The **Coordinator-General**

The Legacy Way project

Coordinator-General's report on a project change, number 5

January 2012

Queensland Government

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Synopsis

The Legacy Way project, formerly known as the Northern Link Road Tunnel project, involves construction of two tunnels, both under five kilometres in length, linking the Centenary Motorway at Toowong with the Inner City Bypass at Kelvin Grove. The project also includes associated works such as two ventilation stations and outlets and a tollroad control centre (TCC).

Legacy Way was declared to be a significant project under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act) on 2 November 2007.

Following consideration of the project's environmental impact statement (EIS) and comments made on the EIS by members of the public, stakeholders and government agencies, the Coordinator-General's report evaluating the EIS was completed on 23 April 2010. The report found that the project could proceed, subject to compliance with conditions and recommendations made by the Coordinator-General.

On 25 October 2010, the proponent provided the Coordinator-General with an application for project changes (APC), as per section 35C of the SDPWO Act. The application requested the Coordinator-General assess a range of proposed design and delivery changes to the project. One of the changes was the proposed location for the TCC.

In *The Legacy Way Project (formerly known as Northern Link Road Tunnel) Coordinator-General's report on project changes*, (change report) finalised on 17 December 2010, the Coordinator-General found the changed project could proceed, with the exception of the proposal to locate temporary construction workforce parking in a section of Anzac Park, Toowong. In addition, the change report noted that, due to community feedback on the proposed location for the TCC, BCC had retracted the TCC proposal prior to the Coordinator-General assessing the matter.

The change report included a condition (Appendix 2, Schedule 3, Part 4, Condition 41) that BCC was to request the Coordinator-General's consideration of new proposed location for the TCC through the making of an APC under section 35C of the SDPWO Act. On 7 October 2011, BCC provided an APC about the proposed location of the TCC to the Coordinator-General. This report evaluates the change.

The APC is the fifth project change to be evaluated since the Coordinator-General's report on the EIS for the project was finalised. Information about the other changes to the project, on matters such as construction workforce parking and a spoil disposal tunnel at Toowong, can be found at the Department of Employment and Economic Development and Innovation (DEEDI) website at: **www.deedi.qld.gov.au/cg/legacy-way-project.html**

1 Description of the proposed change

1.1 The proponent

The project proponent is Brisbane City Council (BCC). On 20 September 2010, BCC selected Transcity Joint Venture (Transcity) as the preferred contractor for the design, construction, operation and maintenance of the project.

Transcity has been contracted to deliver and operate the project as BCC's agent for a 10-year period.

1.2 Background

As discussed, on 25 October 2010, BCC provided an APC to the Coordinator-General for consideration of a range of project design and delivery changes.

One of the changes was the proposal to locate the TCC on a vacant block of state-owned land opposite the botanic gardens, on the corner of Mount Coot-tha Road and Richer Street, Toowong.

The Coordinator-General invited public comment on the APC. Of a total of 550 submissions were received, 367 of which objected to the TCC location. In addition, petitions against the proposal, with a total of 3302 signatories, were tabled in the Queensland State Parliament.

Key issues raised in submissions about the TCC included:

- the suitability of the site, given its zoning as reserve/parkland
- the loss of green space
- the building's close proximity to residences, with the closest being about 20 metres from the site's boundary
- the ability to manage disturbance given the building would be staffed continuously.

In consideration of comments made in submissions, BCC retracted the TCC proposal before the Coordinator-General's assessment of the APC was concluded. BCC undertook to progress feasibility studies on alternative locations.

1.2.1 Site alternatives

In looking for an alternative site to Mount Coot-tha Road, BCC considered a number of other locations such as the Miskin Street, Toowong bus depot; the Park and Ride car park next to the bus depot; and a site near the project's eastern ventilation station next to the Inner City Bypass (ICB).

The locations were considered against various criteria including land tenure and cost, constructability and environment, functionality and community impacts.

Following consideration of site alternatives, BCC has now proposed to locate the TCC on the corner of O'Connell Terrace and Sneyd Street, Bowen Hills in the Urban Land Development Authority's (ULDA's) Bowen Hills Urban Development Area (BHUDA).

The BHUDA was declared under the *Urban Land Development Authority Act 2007* (Qld) (ULDA Act). The BHUDA development scheme promotes medium-to-high density residential and commercial development in a public transport hub.

The site is owned by BCC, and is located next to the ICB. Also adjacent to the site is a Clem 7 tunnel ventilation outlet, which is located next to the Clem 7 TCC.

It is noted that the proposed Bowen Hills site was considered favourable for its compatibility with adjacent tunnel and transport uses and for being located on land already owned by Council. However, connection to tunnel data services is further away than other options considered, and so some additional costs would be incurred by Council to install the services.

1.2.2 TCC function

The TCC will provide for the operation and maintenance of the Legacy Way tunnels. The centre will include areas such as a control room to monitor and control the safe operation of the toll road, office areas, a training/incident room, spare parts store, a workshop space for repairs of tunnel components (for example, ventilation fans), and parking facilities. Maintenance vehicles, used to respond to issues such as vehicle break-downs in the tunnel, will be garaged on site.

During the project's operations phase, a small number of staff will be on-site at the TCC 24 hours per day, being around 20 during the day, and seven at night.

1.3 Proposed change

The location for the TCC differs to what was proposed during the project's EIS phase. Figure 1.1 provides a map of the new location. Figure 1.2 and Figure 1.3 show street views of the site.

Figure 1.1 Proposed location—Tollroad Control Centre

Figure 1.2 TCC site—view from O'Connell Terrace, Bowen Hills

Figure 1.3 TCC site—view from Sneyd Street, Bowen Hills (O'Connell Terrace on the left)

In the APC dated 7 October 2011, BCC stated it proposes to incorporate the TCC into a mixed-use, seven-storey building that will also include retail and commercial space. The TCC maintenance workshop, garage, switch room, and substation are proposed to be located on the ground floor, with the office area located on a separate floor. The APC notes the details of the proposed design and building composition are being finalised in consultation with the ULDA. A detailed feasibility assessment will be undertaken by BCC on the final proposal.

The commercial and retail uses are not a part of the project and therefore are not subject to assessment by the Coordinator-General. Figure 1.4 provides an indication of the design of the mixed-use building.

Figure 1.4 Indicative mixed-use building design

As mentioned on page 1, the site is located within the BHUDA. BCC's building proposal will require approval for a material change of use (MCU), which would be assessed by the ULDA in accordance with the ULDA Act.

Subject to approvals, BCC intends to start construction of the building development in mid-2012, with construction to be completed by early 2014.

The construction workforce would range between 60 and 100 workers, with works occurring during standard construction hours of 6:30 am – 6:30 pm, Mondays to Saturdays. No works would occur on Sundays or public holidays.

During construction, land adjacent to the site on O'Connell Terrace would be used as a site office and for construction storage and workforce parking. This site is also owned by BCC. The APC provides that post-construction, the site would be reinstated.

1.4 Consultation on the change application

1.4.1 Consultation on the APC

Section 35G of the SDWPO Act provides that the Coordinator-General may decide if a proposed project change requires public notification. In the case of the TCC location, the Coordinator-General decided that this was not required.

This decision was made taking into account the following factors:

- by identifying the new TCC site, it is considered BCC has responded to public concerns about the original TCC location
- public comment could not be invited on the retail/commercial components of the mixed-use building, as these are not part of the project
- the draft BHUDA development scheme was publicly notified by the ULDA in 2008, with public comment on the intention of the scheme invited. Comments received

were taken into account by ULDA in finalising the scheme. The mixed-use building proposal is required to be assessed by ULDA, which will consider if the proposal is consistent with the development scheme.

Section 35F of the SDPWO Act provides that the Coordinator-General may consult with any parties about a proposed change. To inform the Coordinator-General's considerations, comment on the proposed change was sought from the following advisory agencies:

- Department of Environment and Resource Management (DERM)
- Department of Transport and Main Roads (TMR)
- Department of Community Safety (DCS)
- ULDA.

None of the agencies consulted raised concerns with the proposal proceeding. Specific advice and observations made by agencies are discussed in Section 2, Evaluation of environmental effects.

2 Evaluation of environmental effects

The following section considers the potential impacts of the TCC proposal and how these are intended to be managed.

2.1 Noise

2.1.1 Construction phase

The nearest sensitive receptors are residential buildings located in Wren Street, which are about 55 metres from the boundary of the proposed site. Land uses along Wren Street are a mix of residential, commercial and light industrial activities. Figure 1.1 shows the location of the site in relation to residences.

The ICB, which is situated in between Wren Street and the site, is a dominant source of noise at the location. Traffic on the nearby Clem 7 tunnel exit and entrance roads, and along O'Connell Terrace, are also significant sources of noise in the area.

Condition 22 of the Coordinator-General's report on the EIS for the project (April 2010) states conditions for noise objectives for sensitive receptors (Appendix 1, Schedule 3).

The APC provides the results of noise monitoring undertaken at Wren Street and indicates that the present ambient noise levels in the area are significantly higher than the external noise objectives stated in Condition 22.

The APC further states that noise levels at Wren Street for the project's construction activities are predicted to be less than the existing background noise.

Table 5-8 on page 37 of the APC indicates predicted construction noise at external areas of the Wren Street residences. The noise modelling takes into account the effects of construction works occurring behind a noise reduction screen that BCC proposes to install along the site boundary nearest to the residences.

Various screen heights are considered, with the best results occurring with use of a five-metre high screen. With this scenario, the majority of construction activities such as trucks, power tools and concrete pumping would be either below or equal to the required noise objectives.

However, some minor exceedences are predicted at times when machinery such as a roller compactor and excavator are being used. For this activity, 59 dBA is predicted for 10 per cent of the time (L_{A10}) and 56 dBA as an average noise level (L_{Aeq}). The noise objective as conditioned in the Coordinator-General's report is 55 dBA (L_{A10}) and 50 dBA (L_{Aeq}). Therefore the possibility of exceedences of 4 dBA and 6 dBA respectively are forecast for the times this equipment will be used.

The APC states that the screen height will be finalised during the detailed design phase. The screens will be as high as practicable; however, the final height will take into account considerations including safety requirements.

The APC states that, as well as use of the noise reduction screens, several construction methods will be used to ensure the project is compliant with existing noise conditions, such as:

- use of plant and equipment with silencers, mufflers and other noise control devices
- organising the site to avoid non-site vehicles such as delivery trucks needing to reverse (avoiding triggering of reverse beepers)
- on-site vehicles will use less tonal, non-beeper reversing alarms
- locating compressors behind acoustic screens or away from the side of the site closest to residences
- where possible, orientating equipment so that noise travels away from Wren Street
- educating site workers to practise quieter work methods.

In its response to the APC, DERM noted that the area has a high level of background noise. DERM advised that the project's construction environmental management plan (CEMP) noise and vibration sub-plan should be updated to account for the TCC and the nearest sensitive receptors, and how works will be undertaken to ensure compliance with existing conditions to ensure disturbance is managed.

Appendix 1, Condition 1 of this report requires the sub-plan to be updated, with a copy of the updated CEMP to be provided to the Coordinator-General prior to construction works commencing.

While it is acknowledged the site is located in an area characterised by traffic noise, adherence to the existing noise conditions will ensure compound effects are minimised. In addition, limiting construction works to normal working hours will significantly reduce the project's potential to cause nuisance.

2.1.2 Operations phase

In operation, the TCC building will generate some noise due to the rooftop mechanical plant (for example, ventilation units) and workshop activities. Vehicles entering and exiting the site will be at a distance to the Wren Street residences and are not expected to create undue noise at the sensitive receptors.

Workshop activities will occur on the ground floor of the TCC building behind precast concrete walls. The APC states there will be no windows or doors at the side of the floor closest to Wren Street. The main emission point for noise would be via the workshop entrance, proposed to be a roller door facing on to O'Connell Terrace.

Operation of the TCC building will be required to adhere to the BHUDA development scheme. This scheme states acceptable noise levels for residential areas are as described in the State Government's Environmental Protection (Noise) Policy 2008.

The ULDA will consider setting conditions regarding noise on the development application, should it be approved. Noise for operation of the whole building proposal will be considered by the ULDA.

2.2 Air emissions

The APC, in considering predicted air emissions for the TCC's construction phase, does not anticipate exceedences to existing conditions about air quality limits (Appendix 2, Schedule 3, Part 2, Condition 20).

In considering the APC, DERM noted the area has high values for dust and other contaminants. DERM stated that the EMP should include a monitoring regime that could account for what airborne contaminants the project produces.

In response, BCC has confirmed that a site-specific construction EMP will be prepared for the TCC site, which would address dust management of the construction works in detail. It is envisaged dust deposition monitoring during peak construction works would be undertaken in order to monitor potential nuisance dust at nearby residents.

The TCC works will be required to manage dust from construction works in accordance with all existing conditions regarding emissions management.

For the operations phase, BCC confirms an air quality impact assessment did not identify any significant potential sources of airborne pollutants from the operation of the proposed building. The only identified emissions were air emissions from vehicles associated with the operation of the TCC. The assessment determined that these would not have a significant impact on air quality, as the increase in traffic numbers would be low.

Given the site is adjacent to the Clem 7 ventilation outlet, studies were undertaken on whether the TCC building would affect dispersion of the air plume from the Clem 7. No adverse impacts to emission limits were forecast.

2.3 Traffic

The APC notes that the effects on traffic during construction will be minimal, with approximately 24 vehicle trips per hour (vph) generated by the project. Section 5.4 of the APC contains an analysis of the area's current and project-related traffic.

During operation, it is estimated the whole building would generate 123 vph at peak times, of which the TCC usage would equate to 17 vph. Exiting traffic from the site would generally take O'Connell Terrace, which experiences a greater amount of traffic than Sneyd Street.

The impact at intersections in the vicinity due to extra traffic from the TCC is expected to result in a less than five per cent increase in traffic. For the Sneyd Street and O'Connell Terrace intersection, an increase of seven per cent in the peak periods would occur. For this location, in the morning peak period an increase from 1450 to 1551 vehicle movements is forecast.

In consideration of a development application for the mixed-use building, the ULDA will require BCC to address management of construction and operations phase traffic impacts.

The APC notes that construction of the TCC may occur at the same time as the proposed Cross River Rail (CRR) project, should it proceed. In addition, in coming years the Royal National Agricultural and Industrial Association of Queensland (RNA) Showgrounds will redevelop its site, including constructing buildings along O'Connell Terrace. The ULDA has not received a development application for the buildings on O'Connell Terrace and so cannot, at this stage, advise a commencement date.

Prior to construction, the RNA will need to provide a CEMP to the ULDA, which can take into account other developments occurring in the area. Similarly, the ULDA would require a development application for the mixed-use building to address construction traffic and to take into account other developments in the area that may cause traffic impacts.

In consideration of the APC, TMR noted discussion has occurred between its CRR project team and BCC on the rail project's requirements in the area, particularly with regard to the proposed raising of the O'Connell Terrace rail bridge by CRR. This work would include the need to raise a section of O'Connell Terrace, including in front of the TCC site. O'Connell Terrace may also need to be widened by CRR.

BCC has confirmed its preliminary designs have taken into account CRR's O'Connell Terrace requirements. In designing the TCC building, BCC has assumed a height increase of up to 2.5 metres at the intersection of O'Connell Terrace and Sneyd Street and an increase of approximately 300 millimetres at the western end of the site. This may change as detailed design for the CRR progresses.

In considering a development application, the ULDA would also require the BCC to address the management of the existing and proposed reconstruction of O'Connell Terrace and its impacts on the operations of the building.

BCC confirms that, as detailed design for the TCC building is undertaken, communication with TMR, the ULDA and proponents for other developments in the area will continue in order to achieve compatibility between developments.

As per Appendix 1, Condition 1 of this report, BCC is required to update its traffic EMP sub-plan for the construction phase and provide a copy to the Coordinator-General prior to construction of the TCC commencing. This sub-plan requires the proponent to detail how traffic impacts will be minimised and managed to avoid disturbance due to construction activities.

In addition, the traffic EMP sub-plan for the operations phase, as required in condition 30 (Appendix 2, Part 3 of the Coordinator-General's report (April 2010)) will need to address ongoing traffic management for the TCC.

2.4 Other matters

2.4.1 Flooding

DCS raised the issue of a potential flood hazard for the site in the context of the State Planning Policy 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide (SPP 1/03). DCS advised that as community infrastructure, in accordance with SPP 1/03, the TCC should be able to function during and immediately after a flood event.

DCS noted that an area in close proximity to the site (approximately 100 metres to the north) is identified in BCC's Flood Flag Map as being subject to creek and/or waterway flooding.

BCC responded that according to flood contour information for the area, the flood flagged areas have ground levels of less than five to six metres Australian Height

Datum (AHD). The lowest point on the TCC site has a ground level of approximately 11 metres AHD. BCC is of the view that on this basis, the TCC site is not considered to be subject to creek and/or waterway flooding.

Further, BCC has advised that flood studies undertaken for the nearby Clem 7 TCC were used to inform considerations of flood risk for the Legacy Way TCC site. The flood risk assessment undertaken for the Clem 7 calculated the 1 in 10 000 year flood level arising from Breakfast Creek local flooding, approximately 100 metres from the subject site, to be 6.5 metres AHD.

As the proposed TCC site ranges from approximately 11 to 11.5 metres AHD in ground level, it is not considered to be subject to creek and waterway flooding. BCC has confirmed that the proposed Legacy Way TCC site is higher in ground level than the adjacent Clem 7 ventilation station and the Clem 7 TCC.

The TCC is required to adhere to existing Condition 25 – Hazard and risk (Appendix 1, Schedule 3) from the Coordinator-General's report (April 2010). In part, this condition requires the proponent to construct the project in accordance with the construction hazard and risk (CHR) EMP sub-plan, Australian Standard AS4360:2004 on risk management, and the *Fire and Rescue Act 1990* (Qld).

BCC will need to take into account its compliance with SPP 1/03 in determining where critical equipment should be positioned on the site to ensure optimal flood clearance.

2.4.2 Safety

Figure 1.4 provides an indication of the building's intended design, which has been developed in consideration of the BHUDA development scheme.

The design has also taken into account the Coordinator-General's conditions regarding the design of building works, which requires the TCC to:

- be designed to integrate with the surrounding environment and in such a way as to minimise light spill (Appendix 2, Schedule 3, Part 2, Condition 11 of Coordinator-General's report)
- minimise the visual impact and enhance the safety of the infrastructure (Appendix 2, Schedule 3, Part 2, Condition 24 of Coordinator-General's report).

On fire safety, in reviewing the APC, the DCS noted its jurisdiction to provide advice on the design of fire safety systems. DCS also stated the need for fire services personnel to have dedicated parking on-site, and questioned how many desks would be available for council or emergency services personnel in the TCC.

BCC has confirmed it has sought input from a certified fire engineer on the building's preliminary design. DCS (fire services) will be consulted in the design development stage as part of the building works development approval process, and any comments made by fire services will be addressed in design. BCC will seek DCS's written sign-off of design once the agency's requirements have been satisfied.

BCC further confirmed that the project's performance specification document states that temporary workspace for at least four emergency services and other government

officers will be available in the TCC as required. Parking at the site could be allocated to fire services, and signage installed indicating it as reserved space.

Condition 25 (Schedule 3, Appendix 1 of Coordinator-General's report) states in part that the project's construction hazard and risk (CHR) EMP sub-plan must ensure site accessibility for emergency services vehicles to the road network and construction areas, and maintenance of essential urban services and transport. Further, the proponent is required to conduct monthly on-site safety inspections with DCS personnel.

Condition 1 of this report (Appendix 1) requires the CHR sub-plan to be updated to account for the TCC site. As per the regular safety inspections conducted by DCS, BCC is to take into account safety advice provided by DCS on all matters, including the signage of car parking facilities.

In feedback on the APC, DCS suggested that a back-up TCC should be constructed. BCC has confirmed the Legacy Way Project Deed requires the Tunnel Traffic Monitoring and Control System to have the ability to be operated instantly at a location other than the TCC, including in the event of a disaster impacting on the TCC. Accordingly, a back-up control room will be constructed in the project's ventilation station near the ICB, which will allow for continued operation of tunnel traffic monitoring and control equipment.

3 Conclusion

In response to community concerns in 2010 about the proposed site for the TCC, BCC has provided a positive solution, proposing to build and operate the TCC on a site owned by Council and in an area suitable for development of office and transport infrastructure.

The ULDA has been consulted by BCC as development of the building has progressed, and has provided advice on how the proposal could be improved to better integrate with the area. The ULDA, in considering a development application for the mixed-use building, will assess the proposal in detail. Should it be approved, the ULDA will condition the development on matters including design, infrastructure, traffic management, dust and noise management.

The TCC must be constructed in accordance with existing conditions as made in the Coordinator-General's report, and subsequent change reports including this document. These conditions control matters including air, noise, vibration, water, safety, hours of work, risk and hazard management.

Conditions that apply to the operations phase of the project also apply to the TCC.

The ULDA has confirmed conditions made by the Coordinator-General that would apply to the TCC do not appear to limit the ULDA in setting conditions to address similar matters relating to the mixed-use building.

As previously conditioned in the Coordinator-General's report, as a part of the project's consultation strategy the proponent is to consult with the community about the change prior to commencing construction. Comments received by the community regarding construction works are to be addressed to ensure disturbance from the works are minimised wherever possible.

As per section 35K of the SDPWO Act, the Coordinator-General's report for the EIS for the project, and the Coordinator-General's change reports, have effect for the project.

As per section 35J of the SDPWO Act, a copy of this report will be given to the proponent and be made publicly available on the Department of Employment, Economic Development and Innovation's website at:
www.deedi.qld.gov.au/cg/legacy-way-project.html

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Keith Davies
Coordinator-General
Date: 12 January 2012

Appendix 1. Condition

Condition 1

The Construction Environmental Management Plan (CEMP) for the Legacy Way project, and all sub-plans relevant to the tollroad control centre (TCC) works, are to be updated to account for the TCC.

The CEMP and updated sub-plans are to be certified by the Environmental Management Representative (EMR) as being in accordance with conditions made on the project.

A copy of the updated CEMP and sub-plans, certified by the EMR, is to be provided to the Coordinator-General at least five business days before construction works for the TCC commence.

Abbreviations and acronyms

Abbreviation/acronym	Definition
APC	application for project change
BCC	Brisbane City Council (the proponent)
BHUDA	Bowen Hills Urban Development Area
CEMP	construction environmental management plan
DCS	Department of Community Services, Queensland
DEEDI	Department of Employment, Economic Development and Innovation, Queensland
DERM	Department of Environment and Resource Management, Queensland
EIS	environmental impact statement
ICB	Inner City Bypass
MCU	material change of use
SDPWO Act	*State Development and Public Works Organisation Act 1971* (Qld)
TCC	tollroad control centre
TMR	Department of Transport and Main Roads, Queensland
ULDA	Urban Land Development Authority
ULDA Act	*Urban Land Development Authority Act 2007* (Qld)

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