

13 August 2019

P35381

(02) 4934 9784  
Carolyn Maginnity

Director - Social & Other Infrastructure Assessments  
Department of Planning, Industry & Environment  
GPO Box 39  
SYDNEY NSW 2001

Dear Sir/Madam,

**RE: SSI 9775 - NEW MAITLAND HOSPITAL (STAGE 2)  
METFORD ROAD, METFORD (LOT 7314 DP 1162607 AND PART LOT 401  
DP 755237)**

I refer to your letter dated 8 July 2019, inviting Council to comment on the State Significant Infrastructure (SSI) application for the development of the New Maitland Hospital (Stage 2 - Detailed Design and Construction), located at Metford Road, Metford and advise that Council wishes to make the following comments in relation to the SSI proposal:

**1. Traffic, Access and Parking**

The traffic and transport impacts assessed in the Environmental Impact Statement (EIS) for Stage 2 and the Transport Impact Assessment (TIA) report prepared by GTA on 17/05/2019 (referred to as 'the GTA report') are considered in the context of the Department of Planning and Environment's conditions of approval for Stage 1.

The Department's determination of the New Maitland Hospital (Concept and Stage 1 Early Works) (SSI 9022) detailed requirements for future stages, including traffic and transport, in the conditions of approval. Condition B3. - Part B Requirements for Future Stages, requires a detailed assessment of the traffic and transport impacts associated with:

- Surrounding road network and intersection capacity
- Sufficient access and car parking
- Details to promote non-car travel modes

- Cumulative traffic impacts, in particular Stockland Green Hills Shopping centre development, and undertaking additional analysis of the highway inclusive of New England Highway/Chelmsford Drive intersection
  - Scope and timing of road and intersection upgrades
  - Pedestrian access plan
  - Businesses fronting Metford Road, between Fieldsend Street and Chelmsford Drive
- Each of these points is considered separately below.

a. Surrounding Road Network and Intersection Capacity

*Metford Road Capacity and Future Road Widening*

The summary for traffic capacity in 2022 and over the 10-year horizon to 2032 provided in Tables 6.13 and 6.14 of the GTA report demonstrate that Metford Road is reaching capacity. That is,

- in 2022 AM for Westbound/Southbound a volume/capacity ratio 0.9 with development;
- in 2032 AM and PM for Westbound/Southbound a volume/capacity ratio over 1.0 with and without development.

This confirms that further investigation is required for the future widening of Metford Road to four (4) lanes. This investigation should consider when the levels of service (LOS) indicate the need for an upgrade.

It is noted that background traffic growth is considered by GTA through the Roads and Maritime Strategic Traffic Forecasting Model outputs for 2021, 2026 and 2031. The traffic volumes from 2022 to 2032 (Tables 6.13 and 6.14) suggest a background traffic growth rate of approximately **1.75% p.a.** However, the Strategic Traffic Forecast Model indicates background traffic growth up to **1.87% p.a.** on Metford Road in the PM period from 4pm to 6pm (refer to attachment).

*Level of Service on the road network*

The levels of service should be reviewed for Metford Road – Chelmsford Drive corridor from the NMH site to the New England Highway. This includes:

- Metford Road/Chelmsford Drive roundabout intersection, in light of the increases in traffic Council has identified from 2019 traffic surveys, since the 2017 traffic surveys.
- Chelmsford Drive approach to the New England Highway signalised intersection
- Metford Road/Fieldsend Street roundabout intersection, as the primary access to the NMH site.



## b. Sufficient Access and Car Parking

### *Access Strategy*

The Access Strategy for the NMH should consider emergency service access on the broader road network for peak traffic congestion and peak flood events, including consideration of Fieldsend Street and Chelmsford Drive/Ferraby Drive during these times. The acceptable level of service (LOS) should be considered in the context of type of development and emergency services accessing this development. Consideration should be given to the locations of the nearest ambulance stations, and where ambulances are travelling from within the region. Consultation should occur with ambulance stations in the region, as well as other emergency services.

### *Car Parking Provision*

Section 4.1 of the GTA report states that **682** car parking spaces (including **14** accessible parking spaces and **12** motorcycle spaces) will be provided on-site in the opening year (2021/22). The 682 on-site parking spaces will include **515** staff parking spaces and **167** public/visitor spaces. In addition, the proponent is committed to delivering an additional **140** on-site car parking spaces to accommodate demand to the 10 year horizon (2031/32), bringing the total on-site provision to **822** spaces.

Council notes that almost the entire northern carpark is proposed to be located on Part Lot 401 DP 755237, which is in separate ownership to the main NMH site, (Lot 7314 DP1162607). Lot 401 DP 755237 is Crown Land with a perpetual lease held by Monier PGH Holdings Limited. The northern carpark is proposed to accommodate the majority of on-site car parking for the NMH development (i.e. all 515 staff car parking spaces, as well as 78 visitor spaces, 2 accessible spaces and 8 motorcycle spaces). Accordingly, HI should be required to take the necessary action to acquire Part Lot 401 DP 755237 and consolidate the lot with the main NMH site, prior to construction works commencing.

Further, Council notes that there is no mention of paid parking. This remains a concern for Council, as the introduction of any paid off-street parking scheme may increase demand for on-street parking in the locality, particularly around Fieldsend Oval. This could become a significant issue, particularly on weekends when the playing fields are in full use.

Council also requests that the proponent be required to indicate the proposed location of "long-stay" and "short-stay" parking areas on the development plans.

### *Access grades*

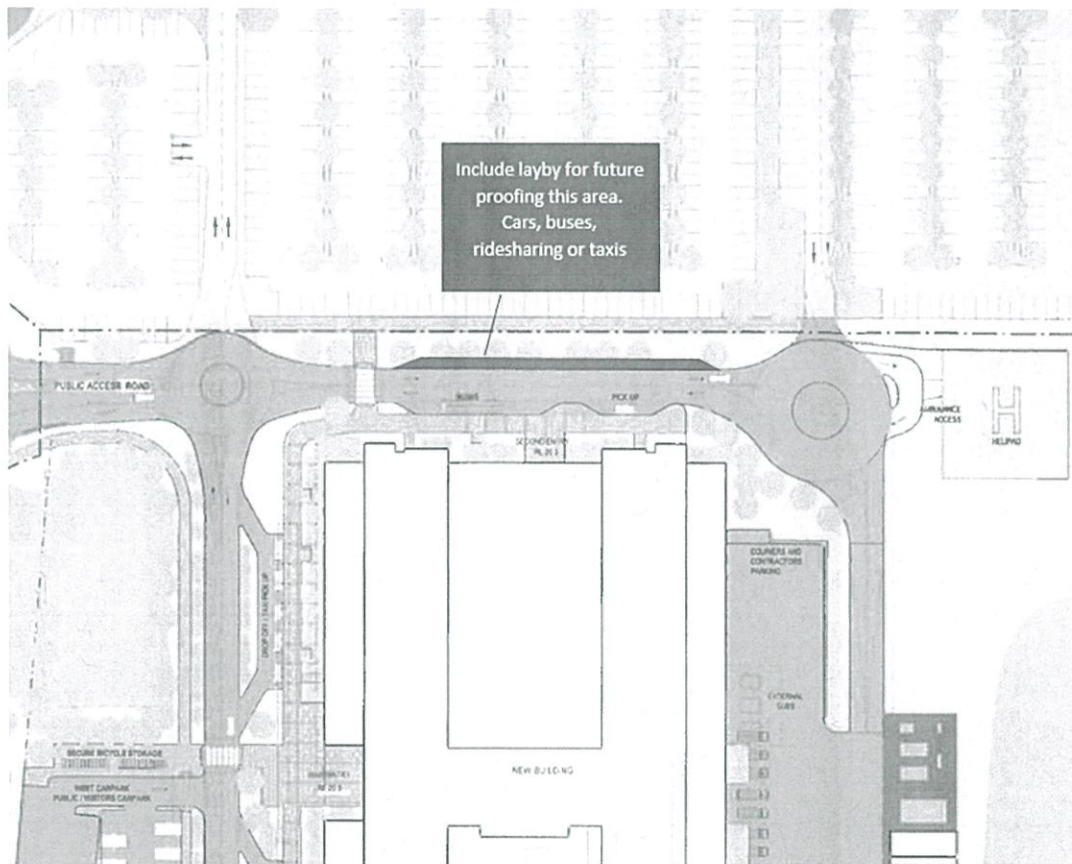
All internal paths from the hospital building to transport facilities should have accessible grades.

## c. Details to Promote Non-Car Travel Modes

### *Future Bus Stops/Services*

Council supports Hunter Valley Buses request for the inclusion of a 3.5m layby on the northern side of the hospital's main entrance. This could become a productive area for staging buses, community transport, ride sharing or taxis. A bus bay capable of accommodating two (2) buses should be provided on the southern side of the building, as it is possible that two (2) buses may arrive within the hospital grounds at the same time.

The bus and train service frequencies reported in Table 2.8 of GTA report are currently not integrated and are relatively low in frequency. However, there are no recommendations in the GTA report for bus service wait-times or frequencies for the NMH and no indication of the need for integrating train/bus service times. It is suggested that further investigations should be required into higher service frequencies (specified where possible) and integration of bus/train services.



### *Taxis*

It is unclear from Section 5.2.1 of the GTA of the report as to the location of the actual taxi stand internal to the NMH site. In any case, it may be beneficial to separate taxi bays from the bus bays, if there is insufficient length on one side of the internal access road for both taxis and buses.



## *Sustainable Transport*

Council notes in Section 8.3 of the GTA report that a Green Travel Plan has been prepared, to identify opportunities to provide staff with incentives to consider alternative modes of travel to and from work. Council supports this approach.

- d. Cumulative Traffic impacts, in Particular Stockland Green Hills Shopping Centre Development, and Undertaking Additional Analysis of the Highway Inclusive of New England Highway/Chelmsford Drive Intersection

### *Metford Road/Chelmsford Drive Roundabout Intersection*

Council has identified higher traffic volumes through the Metford Road/Chelmsford Drive roundabout intersection than the volumes included in the GTA report.

#### *Vehicle Turn Movements (on Approach Legs of Intersection):*

Council surveyed the Metford Road/Chelmsford Drive roundabout intersection on 16 May 2019 (to account for completion of the Stockland Green Hills redevelopment). The vehicle turn movements on approach to the intersection during the period 4:45pm to 5:45pm were as follows:

- Chelmsford Drive – NW leg (Metford Rd to highway): Left 683, Through 388, U-turn 55
- Metford Road – NE leg: Left 143, Right 588, U-turn 1
- Chelmsford Drive – SE leg (residential area): Through 295, Right 152, U-turn 3

The vehicle turn movements on approach to the intersection, provided in Figure 2.7 of the GTA report, however, are as follows:

- Chelmsford Drive – NW leg (Metford Rd to highway): Left 585, Through 50, U-turn 0
- Metford Road – NE leg: Left 142, Right 467, U-turn 0
- Chelmsford Drive – SE leg (residential area): Through 293, Right 110, U-turn 0

The increases in vehicle movements from 2017 to 2019 are therefore as follows:

- Chelmsford Drive – NW leg (Metford Rd to highway): Left +98, Through +338, U-turn +55
- Metford Road – NE leg: Left +1, Right +121, U-turn +1
- Chelmsford Drive – SE leg (residential area): Through +2, Right +42, U-turn +3

The increases of particular note are for the vehicle movements on the Chelmsford Drive – NW leg (highway to Metford Rd), specifically, Left +98, Through +338, U-turn +55. The above comparison is over the same peak traffic period for Metford Road/Chelmsford

Drive intersection as Council understands to be reported for the intersection in Table 2.4 of the GTA report.

*Approach & Exit Flows (on Each Leg of Intersection):*

For the same peak traffic period, Council found the 2-way flows to be as follows:

- Chelmsford Drive – NW leg (Metford Rd to highway): Approach 1126, Exit 938, Two-way 2064
- Metford Road – NE leg: Approach 732, Exit 836, Two-way 1568
- Chelmsford Drive – SE leg (residential area): Approach 450, Exit 534, Two-way 984

Council's traffic volume data (surveyed May 2019) is significantly higher than the traffic volumes derived from Table 2.4 of the GTA report, as follows:

- Chelmsford Drive – NW leg (Metford Rd to highway): Approach 636, Exit 761, Two-way 1397
- Metford Road – NE leg: Approach 610, Exit 696, Two-way 1306
- Chelmsford Drive – SE leg (residential area): Approach 404, Exit 193, Two-way 597

*Chelmsford Drive/New England Highway Signalised Intersection*

The GTA report details the traffic volumes for the Chelmsford Drive/New England Highway signalised intersection for the peak period determined relevant for the highway, that is 3:30pm to 4:30pm (presumably for travel time on the highway). However, consideration is also required for the traffic impact associated with the traffic flows on the Chelmsford Drive approach for the 4:45pm to 5:45pm period, to determine the level of service (LOS) and to ensure suitable infrastructure is provided to manage delays and queue lengths.

The Chelmsford Drive approach traffic flows to the highway can be determined from the exit traffic flows from the Metford Road/Chelmsford Drive roundabout intersection, specifically, the Chelmsford Drive – NW leg (Metford Rd to highway), which are 938 vehicles per hour during the 4:45pm to 5:45pm period.

*Metford Road/ Fieldsend Street Roundabout Intersection*

The LOS and delays should be determined for the primary access (Metford Road/Fieldsend Street roundabout intersection) to the NMH site, particularly with regard to the northeast-bound traffic on Metford Road in the peak PM period, which is required to give way to traffic exiting from the NMH (and U-turns at the primary access resulting from traffic exiting the secondary access).



It is noted that the traffic generation from the NMH site is **454 vehicles/peak hour** as listed in Table 6.1 of GTA report. However, the out/in traffic flow (derived) is 160/121, as shown in Figure 6.1 of GTA report, that is, a traffic generation of **281 vehicles/hour**. It is unclear then the number of vehicle trips exiting from the primary access of NMH (at 454 vehicles/peak hour) travelling through to Fieldsend Street, right turns to Raymond Terrace Road and also, U-turns resulting from the secondary access to Raymond Terrace Road.

It is noted in Section 6.3 of the GTA report regarding Metford Road/Fieldsend Street roundabout U-turns that “...50 per cent of staff exit from the secondary site access...” and “...all northbound vehicles would turn around at the Metford Road/ Fieldsend Street roundabout” and that “...50 per cent of visitors (all visitors from the northern car park) exit from the secondary site access...”. These vehicle turn movements should be considered in the assessment of levels of service at the primary access.

It is also noted in Section 6.1.1 of the GTA report with regards to traffic generation that “...the EVT has been utilised as the design traffic generation rate to overlap with the network peak.” That is, the Evening Vehicle Trips (EVT) as listed in Table 6.1 of the GTA report overlap with the intersection traffic for the Peak Hours listed in Table 2.4 of the GTA report. However, in some cases, consideration should be given to the matching Peak Hours (when overlapping NMH development traffic), especially Metford Road/Chelmsford Drive roundabout intersection and Chelmsford Drive/New England Highway signalised intersection (4:45pm to 5:45pm for both intersections) to determine the actual development impact on the traffic network.

e. Scope and Timing of Road and Intersection Upgrades

As previously stated, the surrounding road network should be reviewed for traffic volumes surveyed since the completion of the Stockland Green Hills redevelopment and background traffic growth sensitivity to determine:

- the scope and timing of Chelmsford Drive/ Metford Road roundabout upgrade (NB: it is acknowledged that HI have committed to completing the upgrade of the Metford Road/Chelmsford Drive roundabout prior to the hospital becoming operational);
- the scope and timing of Metford Road corridor planning and Metford Road widening to four (4) lanes;
- the performance of Fieldsend Street/ Metford Road roundabout for 454 vehicles/peak hour trips including U-turns from the secondary access;
- the scope and timing of a shared path on the east side of Metford Road (with lighting) to provide connectivity with other paths to Green Hills precinct and to existing shared path on Fieldsend Street.

Council understands that Health Infrastructure will be making a separate application under Part 5 of the EP&A Act for road and intersection infrastructure upgrades.

However, the scope and timing of these upgrades should be determined in the Stage 2 Traffic Impact Assessment report.

f. Pedestrian Access Plan

*Pedestrians/Cyclists*

Section 5.2 of the GTA report states that *"...Metford Road upgrades included the construction of a pedestrian path on the north-western side of Metford Road between Fieldsend Street and the Council depot..."* This footpath has been built to support connectivity from Fieldsend Oval to new off-street parking available at Council's depot site for weekend sport, to compensate for the loss of on-street parking on Metford Road as a result of the NMH Stage 1 Enabling Works, including the new roundabout at Metford Rd/Fieldsend St plus No Stopping on Metford Rd.

It is important that connectivity is provided for pedestrians/cyclist "off-road" along the Metford Road corridor from the NMH site to the Green Hills precinct. Council requests that a Shared Path be constructed on the east side of Metford Road, along the frontage of the NMH site, to provide connectivity from the pedestrian crossings at the Metford Rd/Fieldsend St roundabout to the existing shared paths on Chelmsford Drive, which in turn provide linkages to the Green Hills precinct.

Section 5.5.10 of the EIS states that *"...it is noted that Health Infrastructure will be making a separate application under Part 5 of the EP&A Act for the installation of a footpath on Metford Road that will connect the NMH site with the existing footpath at the Chelmsford Drive roundabout."* A shared path is required, not a footpath, to ensure pedestrians/cyclists are separated from vehicular traffic.

It is noted that in Section 7.5 of the GTA report, consideration has been given to traffic management around the helipad on the NMH site.

g. Businesses Fronting Metford Road, Between Fieldsend Street and Chelmsford Drive

The impact on businesses fronting Metford Road, between Fieldsend Street and Chelmsford Drive, was raised previously in Council's letter dated 24 July 2018 in relation to SSI 9022 – New Maitland Hospital (Concept Proposal and Stage 1). However, this item has not been addressed in the Stage 2 Transport Impact Assessment report.

*Recommended conditions of approval*

Council understands that Health Infrastructure will be making a separate application under Part 5 of the EP&A Act for road and intersection infrastructure upgrades. However, Council requests that a condition of consent be included on any project approval issued by the Minister requiring the completion of following infrastructure prior to the hospital becoming operational.



- Chelmsford Drive/ Metford Road roundabout upgrade;
- Any identified upgrades to Fieldsend Street/Metford Road roundabout to cater for 454 vehicle/peak hour trips, including U-turns from the secondary access;
- Provision of a shared path on the eastern side of Metford Road (with appropriate lighting) linking up with other existing paths, including the existing shared path on Fieldsend Street, to provide pedestrian/cyclist connectivity between the NMH site and the Green Hills precinct; and
- Traffic management conditions around the helipad (Source: s7.5 GTA report).

Council also requests that a condition of consent be included requiring the ongoing monitoring and submission of a Parking Demand Study addressing the demand and timing for the provision of an additional 140 on-site car parking spaces, to satisfy the NMH peak parking demand to the 10 year horizon (2031/2032).

In addition, Council requests that a condition of consent be included requiring the proponent to determine the long-term traffic impacts on Metford Road, reviewing the levels of service (LOS) and identifying the trigger points to determine when road infrastructure upgrades (e.g. road widening) are required. Note: A higher level of service (LOS) is expected for this State Significant development than what Council could reasonably deliver. The road upgrades should be delivered at a time to meet their level of service requirements. Council has no plans/funds at this stage to upgrade Metford Road to four (4) lanes.

## 2. Contamination

Information contained in the EIS in relation to contamination is limited to:

- a site audit statement for Lot 7314 DP 1162607 (having an area of approximately 17 hectares) certifying that the site can be made suitable for the proposed use, if the site is remediated/managed in accordance with the RAP/CMP prepared by GHD Pty Ltd on 4 July 2016, to address the SEARs for Stage 1; and
- a scope and methodology proposal for a detailed site investigation over Part Lot 401 DP 755237 (having an area of approximately 2 hectares) to address the SEARs for Stage 2.

GHD previously carried out a detailed environmental site (contamination) assessment and remedial action plan (RAP) for Lot 7314 DP 1162607 only, to address the Stage 1 SEARs, based on the understanding that Part Lot 401 would be used by CSR for storage of contaminated material found during the development of Lot 7314 and that no development/remediation/construction works associated with the NMH would be undertaken within Part Lot 401. However, as part of the Stage 2 works, HI now proposes to construct a carpark on Part Lot 401, which will likely require excavation and/or movement of existing stockpiled materials. Accordingly, in order to demonstrate

that the site is (or can be made) suitable for the proposed use in accordance with SEPP 55, a detailed site investigation of Lot 401 will be required.

In this regard, Council submits that the information submitted with the Stage 2 EIS in relation to contamination is inadequate. A detailed site investigation of Part Lot 401 should be carried out to assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. The report should be submitted to DPIE and form part of the SSI application, to be properly assessed prior to any approval being granted.

### 3. Water Cycle Management

The Civil Infrastructure Report prepared by Taylor Thomson Whitting (Appendix M) refers to Council's DCP and Manual of Engineering Standards (MOES), which detail the requirements for the control, treatment and discharge of stormwater from development sites, including the requirement to consider upstream and downstream catchments in their ultimate developed state to achieve a total system which doesn't adversely affect existing systems or properties within the flow path and catchment.

Council submits that in order to adequately address the above requirements, the report should properly consider the discharge impacts at the Metford Road culvert. The report states that the site is at the high point of the catchment and therefore no impact is created. However, there is an equal sized catchment of residential land to the south, which discharges through the same Metford Road culvert (see sketch below). The report should demonstrate that peak discharges for the 1, 10 and 100 year ARI storm events are not increased beyond that of the pre-development environment.

### 4. Noise and Vibration

Noise and vibration impacts are considered in Section 5.6 of the EIS and in the *Noise and Vibration Assessment* report prepared by Acoustic Logic in April 2019 and included as Appendix L.

#### *General*

Council submits that the Noise and Vibration Assessment prepared by Acoustic Logic (Appendix L) does not provide sufficient detail to adequately address the Secretary's Environmental Assessment Requirements (SEARs) for Stage 2. In particular, the report does not include any details of attended/unattended noise monitoring undertaken, or quantitative data collected during the surveys. Further, there does not appear to be any evidence of acoustic modelling (e.g. noise contour maps). The report appears to rely solely on the survey/modelling work done previously by Wood and Grieves Engineers for Stage 1 of the project. Without this detailed information, it is not possible to accurately determine the nature and frequency of potential noise and vibration



impacts on surrounding occupiers of land. Further, a cumulative noise impact assessment for the entire development does not appear to have been undertaken.

#### *Construction Noise*

The EIS refers to a minor exceedance of the 65dB(A) Noise management level. However, the residential noise affected management level is 52 dB(A) and 47 dB(A) outside normal work hours (they have requested an extension to these hours to enable the hospital to be built in the quickest possible time). The community should be consulted in this regard.

#### *Helicopter/Ambulance*

Very limited information is provided in relation to the potential noise impacts on adjoining residential areas from helicopter and/or emergency vehicle movements. No helicopter flight path has been provided – it is suggested that this will be identified when a contractor is engaged. Noise impacts from helicopter and ambulance movements on surrounding residential areas are considered to be of crucial importance and should be adequately addressed. Further, there does not appear to have been any consideration of the impact of the Model aircraft field on Raymond Terrace Road on the proposed helicopter flight path.

#### *Mechanical Plant Equipment*

Potential noise and vibration impacts of future mechanical plant have not been considered, as the amount/type of plant equipment to be installed has not yet been decided upon. The report states that *"it is not possible to carry out a detailed examination of the ameliorative measures that may be required to achieve the noise targets."* However, the Minister's approval for Stage 1 of the project includes the following requirement:

*"Condition B5. – Part B Requirements for Future Stages - The SSI application for the detailed design and construction of the NMH must be accompanied by a detailed noise and vibration impact assessment prepared by a suitably qualified person, which details the main construction and operational noise and vibration sources and activities, including future mechanical plant. Details are also to be included outlining all feasible and reasonable noise and vibration mitigation and management measures".*

## **5. Biodiversity**

The BDAR prepared by Sclerophyll Flora Surveys and Research Pty Ltd for Stage 2 (Appendix J2) relies on fauna data collected during Spring and Summer of 2014. The report suggests that this is acceptable given investigations fall within the 5 year prescribed timeframe. However, the required methodology was different in 2014 to what is required now under the new biodiversity legislation. It should be demonstrated how this work meets the current methodology requirements and why back-up sampling

of fauna was not undertaken at the same time as the more recent flora survey. This is particularly important as the data is nearly over the prescribed 5 year timeframe.

Further, it is not clear from the plans provided whether the extent of clearing calculations include all areas of impact, such as asset protection zones, fire trails, walking paths, noise fences, removal of trees for helicopter access etc. The BDAR should consider all vegetation removal.

The report does not provide any detailed discussion on avoidance or mitigation of impacts, which is necessary to establish whether vegetation removal is actually necessary. The report states that details of mitigation measures will be included in a Biodiversity Management Plan (BMP) to be incorporated in the project Construction Environmental Management Plan (CEMP) which, it is assumed, will be submitted prior to commencement of construction. Council submits that this information should be provided up-front, as part of the application, to be assessed prior to any approval being granted.

## 6. Landscaping

There is reference in section 3.6 of the EIS to making an existing chitter pile on the site into a landscaping feature by revegetating it with grass and native tree planting. However, given the issues with spontaneous combustion and the fact that the chitter is essentially a contaminant, Council submits that this is inappropriate and the chitter pile should just be removed from the site.

## 7. Industrial Heritage

In December 2018, Council was asked to provide input into the SEARS for Stage 2 of the New Maitland Hospital. At Council's request the SEARs were amended to include the following requirement:

- *"Detail how the design and construction of the hospital will incorporate heritage interpretation utilizing material and fabric salvaged from the demolition of the former Brick Press Building associated with the former CSR/PGH Brickworks."*

Sections 3.8 and 5.16 of the EIS state that *"the former Brick Press Building is located on Part Lot 401, outside of the SSI site boundary of the NMH. These items will not be used as part of the NMH, however, these items are expected to form part of and be incorporated into the redevelopment of the other Metford Triangle land, where they were historically located."*

To date no application has been received for any other development on Lot 401. It is not considered appropriate for the SEAR's for the project to be ignored and the significant industrial heritage of the site overlooked.



Accordingly, Council requests that further detailed consideration be given to the retrieval and re-use of the salvaged heritage items and their incorporation into the redevelopment of the NMH site, as part of the Stage 2 SSI application. This could be in some form of heritage interpretation, either within the internal public spaces or external landscaped areas.

Should you have any questions or wish to discuss the matter further, please don't hesitate to contact Carolyn Maginnity on (02) 4934 9784.

Yours faithfully



**David Evans PSM**  
**General Manager**

Encl.

## Metford Road Volume Capacity Ratio (VCR) & Background Growth

GTA Table 6.13: Summary of traffic capacity - 2022 growth scenario

Scenario	Location	Traffic Volumes				Volume/Capacity			
		AM		PM		AM		PM	
		EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB
	Raymond Terrace Road	729	1,066	870	1,075	0.61	0.89	0.73	0.91
Without Development	Metford Road	581	1,046	823	738	0.49	0.88	0.69	0.62
	Chelmsford Drive	636	1,107	1,105	847	0.27	0.47	0.47	0.36
	Raymond Terrace Road	733	1,082	902	1,089	0.62	0.91	0.76	0.91
With Development	Metford Road	701	1,076	923	970	0.59	0.9	0.77	0.81
	Chelmsford Drive	751	1,136	1,201	1,071	0.32	0.48	0.51	0.45

Source: GTA report Stage 2 Table 6.13 Page 44

GTA Table 6.14: Summary of traffic capacity - 2032 growth scenario

Scenario	Location	Traffic Volumes				Volume/Capacity			
		AM		PM		AM		PM	
		EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB
	Raymond Terrace Road	844	1,251	1,023	1,226	0.71	1.05	0.86	1.03
Without Development	Metford Road	720	1,229	936	918	0.6	1.03	0.78	0.77
	Chelmsford Drive	774	1,316	1,256	997	0.33	0.55	0.53	0.42
	Raymond Terrace Road	848	1,267	1,055	1,240	0.71	1.06	0.88	1.04
With Development	Metford Road	840	1,259	1,036	1,150	0.7	1.05	0.87	0.96
	Chelmsford Drive	889	1,345	1,352	1,221	0.38	0.57	0.57	0.51

Source: GTA report Stage 2 Table 6.13 Page 45

Council review of background traffic growth (from GTA Tables 6.13 & 6.14)

Scenario	Location	Background Growth			
		AM		PM	
		EB/NB	WB/SB	EB/NB	WB/SB
	Raymond Terrace Road	1.5%	1.6%	1.6%	1.3%
Without Development	Metford Road	2.2%	1.6%	1.3%	2.2%
	Chelmsford Drive	2.0%	1.7%	1.3%	1.6%
	Raymond Terrace Road	1.5%	1.6%	1.6%	1.3%
With Development	Metford Road	1.8%	1.6%	1.2%	1.7%
	Chelmsford Drive	1.7%	1.7%	1.2%	1.3%

AM Avg.	PM Avg.
1.5%	1.5%
1.9%	1.8%
1.9%	1.5%
1.5%	1.4%
1.7%	1.4%
1.7%	1.3%



## Roads and Maritime Strategic Traffic Forecast Model data

Year	Period	Northbound							Southbound					
		2 Hour Volume	VCR	5 Year Growth (2 hr volume)	5 Year Annual Growth Rate (%)	10 Year Growth (2 hr volume)	10 Year Annual Growth Rate (%)		2 Hour Volume	VCR	5 Year Growth (2 hr volume)	5 Year Annual Growth Rate (%)	10 Year Growth (2 hr volume)	10 Year Annual Growth Rate (%)
2016	7-9 AM	687	0.29						1,470	0.61				
2021	7-9 AM	736	0.31	49	1.43				1,661	0.69	191	2.59		
2026	7-9 AM	809	0.34	73	1.99	122	1.78		1,920	0.8	259	3.12	450	3.06
2031	7-9 AM	911	0.38	102	2.52				1,986	0.83	66	0.69		
2036	7-9 AM	939	0.39	28	0.62	252	1.84		2,092	0.87	105	1.06	622	2.11

10 year growth from 2021 to 2031 1.87%

	am	pm	2hr	1hr
2021	368	1,661	2,029	1,015
2031	456	1,986	2,442	1,221

Year	Period	Northbound							Southbound					
		2 Hour Volume	VCR	5 Year Growth (2 hr volume)	5 Year Annual Growth Rate (%)	10 Year Growth (2 hr volume)	10 Year Annual Growth Rate (%)		2 Hour Volume	VCR	5 Year Growth (2 hr volume)	5 Year Annual Growth Rate (%)	10 Year Growth (2 hr volume)	10 Year Annual Growth Rate (%)
2016	4-6 PM	1,605	0.67						986	0.41				
2021	4-6 PM	1,833	0.76	228	2.8				1,061	0.44	75	1.5		
2026	4-6 PM	2,070	0.86	237	2.6	465	2.9		1,135	0.47	73	1.4	149	1.5
2031	4-6 PM	2,112	0.88	42	0.4				1,196	0.5	62	1.1		
2036	4-6 PM	2,177	0.91	65	0.6	572	1.8		1,291	0.54	95	1.6	305	1.5

10 year growth from 2021 to 2031 1.31%

	am	pm	2hr	1hr
2021	917	1,061	1,978	989
2031	1,056	1,196	2,252	1,126

Sketch Showing Location of Metford Road Culvert

