

Initial Advice Statement Gateway Upgrade Project

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1 INTRODUCTION

1.1 Background

The Department of Main Roads is proposing to construct and operate a duplication of the Gateway Bridge and an upgrade of the Gateway Motorway between Mt Gravatt - Capalaba Road and Nudgee Road (see Figures 2& 3). This project has an estimated value of \$1.2-\$1.4 billion dollars and is expected to generate significant investment and business opportunities to the region and the State.

The Gateway Motorway and the Gateway Bridge are vital infrastructure routes within southeast Queensland and the Australia TradeCoast region, providing a critical link to Brisbane Airport and the Port of Brisbane. The Gateway Bridge and sections of the Gateway Motorway in this area are approaching capacity. Travellers through this area are already experiencing significant delays in the morning and evening peaks north and south of the Gateway Bridge.

The importance of this link to the road network, and the need for maintaining effective traffic flows in this region, is evidenced in the Integrated Regional Transport Plan (IRTP) for South East Queensland by the following statements, "On a regional basis, ensuring effective access to important economic nodes such as the Port of Brisbane and Brisbane Airport has been a priority", and "Planning is needed for a second river crossing near the Gateway Bridge to support regional travel and freight movements along the corridor."

The Department of Main Roads is undertaking a Business Case for the Gateway Upgrade Project which includes an Environmental Impact Statement (EIS). The Business Case is Stage 3 of the 6 Stage process outlined in the Queensland Government's PPP – Value for Money Framework. This stage of the process will investigate if the project can be delivered through a Public Private Partnership (PPP) agreement. The key steps in this stage of the PPP Business Case Development are to:

- Identify the Project Delivery Options most likely to provide the best value for money outcome; and
- Provide information regarding the available Project Delivery Options, sufficient to enable cabinet to:
 - Determine the preferred Delivery Option; and
 - Make commitments regarding funding of the potential project
- To undertake an Environmental Impact Statement

1.2 Project Proponent

The Department of Main Roads is a government organisation that manages approximately 34,000 kilometres of state-controlled road network. This network carries 80% of Queensland's traffic and includes the highways and other main connecting roads across Queensland. Main Road's vision is for a road system that enhances the social, cultural, environmental and economic well being of Queensland's communities.

1.3 Scope of Report

This Initial Advice Statement (IAS) has been prepared to provide sufficient information to:

- a) Enable determination of the significance of the project to the State; and

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- b) Provide sufficient detail to enable advisory agencies and the public to have effective input into Terms of Reference (TOR) for an Environmental Impact Statement (EIS).

This IAS is intended to provide a summary of the existing environment in the study area and to identify the level of potential impacts that will be investigated in the EIS. An EIS and Environmental Management Plan (Planning) (EMP(P)) will be prepared as part of this approval process. The TOR for the EIS will be developed based on the outcomes of this report and the requirements of relevant government agencies.

2 PROJECT DESCRIPTION

2.1 Location

The Gateway Motorway lies to the north east of Brisbane, between Moreton Bay and the City of Brisbane in South East Queensland (see Figure 1). The Gateway Motorway connects the Pacific Motorway to the south, the Bruce Highway to the north and the Logan and Ipswich Motorways to the west. It also services critical regional infrastructure, namely the Brisbane Domestic and International Airports and the Port of Brisbane.

2.2 Concept Planning and Options Analysis

The Gateway Motorway and Second River Crossing Planning Study commenced in 2001 and was completed mid- 2003. The study investigated and reinforced the need for an upgrade of the existing motorway between Mt Gravatt-Capalaba Road and Nudgee Road. The Planning Study considered a number of upgrade options, including alignment options analysis and preliminary environmental assessments, and determined the scope of the Gateway Upgrade Project.

Table 2.1 provides a summary of the planning studies undertaken.

Table 2.1 Planning Study Report

Report Type	Location Assessed	Reference	Key Findings
Strategic Corridor Planning Report	Mt Gravatt - Capalaba Rd to Nudgee Rd	Volume 1	<ul style="list-style-type: none"> • This study assessed the existing and future demands on the Gateway river crossing and motorway north and south of the river using the Brisbane Strategic Transport Model • The traffic modelling indicates that a second river crossing is required in the time band 2006 to 2011, with the range influenced by approach works and other possible upstream river crossings • The traffic modelling indicates that upgrading the southern approach section of the Gateway Motorway (Mt Gravatt - Capalaba Rd to Lytton Rd) to 6 lanes is required by 2006, and to 8 lanes by around 2021 • Three options for upgrading the northern approach section of the Gateway Motorway (Lytton Rd to Nudgee Rd) were assessed: <ol style="list-style-type: none"> 1. upgrading the existing motorway 2. development of a new deviation with airport access to the deviation at Airport Drive 3. new deviation with airport access to the deviation at a new northern access point only • The assessment of these three options found that option 1 and 3 warranted further investigation. The traffic modelling indicates that adopting option 1 would require an upgrade to 6 lanes within 2 years and 8 lanes by 2011. Adopting option 3 with a new 4 lane deviation indicated the existing motorway would be adequate to 2011
Draft Route Location and Corridor Assessment Report	Lytton Rd to Nudgee Rd	Volume 2	<ul style="list-style-type: none"> • This study assessed the type, form and location of the required second river crossing and identified the preferred option for upgrading the section of motorway north of the river (as discussed above) • Seven options for the river crossing were investigated, four of these were broadly based on the balanced cantilever form of the existing bridge, two were based on a cable-stayed bridge system and the final option assessed was a tunnel (driven, cut and cover and immersed tube tunnels were investigated) • The optimum crossing option was determined to be a 6 lane duplication of the existing balanced cantilever form bridge, immediately downstream of the existing bridge • The optimum option for upgrading the section of motorway north of the river was determined to be option 3 as described above (i.e. new 4 lane deviation and use of the existing motorway)

Table 2.1 continued

Draft Review of Environmental Factors (Concept)	Lytton Rd to Nudgee Rd	Volume 3	<ul style="list-style-type: none"> This study provided a preliminary assessment of the existing environment of the wider project area associated with the northern section of motorway and river crossing
Draft Concept Planning Report	Lytton Rd to Nudgee Rd	Volume 4	<ul style="list-style-type: none"> This study developed refined engineering concept designs based on environmental, geometric and engineering criteria and constraints and recommended a series of arrangements, treatments, alternatives and systems in relation to the major components of the study. Key elements include extensive use of elevated roadway structures to minimise hydraulic and environmental impacts, toll collection facilities designed to provide for an operationally efficient system, minimising property impacts and impacts on the local road network.
Draft Review of Environmental Factors (Concept)	Mt Gravatt Capalaba Rd to Lytton Rd	Volume 5	<ul style="list-style-type: none"> This study provided a preliminary assessment of the existing environment of the wider project area associated with the southern section of motorway south of the river
Draft Concept Planning Report	Mt Gravatt - Capalaba Rd to Lytton Rd	Volume 6	<ul style="list-style-type: none"> This study aimed to complete concept planning and investigated a cost effective solution for the widening of the existing motorway A cost effective solution has been achieved by developing a proposal that is mostly confined to the existing motorway reserve.
Community Consultation Report	Mt Gravatt - Capalaba Rd to Nudgee Rd	Volume 7	<ul style="list-style-type: none"> This report documents the Community Consultation Program completed for the studies to date. Key elements were as follows: <ul style="list-style-type: none"> identification of, and liaison with, all relevant stakeholders establishment of, and liaison with, an Agency Reference Group dissemination of project information and encouragement of stakeholder input via project newsletters, dedicated email, fax and telephone lines, media advertisements, web page, promotional flyers/letters and public displays The consultation established that there was general support for the project in principle. Also that continued consultation throughout the life of the planning, construction and maintenance phases was required

2.3 Project Details

Following the above mentioned planning studies, the proposed upgrade works to be assessed in further detail during the Environmental Impact Statement (EIS) are as follows (see Figures 2 and 3):

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- upgrade existing carriageways mostly on the existing Gateway Motorway alignment between Mt-Gravatt - Capalaba Road and the Gateway Bridge;
 - duplication of the Gateway Bridge; and
 - duplication through realignment of the Gateway Motorway from the Gateway Bridge north to the Nudgee Road Interchange. This deviation will be through old and new airport land and the upgrade works include a grade separated interchange for direct access to the Brisbane Airport.

The proposed works will traverse land under the jurisdiction and interest of Local, State and Commonwealth Government agencies.

The environmental assessment for the EIS will be focused on the preferred alignment option that is, "The Corridor of Interest", while also considering any relevant potential indirect impacts on upstream and downstream environments.

3 EMPLOYMENT OPPORTUNITIES

Construction and operation of the Gateway Motorway Upgrade Project will create significant direct employment opportunities in Queensland for construction personnel and operational staff. The construction phase of the project will provide opportunities for qualified professionals, service providers and general labour employment. For example, road and bridge professionals, manual labour positions, plant and machinery operators and hire, catering supplies, transport and courier services and waste management subcontracts will be employed. Recruitment practices for the required workforce will take into account the provision of opportunities for appropriately qualified personnel in the local area.

In addition to direct employment opportunities, further employment opportunities could arise from vehicle hire and maintenance requirements, general fabrication activities and provision of ancillary infrastructure.

A smaller maintenance crew will be employed to undertake the routine road and bridge maintenance practices. Maintenance activities will vary from pavement works and de-silting of culverts through to routine mowing, slashing, watering of plants, weed control and maintenance of guideposts, fencing and signage.

4 OTHER INFRASTRUCTURE REQUIREMENTS

4.1 Road and Rail

Construction Phase

The construction phase will generate additional traffic, including heavy vehicles, on the regional and local road network. The majority of traffic during this phase will be associated with delivery of construction equipment and material to the site. It is possible that a combination of road and rail will be used to accommodate this transport of goods. The final selection of the transport option will be determined after the development of the business case and once a proponent for the project has been engaged.

Operational Phase

Long-term traffic forecasting for the motorway itself and the regional and local road network will be determined during subsequent detailed studies.

4.2 Water

Construction Phase

Water will be required to assist compaction of the road base/embankment, for dust suppression during construction activities and for domestic use at the project site. The selection of a water source and the disposal of domestic wastewater will be determined during subsequent detailed studies.

Operational Phase

The requirement for water will reduce considerably following construction. However, an ongoing requirement for water will persist until the time when rehabilitation plantings become established (this will be dependent on seasonal conditions)

5 RELEVANT LEGISLATION

Compliance of development projects with environmental legislation need to take into account two issues:

1. The legislative process to be followed for the assessment and approval of the project
2. The permits, licenses and/or environmental authorities to be obtained for conducting certain project activities.

Each is discussed below.

5.1 EIS Assessment Process

Main Roads are seeking designation of the Gateway Upgrade Project as a Significant Project under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The Act sets out the requirements for environmental assessment and public review of the Environmental Impact Statement (EIS). Main Roads are proposing to follow this EIS process for the project.

Main Roads has also submitted a Referral to the federal Department of the Environment and Heritage (DEH) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Commonwealth Minister has not at this stage made a final decision on whether or not the GUP constitutes a controlled action under the act.

The section of the Gateway Motorway Upgrade Project that traverses Commonwealth land (being the Brisbane Airport) triggers assessment and approval under the *Airports Act 1996*. Specifically, the project is to be in accordance with the Brisbane Airport Master Plan and a Major Development Plan is to be submitted to the Department of Transport and Regional Services (DoTaRS) for Ministerial approval for non-aviation related development where the cost of construction exceeds \$10 million.

Main Roads proposes to conduct an EIS under the SDPWO Act process, and develop a Major Development Plan for submission to DoTaRS based on the information obtained during the EIS process. It is proposed to undertake a single EIS process that allows for the assessment and approval of the Gateway Motorway Upgrade Project under the various pieces of legislation stated above.

5.2 Permits, Licenses and Environmental Authorities

In addition to establishing the environmental requirements under legislative processes, it is necessary to identify those environmental permits, licenses and/or environmental authorities required to carry out the proposed road works. Table 5.1 provides a general indication of those legislative Acts that would require an environmental permit, license or environmental authority relevant to this project.

Table 5.1 Potentially relevant environmental legislation and associated permits, licenses and environmental authorities

Act	Trigger mechanism	Permit/licence required	Administering Authority
<i>Agricultural Chemicals Distribution Control Act 1966</i>	License required for certain weed spraying operations	Licence (S39)	DPI
<i>Chemical Usage (Agricultural and Veterinary Control) Act 1989</i>	Possession and/or use of a registered/unregistered/prescribed chemical product	Permit (S8-12)	DPI
<i>Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987</i>	Cultural heritage assessment survey	Permit (S27)	EPA
<i>Environmental Protection Act 1994</i>	Conduct of an environmentally relevant activity (ERAs): ERA 11 - storing crude oil or petroleum product – combined total storage capacity >10,000 L ERA 19 - dredging of material from bed of any waters – no minimum trigger amount ERA 20 - extracting rock, sand, clay, gravel or other material – no minimum trigger amount ERA 22 – screening, washing, crushing material extracted from the earth or dredged using plant or machinery with a design capacity of > 50 t ERA 28 – operating a mobile motor vehicle workshop ERA 62 - concrete batching in works having a design production capacity of > 100t / year ERA 83 – transporting regulated wastes of > 250 kg / load Disposal of contaminated soil	Environmental Authority Disposal Permit	EPA EPA
<i>Fisheries Act 1994</i>	Disturbance or removal of marine plants, whether dead or alive, standing or fallen	Permit (S51)	DPI
<i>Plant Protection Act 1999</i>	Working in areas declared as a Red Imported Fire Ant Restricted Area	Approve a Risk Management Plan	DPI
<i>Coastal Protection and Management Act 1995</i>	Conducting works within a coastal management district or involving tidal areas	Operational works	EPA
<i>Integrated Planning Act 1997</i>	If an ERA is undertaken	Approval	Local authority
<i>Nature Conservation Act 1992</i>	Remove or destroy a plant or animal listed under schedules 1 – 4 of the <i>Nature Conservation (Wildlife) Regulation 1994</i>	Permit	EPA
<i>Rural Lands Protection Act 1985</i>	Working in areas of, spreading and / or keeping declared plants or animals	None (duty to control)	DNR&M
<i>Transport Operations (Road Use Management) Act 1995</i>	Transportation of dangerous goods by road in bulk	Licence (S152)	QT
<i>Vegetation Management Act 1999</i>	Clearing of remnant vegetation where the total area of the development exceeds 5 ha	Permit	DNR&M
<i>Water Act 2000</i>	Works within watercourse, water extraction and riverine protection permit	Permit (S237, 266 & 280)	DNR&M

DNR&M = Department of Natural Resources and Mines; DPI = Department of Primary Industries; EPA = Environmental Protection Agency; QT = Queensland Transport

6 COMPLEXITY OF LOCAL, STATE AND COMMONWEALTH REQUIREMENTS

The project is expected to involve a relatively high level of complexity. However, similar large-scale projects involving members of our project team have recently been assessed and approved in Queensland and therefore Main Roads is confident of successfully managing these complexities. The key issues for consideration include:

- Completing an EIS assessment under a single environmental assessment process that achieves the objectives and deliverables of the *State Development and Public Works Organisation Act 1971* and the *Airports Act 1996*.
- The variety of land tenures including:
 - freehold
 - crown leasehold land
 - crown reserves
 - state lands
 - local government lands
- The variety of environmental permits, licenses and environmental authorities likely to be required for the project from DPI, DNR&M, EPA and QT (refer Table 5.1).
- The need to develop a Major Development Plan (MDP) for the proposed works on Brisbane Airport land and the timing of public displays for the Draft EIS and the Draft MDP.

7 EXISTING ENVIRONMENT

7.1 Land Tenure

The bulk of the Gateway Upgrade Project between Mt Gravatt - Capalaba Road and Lytton Road will be constructed within the existing road reserve although some minor land acquisitions for improvements to isolated substandard motorway geometry may be required. Land uses adjacent to the motorway in this section include residential, rural residential lands, parklands (including the Minnippi Parklands and the Mt Petrie bushlands) and some industrial estates and grazing land in the flood plain of Bulimba Creek.

Large sections of the works from the Lytton Road to Nudgee Road section are on a new alignment, and traverse Commonwealth, State and Local Government lands. Land uses adjacent to this section of the motorway include industrial estates, the Royal Queensland Golf Club, the Brisbane Airport and floodplains associated with Kedron Brook, and the Nudgee Golf Course.

7.2 Topography, Geology and Soils

The lands along the alignment are generally undulating plains with extensive areas of low-lying flood plains associated with Bulimba Creek, the Brisbane River and Kedron Brook. These Quaternary age deposits overlie the late Triassic age Tingalpa Formation and the Tertiary age Petrie Formation. The Tingalpa Formation comprises siltstone, shale and thin coal seams, whereas the Petrie Formation comprises basalt, conglomerate, sandstone and shale.

The coastal and alluvial plain deposits are predominantly mud, sand, silt and clay. Other soil and rock types across the project area include humic gleys, peaty gleys, solonchaks, greywacke, argillite, quartzite, chert and greenstone.

Acid Sulphate Soils

Relatively large areas of the project area north of the river are below 5 m Australian Height Datum (AHD). Consequently, the State Planning Policy "Planning and Management of Coastal Development Involving Acid Sulphate Soils" applies. Detailed investigations of acid sulphate soils, in accordance with QASSIT guidelines and the State Planning Policy, will be undertaken during the EIS.

Contaminated Land

Searches of the Contaminated Land Register and Environmental Management Register administered by the Environmental Protection Agency identified 77 lots within the wider study area as being listed as potentially contaminated sites.

The need for field sampling to determine the location, extent and type of contamination associated with these sites and management requirements decided as part of the EIS process.

7.3 Conservation Areas and Significant Bushlands

The existing Gateway alignment south of the Brisbane River is located adjacent to the following conservation areas:

- Minnippi Parklands including Meadowlands Picnic Ground – west of the Motorway from south of Wynnum Road to Meadowlands Road. Conservation values of the area are mainly

significant at a local level and include high landscape values for recreation and scenic amenity, forms part of the Bulimba Creek wildlife corridor, and has local habitat values.

- The bushland at Belmont Hill – west of the Motorway from Old Cleveland Road to approximately Greendale Way. The conservation values of the area are significant at a citywide level and include visual/scenic, local wildlife habitat, botanical and nature based recreation.
- Mt Petrie Bushland – east of the Motorway from the south of Belmont Rifle Range to the north of Wecker Road. The bushland is significant on a regional level. The site provides visual and landscape features, important koala habitat including being part of the Koala Coast area, and significant botanical values due to the size, location, relative lack of disturbance and diversity of species and association present including species uncommon in the Brisbane area.
- Koala Coast – the area east of the Motorway from Belmont Road south to the extent of the study area.
 - Mt Petrie Bushland forms part of the Koala Coast region.
 - Connectivity within the Koala Coast also occurs along waterways and other small vegetated patches.
- Vegetation Protection Orders (VPOs) – Brisbane City Council VPOs may be placed over vegetation of visual or conservation significance. The location and extent of these areas will be determined during the EIS.

7.4 Flora

7.4.1 Terrestrial Flora

Dr Mike Olsen of Landscape Assessment, Management and Rehabilitation Pty Ltd completed the terrestrial flora assessment for the section of the motorway between Lytton Road and Nudgee Road (Appendix to Planning Study Volume 3) and a targeted flora assessment was undertaken by Cardno MBK for flora species listed under the EPBC Act at Bulimba Creek. The remaining sections of the motorway, south of the Brisbane River, were investigated by GHD as part of the planning study. A summary of the key findings from the combined studies is provided below.

- Preliminary assessments, including ground truthing, for threatened flora species have occurred. The assessments to date have identified the vulnerable¹ wattle, *Acacia perangusta*, as being the only threatened species observed within the study area. Individuals of this species were observed within landscape plantings associated with the motorway toll booths on the southern bank of the Brisbane River. Landscape plantings of *Acacia perangusta* were also identified within the road reserve adjacent to Bulimba Creek.
- No threatened flora species pursuant to the EPBC Act were found by Cardno MBK during a targeted search of the Bulimba Creek area.
- Several Regional Ecosystems (RE) as per the Queensland Herbarium classifications were recorded within the study area. These include:
 - RE 12.1.2 (No concern at present) - Saltpan vegetation comprising *Sporobolus virginicus* grassland and samphire herbland
 - RE 12.1.3 (No concern at present) - Mangrove shrubland to low closed forest
 - RE 12.3.5 (Of concern) - *Melaleuca quinquenervia* tall open forest to woodland

¹ 'Vulnerable' as per both the Commonwealth and State legislation

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- RE 12.5.2 (Endangered) - *Eucalyptus tereticornis*, *Corymbia intermedia* grassy woodland to open forest
 - RE 12.11.5 (No concern at present) - Mixed tall open forest with *Corymbia citriodora*, *Eucalyptus siderophloia* and *Eucalyptus major*
 - Weed species were found to be prevalent throughout the study area

7.4.2 Aquatic Flora

Dr John Thorogood of FRC Environmental completed the aquatic flora assessment for the section of the motorway between Lytton Road and Nudgee Road. An additional investigation was carried out in the Airport area by Brett Lane and Associates in November 2003. The remaining section of the motorway was investigated by GHD as part of the planning study (GHD 2003). A summary of the key findings from the combined studies is provided below.

- No threatened aquatic flora species were recorded.
- Approximately 35 ha of freshwater wetlands occur in the vicinity of the Brisbane Airport. These wetlands are considered to have a high conservation value.
- Mangrove and adjacent saltmarsh communities also occur in the broader study area particularly associated with the floodplain of the Brisbane River and Kedron Brook and to the north of the Nudgee Golf Club.
- No seagrasses occur in the waterways of the study area, including the Brisbane River.
- The estuaries of the study area generally have low chlorophyll levels indicating low phytoplankton abundance. This is likely a consequence of strong gradients of flow, moderate nutrient enrichment, light limitations and high flushing rates.

7.5 Fauna

7.5.1 Terrestrial Fauna

Dr Glen Ingram of Biodiversity Assessment and Management Pty Ltd completed the terrestrial fauna assessment for the section of the motorway between Lytton Road and Nudgee Road (Appendix to Planning Study Volume 3). The remaining section of the motorway was investigated by GHD as part of the planning study (GHD 2003). A summary of the key findings from the combined studies is provided below.

- Detailed database searches and field surveys for threatened fauna species are yet to occur. However, the local knowledge of the area by Dr Ingram suggests that threatened species are not likely to be a significant issue. Dr Ingram identified the following as the key issues:
 - habitat for migratory birds that live on sites within the broader study area
 - habitat for migratory birds for feeding and roosting that also use the Moreton Bay Ramsar site for feeding during low tide
- The fauna studies to date have also identified several other locally significant species that are to be targeted during the EIS assessment. These include the Koala (*Phascolarctos cinereus*), Squirrel Glider (*Petaurus norfolcensis*), Echidna (*Tachyglossus aculeatus*), Red-necked Wallaby (*Macropus rufogriseus*) and Swamp Wallaby (*Wallabia bicolor*).
- There is a range of fauna habitats and fauna movement corridors within the broader study area. The local and regional value of these will also receive further attention in the subsequent EIS studies.

7.5.2 Aquatic Fauna

Dr John Thorogood of FRC Environmental completed the aquatic fauna assessment for the section of the motorway between Lytton Road and Nudgee Road (Appendix to Planning Study Volume 3). The remaining section of the motorway was investigated by GHD as part of the planning study (GHD 2003). A summary of the key findings from the combined studies is provided below.

- The benthic invertebrate communities of the Brisbane River and nearby estuaries have been moderately well studied. They are dominated by polychete worms, small bivalves, gastropod snails and perecarid crustaceans (amphipods, isopods and tanaidaceans). The combined effects of toxicants and other disturbances have probably resulted in decreased numbers and diversity of aquatic invertebrates in these waterways.
- In Moreton Bay, including the lower reaches of the Brisbane River (outside but downstream of the study area), subtidal fine sands supporting seagrass are found. These areas are characterised by relatively high and constant faunal assemblages, species richness and diversity.
- The bulk of the waterways in the study area support substrates of unvegetated sandy and muddy sediment. While these substrates are not as productive as areas supporting seagrass, they do provide an important ecosystem function such as feeding areas for fish, crustacea and birds.
- Moreton Bay, including the lower reaches of the Brisbane River, is Queensland's single most important fishing ground. Although representing only 3% of the State's coastline, it produces over 10% of the total volume of commercial seafood landings and accounts for one-third of the recreational fishing effort in the State.
- The waterways of the study area, including the artificial channels, support abundant fish communities and provide shelter to larvae and juveniles, and feeding grounds for the adults of some species.

7.6 Waterways

The study area contains three major waterways, the Brisbane River, Kedron Brook and Bulimba Creek.

Brisbane River

This is the largest and most significant watercourse flowing into Moreton Bay. The waters of the river in the study area are essentially marine, except during flood flows. Tidal flushing is the major environmental factor governing the system, but flooding can result in salinities dropping to typically freshwater concentrations all the way to the river mouth. The floodplain of the Brisbane River has been extensively cleared and developed resulting in relatively turbid instream waters. The southern bank of the river has been trained, with the river itself being dredged.

Kedron Brook

A network of minor waterways in the Brisbane Airport precinct drain into larger, constructed channels (such as Landers Pocket Drain and the Schultz Canal) before draining east and north into Kedron Brook. Schultz Canal links Kedron Brook and Serpentine Creek, with the Kedron Brook Floodway. Schultz Canal enters Kedron Brook at the start of the floodway, Kedron Brook then drains to Moreton Bay.

Bulimba Creek

The Motorway alignment transects the middle and lower catchment of Bulimba Creek which is tidal within the lower reaches and flows into the Brisbane River and ultimately Moreton Bay. The Bulimba Creek catchment has been substantially modified through urban and industrial development.

Other Waterways

There are many minor tributaries in the study area, most of which have been channelised, rock armoured or modified in some way to better control drainage and to control erosion. Most channelised waterways are tidal, with their waters brackish, banks steep and muddy, and their riparian flora cleared or degraded and now supporting regrowth mangroves with adjacent saltmarshes of varying condition.

7.7 Hydrology

Flooding in the Brisbane River is contained within the riverbanks, whereas Kedron Brook and Bulimba Creek have extensive over-bank flooding.

Preliminary flood studies undertaken for the Bulimba Creek and Kedron Brook floodplains to date indicate that the proposed motorway crossings of the creeks can be achieved without major impact on upstream properties. Further studies will be completed during the EIS.

7.8 Noise and Vibration

Vipac Engineers and Scientists Pty Ltd completed the noise and vibration assessment for the Lytton to Nudgee Road section and ASK Consulting Engineers completed the assessment for the Mt Gravatt - Capalaba Road to Lytton Road section.

Results of monitoring and prediction modelling studies undertaken indicate that noise levels at the residences adjoining the Gateway Motorway are generally above 60 dB(A), with some sites above 68 dB(A).

Road traffic noise will be managed in accordance with the Departments' Road Traffic Noise Management: Code of Practice.

7.9 Air Quality

No detailed studies of air quality were completed as part of the Planning Study.

7.10 Cultural Heritage

Archaeo Cultural Heritage Services Pty Ltd completed the assessment for the Lytton Road to Nudgee Road section of the project. No heritage surveys have yet been undertaken for the Mt Gravatt - Capalaba Road to Lytton Road section. The key findings from the assessment completed are as follows:

- The Cultural Heritage Review has found that the study area north of the river was a significant cultural heritage landscape for both indigenous and non-indigenous people.

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- Prior to European colonisation, the area would have been an important resource area for the Aboriginal people. In particular, a great coastal pathway ran directly through the study area. An important archaeological site dating to the Mid-Holocene period is present in the northern section of the study area.
 - Historical research on past land use also indicated that the areas supported an early agricultural settlement, a number of meatworks and abattoirs and various WWII activities. A number of historical sites exist within the study area including the remains of Redbank Abattoir, a Brisbane River Training Wall, the remains of a wharf, the Eagle Farm Pumping Station, the site of the penal settlement at Eagle Farm and a WWII Hanger.
 - A total of ten sites of European and Indigenous cultural significance were identified within the study area and four in the immediate vicinity of proposed works.

7.11 Social and Economic

Community consultation has been undertaken throughout the Planning Study. However, no social and economic assessment has yet been completed. This will be completed during the subsequent EIS studies.

8 POTENTIAL ENVIRONMENTAL IMPACTS

There is a large range of impacts that may potentially occur due to the construction and operation of a road and bridge upgrade project. The planning studies and route alignment studies completed to date have resulted in a preferred alignment that avoids many of the significant environmental values of the wider project area. Nevertheless, Main Roads will undertake thorough investigations and detailed planning during the EIS to further minimise potential adverse impacts through the alignment finalisation and engineering design processes. Environmental investigations completed to date have been largely desktop, supported by preliminary field studies. More detailed environmental investigations will be completed as part of the subsequent EIS studies.

9 COMMUNITY CONSULTATION

Considerable public and stakeholder consultation has occurred to date for this project. A comprehensive Consultation Program will continue throughout the EIS phase of the project. Long-term consultation will occur, primarily through the provision of feedback and community response mechanisms.

The project traverses residential and industrial areas and will potentially impact a relatively large local population. The purpose of the Consultation Program will be to provide the local community and relevant government stakeholders with an adequate understanding of the project and ample opportunities to provide input. This is likely to occur through various media, including public meetings, the continued use of the established Agency Reference Group, public display of the Draft EIS, project information sheets, face-to-face discussions, a dedicated 1800 phone line, email address and website.

Consultation is essential, as it will assist with identifying issues and potential impacts, in disseminating information on the project to the community and key stakeholders, and in building relationships between Main Roads and the community, Council and other relevant State and Federal government agencies.

Main Roads is committed to taking a proactive approach to seeking community views and to ensuring that adequate means of communication are provided. To this end, a consultation team comprising personnel with expertise in community consultation and public relation issues will work with the EIS consultant to design and implement an appropriate communication strategy for the EIS phase.

The aims of the Consultation Program will be to:

- Consider stakeholder views on the proposed project with a view to achieving the most acceptable outcomes
- Identify and manage issues that are highlighted by community stakeholders and which may impact upon the Gateway Upgrade Project and
- Keep the community, key stakeholders and appropriate agencies informed of project progress.

10 CONCLUSIONS

The purpose of this Initial Advice Statement is to provide stakeholders with a summary of the key project issues to assist them in their review and provision of feedback for the project's EIS Terms of Reference.

Preliminary planning assessments for most environmental elements have been undertaken. A general understanding of the existing environment and the potential level of impact on this environment have been established and provided in this IAS.

Main Roads acknowledges that more detailed environmental studies are required. Main Roads also recognises the need for an EIS and proposes to undertake this EIS as per the final Terms of Reference issues by the Department of State Development under the SDPWO Act.

The Gateway Upgrade Project will also trigger the preparation and submission of an MDP under the *Airports Act 1996*. This plan will be developed during the EIS process and submitted to the Department of Transport and Regional Services for approval. The draft EIS and draft MDP will both be placed on public display.

11 REFERENCES

GHD 2003. Gateway Motorway and Second River Crossing Planning Study. A seven volume study prepared on behalf of Main Roads.

- Volume 1 - Strategic Corridor Planning Report - Mt Gravatt Capalaba Rd to Nudgee Road
- Volume 2 - Draft Route Location and Corridor Assessment Report - Lytton Rd to Nudgee Rd
- Volume 3 - Draft Review of Environmental Factors (Concept) - Lytton Rd to Nudgee Rd
- Volume 4 - Draft Concept Planning Report - Lytton Rd to Nudgee Rd
- Volume 5 - Draft Review of Environmental Factors (Concept) - Mt Gravatt Capalaba Rd to Lytton Rd
- Volume 6 - Draft Concept Planning Report - Mt Gravatt Capalaba Rd to Lytton Rd
- Volume 7 - Community Consultation Report - Mt Gravatt Capalaba Rd to Nudgee Rd