

# **Construction Access Arrangements for Long Bay Forensic & Prison Hospitals**



**22nd February 2006**

## **Construction Methodology**

This section outlines in broad terms the approach and methods we intend to use to undertake this project.

The project consists of the construction of a new Prison Hospital and Forensic Hospital. These two facilities are located in different areas of the existing Long Bay Correctional Complex and will be managed as two autonomous construction sites, running concurrently, with a common management structure.

It is the intention to implement site access, to the two site areas, that minimises disruption to the operation of Long Bay Correctional Complex during the construction of the new Works. In consultation with Department of Corrective Services (DCS) we have agreed a strategy that minimises the use of DCS Custodial Staff by fencing off the site areas in a way that maintains the integrity of the Complex's security.

The welfare of the Complex personnel and neighbours has been considered. The works will be carried out, as far as practical, in a manner that also minimises impact on adjoining areas.

To facilitate the understanding of our proposed Construction Methodology, we have prepared the attached sketches. These sketches are snapshots of the proposed Construction Methodology discussed in the following text.

## ***Prison Hospital***

This hospital is to be located on the site of the former workshop facilities. The site has been cleared of all building structures, including the on-ground slabs, as a separate contract prior to the commencement of the new Prison Hospital works.

### **Phase 1 – Site Establishment – Sketch No - PH 01**

Establishment of site OH&S facilities, implementation of Stormwater, Traffic and Security Management Plans and erection of fences to maintain the integrity of the Complex security are the first activities to occur.

The process and sequence by which this is planned to occur is shown on Sketch PH 01.

### ***Security & Sign posting – Items 1 to 1.2***

The gate will be signposted to clearly define the site entrance, and display all relevant Project information.

This gate will be used by all personnel and material deliveries to the Prison Hospital site. No other gates will be provided or installed to this area.

All personnel entering the site will be electronically scanned in and out, with subsequent records maintained on site.

### ***Access Roads – Items 1.3 to 1.5***

Prior to works commencing on site, a temporary driveway crossover will be constructed from Calga Ave to the site entry for construction traffic to use. This crossover will be constructed in accordance with Council specifications.

It is the intention to fence off the whole perimeter of the site back to the Calga Ave gate. Before the fence can be erected, new temporary access roads need to be constructed for DCS vehicle use around the Complex. Two activities will occur concurrently, they are:-

- Cut in, sub grade and camber a new access road as shown as item 1.5 on the sketch.
- Install and construct an underpass / overpass as shown as item 1.4.

The underpass / overpass will be constructed adjacent to the existing road currently being used by DCS vehicles. The underpass will be sited to take advantage of the existing topography to minimize its depth. The overpass, which will be used by construction traffic, will be raised above natural ground levels again to minimize the depth of the culvert. Sub soil drainage and pumps will be required in the underpass to ensure it is usable in all weather conditions.

### ***Fencing – Item 1.6***

Fencing works will commence when the access roads have progressed sufficiently to allow this activity to occur, without disruption to DCS operations.

The fence will be positioned as generally shown on the sketch, the intention being to provide isolation of the site from the Prison to the Calga Ave gate. The existing south wall of the MMTC will be used as the northern boundary fence.

### ***Site Accommodation – Item 1.7***

The site accommodation compound will be fully established once the compound fences have been completed. The amenities will be connected to existing mains services of water, drainage and electricity. Office areas will also be established for our staff and that of our subcontractor staff.

## **Phase 2 – Earthworks – Sketch No - PH 02**

### ***Remediation – Item 2.1***

This item refers to the removal of existing underground storage tanks.

### ***Earthworks – Items 2.2 to 2.6***

The site area will be capped off with imported fill and compacted. This will form the sub base of the new buildings.

Once the site is filled to the correct levels, access roads, as shown by item 2.4, will be cut in. They will be sub based and cambered but not final finished. These roads will be used to transport materials and men around the site. Access around the site to each of the building areas is a fundamental prerequisite to the successful and timely completion of the Project. The final surface will be laid when the roads are no longer used by construction traffic and the Project is nearing completion.

In-ground services will be laid concurrent with the construction of the footings to the new buildings. This is to ensure that abortive works are not done, and also to utilize the services, such as the storm drainage during the construction phase.

Footings to the new buildings will occur in an orderly manner, building by building starting from the north and working back to the gate.

When the footings of each building are complete, structure trades will commence construction of the ground slabs.



Where practical, prefabricated trusses will be used to form the structure of the roof.

Scaffolds and/or handrails will be required around each building to allow the roofing to be erected.

***Rough in Services to Buildings – Item 3.4***

Once the walls and roofing are completed on each of the buildings, the services will be roughed in.

***Install Finishes and Fit off – Item 3.5***

Once services are roughed in, the QA process has occurred and work areas signed off as complete, the walls and ceilings will be closed off. This allows for the final fit-off activities to proceed completing the buildings.

***Construction of new 5 m high perimeter Wall – Item 3.6***

As the construction works to the new buildings progress from north to south, the commencement of the erection of the new 5 m high perimeter wall will occur. This will also start from the north working back to the south.

***Carry out Defect Inspections & rectification – Item 3.9***

Defect inspection and rectification will be managed so that the buildings are handed over for use with a defined set of known and agreed defects.

***Demobilizing Site – Item 3.10***

Once works are nearing completion, the demobilisation of the site will commence. Temporary services and accommodation will be removed, and final finishes to access roads, landscaping works and construction of the 5m high perimeter wall will be completed.

***Make Connection to existing MMTC Centre – Item 3.11***

When the work on the new Prison Hospital is completed and it is ready for use, the connection to the MMTC centre will be made to join the two facilities.

***Handover Area to DCS – Item 3.12***

Once the connection is made to the MMTC centre and the works are complete, the temporary fence will be removed.



## ***Forensic Hospital***

The site area for the new Forensic Hospital is positioned to the south and west of the existing hospital facilities. The western and southern boundaries are formed by the existing Prison outer fence line to Anzac Parade.

Five sketches labelled FH 01 to FH 04 and SK-01 have been prepared to show our intended construction sequence for this works. SK-01 details in an overall arrangement the site in it's full operating procedure.

### **Phase 1 –Site Establishment – Sketch No - FH 01**

Establishment of site OH&S facilities, implementation of Stormwater, Traffic and Security Management Plans and erection of fences to maintain Complex Security are the first activities to occur.

The process and sequence by which these activities are planned to occur is shown on Sketch FH 01.

### ***Security & Sign posting – Items 1 to 1.2***

The gates will be signposted to clearly define the entrance, and all relevant Project information displayed.

These gates will be used by all personnel and material deliveries to the Forensic Hospital site.

### ***Fencing and new access road to Area 7 – Items 2.1 to 2.4***

As the site boundaries to the south will bisect the existing access road to Area 7, a new temporary road needs to be constructed before the site fences are erected. The location of this road is as shown on sketch FH 01 item 2.3. Whilst this road is being cut in, the existing roadway will be maintained at all times.

### ***Site Accommodation – Items 3 to 3.1***

The site accommodation compound will be fully established once the fences around the site have been completed. The accommodation will be in accordance with Workcover guidelines and be properly maintained. The amenities will be connected to existing mains services of water, drainage and electricity. Office areas will also be established for our staff and that of our subcontractor staff. The amenities will be of an Atco portable shed type.





## **Phase 2 – Earthworks and Demolition – Sketch No - FH 02**

### ***Demolition – Item 4***

A work method statement will be submitted from the suitably licensed demolition contractor as to how these works will be carried out.

### ***Earthworks – Items 5 to 5.5***

The sequence of the works will start from the northern end and work to the south. This also creates a separation between demolition works occurring in the south and the earthworks and foundations and footings on the Justice Health Operations Building and Acute Units 1 & 2 buildings.

Temporary access roads will be constructed for site traffic. The forming of these roads will commence once the site has been filled to the new levels. These roads will follow where the permanent roads are to go to minimize temporary works. They will be sub-based and cambered to make them all weather roads. The finishing material will be laid when construction traffic has ceased and just prior to hand over of the area.

In-ground services will be laid concurrently with the construction of the footings to the new buildings. This is to ensure that abortive works are not done and also to utilize the new in-ground services, such as storm drainage to service the works through the construction phases.

## **Phase 3 – Construction of new Buildings – Sketch No - FH 03**

### ***Casting Slab on Ground to buildings- Item 6***

Slabs will be cast progressively for each building to allow following trades to commence as early as possible.

Reinforcement will be scheduled and cut to size off site to minimize, if not eliminate the amount of 'hot works' to occur on site.

Concrete will be pumped into the slabs where the pour size dictates, or poured directly from the delivery trucks when the pours are accessible.

### ***Erect Vertical Elements – Item 7***

Precast elements will be used as much as possible, whilst satisfying the requirements of the brief.

### ***Erect Roofing – Item 3.3***

Where practical, prefabricated trusses will be used to form the structure of the roof.

Scaffolds and/or handrails will be required around each building to allow the roofing to be erected.

Materials will be trucked to each building via the access roads and unloaded by a rough terrain forklift adjacent to the work area.

### ***Rough in Services to Buildings – Item 3.4***

Once the walls and roofing are completed on each of the buildings, the services will be roughed in.

### ***Install Finishes and Fit off – Item 3.5***

Once services are roughed in, the QA process has occurred and work areas signed off as complete, the walls and ceilings will be closed off. This allows for the final fit-off activities to proceed to complete the buildings.

### ***Construction of new 5 m high perimeter Wall – Item 11***

As the construction works to the new buildings progress from north to south, the commencement of the erection of the new 5 m high perimeter wall will occur. This will also start from the north working back to the south, working in an anticlockwise direction.

### ***Hard and Soft Landscape – Item 12***

These works will commence once the building works are substantially complete and will follow the construction of the new 5m wall.

Trucks, forklifts and bobcats will move the materials around to facilitate this works.

Final finishes to access roads will also be done at this stage.

### ***Erect 3m fence outside west and south wall of existing Prison Hospital Building – Item 13***

The purpose of the fence is to allow the demolition of the 5m wall and existing Prison Hospital following completion of the new Prison Hospital and decanting is complete.

### ***Commission Buildings – Item 14***

Completed buildings will be commissioned to operation as soon as practical to ensure all services function correctly prior to handover.



**Phase 4 –Demolition of existing Long Bay Hospital and Landscape – Sketch No - FH 04**

***Justice Health decant existing Long bay Hospital – Item 1***

This phase of the works is scheduled to commence only after the new Prison Hospital is constructed and handed over for DCS use.

***Ensure 3 m fence and erect remaining fence and gate –item 2***

This phase of works may still be proceeding after the new Forensic Hospital is handed over for Justice Health use, and as such fence shown on sketch FH 04 are as if the new Forensic Hospital has not been handed over.

***Demolish existing Long Bay Hospital and wall – Item 3 and 4***

These works will be carried out in line with the work method statement explained above.

***Landscape area and brick up existing entry in eastern wall – Item 5***

Landscaping and making good will only commence after the demolition works are completed for OH & S reasons.

Again, access for employees and materials will be via the main entry gate at the northern end of the site, if the Forensic Hospital area is nearing completion or has been handed over.

***Remove 3 m fence – Item 6***

Once the works are completed and inspected, the fence is removed as it will be inside the confines of the new occupied Forensic Hospital.

