Design and Development of an Outdoor Recreation Facility
Design and Development of an Outdoor Recreation Facility
Land Use Planning & Coordination Unit
Policy, Research and Planning
Sport and Recreation Services

About the Land Use Planning and Coordination Unit

The Land Use Planning and Coordination Unit was established in 2010 as one of the three components of the Policy, Research and Planning Branch situated within Sport and Recreation Services in the Department of National Parks, Sport and Racing. The strategic focus of the Land Use Planning and Coordination Unit is to coordinate and support planning issues related specifically to the sustainability and advancement of sport and active recreation policy outcomes.

Enquiries
Department of National Parks, Sport and Racing
Level 8, 111 George Street
Brisbane Qld 4000
Phone: 07 3338 9208
Fax: 07 3338 9290
http://www.npsr.qld.gov.au

Date of Publication: February 2012
Republished: May 2015
#30817

Disclaimer
Every effort has been made to ensure that the information contained in this document was correct at the time of publication. However, the document is provided on the condition that the department is not rendering legal, planning or professional advice. Local Authorities must take their own professional advice upon the issues raised, and should not rely upon the information contained or omitted from this document.
# Contents

Disclaimer ....................................................................................................................................................2  
Introduction .................................................................................................................................................3  
Planning .......................................................................................................................................................4  
  Starting a business ..............................................................................................................................4  
    Is the project feasible? .......................................................................................................................5  
    Is the project sustainable? ..................................................................................................................6  
    What makes a site suitable? ..............................................................................................................6  
    Other site characteristics to consider .................................................................................................7  
    Outdoor recreation as a secondary use ..............................................................................................7  
Design .........................................................................................................................................................8  
  Steps in facility design ........................................................................................................................8  
    Step 1: Decide the facility’s purpose ..................................................................................................8  
    Step 2: Conduct a site inventory ........................................................................................................9  
    Step 3: Identify the area of land where development can take place ..............................................10  
    Step 4: Locate different functions appropriately ............................................................................10  
    Step 5: Walk the site with experienced designers ............................................................................12  
    Step 6: Develop a final plan ..............................................................................................................12  
    Step 7: Discuss the plan with the appropriate industry body ...........................................................12  
  Trail classification and design ..........................................................................................................12  
  Applying for approval to develop a facility ............................................................................................13  
    Sustainable Planning Act 2009 ...........................................................................................................13  
    Preparing a development application .................................................................................................13  
    The Integrated Development Assessment System process .............................................................14  
    Further information about development applications .........................................................................14  
Construction ..............................................................................................................................................15  
  Pre-Construction Phase .......................................................................................................................15  
  Steps in the construction phase ..........................................................................................................15  
    Step 1: Preparation of a construction plan ........................................................................................16  
    Step 2: Preparation of an accurate cost estimate for development of the site ..................................16  
    Step 3: Engagement of a professional to manage the project ..........................................................16  
    Step 4: Compliance with all relevant standards ..............................................................................16  
    Step 5: Consideration of neighbours ...............................................................................................16  
    Step 6: Undertaking construction in a responsible way .....................................................................16  
    Step 7: Monitoring construction and adjusting plans if required .....................................................17  
    Step 8: Inspecting the construction and completed works ................................................................17  
    Step 9: Obtaining industry registration or licensing .......................................................................17  
Further reading ..........................................................................................................................................18
Disclaimer

While every effort has been made to ensure that the information in this document was correct and accurate at the time of publication, the information is advisory and general in nature, and should not be relied upon to meet individual or specific requirements—it is to be used as a guide only and is not binding on any person or organisation.

This guide will not cover every circumstance, nor can it, when adhered to, entirely eliminate risk. Prior to using the information in this document, developers should consider the circumstances of their situation.

This document is provided on the condition that the State of Queensland, and the authors, consultants and advisors who contributed and assisted in compiling it are not rendering any legal or professional advice or service, and make no warranties about the information in the document. Developers are encouraged to seek their own independent professional advice, as necessary, prior to relying on information in this document.

The State of Queensland, and the authors, consultants and advisors who contributed and assisted in compiling this document, expressly disclaim all liability (including but not limited to liability for negligence) to the maximum extent permitted by law for errors or omissions of any kind, or for any loss (including direct and indirect losses), damage or other consequence that may arise from reliance on the information contained in or omitted from this document.

Material included in this document may be freely reproduced provided that it is accompanied by an acknowledgment stating the full title of the document, the State of Queensland and the date of release.

At the time of publication, the links to websites referred to in this document were correct. The Department of National Parks, Sport and Racing (NPSR) acknowledges that, at times, organisations change internet addresses or remove information from the internet.
Introduction

This guide is intended for private land owners or land managers who are interested in establishing outdoor recreation facilities on their land.

Outdoor recreation is a broad term covering a wide range of recreational activities in natural, rural or urban open spaces. In general, outdoor recreation is considered to include activities that do not require built facilities other than such things as tracks, amenities blocks, camping areas and car parks. It often involves large areas of land, water and/or air. Although outdoor recreation is sometimes defined in terms that exclude organised competition, many outdoor recreation activities have both recreational and sporting forms.

Examples of outdoor recreation include activities such as bushwalking, camping, canoeing and kayaking, mountain bike riding, trail horse riding, trail running, rock climbing, abseiling, orienteering, off-road motorcycling, four-wheel driving or ropes courses. These are examples only and do not reflect the full range of outdoor recreation activities.

The guide has been prepared by the Department of National Parks, Sport and Racing (NPSR), to facilitate the provision of places that support opportunities for community participation in recreation and sport.

The guide provides basic advice about issues to consider when planning and constructing an outdoor recreation facility and identifies relevant sources of further information. The guide is not intended to be comprehensive and does not replace the need for wider research and/or expert advice, but highlights a range of essential, generic issues to consider when planning and developing an outdoor recreation facility.
Starting a business

It is critically important that before investing in the development of an outdoor recreation business, prospective business owners ensure they are well informed regarding both the demands of running a business and the specific demands and opportunities of running an outdoor recreation business.

The Queensland and Australian Governments both offer extensive on-line resources to inform individuals who are considering starting a business. These resources discuss matters such as working hours and work-life balance, financial viability and control, access to markets, taxation, business structures, law and business planning. Details are available via the following links:

(Queensland Government)

(Australian Government)

In addition, the Queensland Government’s business.qld.gov.au website provides information on State, Local and Commonwealth government licensing requirements your business may need to meet.
Is the project feasible?

The relevant local government can help to determine if the project is feasible. Developers should seek advice from the relevant local government regarding whether its planning scheme will allow the proposed type of land use on private property. It is advisable, at an early stage, to seek to establish a relationship with the local government planning staff in order to gain a comprehensive mutual understanding of the project and its requirements under regional and local planning schemes.

It is also helpful to seek advice from industry bodies relevant to the types of outdoor recreation to be supported on the land.

To help ensure the financial feasibility of the project, a business plan should include costs for some or all of the following:

• contracting a project manager — depending on the complexity of developing the project
• obtaining planning approval
• design and construction (including contracting a qualified quantity surveyor to obtain reliable estimates)
• site works such as grading and drainage, sediment barriers/traps, permanent barriers for environmental protection, security lighting and fencing, linking to existing utilities and signage
• buildings such as a club house or office block, toilet/shower blocks, kiosks, storage facilities, or loading ramps
• building approvals
• landscaping — importing and grading soil, planting and irrigation of entrance and perimeter buffers, parking and events areas
• sealing areas such as car parks, maintenance and emergency [helipad] areas
• utilities — sewerage, electricity, installations for supply of drinking and irrigation water (installation and running costs)
• safety fencing, spectator areas, start gates, race towers (if appropriate), night lighting and a public address system
• allowing 10 to 15 per cent of original cost estimates to cover unexpected costs, inflation and project administration for the term of the project
• initial start-up equipment costs
• future operating costs.

A comprehensive feasibility study will also assess such factors as:

• the need for the facility, in relation to market demand and local supply of comparable facilities
• identification of key user groups and the size of the accessible market for the facility
• opportunities that may arise from synergies with other businesses including, for example, local tourism
• the scope of planning processes, approvals, cultural and heritage considerations and environmental issues that will need to be addressed
• likely cash flows during construction and operation
• overall financial costs and revenues associated with construction and operation of the facility. Revenues could include income sources such as entrance fees, grants, sponsorship and commercial contributions from on site businesses
• foreseeable difficulties and risks during planning, construction and subsequent operation of the facility.

If the financial feasibility of the facility appears likely to be initially weak, developers might consider whether the facility can be developed and opened in stages to allow early operating revenues to support latter stages of development. If employing this strategy, it is appropriate to assess the independent viability of each interim stage of development to identify possible risks, if any, that could arise if subsequent development is delayed or cancelled.

It is recommended that developers consider engaging the help of people experienced in operations and maintenance of similar facilities to estimate the costs to establish and operate the site.

In addition, consultation with experienced individuals who have already developed similar facilities can provide valuable lessons regarding all phases of the project including design, application for development approval, construction, promotion and operation of the facility.
Is the project sustainable?

When developing a site it is essential to ensure the development will be sustainable. Securing the long-term rights to use the land for the intended purposes is an important consideration.

To assess sustainability, prospective developers should consider these questions:

- Is the site close to interested populations?
- Is it easy to access?
- Will the project be environmentally friendly — will activities harm native plant and animal habitats or watercourses? The proposed development will have to meet the requirements of environmental legislation. Depending on the proposal, relevant state government legislation is likely to include the:
  - Environmental Protection Act 1994
  - Vegetation Management Act 1999, and
- Is it well designed — have the land’s natural features been incorporated; are the tracks constructed to minimise erosion?
- Is the project economically viable — will it operate efficiently with sufficient income and cash flows; will it be too costly to develop or maintain?
- Is there an adequate water supply?
- Will it be fun, engaging, satisfying and safe for participants and spectators?
- Will social, financial and environmental impacts of the intended activities at the site affect neighbours or other nearby land uses? Can these impacts be managed at acceptable levels?

Proponents of new outdoor recreation projects should, at an early stage of planning, identify and assess the potential risks associated with establishing, operating and maintaining the proposed facility. Specific risks are discussed further in this document. However, risk assessment in relation to project sustainability should be comprehensive, including risks associated with safety, legal, financial, social, market and environmental considerations.

What makes a site suitable?

A combination of appropriate land ownership, land use, local government planning provisions and physical characteristics is necessary for a site to be suitable for an outdoor recreation facility.

Typically, sites with favourable land tenure and land use characteristics for privately managed outdoor recreation will:

- provide the landowner or operator with secure, long-term rights to use the land
- be compatible with the intent of the local government’s planning scheme
- have minimal potential to negatively impact on neighbours
- for noisy activities, be sufficiently separated from sensitive land uses by distance or other buffers such as hills, trees and other natural barriers that reduce the impact of noise and dust. Sensitive land uses include hospitals, houses and child care centres.

Sites with favourable physical characteristics are likely to:

- have public roads to the property and internal access roads that can provide ready access during construction and can handle expected traffic volumes
- have safe entry and exit points from the site, which allow easy access during operating hours and speedy access by emergency vehicles
- be large enough for the proposed activities, all associated facilities and future expansion
- have a suitable climate
- be within acceptable travelling distance of a population/market
- allow tracks to be built where natural water bodies such as drainage lines, creeks, watercourses and coasts are not impacted
- have soils and other track surfaces that minimise erosion during track construction and use — for example, sites with acid sulphate soils need specific management to minimise the environmental impact of disturbing these soils
- have vegetation that can be retained to protect visual amenity, shade, separation between uses, but also be selectively cleared for safety
- preferably not be environmentally sensitive, avoiding locations with environmentally significant habitat areas or native plant and animal species.
Other site characteristics to consider

Landscapes offer a range of values including biodiversity, economic, scenic amenity, cultural heritage and outdoor recreation values. Outdoor recreation facilities should be planned and designed with the goal of optimising all values offered by the relevant landscape.

The proposed site may have culturally significant characteristics or features such as historic or archaeological features, traditional Indigenous sites or be the subject of native title claims. In general, however, native title should not be an issue on private freehold property. If the property has recently been bought, the solicitors who conducted searches on behalf of the buyer should have identified any development restrictions that apply to the land. Alternatively, the local government will advise whether the property is affected and advise who should be consulted. If the property is affected, developers should investigate any restrictions on the proposed use of the property and plan ways to preserve and manage relevant locations to allow continued access or use for cultural purposes.

Outdoor recreation as a secondary use

Outdoor recreation is often a secondary use for land that is primarily dedicated to conservation, agricultural production or some other use. Where a landholder considers introducing outdoor recreation as a secondary use of their land, the landholder will need to assess the potential impacts of outdoor recreation on the primary land use and the elevated management commitments required to balance multiple land uses.

Outdoor recreation activities may offer synergistic opportunities for existing businesses, such as facilitating tourism benefits. In some cases participants in outdoor recreation can assist in land management. For example, an agreement with an outdoor recreation club might involve club volunteers contributing to weed management, track maintenance or other needs. A good relationship with outdoor recreation groups can also lead to recreationists providing relevant information to landholders through reporting conditions or events sighted on the land (e.g. erosion, plant disease, vandalism, unauthorised trespassing etc).
Steps in facility design

Before applying for development approval the facility needs to be designed. The following seven steps will help with planning and design.

**Step 1.** Decide the facility's purpose — consider activities, participants, their ages, skills and equipment.

**Step 2.** Conduct a site inventory.

**Step 3.** Identify the area on the land where development will take place — the ‘site development envelope’.

**Step 4.** Locate different functions appropriately.

**Step 5.** Walk the site with experienced designers.

**Step 6.** Develop a final plan.

**Step 7.** Discuss the plan with the appropriate industry body.

Step 1: Decide the facility's purpose

Developers should consider:

- the features of the property
- the physical requirements of various activities to be conducted on the site
- the nature of the facility's targeted clients — their skills and abilities.

Knowing this will assist with decisions about which activities and competitive disciplines (if any) the operation will cater for.

Developers should then consult relevant stakeholders to:

- identify the number of people who will participate in the activities to be accommodated. This will help to determine if the number of potential users will justify the development. Local clubs and relevant industry (e.g. outdoor recreation clubs and associations, equipment retailers) should be consulted to seek their support and suggestions.

Contact details for recognised state sport and recreation bodies are available on the department’s web-site at:

Step 2: Conduct a site inventory

The design of an outdoor recreation site should be based on an inventory of the cultural, natural and built site features and values. Planning documents the local government may have produced should be reviewed to locate potential conflicts or trouble spots or opportunities such as the acquisition of additional neighbouring land.

Physical characteristics: The physical characteristics of the site will be of major importance when designing the facility. Obtaining aerial photographs and maps can help to ensure that all background physical characteristics of the site are identified. Climate, topography, soils, vegetation, plants, animals and other features all need to be considered, as well as existing uses.

Built or planned facilities: An inventory should be made of existing roads, tracks and other infrastructure such as buildings or fences, which may be used in, or could be changed to suit, the final site design. If buying the property, ensure that comprehensive pest and building inspections are conducted, and check that all buildings have local government building approvals. Contact the local government to identify planned uses for the property and neighbouring sites, and utilities that pass through the site, such as oil and natural gas pipe lines, water, stormwater and sewerage pipes or power lines. The local government will identify the relevant authorities with an interest in the site and will advise if it is necessary to contact them.

Utilities: Checks should be made to ensure that services required to establish and operate the facility are available, or can be cost-effectively provided on site. Developers should consider the need for water, sewerage, power, waste disposal, and telephone services both during construction and when the facility is in operation.

Developers should explore what business opportunities the property might support and the best location for these. For example, opportunities could include:

- training/instruction in the activity
- food and drink sales
- equipment maintenance and hire
- camping and other recreation activities for participants and supporters.

Conducting additional activities may require additional development approvals, permits or licences from the local government — depending on the nature of the service to be provided.
**Culturally and environmentally sensitive areas:** Developers should contact the Department of Environment and Heritage Protection to identify any culturally or environmentally significant characteristics of the site and ensure the facility design accommodates or preserves these. Plan to:

- maintain, protect and manage culturally significant features
- improve habitat linkages and potential ecological corridors
- protect sensitive or significant native plants and animals to ensure their survival
- protect native vegetation and animals from indirect impacts of the development
- buffer and restore degraded vegetation where necessary
- control the spread of weeds
- identify fire risks. Provide access for fire fighting vehicles and equipment where bushfire or other fire risks are significant. Limit any permitted burning to a designated area and determine safe conditions for burning.

**Water courses:** Attention should be given to the potential impacts of water on trails as well as to the impacts of the activities at the site on water quality. Erosion from water flows can impact the safety of participants in activities at the site and can exacerbate maintenance costs. If not well managed, pollution from activities on the site may impact the ecological health of waterways or water quality in catchments, potentially bringing the facility into conflict with environmental laws.

Where possible, the creation of new water crossings should be avoided. If a new crossing is needed, professional advice from a qualified engineer will help to minimise impacts through appropriate design and construction of the crossing.

**Step 3: Identify the area of land where development can take place**

The area of land where development can take place, or the 'site development envelope' should:

- allow for any buffers recommended by the local government’s planning scheme provisions if the development will generate noise, dust or odours
- avoid site hazards such as excessively steep areas, cliffs, waterways, areas prone to flash flooding, power poles and highly erosive or acid sulphate soils
- account for specific features of the site – for example, electricity companies may have conditions relating to the use of land close to power poles.

**Step 4: Locate different functions appropriately**

An interim design for the site should be drafted using a large scale contour map. The design should include:

- the location of existing infrastructure such as roads, tracks and power lines
- sensitive and protected areas
- access points
- essential facilities, which will ensure an economically feasible operation and meet venue standards.

The map could also include:

- the locations of soil types
- slopes
- vegetation types
- heritage values
- watercourses.

It is useful to make copies of this base map for use in the final site plan. Developers should ensure they can afford to build the facility or operation designed, that risks are managed, and that participant and spectator safety is optimised.

Consider the following features in your site design.

**Compatibility with surrounding areas:** Proposed site components should be located so they are compatible with adjacent and surrounding land uses.

**Built elements of the facility:** Considerations include whether the facility requires:

- an administration building
- camping facilities
- sheltered meeting points at landmarks along tracks or trails
- water storage
- access points
- food preparation / sales facilities.

If the facility is intended to host competitive activities, the site may require:

- a clubhouse or administration building
- grandstands or viewing areas
- warm-up, marshalling or training areas
- staging areas
- storage facilities
- areas for participants to base themselves where they can prepare for their activities or undertake maintenance on equipment.
Site hazards: Locating tracks near hazards should be avoided. An assessment will be needed of what selective clearing will be necessary to create safe tracks and optimise the site’s scenic potential and interest for participants.

The clearing of native vegetation in Queensland is regulated by the Vegetation Management Act 1999. Vegetation management guidelines for landholders are available at www.ehp.qld.gov.au/licences-permits/index. These explain when a permit is required and how the Department of Environment and Heritage Protection can help in the process. Although permits for broadscale clearing are no longer issued in Queensland, native vegetation may still be cleared under a permit to build infrastructure. In addition, local governments may apply specific tree clearing restrictions.

Risks: Managing risk is an essential component of safe and sustainable facility design.

Good risk management starts with appropriate planning prior to construction, that considers the risks facility operators, clients or others may face. Facility design should incorporate features that reduce the frequency, severity and consequences of incidents. For example, this can be achieved through:

- warnings, filters, optional routes, graduation in the difficulty of activities, providing areas to build confidence and skills to negotiate more difficult sections and maintaining good sight lines
- managing areas where horse, bicycle or motorcycle riders could fall (if your facility caters to these activities) by clearing hazards, reducing speed limits and reducing the distances riders might fall
- signage which helps to locate and retrieve injured participants
- consistently enforcing risk management practices.

Risk management is an important consideration for developers and operators of outdoor recreation facilities. The department recommends proponents refer to relevant Adventure Activity Standards, available at: http://qorf.org.au/industry/downloads-master/aas
Step 6: Develop a final plan

The detailed contour map developed for the interim design can be used to produce the final plan for the site. Knowledge gained from walking the site can be used to:

- locate the different planned activities sensitively and appropriately
- protect the site’s environmental and cultural features.

Developers should also consider completing supplementary plans relevant to the planned uses of the site, such as:

- a preliminary engineering survey for tracks, roads and drainage
- a track design and landscape plan
- development plans for any built facilities
- a business plan for the operation of the site.

Step 7: Discuss the plan with the appropriate industry body

It can be beneficial to contact the relevant state recreational or sporting association for your proposed activity at an early stage of planning. These organisations can provide valuable insights into the interests of participants and other stakeholders in their activities.

Additionally, if you wish to host competitive events with the endorsement of a relevant association, it may be useful to check whether that association has specific requirements that should be considered during facility planning. For example, Motorcycling Queensland requires applicants seeking to have their competitive facility licensed or their recreational venue registered, to submit their draft plans for evaluation before starting construction.

Trail classification and design


Tracks and trails: The design of tracks and trails will affect users’ enjoyment and safety, environmental impacts, erosion and the extent, and costs of ongoing maintenance. For example, if a site caters to relatively high speed activities such as off-road motorcycling or mountain bike riding, poorly designed intersections can heighten safety risks. The width of a track and how it is cut into the side of a slope will affect drainage and erosion.

The International Mountain Bicycling Association (IMBA) offers extensive advice on trail design and construction, including identification of commonly made errors. Although the IMBA focuses on mountain bike riding, its advice on trail design has wider relevance. See: [www.imba.com/resources/trail-building](http://www.imba.com/resources/trail-building).

Trails SA has published Sustainable Recreational Trails: Guidelines for the planning, design and maintenance of recreational trails in South Australia. This publication provides comprehensive information on trails from planning and design through to operation and maintenance.

See: [www.southaustraliantrails.com/resources.asp](http://www.southaustraliantrails.com/resources.asp)

Additional sources of information are listed in ‘Further reading’ at the end of this document.

Step 5: Walk the site with experienced designers

Having drafted a preliminary design for tracks and other site features, walking over the site can help identify where the planned locations of features require adjustment to improve safety, enjoyment and interest — avoiding sensitive areas that may later need excessive maintenance – and to optimise the use of the site for all users.

If catering to competitive activities, this site check can help ensure the design layout and associated structures will meet necessary standards.
Preparing a development
application

The Queensland Planning Provisions (QPP) are the standard planning scheme provisions made under the Sustainable Planning Act 2009 that provide a consistent format and structure for local government planning schemes across Queensland. In addition, the QPP provides a range of definitions for land uses and administrative terms used in planning schemes.

Development proponents should check the terminology used in the relevant local government planning scheme. If the scheme was prepared after the introduction of the QPP on 18 December 2009, it should be compliant with the QPP. In that case, it will be necessary for development proposals to reflect the definitions used in the QPP. Information on the QPP is available at: http://www.statedevelopment.qld.gov.au/statewide-planning/queensland-planning-provisions.html.

Applying for approval
to develop a facility

Sustainable Planning Act 2009

The Queensland Government is replacing the Sustainable Planning Act 2009 with clear and concise legislation. The replacement legislation is currently captured in the Draft Planning and Development Bill and Planning and Environment Court Bill.

For more information visit the Department of Infrastructure, Local Government and Planning website http://dilgp.qld.gov.au/planning-reform
Development proponents should note that:

- A number of development approvals may be required to establish an outdoor recreation facility
- A legal process exists for making, assessing and deciding development applications
- A development application for an outdoor recreation facility is likely to be complex to prepare and assess, particularly if it involves noisy or environmentally impactful activities
- Such activities may also incur conflict with adjoining and nearby landowners, increasing the likelihood of opposition to the development proposal
- Fees will be required from local government and possibly state agencies in order to process the development application
- Technical consultants will need to be engaged to prepare assessment studies to support the application
- The application is likely to take more than six months and up to a year to assess by local government, depending on its complexity and the issues that arise
- Council may require infrastructure contributions as well as internal and external works as part of the development approval
- The costs associated with consultant fees, planning studies, development assessment fees and any internal or external works required as a condition of approval, can be substantial. For example, if the proposed development is likely to generate additional traffic and require emergency access along a minor road, substantial costs may be required to upgrade the road accordingly.

The Integrated Development Assessment System process

The provisions of the relevant local planning scheme will identify the required levels of assessment (e.g. code assessable or impact assessable) applicable to different types of development within a local government area. Various components of a facility’s development may require different levels of development. The local government will be able to offer advice relating to your specific proposals.

In general, however, the development assessment process follows the steps outlined by the Department of Infrastructure, Local Government and Planning at: http://dilgp.qld.gov.au/planning/development-assessment/development-application-steps.html

Further information about development applications


Assistance in preparing and lodging a development application can be obtained by:

- privately commissioning a town planning consultant to prepare the application
- contacting the section of the relevant local government dealing with development assessment matters
- consulting the Department of Infrastructure, Local Government and Planning
- contacting the Planning Institute of Australia.
Construction

Pre-Construction Phase
After obtaining the necessary IDAS approvals, and before starting construction, developers should:
• determine how the site will be managed once it is operational
• develop a business plan for the facility managers or a club development plan for any not-for-profit organisation running the facility
• determine what funds are available for capital development and estimate the likely income stream from the site
• estimate all costs associated with construction, starting up early operations and ongoing maintenance costs to confirm that sufficient resources will be available following construction, to run the facility
• produce construction documents and ensure they comply with relevant established venue standards
• obtain all local government building approvals and permits required
• if external contractors will be needed for construction, use the design documents to call for tenders, assess the tenders received and award the tender to complete the construction.

Steps in the construction phase
Effective management of the construction process includes:
Step 1: Preparation of a construction plan.
Step 2: Preparation of an accurate cost estimate for developing the site.
Step 3: Engagement of a professional to manage the project.
Step 4: Compliance with all relevant standards.
Step 5: Consideration of neighbours.
Step 6: Undertaking construction in a responsible way.
Step 7: Monitoring construction and adjusting plans if required.
Step 8: Inspecting the construction and completed site works.
Step 9: Obtaining industry registration or licensing.
Step 1: Preparation of a construction plan
A construction plan that covers all aspects and stages of the construction should be prepared.

Step 2: Preparation of an accurate cost estimate for development of the site
Engaging a qualified quantity surveyor can assist in gaining a more reliable estimate of the costs of constructing the facility as designed. The Australian Institute of Quantity Surveyors website www.aiqs.com.au or the Yellow Pages can be used to identify the names of Queensland-based professionals.

Step 3: Engagement of a professional to manage the project
It is desirable that a professional project manager be contracted to manage complex projects. The relevant local government may keep a register of local professionals. The Yellow Pages also lists project managers.

Step 4: Compliance with all relevant standards
The venue operator must ensure the site complies with all standards, regulations and statutory permits, including environmental, town planning and safety standards; and local and state government regulations or statutory permits. These include erosion and sediment control standards and construction standards for new buildings.

The operator must also ensure that all venues are constructed and maintained according to these standards and meet health building codes and any local government by-laws for sporting facilities and public parks.

Step 5: Consideration of neighbours
The interests of neighbours should be considered before construction commences. In most cases it is both courteous and beneficial from a practical perspective to develop relationships with all nearby property owners, businesses and community groups. Informing the local community of relevant aspects of the construction process and, ensuring that construction activities do not adversely affect neighbours will reduce the risks of conflicts arising during construction.

Step 6: Undertaking construction in a responsible way
Construction of facilities should not damage the environment or unnecessarily disadvantage nearby property owners. Environmental standards that must be met during construction vary among Queensland local governments. Contact the relevant local government to check its standards.

Preparing an environmental management plan can provide a useful guide for contractors and volunteers overseeing construction. Such a plan should address the appropriate range of environmental issues for the site, to ensure all stages of construction occur in a socially and ecologically sustainable way. This would include ways to manage any undesirable impacts of construction, including:

- minimising impacts on nearby property owners and other stakeholders
- controlling erosion and minimising the effects of eroded sediments
- controlling and managing declared plants and other weeds during construction
- minimising pollution from construction activities and on-site facilities required by the workforce. Pollution has adverse environmental impacts and may impose heavily on existing infrastructure
- sourcing and road transport of materials. It is important to ensure the safe transport and use of equipment and materials, and that extraction and use of sand, gravel and other construction materials are in accordance with licence provisions and road maintenance and repair standards
- managing acid sulphate soils if excavations are required close to mangrove and salt marsh lowlands
- operating all vehicles in a safe manner with consideration for others.

For complicated, multi-facility projects, the environmental management process may operate as explained below. For simpler projects, the landowner/manager may take responsibility for both environmental and project management.

---

1. This section has drawn upon a framework environmental management plan for off-road motorcycling facilities, developed by Ison Environmental Planners on behalf of the Gold Coast City Council in 2002.
Supervision, reporting and site management are required before and during construction:

- Before work starts on the site, the local government appoints an environmental officer responsible for auditing and reporting performance and compliance with the Environmental Management Plan. This officer is not responsible for construction.
- The landowner/manager should appoint a project manager and an environmental site representative. One person could assume both responsibilities. The project manager will have overall responsibility for the project including Environmental Management Plan obligations, while the environmental site representative might be the main contractor.
- During construction, the environmental site representative should hold all appropriate documents on site and prepare monthly environmental summary reports, which are kept on site available for inspection by authorised people until construction is complete. Following construction, the Environmental Management Plan Framework also provides a means of ensuring that ongoing site management is environmentally sound.

**Step 7: Monitoring construction and adjusting plans if required**

It is important that all aspects of the construction process are monitored regularly to ensure the local government’s environmental standards are adhered to and that appropriate reporting is completed. Developers should also ensure that necessary design and management adjustments can be made in a timely way to accommodate unexpected changes, such as cost increases. When costs exceed available funds, it will be necessary to consider whether to reduce the planned size or scope of the project, obtain more funds or complete the project in phases.

**Step 8: Inspecting the construction and completed works**

Construction should be managed to ensure that ongoing inspections and review of each stage can determine if adjustments are required to environmental management procedures, the site design, cost estimates or contract documents. Developers should:

- engage people who are experienced in final inspections to help make a detailed inventory of the completed site works and buildings, and to ensure that contracted works have been satisfactorily completed before obtaining final local government approval.
- check for and rectify any discrepancies between the contracted works, the final result and any relevant industry venue standards.

Where a development involves building work, building certification will be required. Building certification is the independent checking and approval of building work by a building certifier (also known as a building surveyor) to ensure the work complies with safety, health, amenity and sustainability standards specified in legislation and building codes.

Local governments depend on building certifiers to check that building work complies with building codes and laws. The certifier may be a local government employee or a private certifier that the local government contracts to work on its behalf.

**Step 9: Obtaining industry registration or licensing**

For some outdoor recreation activities developers may wish to gain industry support through registration or licensing with a relevant recreation organisation. For example, to conduct off-road motorcycling events sanctioned by Motorcycling Queensland, a facility operator must have venue registration and a track licence with that body.
Content discusses:

- human perception of nature and sites
- physical forces of compaction and displacement caused by trail use
- erosion
- soils and tread materials (including crushed stone)
- the complex interaction of slope, grade, runoff, weather and climate, tread width, trail use, trail drainage, sustainability of drainage.

**American Trails:** American Trails is a non-profit organisation that identifies its goal as being to support America’s trails by finding common ground and promoting cooperation among all interested parties. Their website includes a range of relevant resources. See [www.americantrails.org/resources/index.html](http://www.americantrails.org/resources/index.html).

**International Mountain Biking Association (IMBA):** The IMBA’s mission is to create, enhance and preserve great trail experiences for mountain bikers worldwide. In addition, IMBA states that it actively promotes responsible mountain biking, supports volunteer trail work, assists land managers with trail management issues, and improves relations among trail user groups. IMBA’s trail-building manuals and other resources can be accessed through [www.imba.com](http://www.imba.com). Also see reference to *Trail Solutions: IMBA’s Guide to Building Sweet Singletrack*, below.

**Natural Surface Trails by Design: Physical and Human Design Essentials of Sustainable, Enjoyable Trails:** (by Troy Scott Parker)

This book discusses natural surface trail design for any trail use, including trails for hiking, horse riding, mountain biking, wheelchairs, all terrain vehicles and off-road motorcycles.

**Professional Trailbuilders Association (PTA):**

PTA is a North American advocate for private trail contractors. PTA's web-site includes links to a variety of organisations with relevant information. See [www.trailbuilders.org/](http://www.trailbuilders.org/).
Sustainable Recreational Trails: Guidelines for the planning, design and maintenance of recreational trails in South Australia:
This publication provides comprehensive information on trails from planning and design through to operation and maintenance.
See: www.southaustraliantrails.com/resources.asp