



Health
Infrastructure

Hornsby Ku-ring-gai Hospital

Outline Construction Management Plan

September 2012

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1. Introduction

This Construction Management Plan (CMP) describes the overall approach and processes to construct the Hornsby Ku-ring-gai Hospital Redevelopment (HKHR) Project to support the project's planning application to the Department of Planning and Infrastructure. It will be further developed once the main construction contract is let.

An overview of Thinc Health's approach to this project includes to:

- maintain a clear focus on the priorities for future service delivery on at HKH
- develop sufficient information to allow a strategic assessment of viable options for development
- conduct a targeted consultation process focussed on those areas directly affected by the project
- develop options and define a preferred option.

Service areas not directly affected by the project will be addressed in a broad brush strategic approach that provides the context, but not the detail of likely future developments on the site.

1.1 Project Definition

A major redevelopment of HKH was the subject of the Strategic Resources Plan prepared in 2000 and subsequently leading to the following actions:

- NSW Department of Health commissioned a master-planning process for the HKH site in 2009 to identify redevelopment options for the site.
- A Clinical Services Plan (CSP) for Hornsby Health Service was developed during 2010-11 to provide a detailed overview of future clinical requirements.

Both pieces of work included significant stakeholder consultation to identify service priorities for a possible Stage 1 Redevelopment.

2. Project Scope

The scope of the initial stage of an overall campus redevelopment comprises a four storey building in the south eastern corner of the site adjacent to key existing services within the HOPE and ICU buildings.

The project provides for the following:

- A peri-operative unit which includes 8 new theatres
- Three new 28 bed inpatient units to provide for overnight accommodation of surgical patients under the High Volume Short Stay (HVSS) and longer stay clinical pathways
- A new Sterilising Services Department (SSD) and additional undercroft to provide for future fit out
- A mix of new and refurbished spaces to facilitate the relocation of clinical and support services necessary to create the building site for the new development in the south east corner of the campus
- Temporary parking solutions central to the site, on the site of the existing theatre complex and in the undercroft until it is fitted out.

The locations within the new building are outlined in the table below.

Level	Inclusions
On level one (ground)	Sterile services, the Central Energy Plant to serve Stage One, and undercroft space for future fit out for related services such as Medical Imaging
On second floor	Peri-operative services including 8 theatres
On third floor	Two 28 bed surgical inpatient units
On fourth floor	One 28 bed surgical inpatient unit and plant

3. Site Establishment

The following outlines the key activities to be considered by the contractor to mobilise on site:

- Stakeholder liaison;
- Campus/Site traffic interface;
- Campus/Site personnel interface;
- Communications protocols;
- Site access;
- Site security and fencing;
- Site buildings and facilities;
- Temporary site services;
- Traffic management, vehicle identification and control;
- Pedestrian Management;
- Control of personnel;
- Emergency procedures;
- Safety procedures;
- Dangerous, prohibited and hazardous materials and goods procedures;
- Recycling and waste management.

A site compound will be included within the site boundary and will relocate from the east to west of the site as works proceed.

4. Construction Activities

4.1 Dilapidation survey

TH will arrange for dilapidation surveys to be carried out by a person experienced in this type of work. Dilapidation surveys will be carried out for:

- Buildings not touched by the redevelopment that are adjacent to
- redevelopment works.
- Existing roads to be re-surfaced.
- Existing drainage channels.
- Establish health of existing Flora.
- Dilapidation surveys will not be carried out for:
 - Buildings to be demolished and / or removed
 - Buildings / Structures that are not adjacent to redevelopment works

4.2 Hours of Operation

The following hours of operation are proposed for the works:

- Monday to Friday 7.00AM to 7.00PM
- Saturday 7.00AM to 5.00PM
- Sunday and Public Holidays No works

Out of hours works may be required at times which will be coordinated with the Hornsby Hospital requirements.

4.3 Site Construction

Construction subcontractors will be required to submit and obtain TH's approval of the following minimum information before commencing any part of the work:

- Safety Plan
- Environmental Plan
- Quality plan
- Nominated representatives
- Any other information required by the Subcontract

4.4 Traffic management

Approach to the site

Construction vehicles will be required to approach the Hospital from Hornsby via Pacific Highway, Edgeworth Road and Sherbrook Road. Edgeworth David and Sherbrook Roads are main arterial routes.

To access the Stage 1 site entry on Derby Road, Construction vehicles will travel along North Cote Road, Palmerston Street, Lowe Road and then to Derby Road.

Construction vehicle will be required to exit the stage 1 site along the same route as per entry. No access on Burdett or the surrounding residential streets is permitted or possible due to narrow carriageways and confined intersections.

Palmerston Road is a four lane undivided carriageway with a parking lane along each side. A section of the road is one-way (north direction) between Burdett Street and Northcote Road.

Lowe Road, forms the northern boundary of the site has a two travel lanes with parking on each side. Angle parking is available on its northern side.

Derby Road has angle parking on its western side and has a carriageway with two travel lanes and parking on each side.

Burdett Street is treated with a traffic calming scheme and provides two travel lanes with angle parking. Construction vehicles will not use Burdett Street.

The intersections of Burdett Street with Palmerston Road and Derby Street are controlled with stop signs, giving priority to Palmerston Road and Burdett Street, respectively.

The intersection of Palmerston Road and Northcote Road is T-junction with medians in Palmerston Road giving priority to movement to/from Northcote Road.

A pedestrian crossing is located in Palmerston Road near the entrance to the Hospital. Bus zones are located in Palmerston and Lowe Roads near the Hospital entrances.

Direction signposting to the Hospital has been provided by the Roads and Traffic Authority (RTA) at Edgeworth David Avenue and Pacific Highway to direct visitors to the Hospital site.

All construction vehicles will enter and exit the site in forward direction.

It is expected that there is a temporary reduction to on-street parking due to truck manoeuvres accessing the site – approx 2 to 4 on-street spaces will be impacted.

Construction Compound and Parking

A workers compound will be provided on the Hornsby Hospital site in close vicinity to construction site. So too will construction worker parking. Due to site constraints such as limited open space, area for vehicles and compound may need to staged as site work progresses.

4.5 Disruption Notices

The Contractor must issue a draft Disruption Notice to Thinc, not less than 10 business days prior to the proposed disruption and must be in the format required by Health Infrastructure.

Must identify:

- Nature of the disruption
- Detailed risk assessment
- Means to mitigate the disruption
- Contingency plans
- Alternative times and dates
- Alternative methodologies
- Inclement weather plans

4.6 Survey /setting out

Buildings

Height datum points and grid will be set out by a surveyor for common use by subcontractors at each level of individual buildings.

Subcontractors will be responsible for setting out and marking out from grid lines and datums.

Infrastructure

The subcontractor will be responsible for survey and set out of infrastructure work.

As -constructed Survey

Subcontractors will be responsible for “as constructed” survey before it is covered up. Survey information is to be provided in a form that is suitable for entry into Health Infrastructure’s records.

4.7 Excavation

Permit to dig

Prior to any excavation work commencing, subcontractors must submit and obtain TH’s approval to dig. The “permit to dig” will include:

- Extent and depth of proposed excavation
- Attachment of drawings of known underground services
- Report / sketches / site marking of services discovered by testing

Due to the uncertain knowledge regarding existing underground services, physical inspection and testing prior to excavation is required.

4.8 Testing

Testing is to be carried out as the work progresses and results submitted to TH before work is covered up. Test results / certificates are to be attached to ITPs for audit by the Project Quality Representative (PQR).

4.9 Specialist Equipment and Cranage

Scaffold

Subcontractors will be required to provide scaffold for their exclusive use. Scaffold for use by more than one subcontractor (typically to the building exterior) will be provided under separate subcontract(s) which will be managed by TH. Scaffold provider(s) will be required to be Code Compliant

Cranes

Subcontractors will be required to provide cranage for their own use. Crane provider(s) will be required to be Code Compliant

Plant hire

The principles of Code Compliance will also apply to plant hire to all manned equipment. Equipment “dry hire” by subcontractors is entirely at the subcontractor’s discretion.

4.10 Demolition

Demolition subcontractor(s) will be required to submit and have approved a management plan which addresses such things as:

- Compliance with relevant WHS Regulations
- Reference to advisory standards
- Work method statements
- Nominated person in charge
- Dumping / recycling strategy

5. Environmental Management

5.1 Establishment/Commencement

At the commencement of the delivery phase the Project Environment Representative (PER) shall establish a program or schedule to address the systematic implementation of the activities/tasks such as:

- Finalisation of Management System Procedures, Forms and Checklists;
- Acquisition of Licenses, Permits and Approvals;
- Development of Process Procedures and Work Instructions for submission;
- Establishment of filing system for Environment Records;
- Define the Environment requirements for subcontracts and supplies;
- Establishment of a training program for Environment Awareness & Induction;
- Establish communication with interested parties and inspection services;
- Establishment of Audit program; and
- Establish Environment reporting mechanism with field personnel.

The PER shall review the program/schedule at least once a month to ensure that the activities and tasks nominated in the program have been progressively implemented. The following will be considered within this role:

- Materials Control & Storage
- Plant & Equipment Control
- Monitoring of Construction Processes

5.2 Noise Management

Noise sources will be identified and controlled to meet legislative requirements and ensure that activities do not cause an environmental nuisance to patients, staff or visitors during construction. Noisy site work, including vehicle movements, are to be restricted to 7:00am to 6:00pm hours of operation which is within the nominated site hours of operation. Work outside these hours shall be subject to the approval of the Project Manager in conjunction with the key hospital stakeholders. The following measures will be considered to reduce noise and vibration on campus:

- Construction plant and equipment to be used on the project must be fitted where possible with appropriate noise control / attenuation devices (for example including high

efficiency mufflers) and maintained and operated to ensure that noise emissions are minimised.

- Where possible equipment shall be turned off until use / movement is required.
- A regular inspection and maintenance checklist for all plant and equipment is to be implemented to ensure construction plant is running optimally and free from oil leaks or the like
- Where safe, warning lights rather than audible sirens or beepers are fitted to mobile equipment. Loud hailers shall not be used at any time.
- Where noisy equipment is being used (for example a rock breaker or the like in noise levels), sensitive receptors are to be informed at least two days prior to commencing the activity by approved consultation methods
- Where possible site work should be conducted behind natural barriers / physical barriers or screening. Where possible as much distance is to be allowed between sensitive receptors and the operation of noisy construction activities
- Undertake spot check monitoring on commencement of vibration activities to ensure compliance with nominated peak particle velocities
- Monitor noise objectively of plant and sensitive receptors. The results shall be recorded on the Environmental Management Inspection Checklist.

5.3 Dust/Air Quality

Appropriate measures will be implemented to manage air quality by minimising the release of emissions or particulate matter to the atmosphere during construction. The following measures will be considered to reduce dust and maintain air quality on campus:

- Speed limits will be imposed on all roads and disturbed work areas to minimise dust nuisance
- Where possible all haul roads should be sealed in some form to mitigate dust
- The primary method for controlling dust generated by construction operations will be water sprayed by water tankers or similar methods.
- An adequate supply of water shall be made available for dust suppression activities
- Water tankers shall be made available and are to operate at a desired frequency and the locations that are specified.
- Stockpile heights are to be minimised as much as possible. Stockpiles are to be oriented and located in areas that limit exposure to adverse wind conditions.
- Stockpiles shall be orientated away from sensitive receptors
- Long standing stockpiles (greater than 1 month) shall be seeded to provide both wind and water erosion protection
- Trucks importing or removing fill from site shall be covered at all times or watered prior to leaving the site

- Vegetation clearing and earthworks are restricted to the minimum areas necessary in accordance with the project drawings
- Where practical, earthworks operations should be limited during unfavourable wind conditions. Dust producing activities during adverse weather conditions (e.g. dry, windy etc) should cease when uncontrollable dust emissions are directed towards sensitive receptors
- All material (e.g. mud, sand etc) spilt onto external and internal roads are cleaned and removed
- Mobile plant movements shall be restricted to designated routes and standing areas
- Cooling systems used in site facilities to be CFC free.
- Vehicles and plant to be well maintained to reduce air emissions

5.4 Erosion And Sediment / Water Quality

Appropriate measures will be implemented to ensure that appropriate soil conservation practices (management of erosion and sedimentation) are planned and implemented and that stormwater run-off is effectively controlled during the construction phase. The following measures will be considered to maintain erosion and sediment control and water quality on campus:

- Where possible works will be staged to minimise exposure of soils to erosion.
- Clean water shall be diverted around construction works within the stormwater drain to ensure minimal erosion and sedimentation. Geofabric, turf or the like shall be used in the temporary diversions to stabilise the surface to ensure no erosion or sedimentation occurs
- Works shall limit as far as practical the disturbance to the stormwater drain and any surrounding drainage lines
- Vegetation shall be retained as much as possible. No clearing will be allowed outside the limits of the works. Vegetation shall be retained in accordance with the landscape drawings.
- Where possible catch drains and banks shall be installed upstream of construction works to divert clean water from the site
- Site Environmental Plans shall be developed indicating the types sediment controls to be installed on the project.
- The sediment controls shall be installed in accordance with relevant guidelines and standards
- Sediment shall be removed from all sediment controls where the capacity of the sediment control is diminished. Sediment shall be removed from site or reused in the works (earthworks / landscaping)

- Sediment controls shall be replaced when damaged. All maintenance / replacement shall be recorded on the Erosion – Sediment Control Inspection / Maintenance Record
- Sediment and erosion controls shall not be removed from their respective locations without the prior consent of the PER
- All dewatering will be done through sediment controls and with the approval of the PER
- The site shall be progressively stabilised to limit the exposure to erosion. Stabilisation shall be in accordance with the proposed latest landscape drawings
- Stockpile material is to be kept away from waterway and drainage. Stockpiles to be surrounded with sediment fences.
- Long standing stockpiles (greater than 1 month) shall be seeded to provide both wind and water erosion protection

5.5 Waste

Appropriate measures will be implemented to ensure that waste generated as a result of the construction phase are minimised and the management of wastes are undertaken in accordance with Waste Legislation. The following measures will be considered to manage waste within the project:

- Assessment of possible wastes to be generated during the construction phase
- All waste where possible will be segregated and recycled
- Waste collection and disposal to be discussed with waste transporter
- Site amenities will be located away from campus users and emptied regularly.
- Provision will be made for correctly signed bins or skips for collection and storage of all wastes (e.g. bricks, concrete, timber, plasterboard, metals and other materials), other than natural earth, rocks or vegetation
- Waste locations and the requirements for site waste management shall be provided in the Environmental Induction
- Material dropped on the ground shall be recovered immediately after it occurs.
- Locations and setup shall be determined taking into account the following:
 - Protection from weather
 - Accessibility for removal
 - Type of waste
- Cleared vegetation, where suitable, shall be mulched and stockpiled for reuse in rehabilitation activities
- Wastes are to be disposed of to approved / licensed treatment and/or disposal facilities
- Where no contaminants are present, De-watering from excavations shall be reused where possible for dust control.

- No wastes shall be burnt on site
- Concrete wash down pits to be provided in designated areas

6. Working Conditions

Key issues associated with OHS&R on the Hornsby Ku-Rung-Gai Redevelopment project which will be dealt with in the Occupational Health & Safety and Rehabilitation Plan are:

- Protection of public / pedestrian safety
- Site security
- Protection, isolation and relocation of services
- Excavation & trench safety
- Construction traffic management
- Work area lighting
- Working at heights
- Safe operation of mobile powered plant
- Crane movement & significant lifts
- Materials handling
- Scaffolding & access
- Formwork erection & dismantling
- Managing subcontractor safety
- Installation of mechanical / electrical equipment
- Confined space entry
- Demolition & asbestos removal
- Emergency & evacuation provisions
- Site specific hazards

Advisory standards, brochures and health & safety alerts are available on the internet for particular hazards relevant to this and any construction workplace.