLS One Eighty. "City of Ryde Synthetic Sports Surfaces Study". October 2013
9 SGL Consulting Group. "Northern Sydney Regional Organisation of Councils: Regional Plan for Synthetic Sports fields". 2015

Report	Action	Status 2022
Sport & Rec Strategy, 2016-26	Construction of synthetic surfaces at Christie Park #1 and #2.	Completed
	Construction of a synthetic football field suitable for shared use by AFL/ soccer at ELS Hall #1 and develop a new turf wicket between Marsfield #1 and #2 to accommodate the relocation of cricket.	Completed
	Investigate synthetic surface options at Meadowbank Park	Commenced- Meadowbank Park & Memorial Park Masterplan Report (adopted Nov 2019) includes synthetic surfacing of LH Waud Oval. Included in OSFPP planned projects
	Investigate synthetic surface options at Magdala Parks	Completed. Site currently inappropriate for synthetic due to cost of resolving geotechnical issues.
	Investigate conversion of Gannan Park into two full size football pitches with sports field lighting in the Masterplan for the Park	Completed. Masterplan adopted by Council in 2019. Masterplan only include 1 field with lighting.
	Consider additional field lighting at Meadowbank Park and upgrade existing sports field lighting	Commenced. By mid-2023 all current fields at Meadowbank Park will have sports field lighting. All future field reconfigurations will include lighting as per masterplan.
NSROC- Regional Sportsground Strategy Review, 2017	Provide sports field lighting at Meadowbank Park 10 & LH Waud Oval	Commenced. By mid-2023 all current fields at Meadowbank Park will have sports field lighting
	Provide sports field lighting at Tuckwell Park	Not commenced but included in OSFPS 'planned' projects
	Provide sports field lighting at Smalls Rd School fields 1 & 2	Not commenced but included in OSFPS 'planned' projects
	Gannan Park • Optimisation of land to develop new rect. field • Sports field lighting of fields 1 & 2	Optimisation plan adopted (Jul 2019) in the Gannan & McCauley Parks Masterplan with specific projects (1x F/S + 1 Jun fields later to be converted to 2 x F/S fields) adopted in the OSFPP
	Magdala Park- optimisation of land to develop new rectangular field	Optimisation plan adopted in the Magdala Park Masterplan Report (adopted Aug 2021) – conversion of 1 F/S and 1 Jun multi-purpose fields (soccer and baseball) to 2 F/S + 1 Jun soccer (also providing 1 F/S + 4 Jun baseball)
	Christie Park 3- synthetic surface	Not commenced but included in OSFPP 'planned' projects
	ELS Hall- Increase current use- full utilisation with weekend seasonal night competition	Completed

SECTION 5 - SYNTHETIC SURFACES ACTION PLAN 2016 - 2026

5.1 Background

Council resolved to adopt the Synthetic Surfaces Action Plan at its meeting (16/15) held on 15 Dec 2015 as follows:

(a) That Council establish a Synthetic Surfaces Program for the period 2016-2026.

(b) That Council endorse the draft Synthetic Surface Action Plan 2016-2026 with fields to be converted as listed below in preference order as per the plan

1. *Christie Park No. 1*
2. *Christie Park No. 2*
3. *ELS Hall Park No. 1*
4. *Meadowbank Park No. 2*
5. *Magdala Park*
6. *Meadowbank Park No. 3*

The purpose of the Action Plan is to provide key objectives, principles and recommendations on the provision of synthetic surfaces over the 10 years to 2026[10].

Key findings of the study are summarised in Appendix D. The main finding was that the potential sports field capacity gap- in the absence of capacity improvement initiatives- would be 280 field-hours/week (i.e. 122 hrs existing and 158 hrs from sports participation growth) by 2026.

Options considered for addressing the capacity gaps included the following:

- Turf field upgrades (lighting, ancillary facilities etc)
- New facilities/shared use of school facilities
- Hybrid (natural turf/ synthetic) surfaces
- Full synthetic surfaces

The Report's initial focus was on the turf field 'upgrade' options due to the lower capital cost and reduced disruption to existing use.

5.2 Directions and priorities

Identified priorities were based on potential additional hours of use, absence of site constraints, potential for sports field lighting and suitable size.

The report then reviewed synthetic field options in a two-stage process with an initial cull of sites (eliminating those considered unsuitable due to size, ground conditions etc.) with the remaining 15 sites then assessed according to:

- Site size and topography
- Accessibility to main roads and public transport
- Suitability for sports field lighting
- Capability to accommodate car parking
- Impacts on current users
- Neighbourhood impact (e.g. noise, traffic, lighting and amenity)
- Future facility expansion capability
- Capital cost savings (e.g. partnership with schools or other organisations)

10 The study was undertaken by Strategic Leisure Group in conjunction with the *City of Ryde Sport and Recreation Strategy 2016-26*.

Based on these criteria, the 2016 report concluded that the most suitable sites for the potential development of synthetic surfaces were Christie Park 1, 2 and 3, Smalls Road School (Upper) and Meadowbank Park 2 and 3, as summarised in Table 2.

Table 2: Ranking of Potential Synthetic Sports Field Sites

Sports field	Score	Sports field	Score
Christie Park 1	25	ELS Hall 3	19
Christie Park 2	25	North Ryde Park	19
Smalls Road (upper)	25	Gannan Park	18
Christie Park 3	25	Monash Park	18
Meadowbank 3	24	Tuckwell	18
Meadowbank 2	23	Magdala Park 1	18
Smalls Road (lower)	21	Dunbar	16
ELS Hall 1	19	Eastwood Upper	15
ELS Hall 2	19	Westminster	13

SECTION 6 - Synthetic Surfaces Action Plan 2016 - 26 – Need For Review & Updating

6.1 Need for *Action Plan* update

The *Action Plan* was prepared in 2016 and requires updating due to:

- Recent developments in NSW Government Policy,
- Changes in the regional supply of synthetic surface facilities (that potentially influence the demand/need for such facilities within the City of Ryde), and
- Implementation of several of the recommended projects,
- Implementation constraints and issues identified in park masterplans, and
- Adoption of the *Open Space Future Provision Strategy* (OSFPS).

This Section discusses the implications of recent developments in NSW Government Policy and changes in the regional supply of synthetic surface facilities.

Section 7, below, identifies the status of Action Plan project implementation and the implications (for *Action Plan* updating) of issues identified in various park masterplans and the adoption of the OSFPS.

6.2 Recent developments in NSW Government Policy

Synthetic Turf Study in Public Open Space

The DPIE has recently undertaken a study to address community concerns surrounding the increasing adoption of synthetic surface sports fields[11].

The Department recognises the key problem – the need to increase the capacity of the public open space network to address the growing demand for multi-functional and flexible public open spaces.

Capacity enhancement options include upgrading the surface type (either by converting to synthetic turf or replacing poor quality turf with a higher grade of natural turf), improving turf management and/or modifying use patterns.

Synthetic turf has become an attractive option to respond to this growing demand for sports fields due to its ability to support greater levels of use, as well as:

- The perceived reduction in ongoing maintenance requirements
- The reduction in irrigation requirements
- The ability to support more intensive use
- High durability, reliability, and consistency in all weather conditions.

While this has led to a higher rate of adoption of synthetic surface types, there has also been a growing number of concerns about the impacts of synthetic fields i.e. loss of flexible and accessible open space; environmental impacts; social impacts; health impacts; and amenity impacts.

The Study was undertaken to develop a greater understanding of these impacts, potential benefits, and limitations of using synthetic turf as a replacement for natural grass in public open spaces across NSW.

The Report details the key findings of the Study – in terms of problems, potential solutions, potential issues and possible ways forward – as summarised in Table 3:

11 *Synthetic Turf Study in Public Open Space*, August 2021, Report Prepared for the DPIE by Ethos Urban and Otium Planning P/L.

Table 3: Synthetic Turf Study – Problems, Solutions & Issues

Problems, potential solutions and issues	Rationale/detail
What are the key issues and problems?	• Constrained supply of sports fields • Poor quality of existing sporting facilities
Potential solutions- synthetics	• Constrained supply of sports fields- challenging to acquire new land for sports fields • The carrying capacity (calculated as hours of organised sports use per week) of synthetic surfaces is higher than natural turf
Potential solutions- Best Practice Management of natural turf	• The theoretical capacity provided by a synthetic surface may not be required to support actual demand for sports participation • Assumes adequate funding • Best practice natural turf management can improve field capacity • Innovative management practices can support greater use • Need for optimal consideration of siting and planning for the whole open space network – to avoid sports field location in poorly drained, flood prone areas or ex landfill sites
Potential issues with synthetics – Social, Amenity & Health Impacts	• Natural turf fields cater for more diverse uses- organised sport as well as passive recreation activities e.g. picnicking, walking, jogging, dog walking • Amenity and enjoyment for informal users of public open space • Impacts from the increased utilisation enabled by synthetic surfaces • Potential human health impacts (e.g. heat stress, abrasiveness and biological pathogens, toxic chemicals, and micro-plastic ingestion)
Potential issues with synthetics – Environmental Impacts	• Concerns associated with environmental impacts e.g. pollution, chemical use, waste, heat, soil sterilisation, water usage, wildlife impacts
Potential issues with synthetics – cost transparency	• Cost and economic factors are often not transparent e.g. synthetic turf can have reoccurring maintenance costs for repairs and cleaning of surfaces that can be comparable to that of natural turf + renewal costs associated with the disposal and replacement of synthetic fields
The way forward- alternate technological solutions	• Partial/hybrid grass can increase durability esp. in high use zones • Synthetic turf design is evolving e.g. Replacing rubber infill with cork granules is an environmentally friendly option

Problems, potential solutions and issues	Rationale/detail
The way forward- alternate approaches	• Improvements to natural turf design • Improved data collection and analysis for facility owners • Managing use • Hybrid turf options • Advancements in synthetic design • Utilisation of spaces and siting considerations

A more detailed version of Table 1 is provided at Appendix B.

The report also noted the "conflicting views between local authorities, user groups and the wider community over the suitability and benefits of synthetic turf as an alternative to natural turf" and "the absence of consistent guidelines, consultation with communities and transparent consideration of potential alternatives [which] has led to distrust and concern over decisions to implement synthetic sporting fields"[12].

In response to these perceived conflicts, the Report identified the following requirements for further investigation:

- The benefits of providing consistent state-wide guidance to Local Authorities on key considerations or criteria when proposing to provide new synthetic turf surfaces
- Adaptations to state planning policy to require that meaningful community consultation informs decisions around the use of synthetic versus natural turf surfaces
- Further primary, evidence-based research into the health and environmental impacts of synthetic turf use, in particular:
  - The impact of heat and the potential for higher UV reflectivity of synthetic turf
  - The appropriateness of natural vs synthetic in bushfire prone areas
  - The impact of synthetic materials on human health
  - The health and social impacts of reduced accessibility for informal use of public open space associated with synthetic turf
- Further consideration of the potential benefits and impacts of the emerging technologies of hybrid and 'fourth generation or 4G' synthetic technology within an Australian context
- Research to understand barriers to implementing best practice natural turf fields

Synthetic Surface Guidelines

The NSW Government is building on the Synthetic Turf Study in Public Open Space with the preparation of Guidelines on the use of synthetic surfaces in public open space.

The Guidelines will be informed by:

- The completed *Synthetic Turf in Public Open Space Study*,
- The findings of an independent review by the Chief Scientist & Engineer on potential risks to the environment and human health from the use of synthetic turf in public open space and alternative approaches and technologies, and
- The outcomes of a public engagement (via the DPIE portal) requesting ideas and feedback on 'what the proposed Guideline should include and the scope of issues that the Chief Scientist & Engineer's investigation should consider.

The Chief Scientist & Engineer issued an interim progress report on the review on 8 February 2022[13]. This summarised activities to date:

12 Ibid. Page 8

13 https://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0010/496450/CSE-Synthetic-Turf-Review_Progress-report-2022.pdf

- Review of the Ethos Urban/Otium Report
- Initial literature search
- Meetings with scientific and technical experts- to obtain a more granular understanding of existing information and data, and knowledge gaps
- Commencement of an expert roundtable series – to work through identified themes and refine details
- Consultations with other Government agencies councils, industry, and experts from the NSW research sector.

Remaining steps include continued information gathering, data analysis and engagement of subject experts via further roundtable discussions and the commissioning of studies.

The Final Report is anticipated to be delivered in mid-2022.

6.3 Changes in the regional and sub-regional context

The NSROC Synthetic Surfaces Action Plan identified 10 existing rectangular synthetic playing fields in the NSROC area (as at Nov 2015)- five of which were dedicated for hockey use only.

A further eight (8) multi-use synthetic surfaces were being planned within the NSROC region at that time (i.e. late 2015)[14] . The current (i.e. 2022) status of these proposed regional projects is summarised in Table 4, below.

Table 4: Status of Regional Synthetic Surface Projects Identified In The Synthetic Surfaces Action Plan

Local Government Area and Location	Details	Status 2022
Ku-ring-gai- North Turramurra	One rectangular field + synthetic training area	Opened in 2017
Ku-ring-gai- Norman Griffith Oval	One rectangular field (scheduled 2016)	Oct 2020- Ku-Ring-Gai Council unanimously approved the motion to proceed with the design and construction of the new synthetic hockey field and multi-purpose sports field at Norman Griffiths Oval.
North Sydney- Anderson Park	One rectangular field	Rejected by Council- Apr 2016
Willoughby- Chatswood High School	One rectangular field	Completed Aug 2017
Willoughby- Gore Hill Park	Oval with two rectangular fields	Completed and opened Mar 2019
Parramatta (Hornsby before boundary changes)- West Epping Park	Two rectangular fields	Completed and opened Mar 2018

Therefore, 6 of the 8 new synthetic fields being planned in late 2015 have been established with another approved for construction. The NSROC total in 2022 is 16 with 11 of those being multi-purpose.

Additionally, another 7 synthetic conversions have been proposed, as summarised in Table 5. Of these, Lane Cove and Hunters Hill Council's have resolved not to proceed with synthetic surfaces. The others are still in the planning phase.

14 Section 2, Regional context, Page 2

Table 5: Regional Synthetic Surface Projects Announced Since 2016

Local Government Area and Location	Details	Status 2022
Ku-ring-gai – Mimosa Oval	One rectangular field	Community and cricket opposition
Willloughby – Willoughby Girls HS	One rectangular field	Surface to be determined
Lane Cove – Bob Campbell	One rectangular field	Council resolved not to proceed with a synthetic surface.
Hunters Hill – Gladesville Reserve	One rectangular field	Council resolved not to proceed with a synthetic surface.
Hornsby – Mills Park Asquith	Two rectangular fields	$1.5 million of $4.5M cost has been committed by NSW Government
Hornsby – Quarry Park Hornsby	One rectangular field	Surface to be determined

The implication for the Synthetic Surfaces Action Plan 2016-26 update is that the 'Regional Context' section of the Plan needs to be updated to reflect the current situation, including:

- The 16 existing synthetic fields,
- The planned field with firm Council commitments (i.e. Norman Griffith Oval in Ku-ring-gai),
- The 6 facilities under planning consideration, and
- The impact of these facilities (existing and future potential) on the need for/demand for synthetic surface sports fields in the City of Ryde.

SECTION 7 - SYNTHETIC SURFACES ACTION PLAN 2016 - 26 – IMPLEMENTATION & PLANNING ISSUES

7.1 Introduction

This Section addresses the status of the *Synthetic Surfaces Action Plan* in terms of progress with implementation, issues and constraints identified in specific site masterplans and the 2021 adoption of the OSFPS.

Section 8, following, proposes a *Sports Field Capacity Enhancement Implementation Plan* based on the unimplemented (and updated) components of the *Synthetic Surfaces Action Plan,* park masterplans undertaken since adoption of the *Action Plan* and the recommendations of the OSFPS – as detailed in the following sub-sections.

7.2 Synthetic Surface Project Implementations

The *Action Plan* recommended a range of short, medium and long-term projects – including new synthetic fields, synthetic conversions, sports field lighting and field reconfigurations- as summarised at Table 6.

Table 6: Synthetic Surfaces Action Plan – Status of Recommended Projects

Project type	Project	Project status
Synthetic fields	Christie Park 1 & 2- develop synthetic football field in line with masterplan.	Project completed – 2 synthetic fields installed and opened May 2018
	ELS Hall 1- revise design package/ develop synthetic football field	Project completed – synthetic pitch (oval) installed end 2016, serving multiple sports- football (soccer), AFL, Ultimate Frisbee, cricket
	Smalls Road (upper)- develop synthetic football field	Not commenced but included in OSFPP 'planned' projects
	Christie Park 3 (new)- potential synthetic football field	Not commenced but included in OSFPS 'planned' projects
	Meadowbank 2 & 3- potential synthetic football fields (i.e. primary alternative if Smalls Road negotiations stall)	Deemed unsuitable in Meadowbank Park & Memorial Park Masterplan Report (as explained in Section 7.3, below)
Sports field lighting	Morrison Bay 2 & 4 Field lighting	Training lights installed
	Meadowbank 12- field lighting	Commenced. By mid-2023 all current fields at Meadowbank Park will have sports field lighting
Field reconfig-uration	Gannan Park- investigate relocation of winter baseball to ELS Hall 2 & conversion of Gannan Park into 2 F/S football pitches with lighting. Upgrade ancillary facilities to accommodate new use.	Commenced – with relocation of baseball to Magdala Park (rather than ELS) and adoption of *Gannan & McCauley Parks Masterplan* – conversion to 1x F/S + 1 Jun fields – and conversion to 2 F/S fields included as a 'future potential' project in the OSFPP

In total, the *Action Plan* recommended seven (7) synthetic fields (i.e. Christie Park 1,2 & 3; ELS Hall Park 1; Smalls Rd School Upper; Meadowbank Park 2 & 3).

While Magdala Park was not included in the *Action Plan's* top priorities (due to its only average rating), Council resolved (at its 15 Dec 2015 meeting) that it also be included within the top six synthetic field priority projects.

It is noted that the first three of the 'preferred' synthetic field projects adopted by Council (i.e. Christie Park 1 & 2 and ELS Hall Park 1) have been implemented.

However, the other three preferred synthetic options (i.e. Meadowbank 2 & 3 and Magdala Park) have been found to be non-viable following detailed site masterplanning (as detailed in Section 7.3, below).

Two of the synthetic surface projects recommended in the Action Plan (i.e. Smalls Rd School Upper and Christie 3) and included in Table 6 have not commenced due to the need for further detailed project and site planning.

7.3 Park Masterplans, 2016-2021

Several adopted park masterplans (i.e. those for Christie, ELS Hall, Westminster, Meadowbank and Magdala Parks) have identified issues with implementation of the *Synthetic Surfaces Action Plan 2016-26*.

The relevant findings and required updates to the *Action Plan* are summarised in Table 7.

Table 7: Synthetic Sports Field Proposals – Issues Identified In Masterplans & OSFPS

Masterplan	**Year adopted**	**Synthetic sports surface findings & actions**	**Project status & required updates to *Synthetic Surfaces Action Plan 2016-26***
Christie Park Masterplan	2016	Christie field 3 (Stage 4)- elevated synthetic surface above the proposed car park (subject to a cost/benefit analysis)	Pending cost/benefit analysis[15] and land re-categorisation (Works & Community Committee report, 17 May 2016) and Council resolution 24 May 2016[16]
Meadowbank and Memorial Park Masterplan	2019	The proposed Meadowbank Park fields 2 & 3 conversions (as recommended in the Synthetic Surfaces Action Plan) have been ruled as unavailable (Field 2- replaced by the regional skate park & playground.) or unsuitable (Fields 2 & 3) – with LH Waud Oval having better Geotech conditions for synthetic surfacing[17].	Amend Action Plan in accordance with the adopted Meadowbank and Memorial Park Masterplan
Gannan Park & McCauley Park Masterplan	2019	Has a focus on field reconfiguration without synthetic surfacing	No change required. Average suitability rating to remain

15 As advised in the Synthetic Surfaces Action Plan, Christie 3 requires "specialist analysis due to site constraints. Likely higher capital cost should be analysed against the benefit of greater reduction in over-use hours compared to other options as this would be a greenfield site" (page 16 of the Action Plan)

16 Generic Plan of Management- Public Exhibition of an Amendment to the Land Categorisation of Christie Park,

17 Douglas & Partners, Dec 2016, Meadowbank Park Sub Surface Investigation – identified that LH Waud Oval had better sub surface conditions for a synthetic surface that Fields 2 & 3 (because the combined thickness of filling and soft alluvium is smaller at the LH Waud location. Accordingly, the Meadowbank Park & Memorial Park Masterplan Report (Nov 2019) confirmed LH Waud as the preferred synthetic field location at Meadowbank Park.

Masterplan	Year adopted	Synthetic sports surface findings & actions	Project status & required updates to *Synthetic Surfaces Action Plan 2016-26*
Westminster Park Masterplan	2020	Despite having a relatively low suitability rating in the Synthetic Surfaces Action Plan (see Table 12), Council resolved, on 25 Feb 2020, to adopt the Westminster Park Masterplan, including construction of a synthetic playing surface. This project was later deferred due to the need to complete unfunded stormwater works prior to installing the synthetic surface.	Amend Action Plan in accordance with Council resolution of 25 Feb 2020
Magdala Park Masterplan	2021	The 4th Aug 2020 scope of works for the MP included a feasibility assessment for inclusion of a future synthetic surface[18] but the review by Council's consultants recommended against synthetic surfaces[19]	Confirms unsuitability of Magdala Park due to previously being a tip site. Remove Magdala 1 ranking (from Table 2) as it was based on incorrect landfill assumptions

7.4 City of Ryde Open Space Future Provision Strategy (OSFPS), 2021

The City of Ryde Open Space Future Provision Strategy (OSFPS), adopted early 2021, provides a framework and road map for enhancing both the capacity and accessibility of the City's open space, sufficient to meet open space, recreation and sports facility needs to 2036.

The Strategy is informed by and builds upon the plans and strategies discussed in the previous sections of this report.

It reviews the supply of, and demand, for open space and recreation/sports facilities across the City and identifies the key service gaps – in capacity and accessibility. It then proposes a strategy for addressing the identified provision gaps, details objectives and outlines a range of planned and potential future projects.

The key findings of the OSFPS include:

- The current overall open space provision rate is generally satisfactory but there are **accessibility** gaps in several parts of the City.
- However, if no additional open space is provided, the open space provision rate across the City will drop well below traditional benchmarks by 2036, and the number of residents with poor access to open space – particularly those in high residential growth areas- will increase significantly.
- Overall, there is currently a sufficient supply of all sport and recreation facilities, with the exception of **indoor courts**.
- However, by 2036, with significant population growth, **full size fields and ovals** and swimming /aquatic facilities will also experience substantial undersupply, unless new or extended facilities are provided.

18 "In conjunction with the Sport and Recreation Strategy 2016-2026, the Synthetic Surfaces Action Plan and available geotechnical reports, investigate site suitability and provide recommendation for the feasibility and cost analysis for future inclusion of a synthetic sports field at Magdala Park".

19 Tech note- Field of Play Surface Options 1 Feb 2021- SPORTENG were engaged by Place Partners to review field of Play surface options. They recommended a natural turf profile due to geotechnical advice regarding site settlement characteristics and subgrade preparation (due to previous landfill function) and easier management of post-landfill settlement with natural turf fields. It was noted that if the expected hours of use for the sports fields exceeded 30 hours/ week in the future, synthetic grass playing surfaces may be considered (albeit requiring extensive earthworks to ensure the longevity of the pavement).

To address these service gaps, the OSFPS identified and prioritised a broad range of 'planned' and 'potential future' projects.

The projects include new parks, new open space linkages, new indoor and outdoor sports courts, new outdoor sports fields, upgraded outdoor sports fields (e.g. synthetic surface, sports field lighting) and additional swimming/aquatic facilities.

The proposals for sports field capacity enhancement (i.e. new and/or upgraded outdoor sports fields), to meet an anticipated shortfall of 490 use hours per week during the winter season[20], are summarised in Table 8.

Table 8: OSFPS – Capacity Expansion Recommendations

Project status	Project type	Park	Project – F/S fields	Project – Jun/ mod fields
Planned	Field layout optimisation	Gannan Park	1 new	1 new
		Pidding Park	1 new	3 new
		Meadowbank Park	3 new	3 new
	Sports field lighting	All sports fields without lighting	Bill Mitchell 1 Bremner Park Gannan Park Meadowbank (as per Masterplan = 5 new) Morrison Bay 3 & 6 Peel Pioneer Santa Rosa 1 Smalls Rd Upper Tuckwell Dunbar	Fontenoy Bill Mitchell 2 Gannan Park Meadowbank (as per Masterplan = 1 new) Pidding mini fields Santa Rosa 2 Tyagarah Smalls Rd Lower
	Synthetic surfacing	Christie Park 3	New synthetic	
		Meadowbank Park	Convert LH Waud Oval to synthetic	
		Smalls Rd School	Convert Smalls Rd Upper to synthetic	

20 Comprising current shortfall of 90 hours and 400 hours of new demand forecast to emerge over the 15 years from 2021 to 2036.

Project status	Project type	Park	Project – F/S fields	Project – Jun/ mod fields
Future potential	Field layout optimisation	Gannan Park	1 new	Loss of 1
		Waterloo Park	1 new	-
		Darvall Park	1 new	Loss of 1
	Sports field lighting	All sports fields without lighting	Gannan (upgrade for additional field) Waterloo (upgrade for additional field) Darvall x 1	
	New fields/ synthetic surfacing	TBD	TBD- equivalent to adding 120 use/hours per week (e.g. 2 x natural grass fields or 3 synthetic conversions)	-

To summarise, the **planned** projects include:

- 5 new full-size + 7 junior/mod natural turf fields
- 3 synthetic fields (1 new and 2 conversions of existing turf fields)
- Sports field lighting (at all currently unlit ovals)

The **future potential** projects include:

- 5 new full-size natural turf fields (and loss of 2 junior/mod fields)
- Combination of synthetic and natural turf fields equivalent to 120 use/hours per week [21]

A potential implementation program for the above projects is detailed in Section 8, below.

21 Deemed weekly capacity = 50 hrs for synthetic fields and 30 hours for natural turf fields

SECTION 8 - Sports Field Capacity Enhancement Implementation Plan to 2036

8.1 Introduction

As summarised in Section 7.4, above, the OSFPS recommended a broad range of full size (F/S) sports field capacity enhancement projects to meet an anticipated winter shortfall of 490 use hours per week by 2036. Several of these projects have also been endorsed via a range of adopted park masterplans.

Since the adoption of the OSFPS, Council has committed to and funded two of the projects (i.e. Synthetic surfacing and sports field lighting of LH Waud Oval at Meadowbank Park and sports field lighting of Tuckwell Park).

These two projects will add 37 weekly hours of use capacity, thereby reducing the forecast 2036 F/S field shortfall to circa 453 hours per week.

This Section provides a prioritisation methodology and a costed roadmap for a program of full size (F/S) sports field enhancement projects required to address the service shortfall.

The methodology is cognisant of Council's financial constraints and the need to ensure that initiatives for enhancing the capacity of sports fields provide optimal 'bang for buck' (in terms of cost per hour of use time gained).

8.2 Options For Addressing The Shortfall

The key options for enhancing sports field capacity include:

- Conversion of natural turf fields to synthetic,
- Acquisition of new synthetic surface and/or natural turf fields,
- Reconfiguration/optimisation of natural turf sports field layouts,
- Installation and/or upgrading of sports lighting, and
- Shared use of school/university fields.

8.3 Varying Cost-Effectiveness Of Options

The analysis in this section reviews the comparative cost-effectiveness of the recommended projects in terms of the $ cost per hour of the additional use capacity generated by each of the projects.

Projects x capacity enhancement type

Table 9 categorises the recommended projects in terms of capacity enhancement option type and notes the source of the recommendations for each project.

Table 9: OSFPS - Recommended F/S Sports Field Projects

Capacity enhancement type	Source	Specific projects
New synthetic surface fields	OSFPS and Christie Park Masterplan	Christie Park
Synthetic conversions	OSFPS and Meadowbank Park Masterplan	Meadowbank Park (LH Waud) Smalls Road School Upper field

Capacity enhancement type	Source	Specific projects
Natural turf sports field reconfiguration/ optimisation	OSFPS and various park masterplans	Gannan Park x 2, Pidding Park x 1 Meadowbank Park x 3 Waterloo Park x 1 Darvall Park x 1
	Magdala Park Masterplan	The Masterplan identified additional optimisation projects, including one new F/S natural turf field.
Combination of project types (new turf field, shared use of school fields and/or synthetic conversions) according to opportunity	OSFPS	Generate additional 120 hrs of weekly use capacity via: One or more of: shared use of Epping Boys HS x 2 fields TG Milner x 2 fields CSIRO disused Marsfield site x 2 fields Synthetic conversions Westminster Park Bremner Park North Ryde Park
Sports field lighting	OSFPS and various park masterplans	All unlit sports fields

Adjusting for 'usability' of the enhanced capacity

These capacity enhancement projects increase capacity in different ways with some enhancing capacity for mid-week winter night training and others increasing capacity both for training and weekend sports competitions, as summarised in Table 10.

Table 10: Varying Benefits of Capacity Enhancement Methods

Capacity enhancement type	Scope of benefits
New synthetic fields and synthetic conversions	Synthetics are important as they provide all-weather surfaces (except during extreme heat when sport would be cancelled). Synthetic conversions can offset the capacity constraints of turf fields (from over-use and/or wet weather) for both mid-week-night training and weekend competitive fixtures
Reconfiguration/optimisation of natural turf sports field	Projects aimed at increasing the number of sports fields via existing site reconfigurations have the potential to increase capacity for both weekend competition fixtures and week-night training.
Shared use of existing fields	Projects aimed at increasing the number of sports fields via shared use of school/university facilities also have the potential to increase capacity for both weekend competition fixtures and week-night training.
New natural turf fields	Projects aimed at increasing the number of sports fields via VPA's or land acquisitions also have the potential to increase capacity for both weekend competition fixtures and week-night training.

Capacity enhancement type	Scope of benefits
Sports field lighting	Sports field lighting benefits are mainly restricted to enhancing capacity for midweek night training. Given that most sports competitions occur during daylight hours on weekends, sports field lighting can do little to enhance the capacity of sportsgrounds to accommodate additional competition fixtures and teams.

Accordingly, there is a need to include a weighting factor in the cost-effectiveness analysis to reflect the differing scope of project benefits in terms of usability (i.e. amount and flexibility of the use potential generated by the different project types).

The usability factors and weightings are summarised in Table 11.

Table 11: Priority Projects x Usability Weighting Factors

Project type	Usability (i.e. proportion of demand that each project caters to)	Weighting	Rationale
New synthetic fields and synthetic conversions	Cater to the highest proportion of demand as they service both mid-week (training) and weekend (competition), have high weekly use capacity (50+ hours) and can also be used during and straight after very wet weather periods	1.0	Benchmark for optimal use capacity
Natural turf fields	Also cater to both weekday and weekend use but have reduced capacity (up to 30 hours/week) and often need to be closed during wet weather periods	1.0	Assumption of 20% down time per season due to wet weather but not weighted based on assumption that weather affected fixtures will be abandoned or reprogrammed
Sports field lighting of turf fields	Only cater to weeknight training requirements and, where they are provided on natural turf fields, will experience wet weather downtime	0.5	Assumption of 50% utility (due to weeknight only use) and 20% wet weather down time

While the scope of benefits is greater for some project types – as reflected in the weighting - all are important as they address demonstrated needs, as identified in the OSFPS, for enhanced capacity for both midweek training and weekend sports competition.

8.4 The Synthetic Surface Options

As indicated in Section 7.2, Council has implemented three of the synthetic playing surface conversions recommended by the *Synthetic Surfaces Action Plan* (i.e. at Christie Park 1 & 2, and ELS Hall Park 1).

However, two of the synthetic conversion options recommended by the *Action Plan* (i.e. Meadowbank Park 2 & 3) and the option adopted by Council (at its 15 Dec 2015 Meeting) as a preferred project (i.e. Magdala Park) have all been determined to be unsuitable for synthetic conversions due to geotech/landfill issues.

Additionally, and since adoption of the *Action Plan*, Council has resolved to undertake synthetic conversions at LH Waud Oval (Meadowbank Park) and at Westminster Park.

Other potential synthetic field projects include the two projects recommended by the Action Plan that have not yet been implemented (i.e. Smalls Rd School Upper and Christie Park 3) and synthetic conversions at Bremner and North Ryde Parks.

The origins and status of these uncompleted synthetic conversion projects is summarised at Table 12.

Table 12: Uncompleted Synthetic Sports Surface Options

Sports field	Project source	Current status
Meadowbank Park (LH Waud Oval)	Identified in the Meadowbank & Memorial Park masterplan (Nov 2019).	A $1m grant, to partially fund the synthetic conversion, received from the NSW Greater Cities Sport Facility Fund 2020-21. Council is funding the balance of the cost – with construction to commence after the 2022 winter season and complete mid-2023
Westminster Park	Council resolved, on 25 Feb 2020, to adopt the Westminster Park Masterplan with a natural turf field which is to be converted to a synthetic playing surface when funding is identified to mitigate the stormwater issues.	The natural turf field has been upgraded including drainage, irrigation and new turf. The synthetic upgrade is reliant upon the funding and delivery stormwater mitigation works.
Smalls Rd School Upper	Identified as a priority in the Synthetic Surfaces Action Plan 2016-26 and the OSFPS, 2021	Pending negotiations with the Department of Education, partnership agreements and site masterplanning
Christie Park 3	Identified as a priority in the Synthetic Surfaces Action Plan 2016-26, the NSROC Regional Sportsground Strategy Review, 2017 and the OSFPS, 2021	Pending cost/benefit analysis[22] and land re-categorisation – as per Works & Community Committee report (17 May 2016) and Council resolution 24 May 2016[23]
Bremner & North Ryde Parks	Following adoption of the OSFPS in 2021, a scoping of potential sites for synthetic conversions (to help meet the capacity shortfall remaining after recommended projects had been implemented) identified Bremner and North Ryde Parks as the highest priority conversion targets (as described in Table 13, below)	Pending adoption of this report and site masterplanning studies

In addition to the above projects, the optimisation and conversion of Waterloo Park has been identified to provide an all-weather surface for grass roots in that area of the City. The above projects and Waterloo Park (except for LH Waud, which is fully committed to and funded) have been prioritised according to the following criteria:

- Weekly hours of capacity gained,
- Relative cost-effectiveness (i.e. capital cost per weekly hour of capacity gained),
- Synthetic Surfaces Action Plan 2016-26 priority rating (as based on site factors, impacts on existing users and surrounding neighbours, accessibility and potential for expansion),

22 As advised in the Synthetic Surfaces Action Plan, Christie 3 requires "specialist analysis due to site constraints. Likely higher capital cost should be analysed against the benefit of greater reduction in over-use hours compared to other options as this would be a greenfield site" (page 16 of the Action Plan)

23 Generic Plan of Management- Public Exhibition of an Amendment to the Land Categorisation of Christie Park,

and

- Enhanced distribution of all-weather outdoor sport opportunity across the City.

The relative suitability of these sports fields for synthetic conversion has been assessed according to the criteria summarised in the evaluation matrix at Table 13.

Table 13: Suitability Assessment of Synthetic Sports Surface Proposals

Project	Weekly hours gained	Cost ($) per Hr gained	SSAP Priority rating[24]	Access/distribution	Other issues
Smalls Rd School Upper	32	144,080	25	Provides the only all-weather sports field in the central Ryde area	Subject to successful negotiations with Dep Education & implementation of acceptable community use agreement Potential for part funding by Dep Education
Bremner Park[25]	32	118,750	20	Provides the only all-weather sports field in south-east of the LGA	
Westminster Park	20	176,000	13	Provides the only all-weather sports field in the east precincts of the LGA (north of Victoria Rd)	
Christie Park 3	50	186,332	25	Complements Christie 1 & 2	High cost per hr/week gained
North Ryde Park	20	231,023	19	Provides the only all-weather sports field in north-east of the LGA	High cost per hr/week gained
Waterloo Park	70	240,376	N/A[26]	Provides the only all-weather grass roots sports fields in the north-west of the LGA	Drainage issues to be overcome during project implementation

Based on Council's existing commitments (Westminster Park) and the above assessments, the following synthetic playing surface projects have been included in the project priorities:

- Westminster Park,
- Bremner Park,
- Smalls Road School (Upper)
- Waterloo Park.

As shown in Table 14, the overall average cost of each user hour gained for these projects is circa $164K, with the cost-effectiveness of individual projects ranging from $119K to $240K per user hour gained.

24 Otium, 2016, Synthetic Surfaces Action Plan 2016-26

25 Bremner Park was not initially rated in the 2016 Synthetic Surfaces Action Plan because the study incorrectly deemed the Park to be an ex-landfill site and not suitable for synthetic conversion. However, Council officers have since identified a rating of 20, based on the rating methodology used in the 2016 report.

26 As advised in the Synthetic Surface Action Plan, this site is a detention basin. This issue will need to be overcome during the preparation of park masterplan and detailed design. Gore Hill Park synthetic is an example of where this issue has been overcome.

Table 14: Priority Projects x Relative Cost-Effectiveness

Park/location	Project	2022 Cost Est ($)[27]	Additional play hrs/week			Cost ($) per net hr/ week gained
			Gross	Weighting	Net	
Bremner Park	Upgrade to synthetic + sports field lighting	3,800,000	32	1.0	32	118,750
Smalls Rd School	Upgrade Upper field to synthetic + sports field lighting	3,875,423	32	1.0	32	121,107
Westminster Park	Upgrade to synthetic	3,520,000	20	1.0	20	176,000
Waterloo Park[28]	Field layout re-configuration and Synthetic conversion	16,826,352	70	1.0	70	240,376
	TOTAL	**28,021,775**	**154**		**154**	**164,058**

Christie Park 3 and North Ryde Park, due to their higher cost and overall lower cost-effectiveness (as summarised in Table 13), have been included in a package of 'potential additional projects', as discussed in Section 8.6, below, with project details at Appendix E.

8.5 Non-Synthetic Options

As with the synthetic surface options, priorities for the non-synthetic project opportunities have been determined as follows:

- Their potential (in terms of additional use hours) in contributing to meeting the forecast 2036 winter season F/S field capacity shortfall of circa 450 hours/week, and
- Their relative cost-effectiveness in contributing to this.

The cost-effectiveness has been assessed according to the cost, for each project, of each hour of weekly playing hour capacity gained, and adjusted (with the weighting discussed above) to reflect relative usability.

The priority projects, based on this methodology, are listed in Table 15. The projects collectively generate an additional (adjusted) 372 hours of weekly capacity.

Combined with the synthetic conversion projects (84 hours), this amounts to an additional 456 hours of weekly capacity slightly more that the capacity shortfall identified in the OSFPS and adjusted for recently committed projects (i.e. 453 hours).

As shown in Table 15, the overall average cost of each user hour gained for these projects is circa $27.6K, with the cost-effectiveness of individual projects ranging from $0K (if and where

27 All figures have been adjusted to 2022 by compounding with ABS' CPI for Australia – latest release at https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/dec-2021
28 Subject to the preparation of park masterplan.

potential future VPA negotiations can deliver such an outcome) to $88K per user hour gained.

Table 15: Priority Projects x Relative Cost-Effectiveness

Project Type	Park/location	Project	2022 Cost Est ($)[29]	Additional play hrs/week			Cost ($) per net hr/week gained
				Gross	Weighting	Net	
Rezoning opportunity	New fields at TG Milner site[30]	2 new turf fields	0	60	1.0	60	0
Rezoning opportunity	CSIRO Marsfield	2 new turf fields	0	60	1.0	60	0
New shared use natural turf	Shared use of Epping Boys High fields	2 new turf fields	400,000	60	1.0	60	6,667
Sports field lighting	Bill Mitchell Park	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Dunbar Park	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Morrison Bay 3	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Morrison Bay 6	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Peel Park	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Pioneer Park	F/S field x 1	200,000	12	0.5	6	33,333
Sports field lighting	Santa Rosa 1	F/S field x 1	200,000	12	0.5	6	33,333
Field layout reconfiguration	Meadowbank Park – stage 3 (fields 7 & 8-netball courts conversion)	New F/S (2) + sports field lighting	3,885,926	60	1.0	60	64,765
Field layout reconfiguration	Meadowbank Park – stage 9 (fields 9, 10, 11, 12)	New F/S x 1 + sports field lighting	1,796,252	30	1.0	30	59,875
Field layout reconfiguration	Gannan Park-stage 1	New F/S (1) + sports field lighting	2,641,547	30	1.0	30	88,052
Field layout reconfiguration	Gannan Park-stage 2	New F/S (1)- with loss of 1 Jun	158,493	30	1.0	30	5,283
		TOTAL	**10,282,218**	**414**	**11**	**372**	**27,640**

29 All figures have been adjusted to 2022 by compounding with ABS' CPI for Australia – latest release at https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/dec-2021

30 It is noted that Council has limited control over the timing and scope of the TG Milner and CSIRO land opportunities as they are subject to private commercial decisions. They are listed here as they are strategically important options- with vesting in Council as a component of VPA's being a potential scenario

It is important to note that, while the sports field lighting projects figure high in the priorities list due to their high relative cost-effectiveness (with a potential gain of 5 (adjusted) hours per field per week for an expenditure of circa $200,000 or $41.7K per hour), their benefits are mainly restricted to enhancing capacity for midweek night training.

8.6 Other Potential Projects

There are other projects recommended in the OSFPS or park masterplans that, based on the prioritisation criteria, have a higher cost per weekly hour of capacity gained.

These potential projects include Eastwood Park Lower optimisation as natural turf, but the feasibility is to be determined through a Town Centre Masterplan. This will depend on the outcome of detailed master planning - to be undertaken in the future to identify and firm up field optimisation and the impact of optimisation on the surrounding road network.

These projects, while a lower priority due to their cost-effectiveness metrics, could come into consideration in the event that one or more of the higher priority projects listed in Table 9 prove unfeasible and/or in the years beyond 2036 in the event that demand for outdoor sport fields continues to grow. These potential projects are summarised at Appendix E.

8.7 Indicative Priorities

The projects have been grouped into three priority clusters – High, Medium and Low priority – as shown in Tables 16 to 18.

Each of the clusters includes a mix of capacity enhancement project types (i.e. synthetic conversions + lighting + field layout optimisation) with higher cost-effectiveness projects (in terms of 'cost per weekly hr gained') included in the earlier time periods, where possible.

High priority project proposals are summarised in Table 16. They include 2 new natural turf fields (subject to successful collaboration/negotiation), 2 synthetic conversions, 2 field layout reconfigurations and 2 sports field lighting projects with a total gain of 226 user hours per week.

Table 16: Proposed Timeline x Project Cost Estimates & Cost-Effectiveness For High Priority Projects

Priority	Project type	Park/location	Project	Playing hrs/ week gained
High	New natural turf	Shared use of Epping Boys High fields	2 new turf fields	60
High	Sports field lighting	Morrison Bay 3	F/S field (1)	6
High	Sports field lighting	Santa Rosa 1	F/S field (1)	6
High	Field layout reconfiguration	Meadowbank Park – stage 3 (fields 7 & 8-netball courts conversion)	New F/S (2) + sports field lighting	60
High	Field layout reconfiguration	Gannan Park- stage 1	New F/S (1) + sports field lighting	30
High	Synthetic conversion	Smalls Road School Upper	Upgrade to synthetic + sports field lighting	32

High	Synthetic conversion	Bremner Park	Upgrade to synthetic + sports field lighting	32
			TOTAL	**226**

Medium priority project proposals for the 2nd quinquennial are summarised in Table 17. They include one (1) synthetic conversion, 1 field layout reconfiguration, 2 sports field lighting projects and 1 rezoning opportunity (to create 2 new turf fields, but subject to successful negotiation outcomes) with a total gain of 122 user hours per week.

Table 17: Proposed Timeline x Project Cost Estimates & Cost-Effectiveness For Medium Prioity Projects

Priority	Project type	Park/location	Project	Playing hrs/ week gained
Medium	Rezoning opportunity	New fields at TG Milner site	2 new turf fields	60
Medium	Sports field lighting	Peel Park	F/S field (1)	6
Medium	Sports field lighting	Bill Mitchell Park	F/S field (1)	6
Medium	Field layout reconfiguration	Meadowbank Park – stage 9 (fields 9, 10, 11, 12)	New F/S (1) + sports field lighting	30
Medium	Synthetic conversion	Westminster Park	Upgrade to synthetic	20
			TOTAL	**122**

Low priority project proposals are summarised in Table 18. They include 1 field layout reconfiguration, 3 sports field lighting projects, one field layout reconfiguration with a conversion of 2 fields to synthetic and one rezoning opportunity (to create 2 new turf fields, but subject to successful negotiation outcomes) with a total gain of 178 user hours per week.

Table 18: Proposed Timeline x Project Cost Estimates & Cost-Effectiveness For Low Priority Projects

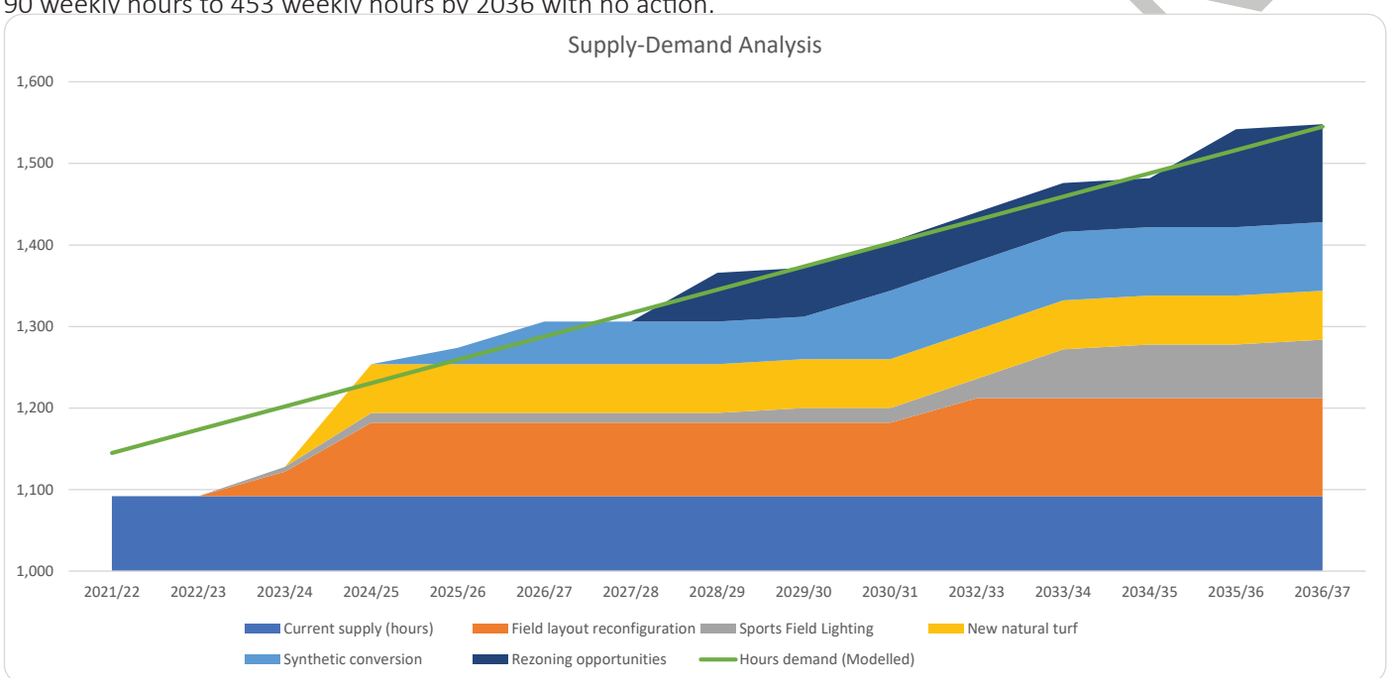
Priority	Project type	Park/location	Project	Playing hrs/ week gained
Low	Rezoning opportunity	CSIRO Marsfield	2 new F/S turf fields	60
Low	Field layout reconfiguration	Gannan Park- stage 2	New F/S (1)- with loss of 1 Jun	30
Low	Sports field lighting	Pioneer Park	F/S field (1)	6
Low	Sports field lighting	Morrison Bay 6	F/S field (1)	6
Low	Sports field lighting	Dunbar Park	F/S field (1)	6

Low	Field layout reconfiguration and Synthetic conversion	Waterloo Park[31]	New synthetic F/S field (1) with sports field lighting + upgrade to synthetic (1)	70
			TOTAL	**178**

How the project priorities address the capacity shortfall

The graph at Fig. 1 models the impact of the different project types (i.e. sports field lighting, field layouts, etc.) over the planning horizon (i.e. 2022 to 2036) to assess the impact of the priority projects on the capacity shortfall.

As illustrated on the graph, the gap between sports field capacity and demand increases from 90 weekly hours to 453 weekly hours by 2036 with no action.



31 Project prioritised to provide synthetic fields for community grass root sport. Subject to the preparation of a park master-plan.

APPENDIX A: NSW Office of Sport – Community Sports Infrastructure Planning Tools

Introduction

The NSW Office of Sport recognises that supporting sports participation requires a strategic and coordinated approach to building, modernising and optimising the use of facilities.

Accordingly, the Office works to facilitate the identification of current and future requirements for sport and recreation infrastructure through:

- Policy development,
- Coordination of grants and funding for new facilities and upgrades (with a focus on metropolitan and regional levels), and
- Preparation of planning and policy guides

Policy and planning guides for optimising community sport and active recreation infrastructure include the following:

- Regional Sports Hub Model
- Facilities Strategy Template
- District Sports Facility Information Packs
- Managing playing surfaces during drought

The broad outlines of these initiatives are provided in the following sub-sections.

2. Regional Sports Hub Model

Sports Hubs are the preferred sport infrastructure delivery model by the NSW Office of Sport.

The Office's Regional Sports Hubs Model Draft Report is a template for the planning, development and operation of regional sports hubs (RSH), which are to be informed by relevant planning initiatives, industry trends, funding opportunities and feedback from state sporting organisations (SSOs)[1].

The model aims to:

- Support local Councils and the sport sector to align objectives and priorities for a common purpose and vision, and
- Encourage stakeholders to identify priorities that focus on increasing participation, contribute to regional and economic growth, deliver sustainable assets that are well used and the design of 'facilities for all'.

The Office's broad concept for a RSH is:

- A multi-sport facility, which may include a sport administration centre (e.g. Sports House) that supports participation at the community and pre-elite level.
- The capacity to host national, state and regional championships.

3. Facilities Strategy Template

The template was developed to assist NSW state sporting organisations in their planning for sport facilities. It is designed as a guide only and provides explanations of how to include the following potential elements in facility strategy documents:

- Acknowledgment; Foreword; Executive Summary
- Recommendations, action/implementation plan
- Introduction and background – about the strategy
- Guiding principles
- Strategic context
- Strategic alignment – NSW government regions

1 Otium Planning Group P/L, Aug 2017, Regional Sports Hubs Model Draft Report

- Value of sport
- Network of facilities
- Facility design guidelines
- Inclusive facilities
- Existing situation – providing the evidence base
- Determining facility needs
- Engagement
- Partnerships
- Infrastructure priorities
- Funding and asset management
- Implementation and review

4. Managing playing surfaces during drought

The Office of Sport has compiled a document to establish effective management of playing surfaces across NSW which are deteriorating with the drought[2].

Maintenance tips and guidance are provided on:

- Getting the most out of our playing surfaces
- Tips for grass playing surfaces during the drought
- Building resilience for the future

5. District Sports Facility Information Packs

These packs provide information (data and population insights) to assist in the planning for community sport facilities, including:

Common issues:

- Rapid population growth
- Facility requirements – female needs
- Obtaining reliable participation data
- Private School Facilities-accessibility
- No land, no funds
- Sports Forums & 355 Committees
- Community Opposition –lights, artificial fields
- Lack of indoor sports centres
- Facilities not on Council land –SHFT
- Corporate lunchtime use –added strain
- Loss of RE2 (bowling clubs) land to other uses
- Capacity of parks not being recognised

Common opportunities:

- Collaboration
  - To solve Sports Facility provision
  - Development of the NSROC –Regional Sportsground Strategy 2018
- Investment in Sports Facilities:
  - Land acquisition
  - Upgrade
- Partnering:
  - Dept. of Education
  - Sydney Harbour Foreshore Trust

2 NSW Office of Sport, Managing Playing Surfaces During Drought (AFL, Cricket, Football, Rugby League, Rugby Union)

- Reassignment of land:
  - Under-utilised land owned by other landholders
  - Reviewing council owned golf courses

Population trends 2016 to 2036

Sports participation:

- AusPlay participation rates x LGA populations)

Facility provision rates:

- Sports facilities per population
- Sports facilities per player

Facility mapping:

- Sports fields
- Aquatic facilities
- Indoor courts
- Skateparks
- Netball
- All-weather athletics
- Golf
- Lawn bowls
- Cycling
- Gymnastics

Capacity analysis (limited- based on the average number of participants per sport, per site / number of facilities):

- Netball
- Little A
- Softball
- Oztag
- Hockey

Draft Sports Facility Hierarchy:

- National/State
- High Performance/Centres of Excellence
- Regional
- District
- Local
- Neighbourhood

Sports Facility Planning model:

- Guiding principles
- Identifying facility demand/need
- Calculating facility capacity
- Identifying solutions
  - Reconfiguring playing fields
  - Upgrading of lighting
  - Irrigation & drainage

- Installing synthetic surfaces
- Use courts for football or hockey training
- Investigate golf course conversions / re-configurations
- Partnering with education providers such as schools and universities
- Consider integrating facilities in mixed-use development
- Conversion of car parks to sporting facilities
- Placing facilities on top of car parks.

APPENDIX B: Synthetic Turf Study in Public Open Space

Report Prepared for the DPIE August 2021 by Ethos Urban and Otium

What Is The KEY Problem?

Theme	Issues
Constrained supply of sports fields	• The existing network of sporting facilities is perceived by some stakeholders as unable to meet growing demand and some clubs turn away potential participants due to a lack of capacity. • Existing fields in densely populated areas, with high levels of sporting participation may not have the capacity to meet very high levels of demand, regardless of the quality of the field.
Poor quality of existing sporting facilities	• Poorly maintained and constructed natural turf sports fields can struggle to support high levels of use due to poor condition and inadequate drainage, which limits their available hours of use for sport. • Many natural turf fields are perceived to be in poor condition with inadequate drainage, poor construction and maintenance regimes resulting in low field capacity. Well-engineered natural fields maintained in good condition can provide significantly higher levels of utilisation than poor condition ones

Potential Solutions – Synthetics

Theme	Issues
Constrained supply of sports fields	• It can be challenging to acquire new land for sports fields due to development pressure and lack of available space (particularly in inner city areas). Some councils therefore choose to increase local capacity by converting natural turf sports fields to synthetic turf.
Sporting facility demand, supply and capacity is complex and contextual	• The carrying capacity (calculated as hours of organised sports use per week) of synthetic surfaces is higher than natural turf and as such field operators can allocate more users to a synthetic field for organised sport training and competition. • The use of sports field can be concentrated to specific days and certain times of day for training and competition. Implementation of synthetic turf surfaces can offer higher levels of participation during peak periods. • Synthetic turf can improve the reliability and surface quality for sport use during wet and winter weather compared to natural turf. However, during summer, matches on synthetic turf sports fields may need to be cancelled due to heat more frequently than natural surface fields. • Hybrid surfaces are an emerging response to improving field capacity and combining the advantages and limiting the disadvantages of both pure natural and synthetic.

Potential Solutions - Best Practice Management of Natural Turf

Theme	Issues
Sporting facility demand, supply and capacity is complex and contextual	• Actual demand for sports use is not always modeled or well understood by authorities when considering converting surfaces to synthetic. The theoretical capacity provided by a synthetic surface may not be required to support actual demand for sports participation.

Adequate funding	• Long term maintenance of natural turf surfaces is often under-funded which can result in deteriorating condition facilities and limited capacity. • Best practice natural turf has ongoing maintenance requirements to maintain high levels of performance for all users, such as mowing, "resting", and re-surfacing the field.
Best practice natural turf management can improve field capacity	• Best practice natural turf design and maintenance has the potential to improve the capacity of existing natural turf fields to support increased sporting use. • Lack of available information on best practice construction and maintenance of natural turf fields influences and constrains council decision making. • Information about recent innovations and best practice for natural turf are not well known or commonly used. • Advances in technology are enabling more targeted maintenance and management of natural turf to reduce energy consumption and costs and maintain capacity.
Innovative management practices can support greater use	• Strategic lighting to encourage evening use of particular areas of fields and shifting line markings are an effective way to distribute usage across a playing field surface. • New technologies and approaches are offering facility owners improved data on the status and usage of sports fields, enabling councils to better target maintenance, manage peak use and quiet periods, scheduling, and planning for use.
Sports field planning and siting	• Siting considerations exist for both natural and synthetic turf. For example, many issues that constrain optimal utilisation of natural turf fields are intensified when they are located in poor drainage or flood prone areas, ex landfill sites, or where they have a dual purpose as stormwater retention basins. • Where synthetic or natural turf fields are located in areas prone to flooding, or subject to overland flows during extreme weather, there can also be issues related to pollution of local waterways or bushland with infill materials or pesticides. Further discussion of potential pollution arising from both natural and turf fields, and the contamination of the surrounding local environment, is discussed below • Better consideration of siting and planning for the whole open space network can alleviate some pressure on the network, including sharing of facilities (across LGA boundaries and with different land uses such as schools), purpose-built facilities and siting synthetic fields in non-environmentally sensitive areas.

Potential Issues With Synthetics – Social, Amenity & Health Impacts

Theme	Issues
Sporting facility demand, supply and capacity is complex and contextual	• Natural turf fields cater for more diverse uses that includes organised sporting activities and passive recreation activities such as picnicking, walking, jogging, dog walking and more.

Amenity and enjoyment for informal users of public open space	• Synthetic fields are generally subject to higher ambient temperatures than natural turf on hot days. • The aesthetic of synthetic turf is very different to and perceived as much less attractive to natural turf. • Synthetic turf does not provide the same benefits of connection to nature compared to natural turf open spaces. • Natural surfaces provide greater levels of noise abatement, glare reduction and UV reflectivity. • Fenced synthetic fields reduce informal use of open spaces while prioritising sporting use
Impacts from the increased utilisation enabled by the use of synthetic surfaces	• Due to having an increased carrying capacity, synthetic fields can have: › Increased impact on surrounding residents from duration of field lighting at night › Congestion and pressure on parking and increases to local traffic. › Increased impact and duration of noise due to greater intensity of use. › Elevated synthetic fields can impact on perceived privacy for adjacent residents.
Potential human health impacts	• Heat stress and the impact on player and user comfort associated with playing on synthetic fields in hot weather. • Some generations of synthetic turf (typically 1st, 2nd and 3rd) have a greater risk of abrasiveness on skin and higher injury rates. • Research has suggested that biological pathogens, toxic chemicals, and micro-plastic ingestion are all risks to human health that are associated with synthetic materials.

Potential Issues With Synthetics - Environmental Impacts

Theme	Issues

Concerns associated with environmental impacts	• **Pollution**: Air and water pollution caused by synthetic turf materials (i.e., rubber crumb) is well documented in academic research. Pollution, particularly of waterways and bushland, was a key concern raised by community representatives. • **Chemical use:** Pesticides and fertilisers are typically used for natural turf fields, while pesticides and fungicides are typically required for synthetic fields. • **Waste**: Environmental and financial challenge of disposing synthetic turf at the end of its 8–10-year life cycle. • **Heat**: Heat impacts to the surrounding environment caused by synthetic turf absorbing heat rather than reflection. Carbon emissions: Synthetic fields contribute to heightened CO2 emissions due to lack of carbon absorption associated with natural turf. • **Soil sterilisation**: Sterilisation of soil beneath the synthetic turf has an impact on ecosystems. Synthetic surfaces inhibit living systems. • **Water Usage**: Water consumption and irrigation requirements are lower for synthetic turf making it generally more suitable for drought and dry conditions (due to reduced water requirements). • **Variability**: Environmental impacts of synthetic fields vary substantially depending on what type they are. Older synthetic fields (generation 2 and 3) are associated with significantly higher radiant heat and environmental pollution. • **Wildlife**: While natural turf sports fields have limited biodiversity value, they do provide some habitat for local flora and fauna that synthetic turf does not. • It is noted that design of synthetic surfaces is technologically advancing in response to some of the impacts created by synthetic turf, e.g. microplastic pollution.

Potential Issues With Synthetics – Cost Transparency

Theme	Issues
Cost and economic factors are not transparent	• High initial capital cost of synthetic turf can be perceived as a barrier to installation. • Synthetic playing fields have traditionally been perceived as requiring lower maintenance and hence lower operating costs compared to natural turf. However, synthetic surfaces have a prescriptive maintenance regime, and there is indication from recent studies in other jurisdictions, including New Zealand and Western Australia, that in practice synthetic turf can have reoccurring maintenance costs for repairs and cleaning of surfaces that can be comparable to that of natural turf. • Renewal costs associated with the disposal and replacement of synthetic fields at the end of their life cycle is not always adequately considered.

The Way Forward - Alternate Technological Solutions

Theme	Issues
Partial/hybrid grass can increase durability	• Hybrid turf combines blades of synthetic grass with natural grass to increase durability use of synthetic of fields while reducing use of synthetic materials. • Synthetic materials can be incorporated in the root zone to reinforce the soil profile. • Synthetic turf can be used selectively in high wear areas of a sports field such as the goal area

Synthetic turf design is evolving	• Recent technological advances in synthetic design address some of the environmental impacts associated with earlier generations of synthetic turf. Replacing rubber infill with cork granules is an environmentally friendly option however it is more costly and deteriorates faster.

The Way Forward - Alternate Approaches

Theme	Issues
Alternative approaches to enhancing the carrying capacity of sports fields	**Improvements to Natural Turf Design:** • Natural turf fields can be designed and managed to withstand more use, drain more effectively, reduce reliance on water for irrigation, and be available during or immediately after bad weather. **Improved Data Collection and Analysis for Facility Owners:** • New technologies and approaches are offering facility owners improved data on the status and usage of sports fields, enabling councils to better target maintenance, manage peak use and quiet periods, scheduling, and planning for use. **Managing use:** • Local government, state agency stakeholders and sporting associations have identified innovative approaches to managing usage and reducing pressure on high-wear areas of a natural turf field, including around the goal mouths. **Hybrid Turf Options:** • Some hybrid turf options that may offer alternative solutions to enhancing sports field capacity and durability this includes profile reinforcement to increase the durability of the root zone, integrating synthetic turf blades into natural grass, and selectively using synthetic turf in high wear areas. **Advancements in Synthetic Design:** • Alternative construction materials and methods, hybrid sports surfaces, and the use of organic infill layers have the potential to mitigate against some of the challenges traditionally faced by adopters of synthetic surfaces. **Utilisation of Spaces and Siting Considerations:** • Siting considerations exist for both synthetic and natural turf fields. Greater consideration of the whole open space network when selecting suitable sites for field upgrades is required to improve the quality and availability of public open spaces in NSW.

1.3 Preliminary Recommendations for Consideration

Consultation undertaken in preparation of this Study has demonstrated that there are often conflicting views between local authorities, user groups and the wider community over the suitability and benefits of synthetic turf as an alternative to natural turf.

While it is clear that both types of surfaces can provide positive outcomes in terms of access to public open space and participation in recreation and sporting activities, the absence of consistent guidelines, consultation with communities and transparent consideration of potential alternatives has led to distrust and concern over decisions to implement synthetic sporting fields.

To potentially address this conflict, the Department may reflect on the following opportunities

that are identified for further consideration:

- The benefits of providing consistent state-wide guidance to Local Authorities on key considerations or criteria when proposing to provide new synthetic turf surfaces
- Potential adaptations to state planning policy to require that appropriate and meaningful community consultation informs decisions around the use of synthetic versus natural turf surfaces
- Further primary, evidence-based research into the human health and natural environmental impacts of synthetic turf use, in particular:
  - The impact of heat on larger fields, and the potential for higher UV reflectivity of synthetic turf,
  - The appropriateness of natural vs synthetic in bushfire prone areas,
  - The impact of synthetic materials on human health,
  - The health and social implications of reduced accessibility for informal and passive enjoyment of public open space associated with synthetic turf usage.
- Further consideration of the potential benefits and impacts of the emerging technologies of hybrid and 'fourth generation or 4G' synthetic technology within an Australian context.
- Undertake research to understand barriers to implementing best practice natural turf fields. The above recommendations have been further explored within section 5.0 of this report.

APPENDIX C: NSROC REGIONAL SPORTSGROUND STRATEGY – CITY OF RYDE CAPACITY PROJECTS

Enhancement category	Site location	Project Description	Playing Area (Ha)	Additional Capacity Hours	Yield in Hectare Hours
Capacity Increase	Meadowbank Park 10	Lighting	1	12	12.00
Capacity Increase	Gannan Park 1	Lighting	0.96	15	14.40
Capacity Increase	Gannan Park 2	Lighting	0.96	15	14.40
Capacity Increase	Meadowbank Park - LH Waud	Lighting	1.12	12	13.44
Capacity Increase	Tuckwell Park	Lighting	0.77	10	7.70
Capacity Increase	Smalls Rd 1	Lighting	0.67	20	13.40
Capacity Increase	Smalls Rd 2	Lighting	0.77	12	9.24
Field optimisation	Gannan Park	Optimisation of land to develop new rectangular field	1	30	30.00
Field optimisation	Magdala Park	Optimisation of land to develop new rectangular field	0.9	30	27.00
Field optimisation	Christie Park 3	Synthetic	0.9	54	48.60
Increase current use	ELS Hall	Full utilisation with weekend seasonal night competition	1.31	9	11.79

APPENDIX D: CITY OF RYDE – SPORTS FIELDS IMPROVEMENT PLANS & STRATEGIES

1. Best Value Review: Allocation & Management of Sportsgrounds (4 Vols)

Council undertook, in 2011-12, a Best Value Review: Allocation and Management of Sports grounds to better understand the 'hows and whys' of Council's sports ground service, and to benchmark Council's performance against other Councils[3].

Amongst its findings, the Review found that the City's sports grounds were being over-used in winter and that, to adequately meet current and future demands from sports, additional facilities and increased carrying capacities of grounds would need to be achieved.

The Review canvassed multiple options for improving carrying capacity and included these in the recommended *Implementation Plan*[4], as follows:

Action	Action detail
Funding capital works	• Actively seek partnerships with NSROC Councils, government, schools and educational institutions and sports to provide additional sportsgrounds, several synthetic playing fields and fund improvements to existing facilities, so as to increase the number of people who can play sport, and to improve the condition and performance of facilities
Capital Improvements	• Assess the current "tertiary fields" for their capacity to be reconstructed to provide higher levels of competition and training, as well as any opportunities to develop school facilities for community sporting use • Identify grounds that require irrigation and prepare a priority program for irrigation works • Implement the lighting priorities identified by the lighting audit • Prepare priorities and scopes for a capital improvement program for sportsground fields, lights, irrigation and amenity blocks and associated infrastructure upgrades for the next 10 years, to fit within Council's four-year delivery program, and review annually
Carrying capacities	• Undertake carrying capacity assessment on all grounds in Ryde to assist with determining sustainable levels of, and managing use • Introduce maximum numbers of participants per hour per field and total hours per week for all fields and include these in conditions of hire. • Consider prioritising allocations based on codes have one priority season. • The priority for winter codes will be in winter, and for summer codes in summer
Sportsground usage	• Update occupancy agreements to include clear documentation and communication about rest periods and acceptable preseason use dates, as well as associations' responsibilities with respect to ensuring user groups, coaches and trainers are notified when grounds are too wet or worn to play on • Consider the strategic provision of synthetic surfaces in conjunction with NSROC Councils and relevant sports codes • Seek support and commitment from users and sports to manage ground usage within carrying capacity limits, and introduce relevant requirements and incentives into occupancy agreements

2. Integrated Open Space Plan, 2012

The Integrated Open Space Plan (IOSP), adopted by Council in July 2012, provides a framework to assist in optimising the benefits and values of the City's total system of parks

3 @leisure. "Best Value Review: Allocation and Management of Sportsgrounds, Volumes 1 to 4
4 @leisure. "Best Value Review: Allocation and Management of Sportsgrounds, Vol 4 (Policy & Implementation Plan) pp 22-26

and open space, including outdoor sports fields.

The Plan is a response to Council's requirements (to increase knowledge of the types, distribution and values of open space, identify stakeholder and community needs, improve open space linkages, ensure sustainability and identify enhancement priorities) and is based on a detailed research program.

The research included a baseline study of policy context, open space and recreation trends, population growth and change, transport issues, environmental context and issues, existing open space assets (quantity, size, distribution, diversity, accessibility, connectivity), community needs, open space use, community attitudes and concerns and service gap analysis.

The Plan articulates a vision ('commitment for the City's Open Space') and a strategic framework underpinned by the following five thematic priorities:

1. Optimisation – making more of what we have
2. Consolidation and acquisition – more equitable access to open spaces
3. Integration and adaptation – ensuring the whole is greater than the sum of parts
4. Connection – linking parks with the natural environment and history
5. Organisation – planning from top down and bottom up

The Plan's more specific objectives flow from the vision and the five thematic priorities and are grouped under the following five themes:

1. Ample, accessible open space
2. Shared and enjoyed by all
3. Founded on a healthy natural environment
4. Conserving our rich history, culture and local character
5. Managed sustainably now and for future generations

Of most relevance to the current study is the 'Outdoor Sports' topic (under the "Shared and Enjoyed by All" theme) and its key Action to "extend existing sports capacity within existing reserves through a combined Masterplan and Plan of Management process that addresses the proposed 3-level sports facility hierarchy"[5].

3. City of Ryde Sport & Recreation Strategy 2016-26

This Strategy provides a framework for the provision, management and co-ordinated development of recreation facilities and services across the City of Ryde.

The Strategy builds on the findings and directions of the earlier Sportsground Best Value Review (2012) and the Integrated Open Space Plan (2012).

It articulates a vision and commitment to sport, recreation and open space and provides a strategic framework (goals, strategic focus and actions) underpinned by seven thematic priorities, as follows:

1. Make the most of what we have
2. Equitable access for all
3. We understand and respond to the needs of our diverse community
4. Our facilities are fit for purpose

5 The relevant Objective under the Shared and Enjoyed by All" theme is to "extend and enhance the capacity, amenity and quality of the City's open space to reflect recreational needs and local identity"

5. We provide inclusive and accessible sport and recreation
6. Our community will be aware of our facilities and programs
7. Sustainable management of facilities and sport

Recommended Actions of relevance to the current study included the following:

- Extend existing sports capacity within existing reserves through a combined Masterplan and Plan of Management process that addresses the 3-level facilities hierarchy
- Construction of synthetic surfaces at Christie Park #1 and #2.
- Construction of a synthetic football field suitable for shared use by AFL/ soccer at ELS Hall #1 and develop a new turf wicket between Marsfield #1 and #2 to accommodate the relocation of cricket.
- Investigate synthetic surface options at Meadowbank and Magdala Parks
- Undertake a detailed business case for priority sites identifies in the Draft Synthetic Surface Action Plan
- Investigate conversion of Gannan Park into two full size football pitches with sports field lighting in the Masterplan for the Park
- Consider additional field lighting at Meadowbank Park and upgrade existing sports field lighting

4. City of Ryde Synthetic Surfaces Action Plan 2016-26

The purpose of this study was to provide key objectives, principles and policy recommendations on the provision of synthetic surfaces over the 10- years to 2026[6]. Key findings of the study are summarised below.

Element	Findings/issues
Regional context – existing supply	At November 2015 there were 10 existing rectangular synthetic playing fields in the (NSROC) region for multiple sports (with 2 in private schools in Ku-ring-gai and Hornsby Council areas). There are 5 existing synthetic fields dedicated for hockey use only, two of which are situated at schools in the Ku-ring-gai Council area.
Regional context – Proposed facilities	At November 2015, eight (8) multi-use synthetic surfaces were being planned within the NSROC region
Needs assessment- regional	The 2015 Regional Plan for Synthetic Sports fields identified a range of strategies to increase the supply of sports fields including: • Synthetic options i.e. community access to synthetic sports fields in schools and conversion of natural turf to synthetic surface • Non-synthetic options- conversion of land (e.g. former tip or industrial sites to open space): community use of school turf fields; enhanced maintenance of natural turf sports fields; and improved sports field lighting[7]

6 The study was undertaken by Strategic Leisure Group in conjunction with the City of Ryde Sport and Recreation Strategy 2016-26.

7 SGL Consulting Group. "Northern Sydney Regional Organisation of Councils: Regional Plan for Synthetic Sports fields". 2015

Needs assessment- local	The 2013 City of Ryde Synthetic Sports Surfaces Study[8] undertook a preliminary assessment of all sports fields- with 10 identified for further assessment. From these, four potential sites were identified and assessed: • ELS Hall Park Field 1- recommended as a multi-sports field incorporating One-Turf Standards to accommodate Soccer, Rugby (Tag and Touch), AFL & Cricket • Christie Park Field 2- subject to the complex being repositioned as a community football centre with a clear strategic focus on being more community inclusive. • Eastwood Park Upper Oval- not recommended due to issues associated with late night use and impacts on surrounding residents • Magdala Park 1- not recommended due to issues associated with former tip site
Sports field capacity	The report drew from two 2015 Labosport studies (on the condition/management of Council's sports fields) to deem 22.5 hrs per week as the maximum effective usage of outdoor sports fields. It also noted that 'fields with over 30 hours per utilisation per week would be expected to produce a very poor surface, and most likely unacceptable, quality by the latter part of the football season"
Existing over-capacity use of fields	The study identified the following quantum of sports field over-use: • 45% of Council's 51 winter sports fields, were utilised for more than the recommended 22.5hrs per week. • 33% were used for more than 30hrs per week – with the collective winter season over-allocation (at 15 over-used fields) being 122 hours per week
Forecast sports participation growth	The study forecast the following sports participation growth 2016-26: • + 474 participants aged 5-14 years = circa +39 teams • + 1,557 participants aged 15+ years = circa + 104 teams
Potential capacity gap by 2026	The potential capacity gap – in the absence of capacity improvement initiatives- by 2026 would be 280 field-hours per week (i.e. 122 hrs existing and 158 hrs from sports participation growth). The report noted that, while there were several playing fields being used at less than 30 or 22.5 hours/week, most would require upgrades (e.g. lighting) to accommodate additional use.

Options considered for addressing the capacity gaps included the following:

- Turf field upgrades (lighting, ancillary facilities etc)
- New facilities/shared use of school facilities
- Hybrid' (natural turf/ synthetic) surfaces
- Full synthetic surfaces

The Report's initial focus was on the turf field 'upgrade' options due to the lower capital cost and reduced disruption to existing use.

Identified priorities were based on potential additional hours of use, absence of site constraints, potential for sports field lighting and suitable size.

The recommended priorities included 6 sports field lighting projects (for an additional 92 field user hours) and a field reconfiguration project at Gannan Park (for an additional 39 field user hours).

The report then reviewed synthetic field options in a two-stage process with an initial cull of

8 Smart Connection Company and SLS One Eighty. "City of Ryde Synthetic Sports Surfaces Study". October 2013

sites (eliminating those considered unsuitable due to size, ground conditions etc.) with the remaining 15 sites then assessed according to:

- Site size and topography
- Accessibility to main roads and public transport
- Suitability for sports field lighting
- Capability to accommodate car parking
- Impacts on current users
- Neighbourhood impact (e.g. noise, traffic, lighting and amenity)
- Future facility expansion capability
- Capital cost savings (e.g. partnership with schools or other organisations)

Based on these criteria, the most suitable sites for the potential development of synthetic surfaces were Christie Park 1, 2 and 3, Smalls Road School (Upper) and Meadowbank Park 2 and 3, as summarised below:

Sports field	Score	Sports field	Score
Christie Park 1	25	ELS Hall 3	19
Christie Park 2	25	North Ryde Park	19
Smalls Road (upper)	25	Gannan Park	18
Christie Park 3	25	Monash Park	18
Meadowbank 3	24	Tuckwell	18
Meadowbank 2	23	Magdala Park 1	18
Smalls Road (lower)	21	Dunbar	16
ELS Hall 1	19	Eastwood Upper	15
ELS Hall 2	19	Westminster	13

The Implementation Plan addressed existing over-use of sports fields as well as forecast user demand over the 10 years to 2026.

The key recommendations included short, medium and long-term actions, as follows:

Element	Actions	Additional field hrs
Short term	Field lighting projects x 2 (Morrison Bay Park 2 and 4)	+16
	Field optimisation x 1 (Gannan Park- re-place winter baseball with 2 F/S multi-pur-pose fields with sports field lighting)	+39
	Synthetic fields x 3 (Christie Parks 1 & 2; ELS Hall 1[9])	+88
Medium term	Field lighting projects x 1 (Meadowbank #12)	+21
	Synthetic fields x 1 (Smalls Road-upper)	+50

9 Council wished to proceed with the development of a synthetic surface at ELS Hall #1 as a Short Term action due to the delay in being able to develop synthetic surfaces at Christie Park resulting from the need to resolve planning and environmental issues at this location plus the fact that ELS Hall #1 can be developed comparatively quickly. A new turf wicket between Marsfield fields #1 and #2 was proposed to accommodate the relocation of cricket from ELS Hall #1.

Long term	Synthetic fields x 3 (Meadowbank #2 & 3; Christie Park #3- new)	+102
	Total	**+316**

The Implementation Plan also recommended several 'on-going' Actions, as follows:

- Completion of a detailed business case for each of the synthetic surface project,
- Monitoring of demand of each new synthetic field development – as development in the wider region may impact on the need for additional conversions,
- That a maximum of 30 hours per week usage of natural turf fields be adopted to avoid severe damage to turf, and
- Consider the use of 'hybrid turf technology' in high wear areas (e.g. goal mouths).

5. NSROC Regional Sportsground Strategy Review – Key Strategies & Actions

Potential solution	Proposed Action
Increasing the quantity and/or carrying capacity of sports infrastructure	Undertake identified initiatives to increase the capacity of sportsgrounds: • As detailed in 42 enhancement projects generating a yield of 934 hectare-hours (of which 11 projects yielding 200 hectare-hours were in Ryde City[10]) • Installation of synthetic fields at new development sites • Installation or upgrade of lighting • Reconfiguring playing fields to improve functionality • Upgrading drainage and/ or surface quality • Improving field maintenance and management practice
	Investigate and develop opportunities for joint use of school and university sportsgrounds
	Progressively review the impact of field capacity initiatives on the use facilities to refine future sports field supply needs
	Investigate conversion and/or co-use of other spaces (e.g. golf courses, bowling greens, schools) for sporting activities
	Actively engage with state government agencies on options to address the supply gap to 2026 and beyond
Sports demand management	Liaise with sports to identify and implement initiatives to manage demand e.g. to develop and implement game formats and programs to create more 'yield' (intensity of use)
	Assist sports codes with strategic planning at a regional level
	Annually monitor participation in sports (i.e. number of clubs and players across the region) and adjust field allocations to effectively balance maximising use with equity of access
	Engage in regular communication with schools (including private schools) regarding participation in sport and the development of sporting infrastructure

10 As detailed at Appendix C

APPENDIX E: SPORTS FIELDS CAPACITY ENHANCEMENTS – OTHER POTENTIAL PROJECTS

The following projects were recommended in the OSFPS or park masterplans but, based on the prioritisation criteria, they have a higher cost per weekly hour of capacity gained than the priority projects detailed in Section 6.5 of the report (on page 18).

These projects, while a lower priority due to their cost-effectiveness metrics, could come into consideration in the event that one or more of the higher priority projects listed in Section 6.5 prove unfeasible and/or in the years beyond 2036 in the event that demand for outdoor sport fields continues to grow.

Project Type	Park/location	Project	2022 Cost Est ($)[11]	Additional play hrs/week			Cost ($) per net hr/week gained
				Gross	Weighting	Net	
Field layout reconfiguration	Darvall Park[12]	New F/S (1) + sports field lighting- with loss of 1 Jun	1,000,000	30	1.0	30	33,333
Field layout reconfiguration	Meadowbank Park – stage 2 (eastern edge – fields 1, 2, 3)	New F/S (1) + sports field lighting +	4,122,798	30	1.0	30	137,427
		Loss of 1 F/S	0	-30	1.0	-30	0
New synthetic	Christie Park	New FS (1) synthetic + sports field lighting	9,316,582	50	1.0	50	186,332
Synthetic conversion	Marsfield Park	Upgrade FS fields 1 & 2 (2) to synthetic	8,220,751	40	1.0	40	205,519
Synthetic conversion	North Ryde Park	Upgrade FS (1) to synthetic	4,620,455	20	1.0	20	231,023
Field layout reconfiguration	Pidding Park[13]	New F/S (1) + sports field lighting	8,666,754	30	1.0	30	288,892
Field layout reconfiguration	Waterloo Park[14]	New F/S (1) + sports field lighting	11,946,782	30	1.0	30	398,226
Field layout reconfiguration	Magdala Park	New F/S (1) + sports field lighting	16,131,800	30	1.0	30	537,727
Field layout reconfiguration	Eastwood Park[15]	New F/S (1) natural + sports field lighting	To Be Determined	30	1.0	30	To Be Determined

11 All figures have been adjusted to 2022 by compounding with ABS' CPI for Australia – latest release at https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/dec-2021.

12 This project has an attractive cost-effectiveness dividend but is potentially constrained by a lease to the Denistone Park Bowling Club, which is due for renewal. It is therefore placed towards the bottom of the priority projects pending clarity on the future leasing issue.

13 Subject to the preparation of a park masterplan.

14 Subject to the preparation of a park masterplan.

15 Project requires a Eastwood Town Centre Masterplan to be prepared to determine feasibility of creating an additional F/S field and assess impacts on surrounding road network.