CEMENT CONCRETE & AGGREGATES AUSTRALIA

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Infrastructure WA
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WEST PERTH
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Via email: iwaconsultation@infrastructure.wa.gov.au

SUBJECT: FOUNDATIONS FOR A STRONGER TOMORROW – DRAFT STATE INFRASTRUCTURE STRATEGY

Cement Concrete & Aggregates Australia (CCAA) welcomes the opportunity to provide a submission to Infrastructure WA's *Foundations for a Stronger Tomorrow – Draft State Infrastructure Strategy*.

CCAA is the peak industry body for the heavy construction materials industry in Australia including the cement, pre-mixed concrete and extractive industries. Our members operate cement manufacturing and distribution facilities, concrete batching plants, hard rock quarries and sand, limestone and gravel extraction operations throughout Western Australia. For your information, a list of CCAA Western Australia's members is provided in Appendix 1.

CCAA members nationally account for 80% of total industry output, with the industry generating $15 billion per annum in revenue, employing 30,000 Australians directly and supporting the employment of a further 80,000 people. CCAA members produce and supply the heavy construction materials that are used to construct Western Australia's infrastructure. Providing both the raw material and finished product, heavy construction materials contribute to the construction of our roads, railways, bridges, ports, airports, hospitals and school.

CCAA's members service local, regional and national building, construction and infrastructure markets. The reliable and cost-effective supply to these markets is fundamental to sustainable growth and it is CCAA's aim to promote policies that recognise the importance of these materials to Western Australia's sustainable future.

CCAA supports the development of Infrastructure WA's draft State Infrastructure Strategy that provides a clear vision to deliver a strong and consistent pipeline of infrastructure projects that will raise Western Australia's economic competitiveness. However, the Strategy does not consider the basic raw material inputs (including concrete) required for a sustainable supply chain to deliver the states infrastructure requirements, to the 20-year horizon of the draft strategy and beyond.

In particular, this submission will focus on supporting the issues around the demand, supply and cost of cement, concrete and aggregates that are the essential materials utilised in public infrastructure. In Western Australia, these materials are estimated to be the **single biggest cost component** in infrastructure projects, having a larger impact on cost than labour or equipment.

The sustainable, efficient supply of affordable heavy construction materials facilitates the delivery of affordable infrastructure that underpins the delivery of many of the draft Strategy's themes and recommendations.

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CCAA welcomes the Draft Strategy incorporating many of the issues considered in CCAA's submission on the *State Infrastructure Strategy Discussion Paper* in August 2020, including the need for a continuous pipeline of infrastructure projects, improved infrastructure delivery, improved land use planning and establishing a circular economy with local recycled products.

CCAA makes the following comments to further improve the draft recommendations:

Recommendation 15 - Incorporate sustainability into all stages of the infrastructure decision-making process

CCAA **recommends** that sustainability of infrastructure should extend to include a sustainable supply chain and recognise the importance of intergenerational access to basic raw materials.

Intergenerational access to basic raw materials (BRM) such as sand, limestone and hard rock is a key factor in enabling the delivery of affordable infrastructure, housing, roads, schools and hospitals into the future and is an increasingly significant challenge in Western Australia.

Every Australian needs **8 tonnes of heavy construction materials per person per year** to support the building of infrastructure to service their needs. As Western Australia's population continues to rapidly grow, demand for infrastructure and heavy construction materials will continue to increase to meet the demand for new housing, the need to build new roads, new bridges, maintain the existing network, and construct new resource development projects. It is estimated as Western Australia's population increases to 2040, demand for heavy construction materials will increase by 55 per cent to more than 30 million tonnes per year.

With heavy construction materials averaging 32 per cent of project costs[1], the delivery of affordable infrastructure is dependent on a sustainable and affordable supply of BRM.

Unfortunately, the Western Australian sector is facing a number of hurdles which will limit the industry's capacity to meet this demand in a cost effective and timely manner.

In particular, there are a number of issues impacting upon the industry's ability to operate effectively and efficiently in the long term. These include:

- There has been insufficient regard for quarries as an important land use within planning frameworks. *State Planning Policy 2.4 Basic Raw Materials* does not provide sufficient planning teeth to allow development of identified strategic resources. This has led to increased distance of resource to market, and therefore the costs, for heavy construction materials as quarries in the Greater Perth area come to the end of their operational lives with replacement quarries established further from central Perth markets.
- The lack of appropriate planning protection has seen the approval of land uses which are incompatible with quarrying activities, such as urban development, being approved in areas where quarrying could occur, sterilising potentially valuable resources.
- The need for a long-term land use planning model that incorporates and balances the requirements for both future quarrying activities and urban development.

[1] The Impact of Heavy Construction Materials Prices on Infrastructure Costs in Victoria, Macromonitor, June 2013

- The suspension of the Strategic Assessment of Perth Peel Region (SAPPR) process by Government. This process identified strategic BRM resources in 2016 to meet predicted future needs of a population of 3.5 million by 2050. The draft State Infrastructure Strategy assumes a population of 4.3 million by 2043. Such an increase in population would result in an expected increase in demand for BRM beyond that accounted for in the SAPPR process. No allowance or consideration for BRM supply requirements for future generations beyond this population of 3.5 million has been considered.
- In particular there is no allowance for any significant expansion of hard rock quarries beyond what is currently approved with no provision for any new hard rock quarries. With the uncertain and likely limited future of limestone availability, this places greater pressure on the supply of hard rock as a future replacement for limestone.

Solution – Update resource mapping

- To ensure that strategic BRM resources are available to ensure intergenerational access, an ongoing program of BRM resource mapping by Government is required. The Geological Survey of WA last conducted this process in 2016 as part of the SAPPR process.
- CCAA **recommends** BRM resource mapping is updated to reflect the changing land use patterns, changing environmental restrictions and increasing population forecasts to reduce the risk of encroachment of sensitive land uses such as housing on state strategic resources. The updated mapping should include extensive industry consultation. Note that the Victorian Government recognise the importance of this issue and has just introduced Strategic Extractive Resource Areas into the planning system.

Recommendation 28 - Facilitate and coordinate investment in industrial and technological precincts

The availability of industrial zoned land suitable for key construction supply chain infrastructure close to market, such as concrete batch plants, is a key issue for Perth.

Many major cities permit concrete batching plants to locate close to town and construction activity centres to ensure the sustainable development of their communities. This is a strategic approach to protecting jobs, future construction and the infrastructure needs of cities, particularly in capital cities or cities of high density. Generally, important **state-wide** considerations for the affordable supply of concrete are as follows:

- **Concrete batching plants need to be located close to markets** (construction activity). The formation of concrete is a time dependent chemical reaction, with the chemical composition of pre-mixed concrete determining that it can only be transported for relatively short distances within set timeframes. This is especially true for specialist concrete used in multi rise developments where the Australian Standard (AS 1379) time from concrete mixing to placement on site is even less.
- The impact of delayed concrete delivery due to poorly located plants needs to be measured not only by the product delivery time, but also by its **impact on delaying the construction program of the entire project**, the cost of which can be substantial to the developer or State infrastructure project.

- Concrete plant location requires a strategic approach to secure WA's economic development and to facilitate efficient construction, recognising that **concrete plants need to be close to known long term development nodes**, such as the Perth CBD and other growth centres.
- **Transportation costs** are a significant component of the cost of concrete. This can be up to one third the cost of delivered material on site. The further the batching plant is from its market the higher the cost to consumers, developers, Government, and taxpayers.
- **Increased truck traffic** results from concrete plants being remote from construction hubs. If the distance travelled increases, it equates to more frequent and longer trips taken by trucks carrying material, which increases road congestion the amount of carbon dioxide they produce.
- Potential negative environmental impacts associated with the production of pre-mixed concrete, such as storing of cement, water management, noise and dust control can be managed with well-established **best technology and management practices**. The 2019 CCAA *Environmental Management Guideline for Concrete Batch Plants* outlines industry best practice in this area.
- The **advantages to sustainable development** associated with having a well-managed, efficient and competitive heavy construction materials industry located in close proximity to its market far outweigh any possible negative impacts.

There is a role for Government in facilitating access to industrial land close to markets, not just for large precincts on the edge of cities such as the Kwinana Industrial Area, but also for for industrial uses that provide services to the construction industry.

Water

The heavy construction materials industry is already strongly focused on reusing and recycling water within existing quarry and concrete plant operations, enacting many measures to reduce the operations demand on mains potable water. However, recycled water is unlikely to satisfy the total demand for water of these sites so continued access to affordable, reliable, quality water resources remain a factor critical to the successful ongoing operation of these vital industrial sites.

Recommendation 46 – Modernise legislative, regulatory, and planning frameworks for water resources and water services

- CCAA **supports** this in principle, dependent on continued industry consultation to determine the scope and details of the proposed reforms.

Recommendation 47 – Support the long-term sustainable use and management of the State's strategic groundwater resources, focusing initially on the Gnangara groundwater resource.

- The Gnangara groundwater resource is an important water source for industry and the continued affordable, reliable access to this resource is essential.
- Access should be facilitated through a fair, open, and transparent water licensing, allocation and trading system that provides for a true market derived cost for water, not one that is artificially inflated by over allocation and trading at exaggerated prices.

Recommendation 48 – Manage water demand through initiatives

- CCAA **does not support** demand initiatives that increase the costs of water to industry.
- CCAA **supports** Government funding grants to industry to overcome barriers to entry to establish new water infrastructure for industry to increase water recycling and water

harvesting, similar to grants for other industries facing barrier to entry issues, such as renewable energy, and infrastructure for recycling materials.

Recommendation 52 - Waste

- CCAA **supports** the recommendations to improve waste and resource management and increase recycling in the state.
- Immediate legislative reform to encourage recovery of waste derived materials to enable their reuse is key to achieving this aim.
- The heavy construction materials industry is already making a strong effort to reduce waste and increase waste material usage by:
    - Increasing use of by-products from other industries (such as blast furnace slag from steel production and fly ash from electricity generation) in the concrete manufacturing process.
    - Transforming waste into alternative fuel for cement kilns
    - Producing renewable energy from landfill in exhausted quarries
    - Reusing waste in the production of recycled construction materials
- Note that recycled aggregate materials are a welcome addition to the market, not a replacement for virgin quarried materials. In states with a more mature market such as Victoria, the latest Government figures indicate that 80 per cent of construction and demolition (C&D) waste is recycled, providing about 4.2 million tonnes of material. This is still only 7 per cent of the virgin quarry market.
- CCAA supports procurement of recycled materials for Government projects, on a Fit for Purpose Use and Highest and Best Use of Materials basis. The Ecologiq program is a good example of this process.
- CCAA **does not** support the setting of mandated minimum recycled content requirements for infrastructure projects due to the limited capability of the recycled materials supply chain to economically respond to such a potentially massive increase in demand. The cost of transport and distance from source of materials to market is also a key cost consideration in deciding between using recycled versus virgin quarry materials.
- CCAA **supports** strengthening end markets for recycled materials by updating standards and specifications. A Whole of Government Approach to developing Performance Based Specifications requires Main Roads WA, Waste Authority and industry working together.
- An increased emphasis on performance-based specifications rather than the current prescriptive road pavement material specifications would help to increase market demand. As well, a whole of government and consistent approach will give confidence in the quality and safety of these products and provide the long-term policy setting that is required to support industry investment.

Western Australia's infrastructure strategy needs to be internationally competitive to ensure a sustainable and competitive heavy construction materials industry. This in turn facilitates Western Australia's improved productivity, housing affordability and lower infrastructure costs.

The provision of affordable heavy construction materials helps to facilitate the delivery of affordable infrastructure, contributing to the completion of Western Australia's infrastructure projects within budget.

There is no more important time than now for the construction sector, supported by an efficient heavy construction materials supply chain, to provide the engine to build Western Australia's post COVID economy and create jobs.

CCAA looks forward to working with Government to achieve these key objectives.

Please do not hesitate to contact me to discuss any of these issues in more detail.

Yours sincerely

ROGER BUCKLEY

State Director Western Australia

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APPENDIX 1

CEMENT CONCRETE & AGGREGATES AUSTRALIA

MEMBERSHIP

FOUNDATION MEMBERS

Adelaide Brighton Ltd	**Boral Australia**	**Cement Australia Pty Ltd**
Hanson Australia Pty Ltd	**Holcim (Australia) Pty Ltd**	

WESTERN AUSTRALIA

ORDINARY MEMBERS

Flyash Australia Pty Ltd Fulton Hogan Industries Lime Industries Pty Ltd	Pilatti Bros Transport Ransberg Pty Ltd T/a WA Premix and WA Bluemetal Urban Resources Pty Ltd	

ASSOCIATE MEMBERS

Concrete Colour Systems Concrete Waterproofing Manufacturing Pty Ltd T/a Xypex Australia	GCP Applied Technologies Sika Australia Pty Ltd Westrac	