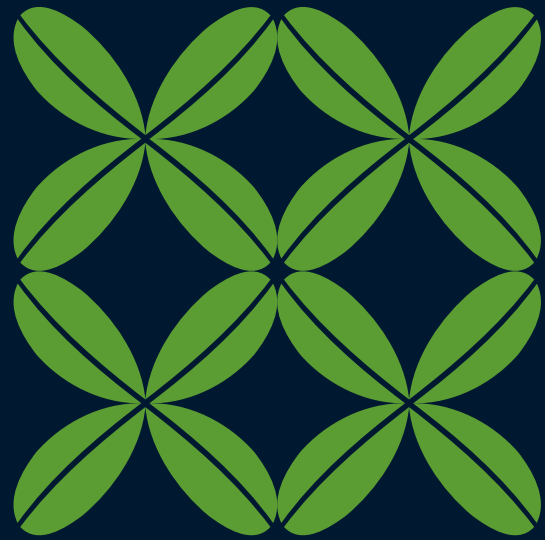
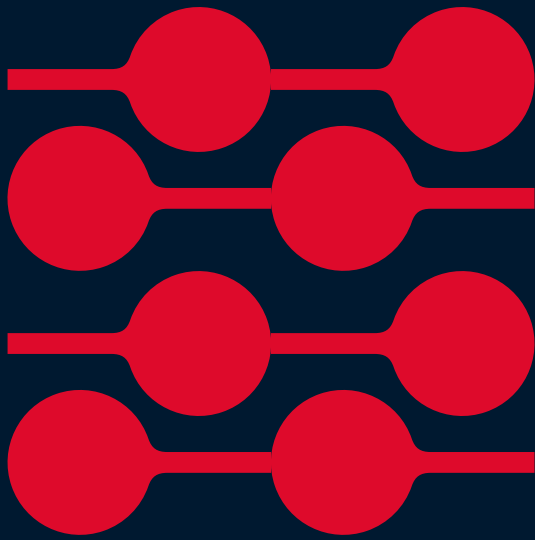


SCOTT POINT SUSTAINABLE SPORTS PARK



Sustainability Annual Report

October 2021 – October 2022



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Executive Summary

Construction of Scott Point Sustainable Sports Park commenced in October 2021. The park is being developed with a focus on sustainability and is registered with the Infrastructure Sustainability Council (ISC) sustainability rating scheme.

This annual report provides an overview of the sustainability aspects of the project through the first year of construction October 2021 - October 2022.

The park is being developed in stages to align with the allocation of funding. Stage 1a commenced in October 2021 and is due for completion in August 2023.

Over the past year the key sustainability targets have been met including -

- Enhancing the ecological value of the site through transplanting initiatives, rehoming of wildlife and the introduction of bees
- On-site water capture and reuse, and a reduction in the overall operational water requirements using an onsite bore
- Reducing the whole-of-life carbon footprint through efficiencies with machinery use and tracking of fuel consumption
- Engaging local businesses for the supply of materials and construction
- Educating suppliers and subcontractors engaged in the project on sustainability through onsite workshops

The diversion of construction and demolition waste from the site has been marginally less than the targeted 90%, with 87% diversion recorded over the past year. This was a result of larger quantities of demolition materials recovered from site, that were unable to be recycled.

SPSSP - Sustainability Annual Report Year 1

Introduction

Auckland Council requires all projects seeking a rating with the Infrastructure Sustainability Council (ISC) sustainability rating scheme to submit an annual report for public release.

Scott Point Sustainable Sports Park is targeting an ISC rating of 75 or higher, classed as “Leading” sustainable infrastructure realised through the As-built rating phase.

This report outlines the progress against key project sustainability goals, summarises significant opportunities and risks and describes lessons learnt associated with sustainability over the last year (October 2021 - October 2022).

PROJECT INFORMATION			
PROJECT NAME:	Scott Point Sustainable Sports Park		
REPORTING YEAR:	October 2021 – October 2022		
REPORT PREPARED BY:	Sarisha Hurrisunker		
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APPROVED BY:	Angela Levet		

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SUMMARY OF WORKS FOR THE YEAR:

First Quarter October 2021 – January 2022

- Site establishment and clearance
- Approximately 450 individual Epilobium plants were potted up and placed in the warehouse for collection by the community group
- Captured and re-homed native Copper Skink to a safe area onsite
- Erosion and sediment controls established
- Bulk earthworks commenced



Second Quarter February 2022 – April 2022

- Completion of bulk earthworks, clearing and demolition
- Reduced the cut levels required for an area of the site, reducing earthworks fuel burn.



Third Quarter May 2022 – July 2022

- Trimmed fields, baseball diamond and surrounding paths
- Laid metal and subsoil network for the carpark
- Shut down Earthworks areas for the Winter Season to avoid rework onsite, discharges to the receiving environment, and inefficient plant usage
- Prepared procurement packages for phase 1A
- Pre-purchased materials for use in Civil packages
- Detailed design adjustments to the turf types for the baseball diamonds



Fourth Quarter August 2022 – October 2022

- Installation of stormwater drainage
- Winter stockpile of clay from civils cutting, realising additional site won materials to reduce clay import
- Works proceeded for formation and base preparation for the cycle way and footpath, and the laying of crushed concrete base course
- Service installation for the field and carpark lighting
- Opened a new fill area in baseball Diamond 1



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Key Sustainability Targets & Initiatives

Sustainability Target	Project Initiative	Summary of Progress
29% Enhancement in Ecological Value (Eco-1, Level 3)	<ul style="list-style-type: none"> Re-vegetate the existing contaminated / hard infrastructure nursery area Replace 18,9123 m2 of exotic planting with 22,134 m2 native vegetation Reduce the area of grassland / non-improved pastures by 7% a total of 4,830 m2 	<ul style="list-style-type: none"> All exotic vegetation was cleared onsite Transplanted the 'at-risk' <i>Epilobium hirtigerum</i> plant species Captured and re-homed native Copper skink to a safe area onsite
100% Onsite water capture and reuse (Wat-2, Level 3)	<ul style="list-style-type: none"> Construction: Utilisation of the onsite bore and collected rainwater Operations: The specified Blue2Green water storage system provides storage of 1080m3 and will capture rainwater and reuse 100% of its water onsite Operations: Utilisation of the onsite bore for all other water requirements 	<ul style="list-style-type: none"> 100% of the water consumed onsite during construction has been from the onsite bore
36% Reduction in overall operational water footprint (Wat-1, Level 3)	<ul style="list-style-type: none"> Construction: Adjusted earthworks methodology reducing dust suppression requirements by 134.2ML Operations: Utilising Blue2Green system for Field 1, requiring 80% of conventional demand, and using valve-under-head system for Fields 2 and 3 reducing irrigation requirements for the 50year design life by 55.6ML 	<ul style="list-style-type: none"> Water consumed onsite for construction activities remains under the reduced levels, seeing further reductions from the base case water levels
13% reduction in whole of life carbon footprint. (Ene-1, Level 2)	<ul style="list-style-type: none"> Operations: 17,240m2 less turf area and field area to mow and maintenance removing 24 tCo2^e of greenhouse gas emission from the 50-year design life Operations: Lighting controls - External lighting for detailed design includes time clock and motion detection, and removes 161 tCo2^e of greenhouse gas emission from the 50-year design life 	<ul style="list-style-type: none"> Onsite teams record the quantity of fuel being consumed onsite against the activity being undertaken, enabling tracking of efficiencies of fuel consumption during construction
90% diversion rate for construction and demolition waste. (Was-3, Level 3)	<ul style="list-style-type: none"> Design: Re-use of onsite materials included within design Design: Cellular structure of Blue2Green minimised to avoid waste creation Construction: Onsite storage for waste segregation through clearance and demolition Construction: Excavated soils stored onsite in segregated piles for re-use onsite Operations: Three-stream Big Belly bins located onsite for park users to divert waste 	<ul style="list-style-type: none"> Construction and demolition waste diversion is at 87% currently, dropping 3% off the targeted 90%

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75% of subcontracts with local suppliers	<ul style="list-style-type: none"> • Procurement process set up to include weighted considerations of local suppliers and sub-contractors 	<ul style="list-style-type: none"> • 100% of spend to date has been with a total of 142 Auckland businesses attributing to \$9.6M spent locally
Continue incorporating iwi values during the construction phase through a collaborative approach with the community	<ul style="list-style-type: none"> • Hosting educational workshops • Project newsletter every 3 months 	<ul style="list-style-type: none"> • Site blessing to commence earthworks • Collaborative re-design of the site planting to integrate a natural spring located onsite

Sustainability Impact

• Ecological Restoration

- ❖ Transplanted the 'at-risk' *Epilobium hirtigerum* plant species
- ❖ Captured and re-homed native Copper skink to a safe area onsite
- ❖ Uplifted Pohutukawa trees from a temporary holding and healed in onsite in preparation for future planting
- ❖ Dotterels made their home onsite in the fourth quarter during the nesting period, and reared three happy chicks onsite
- ❖ A beehive has been installed onsite, away from the construction works. The hive will support the surrounding ecology through pollination.

• Energy and Carbon Reporting (Including Materials)

Over the last year, construction activities produced 202.04 tCo2^e greenhouse gas emissions from 75,107 L of diesel (Figure 2), largely due to: demolition and clearance, earthmoving activities; installation of services and stormwater; and the installation of the carpark and pathways onsite (Error! Reference source not found.2, Figure 2, Figure 3). The lost carbon sink onsite from the removal of vegetation results in a foregone sink of 971.10 tCo2^e greenhouse gas emissions in October and November 2021.

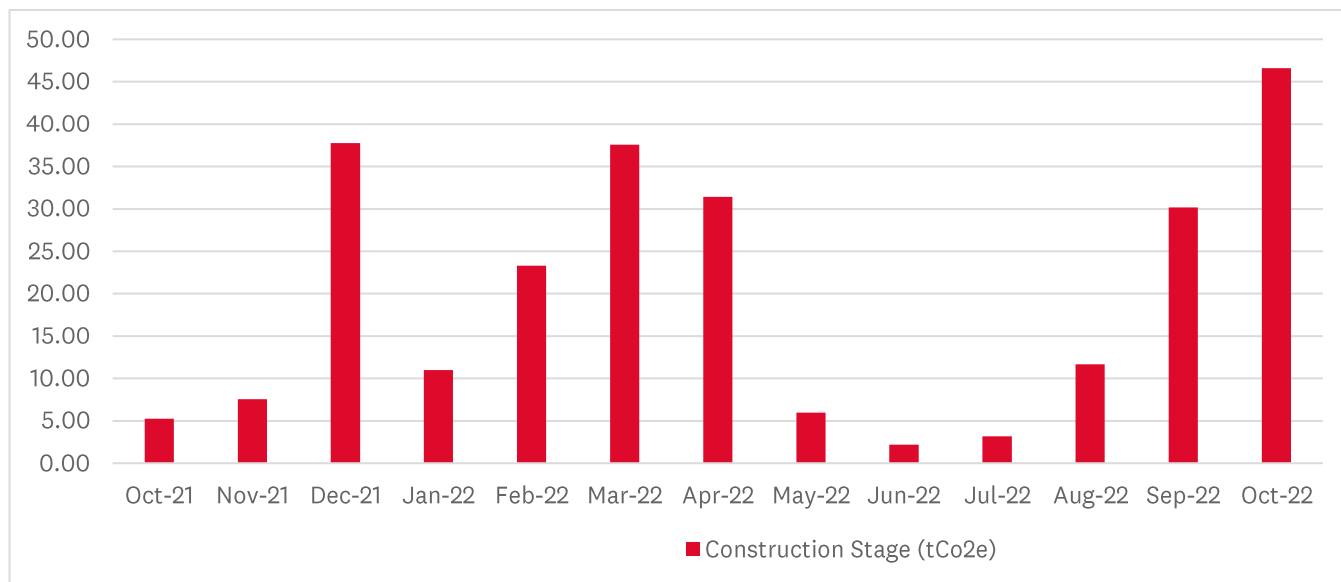


Figure 1 Construction Use Greenhouse Gas Emissions (tCo2e). Note: Excludes vegetation clearance as per Q1 2022.

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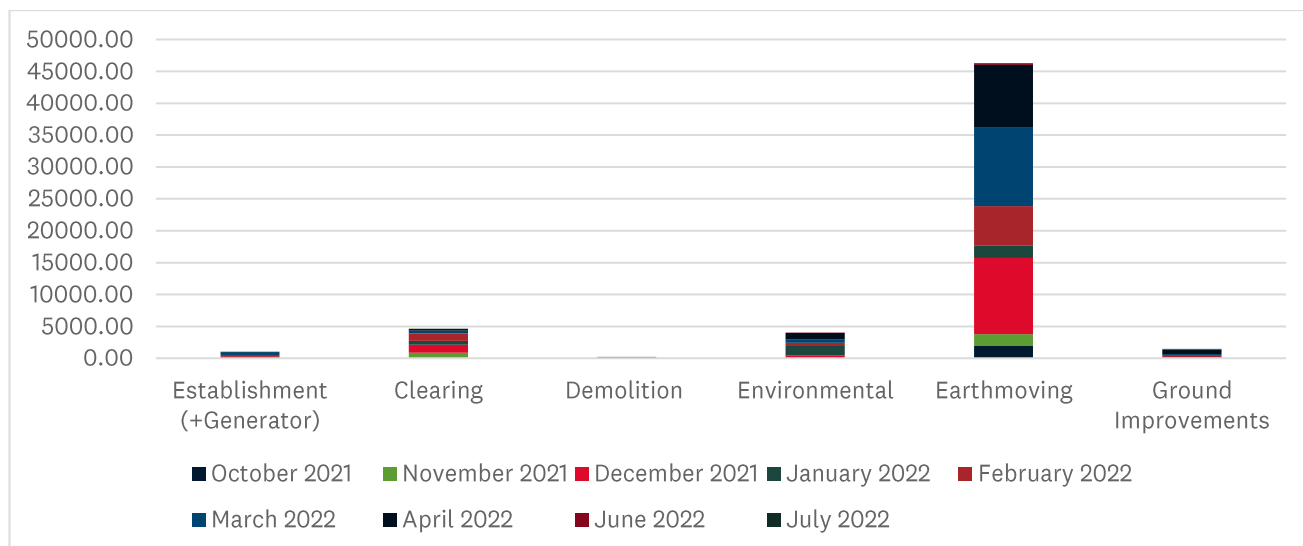


Figure 2 Energy Use (L) within Early Works Phase by category

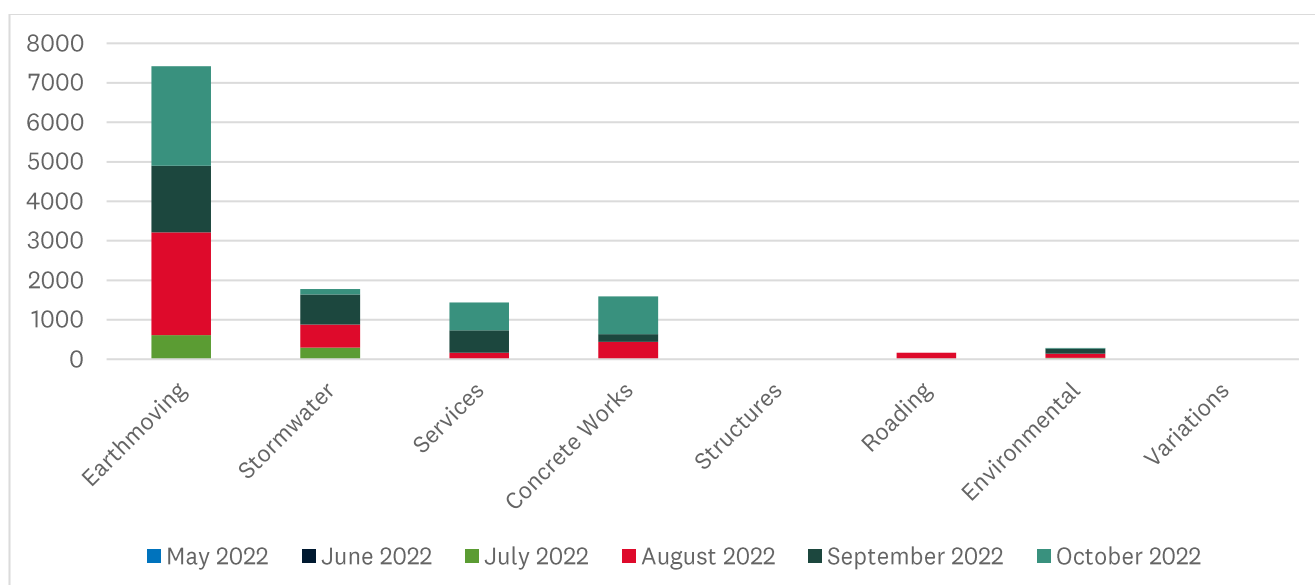


Figure 3 Energy Use (L) within Construction Phase 1A by category

As the installation of the carpark, pathway, services and stormwater has begun onsite the project has purchased 2170 (m3) + 2173 (t) of aggregate, 20.84T of Pre-Cast concrete components, and 37.7m3 of ready-mix concrete, attributing toward 73.662 tCo2e (Figure 4). The use of 1,114.4m3 of crushed concrete rather than importing virgin Gap 40 from the quarry has resulted in a saving of 7.59 tCo2e, equivalent to a 10% reduction of carbon embodied materials consumed on the project to date.

Materials Categories	Quantity (m3/t)	Sum of Tco2e (incl. tran)
Aggregate (m3/t)	2170 (m3) + 2173 (t)	41.842
Piping (t)	2.361	8.209
Plastics (t)	1.15186	3.85
Pre-Cast (t)	20.84	7.465
Ready Mix Concrete (m3)	37.7	12.297
Grand Total		73.662

Figure 4 Materials used on site to date by category, relevant quantum and overall, Carbon Emissions

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• Water Reporting

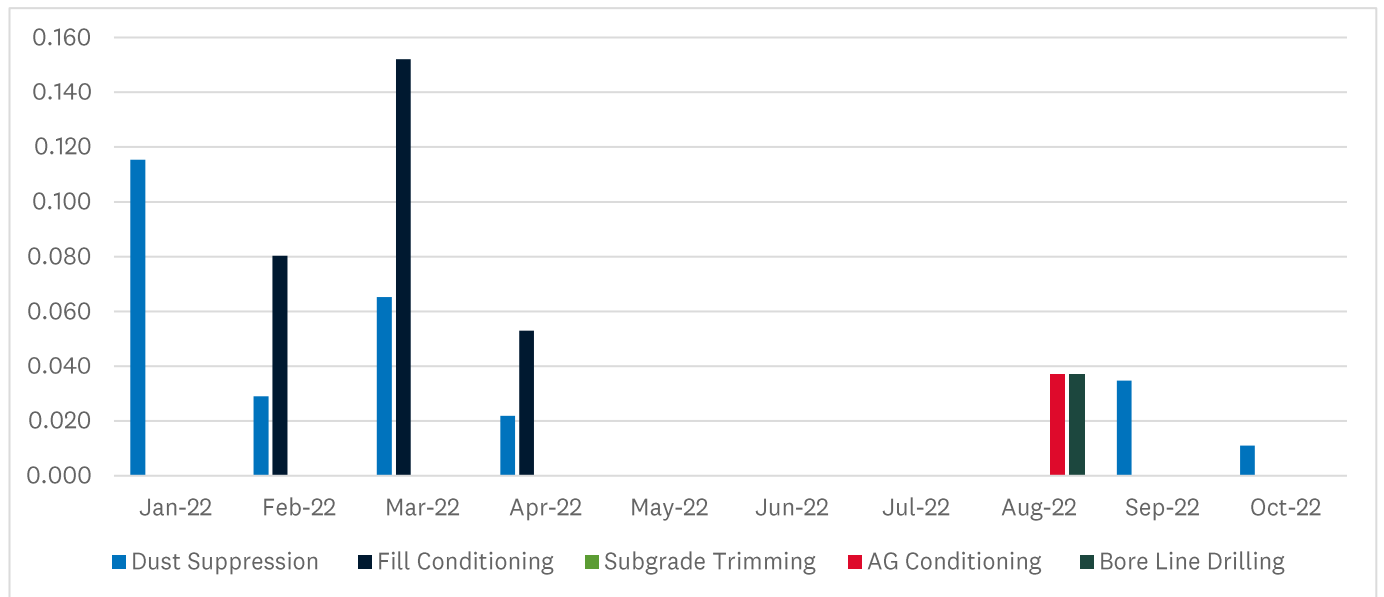


Figure 5 Water Use - Construction Stage (ML)

To date 0.96ML of water has been used onsite for dust suppression, fill conditioning, subgrade trimming to date, AG Conditioning and Bore Line Drilling (Figure 5), with 2.1ML provided for every month of earthworks within the Actual Case for a 12-month earthworks season. All water used onsite to date has been from a non-potable source - 100% from the onsite bore.

• Waste Reporting

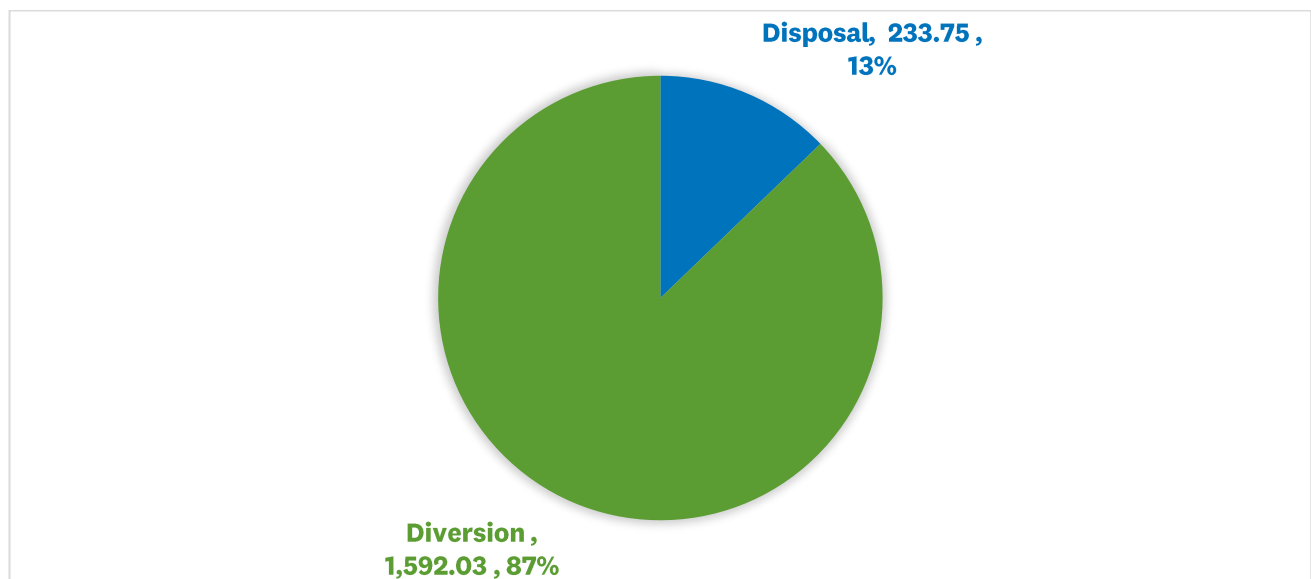


Figure 6 Construction and Demolition Waste Diversion to date (tonnes & percentages)

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Construction and demolition waste diversion is at 87% currently, dropping 3% off the targeted 90% (Figure 6). This is slowly crawling back toward 90%. Investigation is underway into the upcoming waste creation streams anticipated for Phase 1a in order to ensure waste diversion options are investigated and implemented ahead of time.

• Social

Sustainability training has been underway both onsite and, in the classroom, (Figure 7 Onsite and classroom Sustainability Training) throughout the fourth quarter, with contractors and sub-contractors from 10 different organisations taking part. Training covered the following topics for the site-based staff: Environmental Management and Biodiversity; Sustainable Construction; Materials and Waste; and Climate Change Adaptation.



Figure 7 Onsite and classroom Sustainability Training

• Economic

100% of spend to date has been with a total of 142 Auckland businesses attributing to \$9.6M spent locally.

Lessons Learnt

Issue	Lesson Learnt
<p>COVID-19 impact on operations and supply issues.</p>	<p>Procurement and lead times for items have had minor impacts to the materials required at this phase of the project, but have forced the project team to consider earlier procurement of long lead time items to ensure availability of materials in a timely manner.</p>
<p>Decision Making Matrix has been updated and adapted from the design phase. The end location of concrete from site demolition was the first test case onsite.</p>	<p>The matrix worked well at identifying considerations and getting the team on the same page with the way forward. The decision matrix had to be altered due to supply issues with obtaining a concrete crusher, posing a risk to programming. The flexible approach taken provided a pragmatic way forward.</p>
<p>Innovation Supply Chain Sustainability School not being fit for purpose for all contractors and subcontractors, due to the mix of the Australian focus, time and attention required, and high comprehension required.</p>	<p>Engaging with the contractors and subcontractors around the topics with onsite specific examples proved more beneficial, with many of the staff discussing the content. An alternative way forward is being proposed to ISC.</p>
<p>Discovery of larger amounts of asbestos, poly-crete and additional waste onsite than previously understood through prior site investigations, places the Waste credit at risk.</p>	<p>A more detailed waste assessment is required of the site prior to construction to discover all hidden materials / waste types. Decisions around waste end routes need to be thoroughly discussed as waste types are discovered.</p>
<p>Building infrastructure to collect rainwater from the site offices and horticultural shed to be utilised as additional non-potable water supply for onsite wheel wash.</p>	<p>Minimal return for a large capital setup (guttering, storage, rotation pumps). This method for water capture has been abandoned and more efficient methods (pond capture and bore) employed, suitable to the current site demand.</p>
<p>Climate change impacts are being seen across the region, with many dry days followed by an extreme wet period on the 23rd of March 2022. Pond 2 held up under the extreme circumstances, however Pond 1 was required to discharge into Bombay Point.</p>	<p>High levels of aluminium were tested both within the pond and at the discharge site. Given the very high levels at the discharge point prior to discharge it is assumed that upstream construction activities offsite are also utilising aluminium based treatments onsite. Investigations to utilise an alternative treatment to reduce the overall compound impact of aluminium on the stream and outlet was determined the best path forward for the project.</p>
<p>Timing of construction of carpark for laydown area delayed, requiring additional aggregate to be imported to allow for lay down areas for winter.</p>	<p>Prolonged decision making can result in increased material consumption onsite.</p>
<p>Process for dealing with design changes was not previously required, however due the nature of the site and on-going stakeholder engagement some changes have been required. A gap in the sustainability decision making was considered, a risk was raised and process to bridge the gap determined between the relevant parties.</p>	<p>Unanticipated changes occurring through construction phase require a process to ensure sustainability remains at the heart of the management process and decision making. A Design Change register was created and included within the Sustainability Management Plan.</p>

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<p>Use of materials and creation of waste from construction is anticipated to occur at the beginning at Phase 1a, increasing the complexity of waste streams onsite, particularly as additional subcontractors and suppliers interact with the site.</p>	<p>A new waste provider was procured to manage the park side of the site only, allowing the project to have simplified reporting, and greater onsite separation of waste materials for diversion.</p>
<p>Moving of the field layout resulted in the redesign of drainage due the increase in the catchment size. This created double handling of drainage materials that had already been installed. Pipes had to be dug out and replaced with a higher diameter than previously present. The pulled-out pipes are considered used and have been gifted to another project for re-use.</p>	<p>Design certainty is crucial to ensuring that the appropriate materials are purchased and installed to avoid additional waste streams, fuel burn and labour onsite.</p>
<p>Investigation into reducing the quantity of sports lighting pile foundation material was unsuccessful. The pile redesign was for a 1200mm diameter option; however this diameter was not suitable due to the hold down bolt of the lighting pole assembly requiring a 1400mm diameter. An alternative option would have been a cantilever design however timing did not allow for any further optioneering.</p>	<p>Optioneering to look at the whole element in question to ensure success.</p>

Approval Signatures



Kris Bird, Project Sponsor



Angela Levet, Project Manager