

OUTDOOR LEARNING SPACE PROJECT

Environment Centre Renovation

VISION

OUTDOOR LEARNING SPACE

"We belong to a community where....

We believe that the environment is integral to the quality of all our students lives so...

We strive to become more responsible for reducing our ecological footprint through the adoption of sustainable practices."

(Whitefriars College Schools Environment Management Plan, September 2015 Draft)

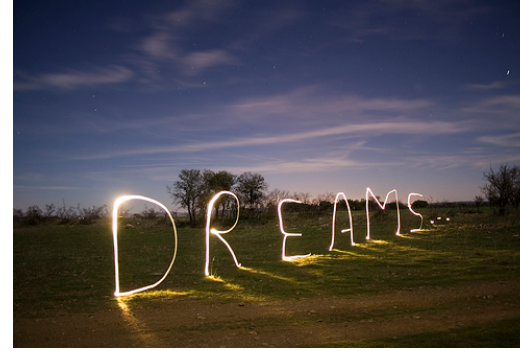
The Environment & Sustainability staff have a vision of turning the Enviro Centre into an outdoor learning space for everyone.

APPLICATION

OUTDOOR LEARNING SPACE

- Environment Centre - Energy, Waste, Biodiversity and Water topics explored through hands on activities. Gateway to bushland.
- Wellbeing Space - students and staff can gather.
- Meditation Space - classes can be held here
- VCAL classroom - easy access to tools and grounds.
- Student club - SRC or other clubs can have access to this space
- Community Space - conference space for outside groups
- Indigenous Studies - bush tucker garden & proximity to bushland

Turning a Dream into Reality?



WFC ENVIRO CENTRE



What is in the Enviro Centre?

- Garden shed containing tools
 - Green house
 - Work bench
 - Water tank
- Grafted Apple Tree
- Garden art work
 - Wheelbarrows
 - Pots and tube
 - Compost bin
- New Shipping Container



Year 8 Science & Enviro Learning Space

Projects completed by Year 8 science classes

- Measure and map the area
 - Clear the rubbish
 - Weed the garden beds
 - Clear out greenhouse
 - Stack the pavers
- Paint the shipping container
 - Design learning space
 - Create garden art
- Build raised garden bed
- Investigate hanging garden options
 - Create hanging garden
 - Prepare garden beds
 - Propagate seedlings
 - Planting
 - Watering Roster
 - Harvesting calendar

Enthusiastic renovators!

Year 8 Science Class "Immersion" by HTK



Enviro Centre Transformation Shipping Container

BEFORE



AFTER



Enviro Centre Transformation Garden

BEFORE



AFTER



Enviro Centre Transformation Greenhouse

BEFORE



AFTER



The Dream continues...

Rudimentary Café, Footscray



The Dream continues.....



Furnishing the Outdoor Learning Space

Space saving furniture



Shipping Container Transformation



North Wall
Maintain
structure
for security
& thermal
control



Ceiling - false with
insulation and LED lighting

West
Tiled wall
with sink
and
cupboard
and narrow
window

East - keep doors on and
install a window.

South
Sliding
stacker
doors to look
out at
garden.

Shipping Container North Wall Ideas

Maintain structure for security & thermal control by using recycled wood & space saving furniture



Shipping Container South Wall Ideas

Sliding stacker doors to look out at garden.



Shipping Container East Wall Idea



Keep doors on and install a window.

Shipping Container West Wall Idea

Tiled wall with sink and cupboard and narrow window



Shipping Container Ceiling Idea

False ceiling with insulation and LED down lights



Shipping Container Roof Top Idea

Roof top garden with protective liner

GREEN ROOF SHELTERS EST. 2008

This shelter is a building and a habitat in one: every part of the box designed to work with the site and the local wildlife.

We have designed a habitat panel that allows access to the space created between the new roof and the existing container roof. The access can be tailored to suite local bird and bat species.

Habitat walls provide nesting materials, hibernation sites and space for wildlife. Solitary bees are just one example of the life they help sustain.

The space formed underneath the container can also be tailored to suit small mammals.

A simple irrigation system is embedded in the substrate to aid plants getting established and protect against future droughts.

Three different substrates have been used on the roof to see how each substrate performs at supporting a diverse set of plants.

Our roofs are designed to hold up to 75% of the yearly rainfall. So it is a great way to reduce run off water at source.

The design of our roof gives opportunity to use locally sourced materials as an edging seen from the ground.

The new roof protects the container and means the structure has an indefinite life.

Here the container has been adapted as a visitors exhibition shelter. It could just as easily be adapted as cycle storage or an outdoor classroom etc.

Our shelters are delivered to their new home fully assembled and planted. Which means they literally take minutes to install atop four pre-positioned key stones.

GREEN ROOF SHELTERS

Green Roof Shelters design and build healthy biodiverse and self sustaining green-roofed structures. Unlike many other existing green roof systems, which often support only one plant species, our system rigorously encourages a multitude of plant and animal life suited to the local area. Our purpose-built roofing system facilitates the construction of small to medium sized shelters ranging from our pre-fab shipping containers to bespoke structures built on site.

www.greenroofshelters.co.uk

Intermodal Containers (Shipping containers)

In 1955 after development post-World War II shipping containers were built to standardized sizes which were adopted globally for efficient freight transportation. The strength of their design allows for up to 26 tons of cargo to be carried and stacking of the containers up to eleven units high. Distances travelled can be upwards of 6000 miles a year with all containers requiring a valid Container Safety Certificate in order to be classed as worthy. Shipping container's qualities make them ideal structures for Green Roof Shelters:

- Incredibly strong and rigid structure to support our 225kg/m² biodiverse green roof
- Inherently durable COR-TEN steel
- Universal portability among haulage companies world wide
- Selection of sizes: 3m/10m/12m by 2.5m allowing for many adaptations (Bike storage, garden rooms, classrooms etc.)

Container shipping sources: www.container.com



Shipping Container West Wall Idea

Tiled wall with sink and cupboard and narrow window



Shipping Container Transformation Costs

Wall	Project	Cost	Company
North (6 x 2.3m)	Timber studs & nails		
Keep wall intact for security & thermal control	Cladding Ply/MDF/Recycle Wood Panels Insulation	\$0.00	Gumtree P/U
South (6 x 2.3m)	Bi-fold door that stacks behind a window	\$1,500.00	Trends, Rylock, ?
Wall to look out onto garden & be public access	Timber studs & nails Plaster board off cuts Cement sheet Paint	\$0.00	Gumtree P/U
West (2.3 x 2.6m)	Thin window	\$0.00	Recycled
Wall to have small window to look out to bushland. Tiled wall with sink and cupboard	White tiles (different types) Kitchen cupboard Kitchen sink Plumbing Tile adhesive	\$0.00 \$0.00 ? ?	Free on Gumtree On site ? ?
East (2.3 x 2.6m)	Window where bottom is hip height	\$0.00	Recycled
Shipping container doors that will remain on space for light & ventilation control	Timber studs & nails Ply/MDF/Recycle Wood Panels		
Ceiling (6 x 2.3m)	LED downlights		
False ceiling for thermal control and lighting	Plastic board Shelves Insulation		
Roof (6 x 2.3m)	Black Tar Paint		
Roof top garden for aesthetics & thermal control	Pond lining Soil Plants Watering system - solar pump and pipes		



The Dream Needs Funding

The theme is sustainability. Whilst every care is made to recycle, source free products & re-use most components of the Outdoor Learning Space, there are funding needs. The big ticket items are:

- ▶ Purchasing and Installing bi-fold stacking door on Eastern Wall
- ▶ Paving
- ▶ Plumbing
- ▶ Electrical
- ▶ Roof Top Garden & Solar Pump