



THE SPORT, RECREATION AND COMMUNITY **TOOLBOX**

# **SPORTS FIELD AND FIELD LIGHTING CONSTRUCTION AND MAINTENANCE PLANNING INFORMATION**



**LOGAN**  
CITY COUNCIL

# SPORTS FIELD AND FIELD LIGHTING CONSTRUCTION AND MAINTENANCE PLANNING INFORMATION



THE SPORT, RECREATION AND COMMUNITY TOOLBOX

## SPORTS FIELD AND FIELD LIGHTING CONSTRUCTION AND MAINTENANCE PLANNING INFORMATION

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Prepared by: Sport, Leisure and Facility's Branch of Logan City Council

### Purpose

This document is intended to provide preliminary information that may be useful in the early stages of planning and budgeting for the construction and maintenance of sports fields and field lighting. This document has been produced by the Sport, Leisure and Facility Branch of Logan City Council based on their experience with local sporting fields. It is always advisable to seek specific information from experienced contractors to confirm the requirements and actual budgets for your particular application.

### Fields

#### Construction/Major Rebuilds

The information below and budget estimates are based on a flat site. If the site is sloped you will need to allow for the extra earthworks. Similarly the budget amounts do not allow for importing or exporting soil.

It is not possible to fully renovate an existing field or build a good quality new field if you do not have adequate irrigation and water supply. The preferred method for field construction is stolonisation rather than laying turf as it provides a better surface and is more economical.

A new field, well looked after & maintained should last 10 years between rebuilds. The preferred grass is wintergreen couch.

Approximate costs per hectare (ha) (10,000m<sup>2</sup>)

- Field construction \$30,000.00 - \$40,000.00
- Water costs during field construction \$10,000.00\*
- Irrigation installation \$30,000.00

A typical rectangular Soccer/Football field is approximately 1 hectare and a Cricket/AFL field is 2 hectare

\*Note - you may be eligible for some remission of water costs subject to the terms of your lease.

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## Items that can impact the price:

- The actual size of your field including runoff
- The condition of the existing soil
- The water pressure and flow in the town mains (This may require tanks and/or pumps which may add several thousands of dollars to the project)

## Items that can impact the lifespan of your field:

- Usage
- Maintenance
- Watering
- Mowing regime

## Timeframe

- Allow 4 months from commencement until you can use the field
- The first month is for the construction and planting plus 3 months for growing/establishment
- The prices include the maintenance costs during the growing period
- The preferred time to plant turf is from September-February

## Maintenance and Operations

For more information than what is contained in this document refer to the resource 'Managing your sports field' on Councils website.

### Irrigation

As an estimate allow for 2 Million litres per year per hectare. This is on top of rain. Ensure you maintain watering in winter. Long weekly irrigation is better than more frequent small irrigation cycles.

### Mowing

Typically allow 32 cuts per year at around 35mm in height. Never remove more than 1/3 of the leaf in a single cut. Do not allow the grass to grow too high during the summer off season as you will quickly lose turf quality and have an increase in weeds.

### Maintenance

The amount of maintenance required depends heavily on the desired quality of the field and the use of the field. The minimum activities to keep your field in a reasonable condition are:

- Aerate 3 times per year
- Fertilise 2 times per year
- Insecticide spray 1 time per year
- Pre-emergent weed spray/ once per year

The above treatments total around \$5000 per year per hectare.

Throughout the year and ideally during mowing (have a bucket of sand on hand) top dress any local depressions, keeping a particular eye on the sprinkler heads.

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Apart from the minimum activities, the following could also be undertaken;

- Extra aeration for a total of 6 per year (approx. \$700 each)
- Extra fertiliser applications, especially in high wear areas (approx. \$700 each)
- Leading into winter, it is recommended to strengthen the turf program (potassium silica, turf pigment sprays etc) \$700 - \$1200 total
- Re-turf bare areas at end of season \$2000 (depends on size)
- Hand spot spray of weeds (do not use roundup, selective herbicide only, targets weed not turf) \$200 for product
- Irrigation audits (monthly check by club)
- 10mm washed sand top dress \$8000 to \$10 000 per ha (100m<sup>3</sup> of washed sand)

Turf consultants can provide site specific turf maintenance programs. Depending on the quality and usage of the field these maintenance programs can cost from \$4000-\$12000 per annum per ha.

### **Field Lights**

The quality of field lights required depends on the level of competition and type of sport. Typically a rectangular field for amateur use would have 4 poles and lighting levels of 50 lux for training and 100 for competition. For semi-professional competitions the levels may be 100/200. Your State Sporting Association will be able to advise you of what you need for your level of competition. The installation should allow for switching between training standard and competition standard. Lux levels decrease over time so Council specify about 20% more than required so for 50/100 we would specify 60/120 (training/competition).

### **Installation**

A 4 posts 60/120 lux installation typically costs in the order of;

- \$125,000.00 to \$200,000.00 (for Metal Halide)
- \$300,000.00 plus for LED

### **Items that can impact the price:**

- The electricity supply and capacity to the site (if an upgrade is required from Energex it may take a significant amount of time before the upgrade is completed. (Please include a provisional sum of up to \$50,000 in your budget to cover potential upgrade charges)
- The condition of the existing electrical installation
- The ground conditions for the light pole footings
- Re-use of existing poles may not be feasible due to re-certification costs especially if there are no records of their initial installation.

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### **Maintenance**

#### *Metal Halide Lamps*

Metal Halide Lamps should last about 12,000 hrs.

Lamps are typically 2000 W and there would be somewhere between 3 and 4 per post.

Each lamp costs approx. \$450.00 + gst

Replacement will require an electrician and an elevated work platform (EWP). An EWP to hire is in the order of \$1600.00 per day.

Apart from the lamp you will likely replace the ignitor and capacitor at the same time and that costs around \$100 per light fitting.

Cleaning every 2 years will help with maintaining lux levels.

To maintain Australian standard sports lighting levels the lamp and igniter will need replacement every 2-4 years depending on usage.

#### *LED Lamps*

LED lamps should last about 50,000 hrs

As per Metal Halide lamps, LED lamp replacements will require an electrician and an elevated work platform (EWP).

LED lighting provides significant electricity savings and maintenance savings over the life of the fitting. LED technology for sports field lighting is still relatively new in Australia for Sports Field lighting and has a high capital cost compared to metal halide technology. Any proposed installation should be assessed individually for your site.

Please note replacement of lamps is generally the responsibility of the lease holder so please refer to the terms and conditions of your lease and budget accordingly.