Bannockburn P-12 College

School Environmental Management Plan
2018-2021

This School Environmental Management Plan (SEMP) outlines Bannockburn P-12 College's commitment to sustainability. It highlights our achievements to date and a plan for what we would like to achieve in the future.

This SEMP has been developed as part of ResourceSmart Schools, which we joined in 2018. ResourceSmart Schools is a Victorian Government initiative that will help our school benefit from embedding sustainability in everything we do. Our school will take action to minimise waste, save energy and water, promote biodiversity and reduce our greenhouse gas emissions. Sustainability Victoria and Learning Communities Victoria have funded us to participate in ResourceSmart Schools and receive facilitation support from CERES.

Our SEMP is made up of the following key documents:
A. Education for Sustainability Vision
B. Sustainability Policy
C. Green Procurement Policy
D. Implementation
E. Curriculum Review
F. Spotless' Operational Environmental Management Plan and Interface with School Environment Management Plan

Ratified by School Council on: 21/05/18
Date of next review: 18/03/19

A. Education for Sustainability Vision

At Bannockburn P-12 College we strive to inspire our whole school community to connect with the environment and to make a positive contribution to sustainability at school, home and beyond.

B. Sustainability Policy

Rationale

At Bannockburn P-12 College we aim to reduce our ecological footprint through adopting sustainable practices in our everyday operations. We will achieve this by continuing to integrate sustainability into the curriculum and instilling a sense of ownership of and pride in improving the environment. We will endeavour to demonstrate exemplary practices in waste management, water and energy usage, and continue to develop the school grounds to improve biodiversity.

Guidelines

Energy - To control energy consumption within the school so that we reduce our impact on the natural environment; use resources and equipment as efficiently as possible; include students in developing and maintaining an energy efficient school; educate students, staff and the whole community about the best practice for energy efficiency and sustainability initiatives and ecologically sustainable design (ESD) features in our school; and monitoring of energy usage around our school.

Waste - To use an integrated waste management system within the school so that we reduce our impact on the natural environment as efficiently as possible; practise the 5R's waste minimisation hierarchy, Refuse, Reduce, Reuse, Repurpose, Recycle; close the loop on organic waste onsite; manage recycled products and landfill waste daily in the appropriate manner; educate students, staff and the whole community about the best practices for waste management, and our whole-school waste and litter reduction plan; and conduct auditing and monitoring of litter and waste at our school.

Biodiversity - To improve our outdoor natural environment through implementing our sustainability master plan to continually improve biodiversity in our school as efficiently as possible; optimise the teaching of sustainability education using the natural environment; educate students, staff and the whole community about actions for improving biodiversity in our school, and linking school vegetation and habitats with surrounding areas.

Water - To control water consumption within the school so that we reduce our impact on the natural environment as efficiently as possible; to appreciate water as a precious resource; educate students, staff and the whole community about the best practice for water efficiency and sustainability initiatives and water retention systems in our school; and conduct auditing and monitoring of water usage and stormwater collection around our school.

Aims and Targets

Benchmark targets are set by Sustainability Victoria

BIODIVERSITY	ENERGY	WASTE	WATER
Increase habitat quality assessment score: **Every year from baseline year**	To achieve benchmark of: **400 kWh – electricity** **0.6 tonnes CO_2** **per student / per year**	To achieve benchmark of: **0.3 m³** **per student / per year**	To achieve benchmark of: **4 KL** **per student / per year**
Aspirational Target: **Every year from baseline year**	Aspirational Target: **400 kWh – electricity** **0.6 tonnes CO_2** **per student / per year**	Aspirational Target: **0.3 m³** **per student / per year**	Aspirational Target: **4 KL** **per student / per year**

C. Green Purchasing Policy

Rationale

Bannockburn P-12 College is committed to sustainable practices within its community where possible. It will endeavour to purchase 'green products' in order to reduce its environmental impact and to help 'close the loop'.

Bannockburn P-12 College wishes to reduce its ecological footprint and to educate students on making environmentally friendly choices for life.

Guidelines

When feasible, Bannockburn P-12 College will:
• Purchase 100% recycled paper for printers and photocopiers.
• Look to purchase a percentage of certified GreenPower.
• Source digital ebooks as secondary texts.
• Purchase fair trade tea and coffee.
• Encourage and support the canteen operator to use reusable and/or biodegradable packaging in the canteen and at events.
• Ensure the following groups are actively involved in using environmentally friendly and recycled
products: Cleaning staff, Garden and grounds staff, Building and maintenance staff, students and school
staff.

D. Implementation

In this snapshot we are documenting our campus, curriculum and community actions and identifying opportunities for improvement. We are also identifying opportunities to shift our whole school culture to take action on climate change.

BIODIVERSITY	Current Practices	Future Goals	How we will achieve our future goals (who & when)
Campus Audit Investigations, Habitat Gardens, Food Gardens, Maintenance & Protection	• We have plants that encourage bird life • As per school plan, only plant water sensitive, native, indigenous and drought tolerant species • Worm farm • Growing Plants	• Compost bins • Nesting boxes • Bird baths • Vegetable garden • Monitoring of Bruces Creek	• Liaise with spotless garden management • Student Green team to drive goals
Curriculum How Biodiversity is embedded into learning and teaching and creating opportunities for students to participate in hands-on projects.	See curriculum review below • Ecolinc - Life Cycle • Earth Ed • Marine Discovery Centre to protect marine life	• Garden program • Incorporate French into program • Incorporate CERES Biodiversity Curriculum Activities into the curriculum • Studying plant life around Bruces creek • Bush Tucker program through NARANA creations or incursion program	• Learning Community Leaders, Curriculum Leaders, Teachers • Learning communities to review current curriculum and further plan for focus on biodiversity • Green Team • Involve French teachers in planning for program
Community Building links with the school community and local community organisations and groups.	• Bringing in fresh produce from the garden for Food Tech	• Participate in Clean Up Australia Day • World Enviro Day • Newsletter articles containing biodiversity updates • Bringing in produce from student's home gardens	• Set up environment (Green Team) students and teaching teams • Home Eco teachers • Learning Community Leaders, Curriculum Leaders and Teachers

Culture			
Culture Whole-of-school approach to increase awareness and knowledge of biodiversity issues.	• Using bins for recycling/composting • Rules in place to protect gardens	• Environment Leaders (children and teachers) • Classroom monitors for compost bins etc. • Students to care for worm farm • Students to present at school assembly • Updates - newsletter and school website • Encouragement of rubbish free lunches • Sustainability Captains	• Set up environment (Green Team) students and teaching teams.

ENERGY	Current Practices	Future Goals	How we will achieve our future goals (who & when)
Campus Audit Investigations, Computers and Electronic Equipment, Lighting, Heating and Cooling, Renewable Energy	• Energy efficient, sensored lighting • Natural lighting • Photocopier switches off after a short period of time • Laminator switch themselves off • Professional audits • Ceiling fans • Solar panels(on stadium & eco centre) • Turning off unused appliances • Bike racks for safe keeping of bikes and scooters	• Tree shade • Dress for the weather • Student energy saving monitors	• Green Team (student and teacher) to set up and organise • Teachers to promote dress for weather. • Business manager to ensure all purchasing abide by CERES goals

Curriculum How Energy is embedded into learning and teaching and creating opportunities for students to participate in hands-on projects.	See Curriculum Review	• Incorporate saving energy, costs & data into Maths • Use CERES Energy Curriculum Activities • Investigate Indigenous perspective on traditional ways to keep warm and remain cool	• Learning Community Leaders, Curriculum Leaders and Teachers • Learning communities to review current curriculum and further plan for focus on energy
Community Building links with the school community and local community organisations and groups.	• Encourage people to ride and walk to school	• Encourage Earth Hour at school • Walking school bus • Enviro Day which has an energy focus • Energy tips or activities in Newsletter or potential Green Team blog • Senior school Solar Power Challenges • Work with YMCA • Golden Plains Shire- Bruce Creek beautification • Sustainable Camp?? Farming • Walk and Bike to school day (survey classes- have a winner?)	• Walking bus tour run by parent volunteers. • Staff and student green team
Culture Whole-of-school approach to increase awareness and knowledge of energy issues.		• Energy monitors • Enviro captains and a student Green Team. • Use staff meeting to work on Energy module checklist and energy projects. • Savings from energy bills reinvested for class excursions	• Staff and student green team to set up in classrooms

WASTE	Current Practices	Future Goals	How we will achieve our future goals (who & when)
Campus Audit Investigations, Green Purchasing, Waste Systems for: Landfill & Recycling, Electronic Waste, Paper, Reusing, Litter	- Small landfill bins - Recycling bins - Reuse paper tubs in learning communities - Organic bins (although they are not in each learning community) - Reduced paper - due to use of google classroom and 1:1 iPads. - Encourage double sided printing - default on computers - Worm farm	- Compost bins - Organic bins in all learning communities - Recycled toilet paper - Nude Food - Bin Audits on a weekly basis - REDcycle (recycle soft plastics) - Rubbish Monitor for Learning Communities - Monitor canteen packaging - Digital subscription for permission notes and newsletters - Compass - Reduce bins in school grounds and ensure there are landfill and recycling choices side by side - Shredded paper in compost - Environmentally friendly cleaning products - Mobile phone and ink cartridges recycling drives - Buy fair trade tea/coffee for staff room	- Speak to canteen manager - Green Team (Staff and students) to check in with Learning Communities, track waste and present at assemblies - Liaise with Compass to get permission notes online

Curriculum How Waste is embedded into learning and teaching and creating opportunities for students to participate in hands-on projects.	See Curriculum Review	- Art - upcycle - Link into whole school curriculum approach. - Earth Ed - Sustainability workshops/ Ecolinc - Humanities / Science (see Simon) - Use CERES Waste Curriculum Activities - Clean Up Australia Day writing reflection journal - Investigate E-waste - Investigate Garden Program focusing on food waste and composting - Encourage five Rs - All classes have a Waste Monitor for landfill, recycling, compost and paper tray	- Learning Community Leaders and teachers - Learning communities to review current curriculum and further plan for focus on waste - Green Team (Staff and students) - Sustainability coordinator to investigate waste visitors/ incursions
Community Building links with the school community and local community organisations and groups.	Food sourcing from community into classrooms rather than purchasing from supermarkets	- Nude food pledges for parents at home - Big Write talk stimulus - Clean up Australia Day - Sustainability blog - Second Hand Uniform business running second hand uniform sale - clothing donation drive - Assign House Green Teams - Waste team - check bins after lunch - Recipe of the month	- Online newsletters, facebook page or learning community blogs to promote ideas - Green Team (staff and students)

Culture			
Culture Whole-of-school approach to increase awareness and knowledge of waste issues.	● School values: Respect the environment ● Designated eating times and areas	● Signs and posters around school ● Sustainability awards ● Waste campaigns ● Student green team present at assemblies ● Staff to monitor Nude Food in classrooms during designated eating times in	● Green Team (staff and students)

WATER	**Current Practices**	**Future Goals**	**How we will achieve our future goals (who & when)**
Campus Audit Investigations, Water Systems for: Mains Water, Water Collection, Storm Water, Gardens	● Vegetated Swale - Swell system - collects excess water. ● Zero water wastage - it is absorbed in the soil. ● Native plants	● Water rain tanks (Eco Centre) ● Put signs up to remind students to use less water ● Buckets under taps for plants/garden ● Water funnels for new trees	● Find out how we can apply for funding for water tanks for the school ● Run poster competitions ● Green team students manage buckets under taps and water funnels
Curriculum How Water is embedded into learning and teaching and creating opportunities for students to participate in hands-on projects.	See Curriculum Review Below	● CERES Water Curriculum Activities ● Fundraising to buy a water tank - could be a student project (SRC) ● Whole school water awareness day. ● Walk for water - Fundraising project for students to be aware of how far some people have to walk to get access to water	● Learning communities to review current curriculum and further plan for focus on water i.e. CERES activity implementation, excursions and incursions.

Community Building links with the school community and local community organisations and groups.		• Include water saving tips in newsletter • Posters in kitchen/toilet etc. • Student green team column in newsletter	• Sustainability leaders manage student green team to organise newsletter entries, posters etc.
Culture Whole-of-school approach to increase awareness and knowledge of water issues.		• Whole school short shower challenge: Students and teachers commit to 4 minute showers during National Water Week. • Empty Water Bottles into bucket for gardens at the end of each school day	• Student Green team to create posters advertising water challenge, pledging students and teachers to commit. • Community teachers to allow time for watering at end of day

E. Curriculum Review

We are committed to including a sustainability/environmental focus into inquiry units across all year level and as part of daily classroom practices where possible.

Year	Name of Inquiry Unit, Curriculum Area or Learning Activity	Biodiversity	Water	Waste	Energy
P, 1 & 2	**Term 1** - review use of bins; organic, paper, mixed recycling, landfill (indoor and outdoor).			✓	
	History The history of a significant person, building, site or part of the natural environment in the local community and what it reveals about the past (VCHHK063) Differences and similarities between students' daily lives and perspectives of life during their parents' and grandparents' childhoods, including family traditions, leisure time and communications (VCHHK061)	✓	✓	✓	✓
	Science Earth's resources are used in a variety of ways (VCSSU047) Observable changes occur in the sky and landscape; daily and seasonal changes affect everyday life (VCSSU046) Living things have a variety of external features and live in different places where their basic needs, including food, water and shelter, are met (VCSSU042)	✓	✓	✓	✓
	Geography Weather and seasons and the ways in which different cultural groups including Aboriginal and Torres Strait Islander peoples, describe them. (VCGGK067)	✓			

Design and Technologies Identify how people create familiar designed solutions and consider sustainability to meet personal and local community needs (VCDSTS013) Explore needs or opportunities for designing, and the technologies needed to realise designed solutions (VCDSCD018)	✓	✓	✓	✓
Health and Physical Education Explore actions that help make the classroom a healthy, safe and active place (VCHPEP078) Identify and explore natural and built environments in the local community where physical activity can take place (VCHPEP079) Participate in play that promotes engagement with outdoor settings including aquatic and the natural environment (VCHPEP063)	✓	✓		✓

3 & 4	**Term 1** - review use of bins; organic, paper, mixed recycling, landfill (indoor and outdoor). **History** A significant example of change and a significant example of continuity over time in the local community, region or state/territory (VCHHK073) The diversity and longevity of Australia's first peoples and the significant ways Aboriginal and Torres Strait Islander peoples are connected to Country and Place (land, sea, waterways and skies) and the effects on their daily lives (VCHHK078)	✓	✓	✓ ✓	✓
	Science Science knowledge helps people to understand the effects of their actions (VCSSU056) Earth's surface changes over time as a result of natural processes and human activity (VCSSU062) Different living things have different life cycles and depend on each other and the environment to survive (VCSSU058)	✓	✓	✓	✓
	Geography Collect and record relevant geographical data and information from the field and other sources (VCGGC074) The many Countries/Places of Aboriginal and Torres Strait Islander peoples throughout Australia, and the custodial responsibility they have for Country/Place, and how this influences views about sustainability (VCGGK080) Types of natural vegetation and the significance of vegetation to the environment, the importance of environments to animals and people, and different views on	✓	✓	✓	✓

how they can be protected; the use and management of natural resources and waste, and different views on how to do this sustainably (VCGGK082) Main climates of the world and the similarities and differences between the climates of different places. (VCGGK081) Similarities and differences in individuals' and groups' feelings and perception about places and how they influence views about the protection of these places. (VCGGK083) **Civics and Citizenship** Investigate why and how people participate within communities and cultural and social groups **(VCCCC006)** **Design and Technology** Recognise the role of people in design and technologies occupations and explore factors, including sustainability, that impact on the design of solutions to meet community needs (VCDSTS023) Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes (VCDSTC027) Evaluate design ideas, processes and solutions based on criteria for success developed with guidance and including care for the environment and communities (VCDSCD031) Critique needs or opportunities for designing and explore and test a variety of materials, components, tools and equipment and the techniques needed to create designed solutions (VCDSCD028)				

(Civics and Citizenship row): ✓ ✓ ✓ ✓

(Design and Technology row): ✓ ✓ ✓ ✓

			✓	✓	✓	✓

Ethical Capabilities
Explore the extent to which particular acts might be regarded by different people as good or bad, right or wrong, better or worse, and explain why (VCECU005)

Discuss the ways to identify ethical considerations in a range of problems (VCECU006)

| ✓ | ✓ | | ✓ |

Health and Physical Education
Describe strategies to make the classroom and playground healthy, safe and active spaces (VCHPEP095)

Participate in outdoor games and activities to examine how participation promotes a connection between the community, natural and built environments, and health and wellbeing (VCHPEP096)

5 & 6

Term 1 - review use of bins; organic, paper, mixed recycling, landfill (indoor and outdoor).

History
The nature of convict or colonial presence, including the factors that influenced changing patterns of development, how the environment changed, and aspects of

the daily life of the inhabitants, including Aboriginal and Torres Strait Islander peoples. (VCHHK089) Significant contributions of individuals and groups, including Aboriginal and Torres Strait Islander peoples and migrants, to changing Australian society (VCHHK096)					
Science Sudden geological changes or extreme weather conditions can affect Earth's surface (VCSSU079) The growth and survival of living things are affected by the physical conditions of their environment (VCSSU075) Living things have structural features and adaptations that help them to survive in the environment **(VCSSU074)** Scientific understandings, discoveries and inventions are used to inform personal and community decisions and to solve problems that directly affect people's lives (VCSSU073) Energy from a variety of sources can be used to generate electricity, electric circuits enable this energy to be transferred to another place and then transformed into another form of energy (VCSSU081)	✓	✓	✓	✓	
Geography Influence of people, including the influence of Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places (VCGGK094) Impacts of bushfires or floods on environments and communities, and how people can respond (VCGGK095)	✓	✓	✓	✓	

Environmental and human influences on the location and characteristics of places and the management of spaces within them (VCGGK096)				
Differences in the demographic, economic, social and cultural characteristics of countries across the world. (VCGGK093)				
Economics and Business Explore the concept of opportunity cost and explain how it involves choices about the alternative use of limited resources and the need to consider trade-offs. (VCEBR002) Identify the types of resources (natural, human and capital) and explore the ways societies use them in order to satisfy the needs and wants of present and future generations. (VCEBR003) Consider the effect that consumer and financial decisions of individuals may have in themselves, their family, the broader community and the natural, economic and business environment. (VCEBC005) Examine the concept of global citizenship (VCCCC017) Identify who can be an Australian citizen and describe the rights, responsibilities and shared values of Australian citizenship and explore ways citizens can participate in its society (VCCCC014) Identify different points of view on a contemporary issue relating to democracy and citizenship (VCCCC015) Investigate how people with shared beliefs and values work together to achieve their goals and plan for action. (VCCCC016)		✓	✓	✓

Digital Technologies Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs (VCDTCD034	✓	✓	✓	✓
Design and Technologies Investigate how people in design and technologies occupations address competing considerations, including sustainability, in the design of solutions for current and future use (VCDSTS033) Investigate how and why food and fibre are produced in managed environments (VCDSTC035) Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use (VCDSTC037) Negotiate criteria for success that include consideration of environmental and social sustainability to evaluate design ideas, processes and solutions (VCDSCD041) Generate, develop, communicate and document design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (VCDSCD039)	✓	✓	✓	✓
Ethical Capabilities Examine how problems may contain more than one ethical issue (VCECU011) Explore the significance of 'means versus ends' by considering two ways to act when presented with a problem: one that privileges means and one ends. (VCECD012) Discuss how ethical principles can be used as the basis for action, considering the influence of cultural norms, religion, world views and philosophical thought on these principles. (VCECU010)	✓	✓	✓	✓

	Health and Physical Education Explore how participation in outdoor activities supports personal and community health and wellbeing and creates connections to the natural and built environment (VCHPEP113)	✓	✓		✓
7 & 8	**Term 1** - review use of bins; organic, paper, mixed recycling, landfill (indoor and outdoor).			✓	
	History One significant challenge and one development faced by the society that caused progress or decline (VCHHK120) Identify and explain patterns of continuity and change in society to the way of life (VCHHC102) How physical or geographical features influenced the development of Aboriginal and Torres Strait Islander peoples' communities, foundational stories and land management practices (VCHHK105)	✓	✓	✓	✓
	Science Some of Earth's resources are renewable, but others are non-renewable (VCSSU100) Water is an important resource that cycles through the environment (VCSSU101) Interactions between organisms can be described in terms of food chains and food webs and can be affected by human activity (VCSSU093) Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (VCSSU090) Scientific knowledge and understanding of the word changes as new evidence	✓	✓	✓	✓

becomes available. Scientific knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science. (VCSSU089)				
Geography Spiritual, cultural and aesthetic value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander peoples, that influence the significance of places, and ways of protecting significant landscapes (VCGGK120) Human causes of land degradation, the effects on landscape quality and the implications for places. (VCGGK119) Causes of a geomorphological hazard and its impacts on places and human responses to minimise harmful effects on places in the future (VCGGK121) The challenges of managing and planning Australia's urban future (VCGGK126) Strategies used to enhance the liveability of places, especially for young people, including examples from Australia and Europe (VCGGK115) Environmental, economic and social measures used to evaluate places for their liveability; comparing two places. (VCGGK113) Factors that influence the decisions people make about where to live and their perceptions of the liveability of places. (VCGGK111) Influence of accessibility to services and facilities; and environmental quality on the liveability of places. (VCGGK112)	✓	✓	✓	✓
Economics and Business Explore and observe the characteristics of entrepreneurs and successful businesses (VCEBB015)	✓	✓	✓	✓

Identify relationships and trends, and generate a range of alternatives for an economic business issue or event, evaluating the potential cost and benefits of each alternative and the consequences of proposed actions. (VCEBE019)					
Civics and Citizenship Identify how values can promote cohesion within Australian society, including the values of freedom, respect, inclusion, civility, responsibility, compassion, equality and a 'fair go' (VCCCC025) Explain how citizens can participate in Australia's democracy, including use of the electoral system, contact with their elected representatives, use of lobby groups, interest groups and direct action (VCCCG020)				✓	✓
Digital Technologies Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints (VCDTCD040) Evaluate how well student-developed solutions and existing information systems meet needs, are innovative and take account of future risks and sustainability (VCDTCD044)		✓	✓	✓	✓
Design and Technologies Examine and prioritise competing factors including social, ethical, economic and sustainability considerations in the development of technologies and designed solutions to meet community needs for preferred futures (VCDSTS043) Effectively and safely use a broad range of materials, components, tools, equipment and techniques to produce designed solutions (VCDSCD051) Investigate the ways in which designed solutions evolve locally, nationally,		✓	✓	✓	✓

regionally and globally through the creativity, innovation and enterprise of individuals and groups (VCDSTS044)				
Independently develop criteria for success to evaluate design ideas, processes and solutions and their sustainability (VCDSCD052)				
Analyse how food and fibre are produced when creating managed environments and how these can become more sustainable (VCDSTC046)				
Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas (VCDSCD049)				
Analyse ways to create designed solutions through selecting and combining characteristics and properties of materials, systems, components, tools and equipment (VCDSTC048)				
Ethical Capability Investigate criteria for determining relative importance of matters of ethical concerns. (VCECU016) Explore the extent of ethical obligation and the implications for thinking about consequences and duties in decision-making and action (VCECD017)	✓	✓	✓	✓
Health and Physical Education Investigate and select strategies to promote health, safety and wellbeing (VCHPEP126) Plan and implement strategies for connecting to natural and built environments to promote the health and wellbeing of their communities (VCHPEP131) Plan and use health strategies and resources to enhance the health, safety and	✓	✓	✓	✓

	wellbeing of their communities (VCHPEP130)				
9 & 10	**Term 1** - review use of bins; organic, paper, mixed recycling, landfill (indoor and outdoor).			✓	
	History Analyse and evaluate the broad patterns of change over the period 1750–present (VCHHC122) Changing social, cultural, historical, economic, environmental, political and technological conditions on a major global influence in Australia (VCHHK159) Analyse the long term causes, short term triggers and the intended and unintended effects of significant events and developments (VCHHC127)	✓	✓	✓	✓
	Science Global systems, including the carbon cycle, rely on interactions involving the atmosphere, biosphere, hydrosphere and lithosphere (VCSSU128) Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (VCSSU121) The values and needs of contemporary society can influence the focus of scientific research. (VCSSU116) Advances in scientific understanding often rely on developments in technology	✓	✓	✓	✓

and technological advances are often linked to scientific discoveries (VCSSU115)				
Geography Land and resource management strategies used by Aboriginal or Torres Strait Islander peoples to achieve food security over time (VCGGK137) Human alteration of biomes to produce food, industrial materials and fibres and the environmental effects of these alterations (VCGGK136) Causes and consequences of an environmental change, comparing examples from Australia and at least one other country (VCGGK147) The interconnection between food production and land and water degradation; shortage of fresh water; competing land uses; and climate change, for Australia and other areas of the world (VCGGK135) Challenges in feeding the current and projected populations of Australia and the world, and responses to these challenges (VCGGK138) Environmental worldviews of people and their implications for environmental management (VCGGK146) Aboriginal and Torres Strait Islander peoples' approaches to custodial responsibility and environmental management in different regions of Australia (VCGGK148) Application of environmental economic and social criteria in evaluating management responses to an environmental change, and the predicted outcomes and further consequences of management responses on the environment and places, comparing examples from Australia and at least one other country (VCGGK149) Effects of people's travel, recreational, cultural or leisure choices on places and the	✓	✓	✓	✓

implications for the future of these places. (VCGGK143) Role of initiatives by international and national government and non-government organisations to improve human wellbeing in Australia and other countries. (VCGGK154)				
Economics and Business Explore the nature of innovation and discuss how businesses seek to create and maintain a competitive advantage in the market, including the global market (VCEBB024) Research the way the work environment is changing in contemporary Australia and analyse the implications for current and future work (VCEBW025) Identify and explain the indicators of economic performance and examine how Australia's economy is performing (VCEBR021)	✓	✓	✓	✓
Civics and Citizenship Examine the influence of a range of media, including social media, in shaping identities and attitudes to diversity and how ideas about Australian identity may be influenced by global events (VCCCC038) Analyse contemporary examples and issues relating to Australian democracy and global connections, including key aspects of citizenship in a pluralist society. (VCCCC035) Discuss how and why groups, including religious groups, participate in civic life (VCCCC037)	✓	✓	✓	✓

Digital Technologies Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation (VCDTCD054) Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation (VCDTCD054)		✓	✓	✓	✓
Design and Technologies Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved (VCDSTS054) Explain how designed solutions evolve with consideration of preferred futures and the impact of emerging technologies on design decisions (VCDSTS055) Investigate and make judgements on the ethical and sustainable production and marketing of food and fibre (VCDSTC057) Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas (VCDSCD060) Develop project plans to plan and manage projects individually and collaboratively taking into consideration time, cost, risk and production processes (VCDSCD064) Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability (VCDSCD063) Work flexibly to safely test, select, justify and use appropriate technologies and processes to make designed solutions (VCDSCD062)		✓	✓	✓	✓

F. Spotless' Operational Environmental Management Plan and Interface with School Environment Management Plan

School Environmental Management Plan (Shared vision for all schools)

This School Environmental Management Plan (SEMP) outlines the shared vision for the delivery of sustainability outcomes across the Tranche 1 Schools as part of the Department's New Schools PPP Project which are:

- Schools are supported on a regional basis to sustainably manage their campus and create whole of school engagement and behavioral change at both the school and in the broader school community
- Schools have integrated sustainability throughout their curriculum, with sustainability initiatives and outcomes providing key learning and teaching opportunities for students
- Schools have adopted:
  - an effective sustainability training program (integrated with curriculum), to foster both environmental stewardship/ empowerment concepts and also maximise learning and teaching opportunities
  - a holistic waste management program, inc. maximising landfill diversion through implementation of sustainable waste management hierarchical principles, inc. recycling
  - water and energy consumption minimisation practices
  - practicable programs for sustaining and continuously improving local biodiversity
  - sustainable sourcing principles.

This shared vision is aligned to the DET's environmental sustainability objectives and will be implemented through individual SEMPs for each school, with customised objectives and targets tailored to each school's environmental setting and its environmental aspects (see below).

The overall sustainability management program will be supported through Spotless' Operational Environmental Management Plan, which will form part of a suite of operational management plans governing the delivery of services under the New Schools PPP Project Contract (see below).

Individual School Environmental Management Plan
(Customised objectives and targets for each school - see Appendices)

Individual SEMPs have been prepared for each of the Tranche 1 Schools with customised sustainability objectives and targets for each school's environmental setting and its aspects:

- Sustainability North Primary School - School SEMP - 2017-2019 <#EXAMPLE>

The overall school sustainability management program will be supported through the implementation of Spotless' Operational Sustainability Management Plan (SMP), which will form part of a suite of operational management plans governing the delivery of services by Spotless under the New Schools PPP Project Contract.

Spotless' Operational EMP (separate document) will outline a multi-step process comprising: alignment with relevant policies and strategies (including the shared sustainability vision of the overarching SEMP); environmental planning; implementation; emergency preparedness and response; and performance monitoring and reporting procedures.

The EMP will assist Spotless staff and subcontractors delivering services under the New Schools PPP Project Contract through implementing operational measures to minimise overall environmental risks and also comply with environmental regulatory requirements. It will be aligned with DET's Environmental Sustainability objectives, Spotless' Environmental Management System (EMS) and in turn the global EMS standard ISO 14001: 2004.

Spotless' EMP will be dynamic and will address the following elements:

- **Environmental/ Sustainability Policy:** Aligned to the shared vision for sustainability outcomes outlined in SMP
- **Environmental Planning:** This element will address the identification of potential environmental aspects and associated environmental impacts for schools; environmental risk assessment; management of environmental regulatory and other obligations; environmental management programs/ contract environmental controls
- **Implementation and Operation:** This element will outline the environmental responsibilities of Spotless' contract team; our approach to ensuring that our team members are competent to manage environmental risks; communication protocols; the contract team's approach for handling complaints; reporting; and operational controls to manage environmental risks
- **Emergency Preparedness and Response:** The EMP will also address consideration of environmental impacts in the preparation of emergency plans and procedures and procedures for environmental incident reporting and management
- **Measurement and Evaluation:** The final element will involve establishing the overall framework for monitoring of environmental performance across the Contract, including environmental auditing; procedures for addressing environmental non-conformances, including management of correction and preventative actions; retention of environmental records for the Contract; and also periodic Management Review of both environmental performance and the implementation and continuous improvement of both Spotless' EMP and the overarching SEMP (including individual SEMPs).

As part of the implementation of Spotless' Operational EMP, a series of sub-ordinate operational management plans will be developed by Spotless for the overall Contract (see below). These plans will outline the operational elements for managing the significant environmental aspects associated with the Contract and will support the implementation of the overarching SMP and in turn, the individual SMPs.

Waste Management Operational Plan	Vermin and Pest Control Operational Plan	Energy Management Operational Plan	Water and Wastewater Management Operational Plan	Noise Management Operational Plan	Biodiversity Management Operational Plan

The School Environment Management Plan (SEMP) outlines the sustainability objectives and targets for the school, tailored to its environmental setting and associated environmental aspects and potential environmental impacts.

The SEMP will be supported through the implementation of the Spotless' Operational Sustainability Management Plan (SMP), which forms part of a suite of operational management plans governing the delivery of services by Spotless under the the Tranche 1 Schools as part of the Department's New Schools PPP Project Contract which are:

The Operational SMP will assist Spotless staff and subcontractors delivering services under the Department's New Schools PPP Project Contract through implementing operational measures to minimise overall environmental risks and also comply with environmental regulatory requirements. It will be aligned with DET's Environmental Sustainability objectives, Spotless' Environmental Management System (EMS) and in turn the global EMS standard ISO 14001: 2004.

Further details are outlined in Spotless' Operational SMP, such as outcomes of its environmental risk assessment process, including the identification of environmental aspects and potential environmental impacts, including those aspects that are assessed as significant, in addition to sub-ordinate operational management plans (for all schools):

- Waste Management Operational Plan
- Vermin and Pest Control Operational Plan
- Energy Management Operational Plan
- Water and Wastewater Management Operational Plan
- Noise Management Plan
- Biodiversity Management Operational Plan.

A summary of the key environmental elements and related stakeholders is outlined in Table 1 and the management framework for the elements, including references, aims, targets/ benchmarks, data collection, reporting lines and key stakeholders are listed in Table 2.

Table (1) Key Environmental Elements and Stakeholders

Environmental Element	School Staff	Spotless School Officer	Cleaning	Ground and Gardens	Suppliers	Canteen	Contractors	External user groups
Materials selection	✔	✔	✔	✔	✔	✔	✔	✔
Waste management	✔	✔	✔	✔	✔	✔	✔	✔
Energy Management	✔	✔	✔	✔	✔	✔	✔	✔
Water management	✔	✔	✔	✔	✔	✔	✔	✔
Biodiversity	✔	✘	✘	✔	✘	✘	✘	✘
Sustainability training and user empowerment	✔	✔	✔	✔	✘	✔	✘	✘
Data collection and reporting	✔	✔	✘	✘	✘	✘	✘	✘

Bannockburn P-12 College SEMP created by Bannockburn P-12 College

Table (2) Management Framework for Key Environmental Elements

Environmental Element	School Document / Resource	Aspirational targets	Target Benchmarks	Data collection	Report to	Involved
Materials selection	Sustainable Procurement Policy	School will endeavour to purchase 'environmentally friendly products' in order to reduce its environmental and health impact of products.		ResourceSmart Schools Purchasing records	Spotless & School Annual Report ResourceSmart Schools Whole school community engagement	School Staff Spotless School Officer Cleaners Grounds and Gardens
Waste management	Sustainability Policy and Sustainability Snapshot	To reduce waste by 20%	**0.3 m^3** of landfill waste per student, per year	Litter and Waste Audit ResourceSmart Schools	Spotless & School Annual Report ResourceSmart Schools Whole school community engagement	School Staff Spotless School Officer Cleaners Grounds and Gardens
Energy Management	Sustainability Policy and Sustainability Snapshot	To reduce energy consumption by 10%	**250 kWh** of electricity **0.9 GJ** of natural gas **0.4 tonnes CO$_2$** greenhouse gas per student, per year	School SEMP Energy Audit ResourceSmart Schools BMS Energy measurement	Spotless & School Annual Report ResourceSmart Schools Whole school community engagement	School Staff Spotless School Officer Cleaners Grounds and Gardens

Environmental Element	School Document / Resource	Aspirational targets	Target Benchmarks	Data collection	Report to	Involved
Water management	Sustainability Policy and Sustainability Snapshot	To reduce water consumption by 20%	**4 KL** of mains water per student, per year	School SEMP BMS water measurement Timed watering	Spotless & School Annual Report ResourceSmart Schools Whole school community engagement	School Staff Spotless School Officer Cleaners Grounds and Gardens
Biodiversity	Sustainability Policy and Sustainability Snapshot	To increase the school's habitat quality	**Increase** our habitat quality score every year	School SEMP Biodiversity Audit	Spotless & School Annual Report ResourceSmart Schools Whole school community engagement	School Staff Grounds and Gardens
Sustainability training and user empowerment	Curriculum Review Operational EMP	Support Spotless School Officer and other school staff with School SEMP Help school to reduce costs	Presentation to School Officer and other stakeholders as relevant Then annually 3 x visits - Annual Review of School SEMP and Annual Report of resource use	Direct feedback Survey Monitoring systems	Spotless & School Annual Report ResourceSmart Schools	School user group School Staff Spotless School Officer Cleaners Grounds and Gardens

Environmental Element	School Document / Resource	Aspirational targets	Target Benchmarks	Data collection	Report to	Involved
Resource Use monitoring and reporting	BMS data collection ResourceSmart Schools Bills	Benchmark Targets are met or annual improvements are made to improve targets	Baseline data is used to set targets for improvement and monitoring systems are put in place Systems are maintained regularly	Monitoring systems ResourceSmart Schools Purchasing records Audits	Spotless Annual Report ResourceSmart Schools Whole school community engagement	School Staff Spotless School Officer