Capital Infrastructure Planning Policy

Policy Statement
Effective capital infrastructure planning ensures the delivery of fit for purpose buildings on appropriate sites to support the delivery of safe, effective health services.

Intent of this policy
This policy has been established to ensure:
- capital infrastructure planning is undertaken in a consistent and rigorous manner
- value for money capital infrastructure solutions are delivered
- capital infrastructure planning will be informed by service planning and delivery models
- all processes undertaken to manage capital infrastructure planning shall be informed by the following documents:
  - Australasian Health Facility Guidelines
  - Queensland Health Capital Infrastructure Requirements
  - Queensland Health Design Standards
  - Implementation Standard for Capital Infrastructure Proposal.

Scope
This implementation standard applies to all Department of Health employees and contracted staff (permanent, temporary and casual) employed in the department’s corporate divisions and commercialised business units.

The policy applies to all major capital works projects as outlined in the Hospital and Health Boards Regulation 2012 (Qld).

Principles
All capital infrastructure planning:
- is informed by health service planning and functional design brief
- clearly links health service requirements with physical design
- promotes sustainable services
- complies with relevant standards to support delivery of safe services
- achieves value for money in construction and operation
- considers the surrounding built environment
- supports delivery of culturally appropriate services through appropriate design
- provides for inclusion of all services necessary for integrated service delivery.
Legislative or other Authority
- Building Act 1975 (Qld)
- National Construction Code
- Financial Accountability Act 2009 (Qld)
- Financial and Performance Management Standard 2009 (Qld)

Supporting documents
- Implementation Standard for Capital Infrastructure Investigation QH-IMP-343-1:2012
- Appendix 1: Implementation Standard Guide
- Appendix 2: Capital Infrastructure Planning Terms
- Capital Infrastructure Requirements Suite of Documents

Related policy or documents
Queensland Health:
- Design Considerations and Summary of Evidence: Children’s emergency, inpatient and ambulatory health services (2010)
- Employee Housing Design – Standards and Guidelines QH-GDL-929:2009
- Guidelines for Condition Assessments QH-GDL-914:2001
- Implementation Standard for Cultural Heritage Assessment QH-IMP-353-1:2012
- Implementation Standard for Native Title Assessment QH-IMP-353-2:2012
- Oral Health Unit – Queensland Health Facility Guideline (2012)
- Protocol for Real Property Acquisition QH-PTL-353-1:2012
- Real Property Management Policy QH-POL-353:2012

Other:
- Australasian Health Infrastructure Alliance 2010, Australasian Health Facility Guidelines
Business area contact
Senior Director, Clinical Infrastructure Team, Health Infrastructure Branch,
System Support Services, Department of Health

Review
This policy will be reviewed at least every three years.

Date of last review: 27 April 2012
Supersedes: Version No.: 1.0

Approval and Implementation
Policy Custodian:
Chief Health Infrastructure Officer, Health Infrastructure Branch, System Support Services, Department of Health

Responsible Executive Team Member:
Deputy Director-General, System Support Services, Department of Health

Approving Officer:
Deputy Director-General, System Support Services, Department of Health

Approval date: 27 April 2012
Effective from: 27 April 2012

Definitions of terms used in this policy and supporting documents

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition / Explanation / Details</th>
<th>Source</th>
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<tbody>
<tr>
<td>Capital Infrastructure Planning</td>
<td>Determines the requirements of land, buildings, building services, equipment and site improvements (e.g., car parks) to support operational needs of health services now and in the future.</td>
<td>Queensland Health</td>
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<tr>
<td>Capital Works</td>
<td>Works with a capitalisation value greater than $10,000.</td>
<td>Queensland Health</td>
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<tr>
<td>Capital Infrastructure Requirements</td>
<td>Provision of the basis for a consistent and standardised approach to infrastructure planning and design.</td>
<td>Capital Infrastructure Requirements</td>
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</table>
| Major Capital Works | Major capital works are capital works that:  
  • are structural works  
  • involve alterations to the building envelope  
  • result in additional recurrent operational expenditure  
  • result in the need for regulatory compliance of the building structure or with building service standards, including building and information technology standards. | Hospital and Health Boards Regulation 2012. |
| Third Party Organisation | An entity external to Queensland Health and other state government departments. Third parties may include:  
  • local government authorities  
  • universities  
  • specialist providers (e.g. car park provider, child care provider)  
  • not-for-profit organisations  
  • for-profit organisations  
  • non-government organisations. | Third Party Infrastructure Policy Queensland Health |
<table>
<thead>
<tr>
<th>Process Type</th>
<th>Precondition</th>
<th>Implementation Requirements</th>
<th>Relevant Implementation Standard(s)</th>
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<tbody>
<tr>
<td>Implementation Planning</td>
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<tr>
<td>Implementation &amp; Monitoring</td>
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### Capital Infrastructure Planning Terms

The following terms relate to strategic-level, early phase capital infrastructure planning. The capital infrastructure planning process involves determining future requirements of land, buildings, building services, equipment and site improvements (e.g. car parking) to support the operational needs of health services. This is achieved through a Capital Infrastructure Planning (CIP) Study. A range of activities may be conducted as part of the study, with these activities varying depending on the required objectives and outcomes of the study.

The outcome of capital infrastructure planning is early identification of a preferred capital infrastructure solution for a recognised service need. Category 2 cost estimates generated as part of the study are considered ‘low level confidence’ cost estimates (based on a scale of 1 to 6 confidence level with 6 being the highest level of cost estimate confidence: Capital Works Management Framework: Estimate Categories and Confidence Levels: Policy Advice Note: June 2010). These cost estimates are based on concepts for redevelopment options and as such, should not be relied upon other than as preliminary cost estimates only.

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<thead>
<tr>
<th>Term</th>
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<tr>
<td>1. Capital Infrastructure Planning Study</td>
<td>A study that considers a number of capital infrastructure options and identifies a preferred option to meet future service requirements. The study incorporates: an assessment of land, buildings and site which may include a site investigations, building inspections, a capital infrastructure functional assessment, site assessment, space utilisation audit and/or car parking study (see descriptions below) - preliminary schedule of accommodation - options development - Category 2 cost estimates - options analysis - recommendation of a preferred option.</td>
<td>A report that includes: - current site details including site plan (refer to Diagram 1) - built infrastructure and services - future clinical services - site opportunities and constraints - assessment of findings - options considered including concept plans (refer to Diagram 2) and Category 2 cost estimates - options analysis - selection of preferred option by Steering Committee based Queensland Health project critical success factors - details of preferred option including floor layout plan, site elevation plan, site massing plan and broad staging of the preferred option (as required) - schedule of accommodation.</td>
</tr>
<tr>
<td>2. Site Investigation</td>
<td>An investigation of potential sites for the acquisition of land for a health facility. The investigation considers: - location of site/s - land size - access to major road networks and public transport services - access to other health facilities and community services</td>
<td>A report that includes: - the site size and location - a brief overview of site advantages and disadvantages based on site selection criteria - site recommendations.</td>
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Source: Adapted from: Preliminary Infrastructure Planning Fact Sheet: Queensland Health (2110).
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|      | - current occupancy of buildings (if applicable)  
      | - known site issues such as flooding or site contaminants. | Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report.  
Where further investigation of a selected site/s is required, a site due diligence study (site selection report) would commence (as funding becomes available). Refer to Acquisition of Real Property Policy and Procedures (Queensland Health). |

3. Building inspection

A high-level assessment of the physical state of building and building services to determine the capacity of the existing buildings and building services to support future development. The inspection considers the condition, compliance and capacity of building and building services and may include all or some of the following:  
- main building fabric including windows and doors  
- internal finishes  
- fittings and equipment  
- internal plumbing  
- mechanical services  
- electrical and electronic services  
- transportation systems including lifts and air tubes  
- centralised energy systems  
- external works  
- external services  
- rectification costs were critical issues are identified.  
A report that includes:  
- technical reports for each engineering discipline involved in the inspection (e.g. electrical, structural)  
- technical reports should include overall condition, available capacity and compliance to building codes and standards (e.g. Building Code of Australia)  
- recommendations for rectification including costs where required.  
Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report. |

Source
Adapted from: Gold Coast University Hospital: Site functionality study: Queensland Health.

4. Capital infrastructure functional assessment

A strategic assessment of the capacity of the existing infrastructure to support future service requirements. It considers the existing use of the buildings in terms of how the buildings could be reconfigured and/or expanded to support future service requirements. The assessment includes:  
- current use of the buildings and issues in performing the current  
A report that includes:  
- service delivery constraints for a building or section of building (e.g. no room to expand)  
- service relationship issues between clinical areas within a building or across buildings (e.g. patients required to travel distances for associated |

Source
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<tr>
<td>function</td>
<td>strengths and deficiencies of a building in relation to future services including building services impact potential to improve or change the use of space in the building to meet service requirements including expansion zones.</td>
<td>services) recommendations for expansion zones schedule of accommodation. Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report.</td>
</tr>
<tr>
<td>Source</td>
<td>Adapted from: Master Plan Study Capital Projects and Service Planning, Department of Health, State of Victoria, and Infrastructure Planning Guidelines: Planning and Development Unit (Draft) (2007) Queensland Health.</td>
<td>5. Site assessment An assessment of land and other property related aspects of a site/s to identify future development opportunities. The assessment incorporates: site access e.g. roads, parking access to building services e.g. power, water social and cultural aspects of the site e.g. suitability of the development in relation to surrounding uses and impacts on neighbouring developments such as noise and traffic natural environment assessment including features, constraints and design opportunities statutory impacts e.g. state planning policies, zoning, flood levels, cultural and heritage assessment size of site e.g. co-location and commercial opportunities and public open space and future expandability physical attributes e.g. geology, gradient and climate financial costs e.g. demolition of existing structures, site preparation, water upgrade. A report that includes: size of land parcel and locality (e.g. location and surrounding community) site plan (refer to Diagram 1) site constraints impacting future development (e.g. significant changes in level, neighbouring properties) site opportunities (e.g. areas for future expansion) site access for vehicles including parking zoning of land and current infrastructure designation issues related to heritage listings or land with cultural or environmental significance. Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report.</td>
</tr>
<tr>
<td>Source</td>
<td>Adapted from: Royal Hobart Hospital Redevelopment: Initial Site Assessment: Department of Health and Human Services, Tasmania, and Infrastructure Planning Guidelines: Planning and Development Unit (Draft) (2007) Queensland Health.</td>
<td>6. Space utilisation audit An audit of buildings to determine current utilisation of clinical and non-clinical service areas and identify opportunities for use as future clinical and non-clinical space. The audit incorporates: audit of current use of clinical and</td>
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<td>A report that includes: current space allocation by clinical/non-clinical unit including a comparison to Australasian Health Facility Guidelines floor layout by clinical/non-</td>
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### Department of Health: Capital Infrastructure Planning Policy

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<tr>
<td></td>
<td>non-clinical space (including compliance to future clinical space standards)</td>
<td>clinical unit (refer to Diagram 3)</td>
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<td></td>
<td>- functional relationships of service spaces and operational efficiency</td>
<td>- recommendations for expansion zones.</td>
</tr>
<tr>
<td></td>
<td>- suitability of non-clinical space for future clinical areas</td>
<td>Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report.</td>
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<tr>
<td></td>
<td>- options for redevelopment of non-clinical space to meet service requirements.</td>
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### Source

### 7. Car Parking Study
A study that identifies options to address current/potential car parking issues at a site for staff, patient and visitors. The study assesses:
- current user demand
- the extent of authorised and unauthorised parking in the immediately adjacent areas
- potential capacity problems
- opportunities for the use of alternate transport modes i.e. cycling, walking
- the impact of hospital/health campus traffic on the surrounding road network
- options to address current and future car parking needs including off-site options
- traffic circulation and future expansion opportunities
- possible financial models including user pays.

A report that includes:
- existing car parking on-site
- traffic and transport access to the site including public transport
- projected car parking demand in the future
- recommended car space requirements and type of infrastructure proposed (e.g. multi-level, on grade parking)
- procurement options where required.

Content could be included as part of a Capital Infrastructure Planning Study or as a stand-alone report.

### Source

Various plans may be produced to facilitate the ease of understanding of a Capital Infrastructure Planning Study report. These include but are not limited to:

<table>
<thead>
<tr>
<th>Type of Plan</th>
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<th>Exemplar</th>
</tr>
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<tbody>
<tr>
<td>1. Site Plan</td>
<td>A plan that identifies the current buildings on a hospital campus.</td>
<td>Refer to Diagram 1</td>
</tr>
</tbody>
</table>
| 2. Concept Plan | A plan that outlines the proposed redevelopment of the existing site in relation to existing buildings and incorporates:  
- service delivery areas identified for future development e.g. outpatient, inpatient, community, mental health  
- main vehicular access routes to and within the site | Refer to Diagram 2 |
### Type of Plan

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<td>3. Floor Plan: A plan that identifies departments within a building by floor and may include broad square meters for each department.</td>
<td>Refer to Diagram 3</td>
</tr>
<tr>
<td>4. Site Elevation Plan: A plan that identifies buildings above ground level to assist visualising specific building heights.</td>
<td>Refer to Diagram 4</td>
</tr>
<tr>
<td>5. Site Massing Plan: A plan that provides a 3D view of the building/s on a site.</td>
<td>Refer to Diagram 5</td>
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**Diagram 1: Site Plan**

![Site Plan Diagram]
Diagram 4: Site Elevation Plan

Diagram 5: Site Massing Plan
Infrastructure planning beyond capital infrastructure planning is usually more rigorous and has higher levels of cost confidence. This infrastructure planning includes but is not limited to:

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<tr>
<td>1. Master Planning</td>
<td>Identifies a preferred infrastructure development strategy for the site to meet future service requirements. The plan includes: future health service requirements, building condition assessment and site assessment, infrastructure assessment, schedule of accommodation, local and state planning requirements, environmental impact assessments, determination of open space areas, assessment traffic and roads on and near the site including public transport, car parking, geotechnical analysis of the site, site development options and the preferred option, staging of proposed development, Category 2 cost estimate of the preferred option.</td>
<td>As per Capital Delivery Program template requirements</td>
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Source: Adapted from: Queensland Health Capital Infrastructure Project Delivery Policy.

2. Project Definition Plan
   Clearly defines the scope of the building required to accommodate services to be provided by a new facility. It details options for operational policies, models of care, and accommodation requirements in the new facility.
   As per Capital Delivery Program template requirements

Source: Adapted from: Queensland Health Capital Infrastructure Project Delivery Policy.

3. Schematic Design Report
   Preparation of design briefs and layout, including key physical elements, areas, locations, and volumes including basic building services systems and cost estimate.
   As per Capital Delivery Program template requirements

Source: Adapted from: Queensland Health Capital Infrastructure Project Delivery Policy.

4. Developed Design Report
   Completion of design in detail including architectural and engineering design. Confirmation that the design meets current Government policies. Confirmation of the cost estimate to demonstrate the project is within budget. Obtaining sign off from users.
   As per Capital Delivery Program template requirements

Source: Adapted from: Queensland Health Capital Infrastructure Project Delivery Policy.