

Good sports lighting balances performance, safety and compliance while delivering value for money. Use this guide to kick off your project with quick tips and hints, then follow the step-by-step checklist, *Sport HQ Sports lighting best practice guide*, for key terminology and deeper guidance.

## 1. Research your options

### Start by tapping into expertise and lessons learned

Research your options and seek advice from your Council's sport and recreation officer, and your Queensland Government sport and recreation office. An accredited lighting designer must prepare your lighting design, and it is recommended you engage a professional project manager to guide the process. Accredited lighting designers are specialists in Australian Standards (AS) and understand how to design a lit playing surface. Recognised accreditations include:

- Member of the Illuminating Engineering Society of Australia and New Zealand (MIES)
- Fellow of the Illuminating Engineering Society of Australia and New Zealand (FIES)
- Registered Lighting Practitioner of the Illuminating Engineering Society of Australia and New Zealand (RLP)

#### The right advice

Seeking early independent specialist advice helps you avoid costly mistakes down the track.

## 2. Project preparation

### Scope preparation



#### Define your scope and budget

- Clearly outline what you want to achieve, your delivery timelines and your budget
- Allow enough lead time for concept designs, cost estimates and grant submissions

#### Manage wisely

A project manager with specialist knowledge to manage the lighting contractors and delivery can be extremely valuable to ensure compliance and successful delivery, and is often a requirement if you have received funding.



#### Engage the right experts

- Determine if you are required to engage a qualified independent project manager or if you have the expertise to manage project
- Work with an accredited lighting designer for a compliant design or,
- Work with suitably experienced suppliers/contractors who will need to engage accredited lighting designers for compliant designs
- Consult electrical and structural engineers early, especially before switching to LED

## Approvals preparation



### Check your site constraints

- **Soil and foundations** – commission a geotechnical assessment for pole footings
- **Flood risk** – to ensure drivers and switchgear are installed above the 25-year flood level or in IP68 cabinets
- **Obtrusive light** – design to comply with AS 4282:2023
- **Aviation and environmental overlays** – address obstacle limitation surfaces, heritage or habitat buffers



### Secure approvals

- Seek permission for works from the landowners
- Confirm if you need a Development Approval (DA) or merely a Building Approval (BA)
- Engage a town-planner or use your Council's pre-lodgement service to avoid delays

#### Early approval

Early in the planning, make sure you know what approvals are required from the landowners and Council, even if you are just upgrading. Failure to secure appropriate approvals prior to design and construction may cause delays that result in significant increases in project costs. Better to check early.

#### Testing soil conditions

Before installing new lighting poles, consult the landowner or Council to understand the soil types on your site. A geotechnical assessment will be necessary to determine the soil conditions and is a critical step to design stable footings and avoid unexpected costs.

Additionally, having detailed soil information allows tenderers to develop footing designs specific to your site. While each tender may propose a different design, this knowledge ensures you can compare quotes, knowing all designs comply with local soil requirements.

## Design and installation preparation



### Ensure key design standards are followed

- AS 2560.2:2021 for sports-lighting layouts and lux levels compliance
- AS 4282:2023 for obtrusive-light control compliance
- Accredited lighting designer will produce a calculation grid for each switched light level and a compliance report

#### Example design

Getting the lighting design right is essential for achieving the best results. Refer to the *Sport HQ Sports lighting best practice guide* to ensure your design aligns with best practice.



### Future-proof your infrastructure

- Check poles, cross-arms and cabling capacity before adding heavier LED fixtures
- Ensure the pole layout caters for all the activities and participation growth at your facility
- Determined the lux level/s required for your activities, as per Australian Standards and, if relevant, as per your funding requirements

#### The cost of height access equipment

Reduce the cost of height access equipment by specifying that LED drivers be mounted at an accessible height but above flood levels.



### Consider your required lighting components

- Consider lighting fittings, lighting poles, cross arms, electrical (power supply/source, meters, cabling) and switching control system
- If you have existing lighting infrastructure, make sure it is sound and will work well with new lighting components
- Consider including an app-based lighting control system for ease of switching and control including remotely

#### External power and sound

Adding power points and speakers to lighting poles can be a game-changer for big events. Remember to budget for extra wiring and installation costs up front.

## Costs and warranties preparation

### Develop a scope of works and gather multiple cost estimates

- A precise scope of works saves time, prevents scope creep and helps you compare like-for-like quotes
- Obtain at least three comparable quotes or a Quantity Surveyor's cost estimate to ensure you are getting value for money
- Check the cost estimate matches your scope of works
- Review warranties when comparing prices to ensure long-term value and protection

### Ongoing maintenance

Consider how much it will cost to maintain and run when completed and if you can afford it over the long term – without any subsidies

## 3. Pre-construction considerations



### Finalise your design and project budget

- Make updates to your design, if required, and receive final signed off by a MIES, FIES or RLP member
- Build in project budget allowances including contingency, escalation and locality buffers

#### Additional time for a new or upgraded supply

Ensure that you allow generous timeframes and budget for the installation/upgrade of a new supply line or transformer as this is generally measured in months and not in weeks.



### Manage installation

- Use a licensed project manager to streamline approvals and contractor management
- Schedule works outside peak sports seasons or in separable portions
- Allow enough time for approvals and rectification works to playing surfaces
- Straight after installation, check if there are problems or issues with the installation, lighting and the associated warranties process

#### The downtime during installation and field repair

Rectification of damaged playing surfaces can take 8 weeks or more until activities can resume.

## 4. After construction considerations



### Commission and certify

- Engage an independent accredited (MIES, FIES or RLP) lighting specialist to undertake a formal audit to verify lux plots and compliance with Australian standards
- Obtain Form 15 building certifier sign-off before releasing retention (i.e. final payments owing to contractor on completion of works)



### Operation

- Ensure to gain a full understanding on how to operate the lights and systems
- Obtain your warranties, manuals and details of the people you need to contact if things aren't working as installed



### Plan for lifecycle costs

- Update your asset register and set maintenance schedules
- Establish or top up your sinking fund to cover routine upkeep and eventual replacements

Be mindful that sports lighting is an asset that can require ongoing maintenance. Plan for these costs so your organisation is not left in the dark!

This fact sheet only provides an overview. Ensure your sports lighting project shines and you avoid costly mistakes by following the step-by-step Sport HQ Best practice sports lighting guide. Turn your idea into a successful project that boosts participation while staying cost-effective and sustainable.