



**WorleyParsons**

resources & energy



# AGIC Conference October 2011

## Category 4.3 Land Management





- ▶ Minimise adverse impacts to the natural landform including the values and function of land;
- ▶ Use the landform or landscape's natural capacity and attributes to influence the built environments shape and style; and
- ▶ Where necessary, remediate land to protect function and amenity and maximise opportunities for enhancement.



- ▶ Using the landform or landscapes natural capacity and attributes to influence the built environments shape and style and preserve the visual amenity;
- ▶ Minimising landscape alteration as far as possible to mitigate alteration of natural drainage and hydrological regime and enhance or retain regulating services of the land (i.e. flood control);
- ▶ Managing the land without damaging ecological processes or reducing biological diversity; and
- ▶ Reinstating or enhancing previous conditions and values of land.



- ▶ Making Decisions
- ▶ Water
- ▶ Discharges to Air, Water and Land
- ▶ Waste
- ▶ Functioning Ecosystems
- ▶ Enhanced Biodiversity
- ▶ Health, Well Being and Safety
- ▶ Natural and Cultural Heritage Values
- ▶ Positive Legacy
- ▶ Urban & Landscape Design





- ▶ Encourages a holistic approach.
- ▶ Flow on effects (preserve top-soil help preserve biodiversity).
- ▶ Natural resource management recognises the interrelations between water, vegetation, people and land and thus manages the system as a whole (catchment management).
- ▶ Focus on the larger scale system which in turn preserve the underlying values and processes such as biodiversity and hydrology.



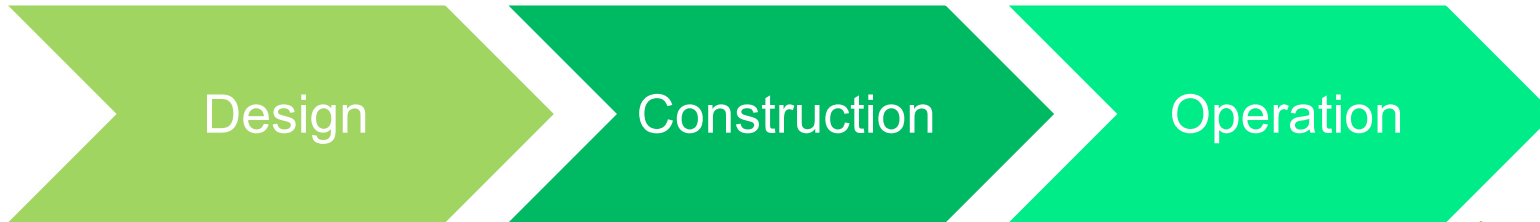
# Benefits of Sustainable Land Management

- ▶ Asset protection
- ▶ Reduced flood risk
- ▶ Retain environmental and biodiversity values by maintaining natural drainage patterns
- ▶ Less man-made flood protection devices needed
- ▶ Less waste
- ▶ Increased energy efficiency
- ▶ Health and recreational benefits





- ▶ No specific legislation for a general concept
  
- ▶ Proponent must demonstrate impact is avoided and minimised wherever possible e.g. reduce footprint
  
- ▶ Incentives for sustainable land management that stem from other legislation and guidelines
  - Flood management
  - Greenhouse emissions
  - Waste



FLOODING DESIGN & MITIGATION

CONSERVATION OF SITE RESOURCES

PREVIOUS LANDUSE

SITE SELECTION

REMEDICATION OPTIONS

## IMPACTS





- ▶ Enhance, Improve & Restore
- ▶ Avoid – the first tier of management should avoid any landscape alteration of undisturbed land and impacts to landscape values.
- ▶ Minimise and mitigate – where avoidance is not possible minimise and mitigate the extent of alterations and potential impacts.
- ▶ Offset – offsetting impacts that could not be avoided or mitigated should be the final tier of management.
- ▶ Monitoring – is important to identify opportunities for improvement.



- ▶ CEQUALL award for excellence in Sustainable Land Management
- ▶ The A2/A282/M25 highway improvement scheme
- ▶ Improve safety and alleviate congestion; improve journey time & access to local areas
- ▶ Required significant earthworks remodelling
- ▶ Did a number of things well



- ▶ Mounding = ↓ Visual and noise impact
- ▶ Extensive planting of native trees and shrubs and additional strips of land were acquired for planting = ↑ Environmental value
- ▶ Drainage redesigned to protect against pollution & major lagoon re-profiled to its natural shape in keeping with its surroundings = ↑ Improved hydrological function of the landscape.
- ▶ Remediated contaminated concrete and re-used as fill = ↓ Waste

