



Fiona Stanley Hospital Car Park Project

Western Car Park

2026 Annual Sustainability Report

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About this report

This report summarises the sustainability activities and outcomes delivered on the Fiona Stanley Hospital Car Park Project – Western Car Park from 30 January 2025 (contract award) to 30 June 2026 including governance, environmental management and social outcomes.

It has been compiled by Georgiou Group on behalf of the Office of Major Transport Infrastructure Delivery (OMTID).



Figure 1: Piling works

Project overview

The Fiona Stanley Hospital Car Park Project – Western Car Park (the Project) will deliver a new seven-storey, multi-level parking facility providing approximately 1,500 bays to support the long-term growth of the FSHP. As a key piece of enabling infrastructure for the future Women and Babies Hospital, the Project strengthens access to essential health services and supports the broader development vision for the precinct.

Located within the Fiona Stanley Hospital Precinct (FSHP) in the City of Melville, the Fiona Stanley Hospital Car Park Project includes the construction of the Western Car Park, the future Eastern Car Park and the Murdoch Car Park (Figure 3). This report focuses on the sustainability delivery and achievements for the Western Car Park.

The Project is valued at \$85 million and is funded by the Western Australian Government and is being delivered by the Office of Major Transport Infrastructure Delivery (OMTID) for the South Metropolitan Health Service (SMHS) by Georgiou Group.

Construction commenced in November 2025, with completion and opening scheduled for mid-2027.

Further information is available on the [Project website](#).



Figure 2: Existing carpark

Project map



Figure 3: Murdoch Activity Centre

Project timeline



Jan 2025
Project Award



Nov 2025
Construction
Commencement



Dec 2025
Design Completion



Mid 2027
Practical Completion

Figure 4: Project timeline

2026 update

The Project has advanced steadily through its early delivery phase, with key design and construction milestones achieved across 2025-26. The design reached Issued for Construction (IFC) status in December 2025, incorporating coordinated stakeholder input from SMHS, the City of Melville, and OMTID. This collaborative approach ensured the final design reflects operational, community and precinct-wide requirements.

Early site works commenced in November 2025, including the demolition of the existing at-grade carpark, as shown in Figure 2 and establishment of the site compound and Project offices. These activities enabled safe access and efficient staging for the main construction works.

The foundations for the car park, comprising of 128 piles and shallow foundations, were completed in March 2026 (Figure 1). Construction is being delivered in six staged areas, allowing works to progress efficiently across the site while maintaining safe separation of activities.

The installation of in-ground services and the ground floor slab progressively commenced from May 2026, reaching 50% completion on the 30th of June 2026. Construction on the building's lift and stair cores progressed to the second level, with the first suspended slab pour on the 23rd of June 2026.



Figure 5: June 2026 construction progress

Sustainability focus areas

The Project's key sustainability focus areas were identified during project planning to optimise the realisation of environmental and economic benefits through the design development phase.

The Project has developed a number of targets to assist in achieving best practice and good sustainable outcomes. A detailed list of the sustainability targets and progression against each target is shown in Appendix 2. Performance will be tracked against these defined sustainability targets and reported annually.

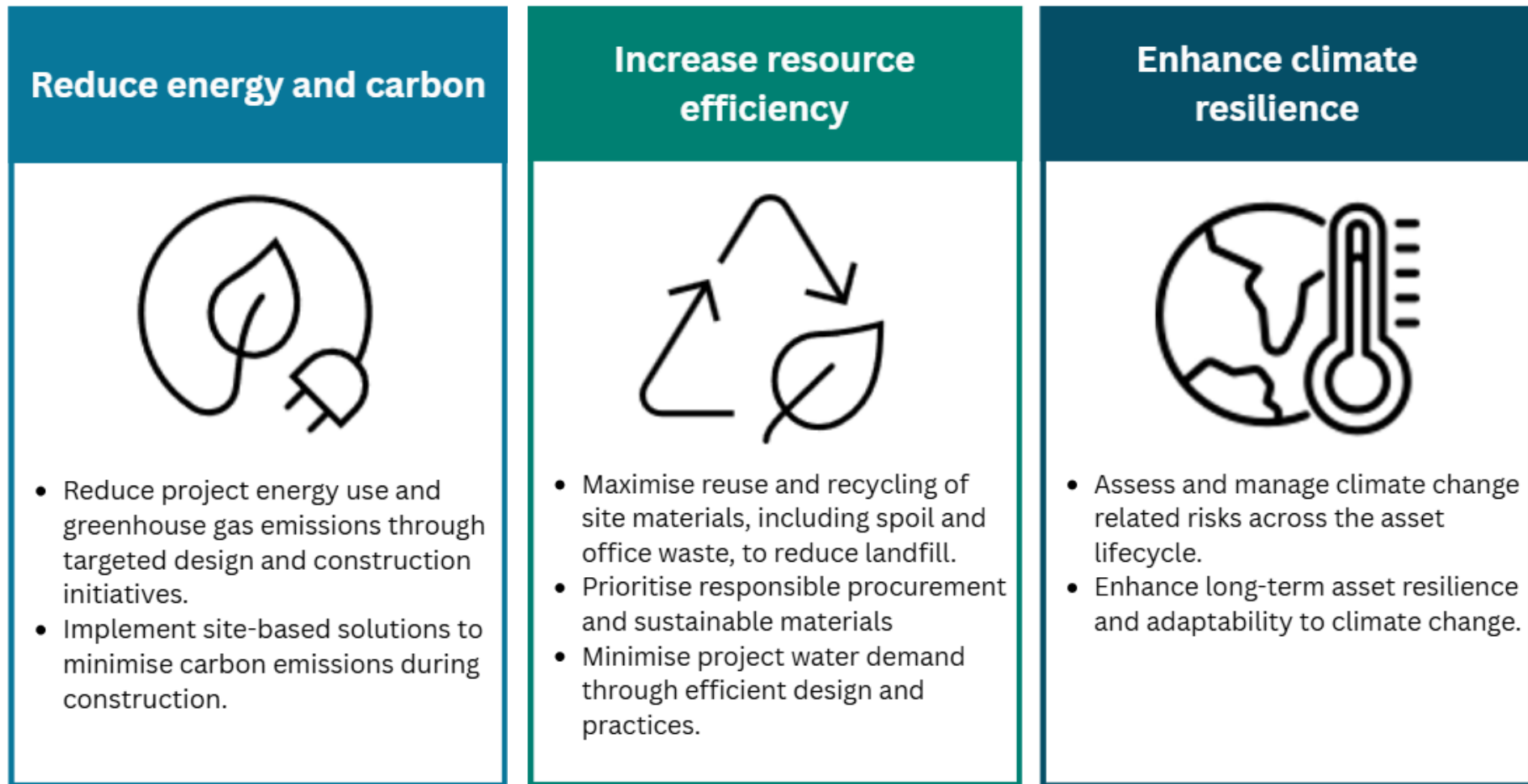


Figure 6: The Project's sustainability focus areas and objectives

Governance

Sustainability on the Project is guided by an integrated governance framework that embeds environmental and social considerations into planning, design and construction decision-making. This framework is supported by a Sustainability Management Plan, along with performance dashboards that monitor the implementation of key sustainability strategies and track progress toward focus areas.

The Sustainability Manager coordinates delivery of these strategies and reports performance of contractual sustainability targets monthly. This role maintains a direct reporting line to the Project Manager, ensuring sustainability remains a core component of Project governance.

Decision making

The opportunities identified throughout the Project are assessed using an established opportunity matrix that evaluates the feasibility and the overall impact. Opportunities rated as High or above are then assessed against the significance thresholds to determine their potential contribution to achieving the Project's sustainability targets. Where an opportunity is determined to have a significant sustainability impact, it undergoes a multi-criteria analysis (MCA) to evaluate its benefits and feasibility and to support inform decision-making. This approach supports sustainable procurement by enabling responsible sourcing and consideration of broader economic sustainability outcomes.

Legal, contractual and compliance obligations

The Project governance framework ensures compliance with all relevant legal, regulatory and contractual requirements. These include, but are not limited to:

- Environmental legislation and approvals administered by state and federal regulators.
- Main Roads Western Australia policies, standards and reporting requirements.
- Contractual sustainability requirements.

Compliance is monitored through inspections, audits, regular reviews and formal reporting processes. Where issues or non-conformances are identified, corrective actions are implemented and tracked through Project governance systems.

Targets, monitoring and reporting

Sustainability targets for the Project were refined during the early design phase incorporating the contractual targets set out within the Scope of Works and Technical Criteria (SWTC).

Performance against these targets are monitored throughout delivery and reviewed through established governance processes. Progress, outcomes and key challenges are transparently reported through monthly sustainability meetings and formal reporting, supporting continuous improvement and informed decision-making.

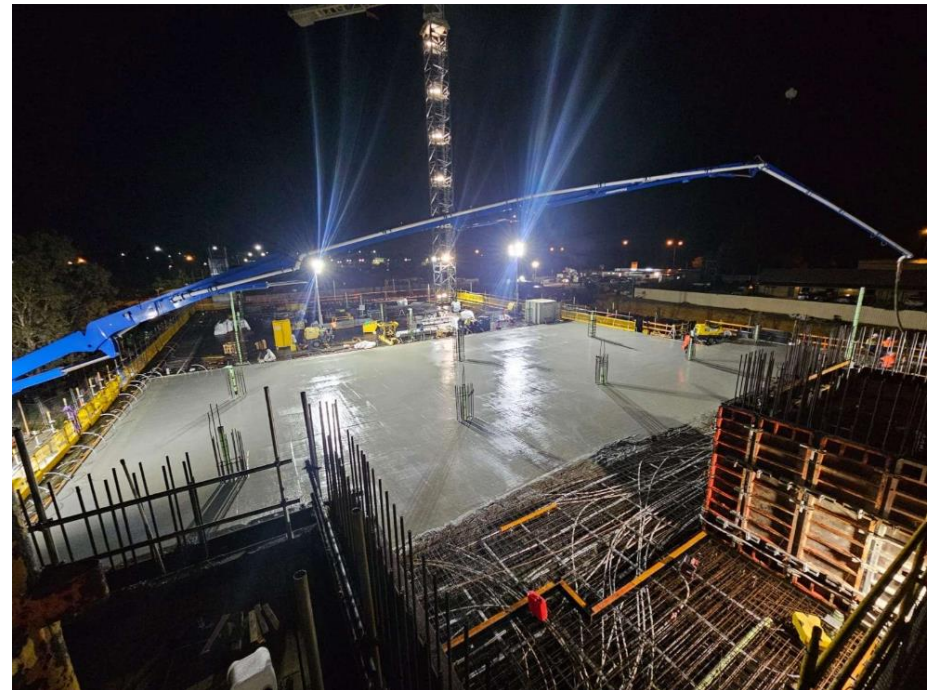


Figure 7: The Projects first suspended slab pour

Environment

The Project is located within a hospital precinct, adjacent to sensitive noise, vibration and environmental receptors including Moitch Park to the east and a dieback protection zone to the south.

Management during the year focussed on developing a Life Cycle Assessment (LCA) to demonstrate reductions in emissions during construction and operation in addition to ensuring noise and vibration levels during construction remain within allowable limits.

Material and embodied carbon

The Project has a contractual mandated target of a 25% reduction in material-related emissions. This is measured through an LCA comparing the final design against the Projects base case or business-as-usual (BaU) assumptions.

The LCA completed at IFC demonstrated a 19.8% reduction in lifecycle emissions associated with the Project. While this result was below the 25% target, it represents a significant reduction in emissions achieved through the incorporation of lower-carbon materials. The Project will continue to evaluate and implement feasible carbon reduction opportunities, with the aim of achieving further lifecycle emissions savings where practicable.

This outcome was achieved through design optimisation and material selection, including:

- Selection of materials, including concrete mixes, with independently verified Environmental Product Declarations (EPDs) that demonstrate lower emissions. Figure 7 shows the concrete pour of a mix that demonstrates lower emissions. The procurement of these materials with EPDs is described in the below
- Adoption of reinforced steel with increased recycled content and manufactured via electric arc furnace

- Reduced aluminium quantities through specific design changes to the façade design, resulting in an 8 tonne reduction in embodied carbon emissions

These initiatives significantly reduced the Project's embodied carbon footprint. Figure 8 illustrates the carbon emission savings through material selection.

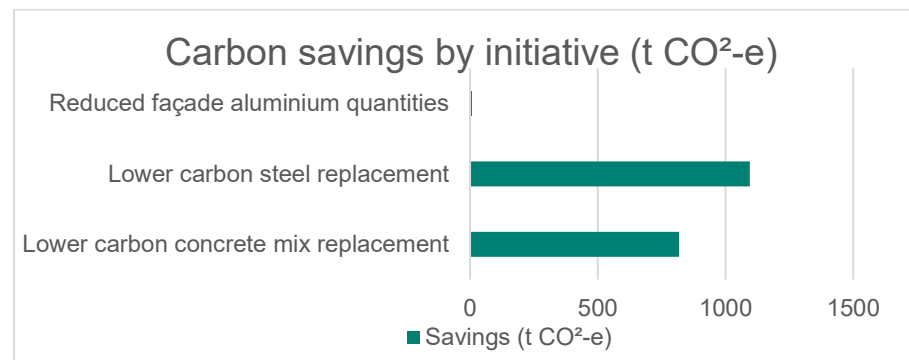


Figure 8: Initiatives implemented to reduce the assets embodied carbon by over 50 tonnes

Energy and carbon emissions

The Project is targeting a 10% reduction in energy consumption and carbon emissions across construction and during the operation of the carpark. To achieve this, the design and construction methodology incorporates energy-efficient solutions and prioritises the use of lower carbon technologies.

Key initiatives the Project has adopted include:

- Electrification of the tower crane (Figure 18), eliminating the requirement for diesel generators to supply electricity
- Use of grid power for construction works, avoiding temporary generators
- Purchasing renewable energy, to reduce electricity related carbon emissions
- Integration of smart lighting controls to reduce operational energy demand

- Installation of efficient Heating, Ventilation and Air-Conditioning (HVAC) systems to minimise long-term energy consumption

These initiatives are expected to deliver meaningful reductions across both the construction and operational phase. Figure 9 & Figure 10 illustrate the projected reductions in energy consumption and carbon emissions for each initiative.

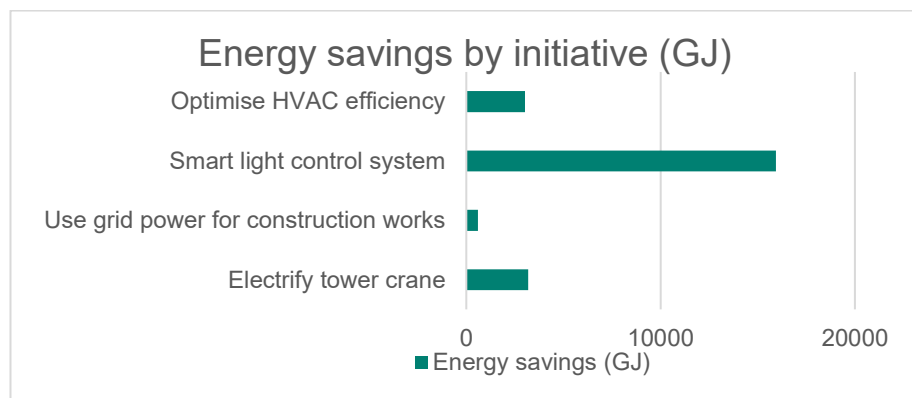


Figure 9: Initiatives implemented to reduce the energy consumption of construction and operation of the asset

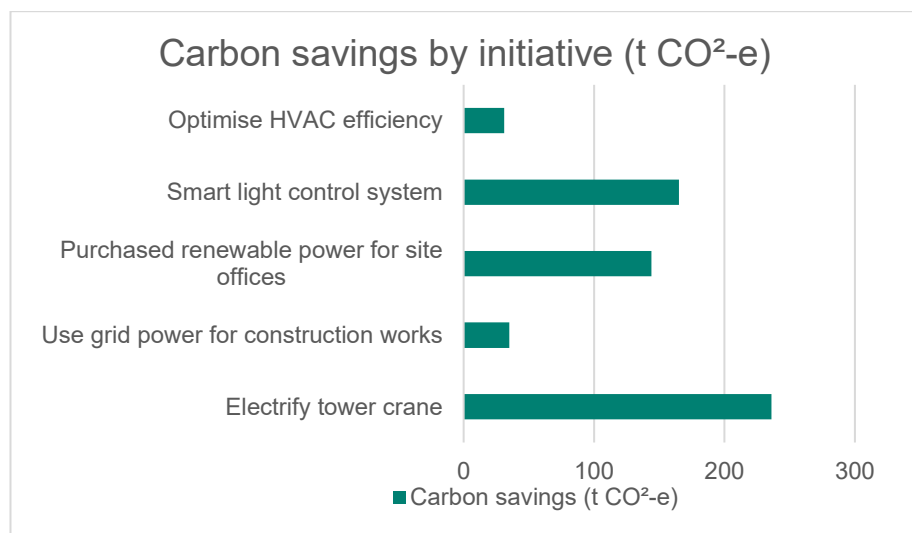


Figure 10: Initiatives implemented to reduce the carbon emissions of construction and operation of the asset

Actual energy use and associated carbon emissions will continue to be monitored throughout construction to provide a clear understanding of the Project's environmental footprint. Table 1 summarises energy use by source, providing transparency on performance to date and enabling comparison against the Project's construction-phase energy targets.

Table 1: Project energy consumption

Source	Unit	Project total
Unleaded fuel	kL	0.68
Diesel	kL	54.91
Oil	L	30.00
Grease	L	31.00
Grid electricity	kWh	27884.51
Grid electricity (renewable)	kWh	20863.00

Water

The Project has a target to achieve a 5% reduction in water use. To achieve this, the Project addressed both construction phase efficiency and long-term operational demand, ensuring responsible water use during construction and throughout the life of the facility.

Through design optimisation and targeted initiatives, the Project has achieved a modelled reduction in potable water consumption. Key measures modelled include:

- Sub-surface drip irrigation systems, which delivers water directly to plant root zones and minimises evaporation losses.
- Optimisation of landscape design, resulting in reduced extent of irrigated areas and lower ongoing water demand.

These initiatives support lower operational water requirements while aligning with the Project's broader sustainability objectives. Figure 11 illustrates the water savings in kilolitres from the combination of the implemented measures above.

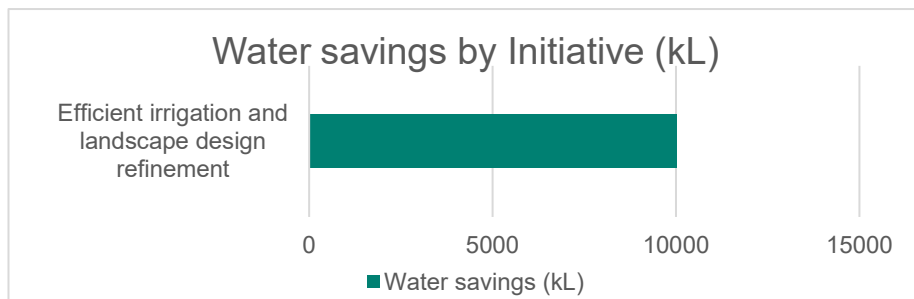


Figure 11: Initiatives implemented to reduce the water usage across construction and operation of the asset

The Project has used a total of 5220.6kL of water to date, with construction activities accounting for the majority of demand as summarised in Table 2. Total water use to date is 49.3% below forecasted volumes of 10,820 kL, with the project on track to achieve the water reduction target.

Table 2: Project water usage

Source	Unit	Total for project
Office water	kL	308.40
Construction water	kL	4912.20

Resource efficiency

A Resource Efficiency Plan has been developed to provide a framework that guides material reduction, maximises reuse and recycling, and supports responsible management of key waste streams. The strategies below reflect consideration of the Waste Hierarchy within each waste stream and the associated management strategies.

The achievement of the construction and demolition (C&D) waste target is actively managed through:

- Separation of key waste streams on site
- Further sorting and processing by the waste subcontractor for recycling or reuse

To maximise the reuse of excess material on the Project, excavated

material is stockpiled and reused on site where feasible. Surplus spoil undergoes quality testing to confirm suitability for reuse or sent to other projects where suitable.

Office waste is actively managed through:

- Recycling of cardboard and paper
- Participation in container-for-change collection, and
- General waste directed to a waste-to-energy facility, supporting circular outcomes beyond the construction footprint.

As detailed in Table 3, these initiatives have achieved a waste diversion rate of 98% to date, exceeding the Project target of 60%. Achieving high diversion rates for office-based waste streams can be challenging due to limited opportunities for source separation and recycling. The Project's waste-to-energy initiative has been a key contributor to this outcome and is highlighted further in the Project case study below.

Table 3: Total generated office waste removed from site

Source	Materials	Total for project (t)
Waste to landfill	General waste	0.23
Waste to energy	General waste	7.02
Waste to recycling	Commingled recycling	0.02
	Cardboard and paper	4.76

The Project's waste sources and quantities to date are summarised in Table 3 below, highlighting the key waste streams for the project.

Table 4: Total generated waste removed from site

Source	Materials	Total for project (t)
Waste sent to landfill	General waste	0.23
	Unsorted C&D waste	3.65
	Spoil	105.00
	Plastic	3.10
	General waste	7.02
	Commingled recycling	0.02

Waste diverted from landfill	Cardboard and paper	4.76
	Unsorted C&D waste	53.97
	Concrete	4699.03
	Road base	106.92
	Steel	27.90
	Timber	12.75
	Mulch	13.00
	Spoil	4327.76

A summary of the key resource inputs for the Project to date is shown in Table 5. This reflects the Project's early construction phase, where resource use has been driven primarily by civil and structural works.

Table 5: Project top 8 resource inputs

Source	Materials	Unit	Total for project
Imported raw	Concrete	m ³	6685.10
	Stabilised sand	m ³	97.00
	Copper	m	680.00
	PVC	m	560.00
Imported recycled	Steel reinforcement	t	612.10
	Recycled base course	t	2440.00
Sourced within project boundary	Sand (reuse)	t	4263.00
	Recycled base course (reuse)	t	1764.00

Project highlight – Converting waste to energy

To achieve the Project's target of diverting 60% of office waste from landfill, a trial waste-to-energy initiative has been implemented on the project in partnership with the waste contractor and the Kwinana Energy Recovery facility.

Through this approach, all Project general office waste is now diverted from landfill, transforming what would traditionally be general waste into a resource that contributes to renewable energy generation.

The waste-to-energy process used by the Project is illustrated in Figure 12. The pathway thermally treats the waste and converts the recovered energy into steam to produce electricity. All remaining gases are treated before being released through the chimney.

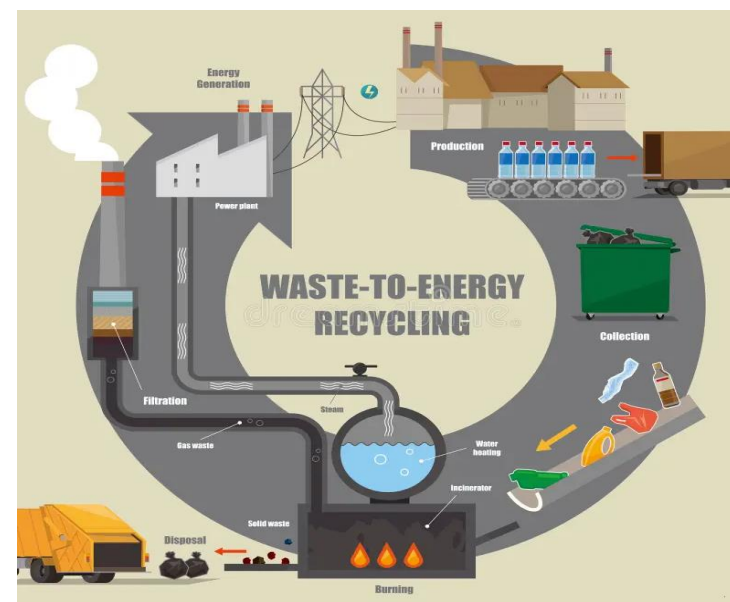


Figure 12: Waste to energy process

Noise and vibration

Given the Project's close proximity to Fiona Stanley Hospital and other emergency services (Figure 13), noise and vibration management has been a focus throughout construction.

Vibration levels are monitored throughout all works using real-time monitoring and alerts, having multiple fixed or mobile monitors positioned as required for the works. The monitors are set up to send automatic alerts if vibration exceeds 5mm/s, the agreed Project threshold to mitigate structural impacts.

Due to site constraints, vibration monitors are often positioned within or near the Project boundary and located closer to the works than neighbouring structures. In the event of a recorded vibration exceedance, the Project team will assess the cause, the likely impact for neighbouring structures and if corrective actions are required.

The Project has implemented a range of measures to minimise vibration impacts, including:

- Static and low-vibration rolling
- Respite periods
- Ongoing engagement with local stakeholders

These measures have enabled the Project to effectively manage vibration impacts, and throughout the reporting period no stakeholder complaints relating to vibration were received.

Climate resilience

A climate resilience assessment was undertaken to understand how future climate conditions may affect the Project and identify appropriate mitigation measures to maintain long-term performance.

The assessment identified two key risks:

- Increased temperatures, with potential impacts on electrical and mechanical systems,
- Higher-intensity storm events, placing additional pressure on site drainage infrastructure.

In response, targeted design and construction controls have been implemented, including:

- Increased HVAC ambient maximum operating temperature of 48 °C, ensuring mechanical systems remain functional under projected future temperature conditions.
- Sizing major drainage infrastructure to accommodate a 1-in-100-year storm event, reducing flood risk.
- Maintenance procedures will be established to support ongoing system performance and reliability.

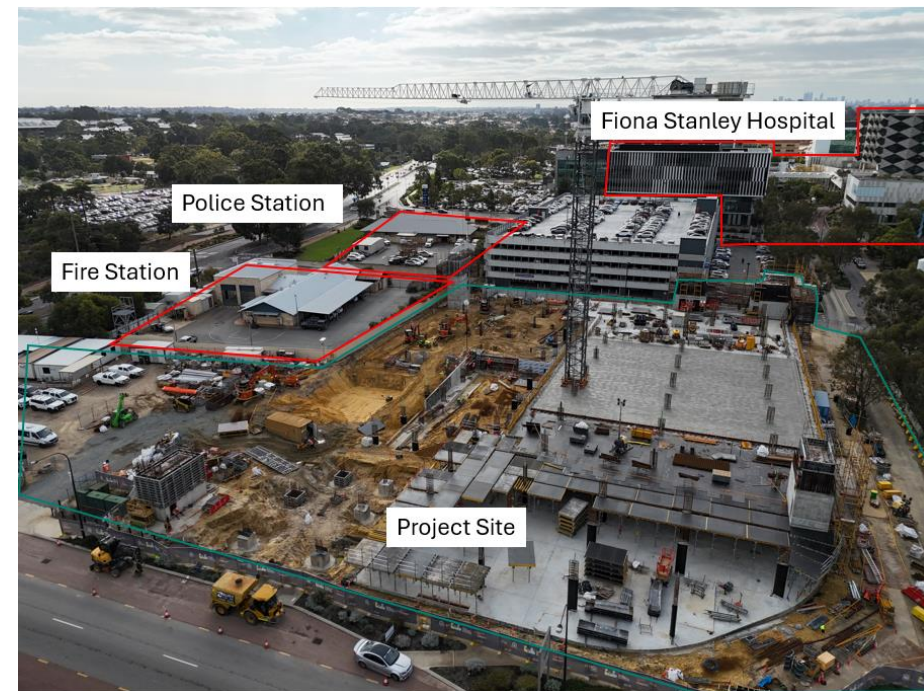


Figure 13: Project works undertaken adjacent to local stakeholders

Social and economic

The Project is delivering social and economic value through a combination of thoughtful design, responsible construction and targeted social initiatives. The design prioritises a safe, convenient and accessible experience for future car park users, while enhancing the surrounding hospital precinct through improved connectivity, landscaping and public realm outcomes.

During construction, the Project has also sought to minimise disruption to nearby stakeholders, while creating opportunities Aboriginal participation and sustainable procurement.

Sustainable procurement

Sustainable procurement is supported through the use of Environmental Product Declarations (EPDs), which provide independently verified data on the environmental impacts of a material. The use of EPDs enables informed material selection, supporting preference of lower-impact materials, while also supporting broader industry uptake of verified, lower-carbon solutions.

EPDs are requested during subcontractor procurement and tracked through monthly reporting and the Project's resource dashboard.

The Project has applied a vendor evaluation process to compare subcontractors, incorporating key sustainability criteria including:

- Use of recycled materials,
- Demonstrated reductions in carbon, energy, and water use
- Provision of verified EPDs.

This approach ensures that subcontractor selection actively supports the Project's sustainability targets.

Culture

The Project is committed to creating a culturally safe, inclusive, and respectful workplace that supports Aboriginal participation, employment, and business engagement.

Figure 14 and Figure 15 show progress against the Project's Aboriginal participation (9% accumulative hours) and Aboriginal procurement (4% accumulative spend) targets. To achieve these targets, the Project continues to support subcontractors through proactive recruitment, workforce support and regular performance monitoring.

The Project has also procured 19 Aboriginal-owned businesses, fostering genuine opportunities through initiatives such as the Indigenous Business Open House with the Waalitj Hub, supporting capability building, long-term partnerships, and increased Aboriginal business participation.

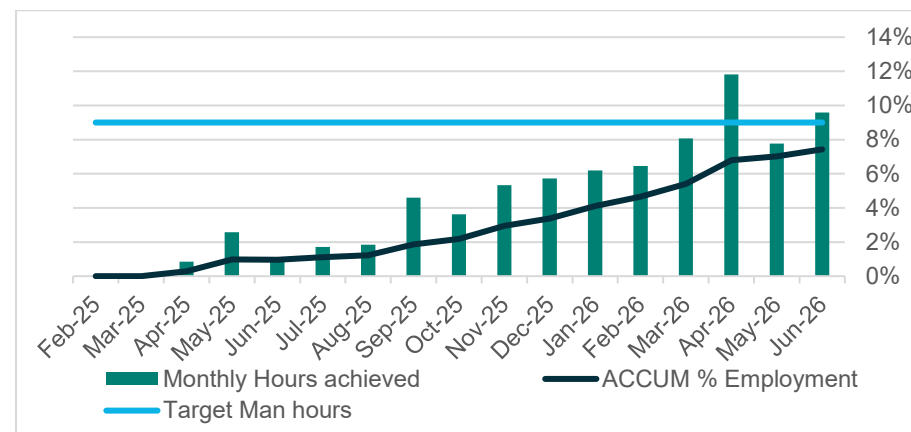


Figure 14: The Project's Aboriginal Hours percentage

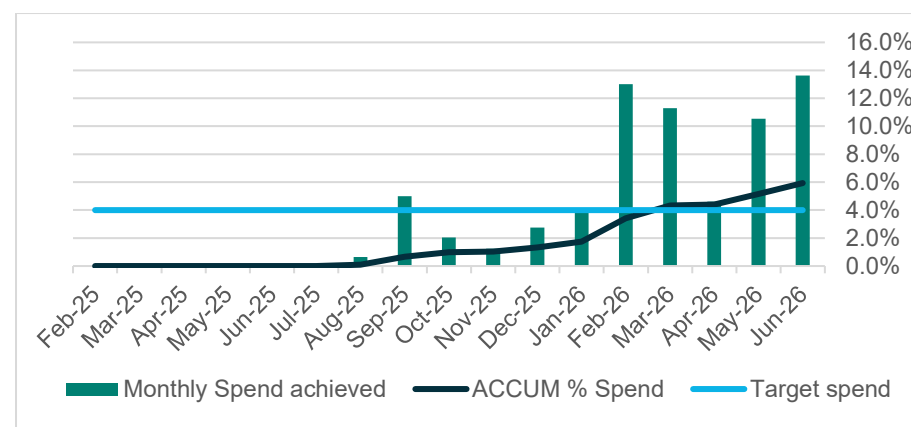


Figure 15: The Project's Aboriginal Business Spend percentage

Community and stakeholder engagement

Delivered within the busy hospital precinct experiencing several concurrent infrastructure projects, the Project requires careful management of stakeholder and community impacts throughout construction. Early engagement and communication with stakeholders regarding operational impacts, including traffic management, access changes, and noise, dust and vibration emissions, has enabled the Project to proactively manage stakeholder concerns and minimise complaints, with a typical stakeholder update shown in Figure 16.



Figure 16: Stakeholder update with nearby childcare centre

Community amenity

The Project incorporates several design elements that enhance community amenity and contribute positively to the surrounding precinct.

The design has been developed to retain two mature trees on site,

preserving established green infrastructure that provides shade and visual character.

The design includes a new pedestrian bridge connecting the site to Car Park 2, immediately north of the Project area. This link provides a safe, efficient and direct pathway to Fiona Stanley Hospital by removing the need for staff to cross Robin Warren Drive, a known black spot intersection.

To further enhance the public realm, the pedestrian bridge features integrated artwork, with a colourful façade and patterns that reflect the local context and identity of the area (Figure 17). This creates a visually engaging structure that contributes to the character of the precinct.



Figure 17: The Project's facade and artwork

Useful links

[New Women and Babies Hospital Project Page](#)

[Fiona Stanley Hospital Precinct Car Parks and Associated Transport Improvements](#)



Figure 18: Tower crane erection

Appendix 1 – Glossary of terms

Term	Definition
1-in-100-year Storm Event	A storm with a 1% chance of occurring in any given year, at the time of assessment.
Base case	A reference design or scenario used to compare sustainability performance outcomes, such as energy use, emissions or materials impacts, to assess improvements achieved by the Project.
Business as usual (BaU)	Standard construction and design practices, which inform the base case.
Embodied Carbon	Carbon emissions generated during production and transportation of materials.
Environmental Product Declaration (EPD)	An independently verified life cycle environmental impact document.
Green Energy	Electricity sourced from renewable generation.
Heating, Ventilation and Air-Conditioning (HVAC)	Mechanical systems that regulate indoor temperature and airflow.
Issue for Construction (IFC)	The Final approved design documentation used for construction.
Life cycle assessment (LCA)	A method used to assess the environmental impacts of a Project across its entire life, including design, construction, operation and end of life.
Lower Carbon	A reference to the embodied emissions within a material, which are lower than a standard material defined within the Base case assumptions.
Supplementary Cementitious Materials (SCMs)	Recycled materials used to replace a portion of cement in concrete.
Urban Heat Island Effect	Increased temperatures in built-up areas compared to natural landscapes.
Waste Hierarchy	A framework that ranks waste management options in order of preference to minimise environmental impacts: avoid, reduce, reuse, recycle, recover and dispose.

Appendix 2 - Target Performance

The table below summarises current performance of all Project targets, showing how the governance processes described above drive continual improvement and maintain accountability within the Project team.

Table 6: Target progression

Focus Area	Target	Progress	Status
Energy and Carbon	Achieve a $\geq 10\%$ reduction in modelled energy use from the baseline, as demonstrated through an LCA.	10.2% reduction achieved through modelling	On track
	Achieve a $\geq 10\%$ reduction in energy use at practical completion.	To be assessed at practical completion	Awaiting Practical Completion
	Achieve a $\geq 10\%$ reduction in modelled carbon emissions from the baseline, as demonstrated through an LCA.	12.8% reduction achieved through modelling	On track
	Achieve a $\geq 10\%$ reduction in carbon emissions at practical completion.	To be assessed at practical completion	Awaiting Practical Completion
	Complete a solar feasibility assessment and provide a recommendation for implementation.	Feasibility study completed	Complete
	Power site office using 100% purchased renewable energy.	Site compound operates under a 100% renewable electricity arrangement	On track
	Ensure $\geq 50\%$ mobile temporary lighting is powered by renewable energy.	Currently achieving 85.6%	On track
	Deploy at least one electric vehicle (EV) vehicle on the Project.	EV vehicle trials completed, no EV currently procured	Not implemented
Resource efficiency	Divert $\geq 90\%$ of construction and demolition waste from landfill.	Currently achieving 99.93%	On track
	Divert $\geq 60\%$ of office waste from landfill.	Currently achieving 98%	On track
	Divert $\geq 95\%$ of clean/inert spoil from landfill.	Currently achieving 98%	On track
	Achieve a $\geq 25\%$ reduction in modelled embodied carbon emissions from the	19.8% reduction achieved through	Not met

	baseline, as demonstrated through an LCA.	modelling	
	Achieve a $\geq 25\%$ reduction in embodied carbon emissions from materials at practical completion.	To be assessed at practical completion	Awaiting Practical Completion
	Achieve a $\geq 5\%$ reduction in modelled water usage compared with the baseline design, as assessed through the project LCA	21.7% reduction achieved through modelling	On track
	Achieve a $\geq 5\%$ reduction in water usage at practical completion.	To be assessed at practical completion	Awaiting Practical Completion
	Implement a low carbon concrete solution for at least one project element.	Envirocrete mix used for blinding – Concrete pours are ongoing	In progress
	Investigate and assess the use of recycled concrete on the project through the project decision-making framework.	Investigation complete	Complete
	Ensure $\geq 15\%$ of imported materials and products (by expenditure) have Environmental Product Declaration (EPDs).	Currently achieving 6.35% against forecasted Project material expenditure	On track
	Achieve $\geq 0.85\%$ recycled content by weight, with a stretch target of 1.5%.	Currently achieving 4% primarily through concrete and reinforcement steel.	On track
Climate Resilience	Implement at least one mitigation measure for an identified climate risk.	HVAC ambient temperature upgrades within design	On track