

# Water Research Lab Open Day



**Welcome to the UNSW Water Research Laboratory (WRL)!** We are one of the biggest scientific and engineering facilities in Australia, and part of the School of Civil and Environmental Engineering.

We hope you enjoy your tour today of our unique, world-class research laboratory, our large models and our state-of-the-art equipment. All of the staff and students of WRL will be wearing name badges, and are ready to answer any questions you can think of! Please follow the clearly marked path around the site, using the map on the back of this page.



Coastal, ocean  
and estuarine  
engineering and  
management



River flow,  
floodplain  
management and  
catchment  
hydrology



Eco engineering,  
wetland restoration,  
environmental  
studies, and climate  
change adaptation



Groundwater  
research and  
management



Hydraulic  
engineering and  
environmental fluid  
mechanics

## Tour displays

### 1. Prop-wash basin

See how we model the effects of ships powerful propellers on port and coastal structures, and scour protection works.

### 2. Somerset Dam hydraulic model

This is a massive 1:50 scale model of Somerset Dam. The model was built to help make sure the dam stays safe in the most extreme flood events.

### 3. 1.2 m wave flume

Our 1.2 m flume is our flagship physical modelling facility which is used to design coastal structures around the world, like breakwaters, seawalls and nature based solutions.

### 4. Specialist field equipment

Gear and gadgets to measure groundwater, water depths, currents, chemistry, wetlands, moving beaches and more!

### 5. 0.4 m tilting flume

Our newest flume! This little flume can be tilted to test the effect of both slope and flow rate on stability, sedimentation and erosion.

### 6. Tube fishway

How can fish swim up a river when a dam is blocking the way? Fish ladders are commonly used, but we've been looking into a tube fishway that relies on the energy that is already in the water.

### 7. Groundwater and hydrology models

Have you ever seen pictures of water just disappearing into a dry stream bed? Where is the water going? How much of it flows down to refill the groundwater table?

### 8. Washing machines

What comes out of your clothes when you wash them? Hopefully the dirt, but what else is going down the drain?

### 9. CoastSnap

In our meeting room there will be a display of CoastSnap; a innovative community beach monitoring system designed to capture and measure our dynamic coastline. Have you seen them around the Northern Beaches?

### 10. Small demonstration models

We have some public education models for you (and the kids!) to play around with. Make your own waves with our mini-flume, and see our river models.

### 11. Green wall

The WRL green wall is dedicated to uncovering just how effective this innovative infrastructure is at treating greywater, removing environmental contaminants and cooling our cities!

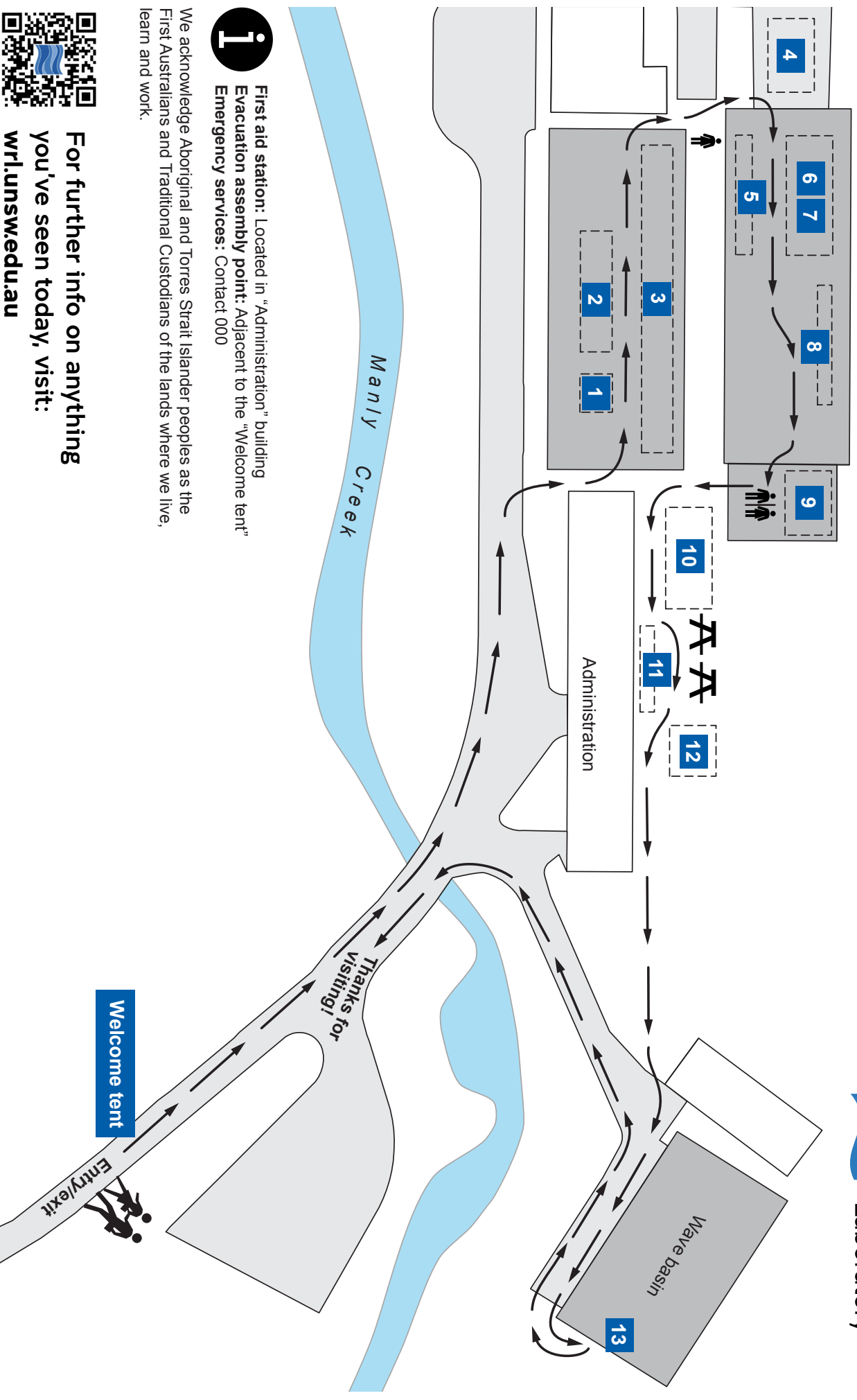
### 12. BBQ fundraiser

### 13. The large wave basin

Our impressive wave basin is where we do coastal research looking at breakwalls, beaches, harbours and waves. See some groundbreaking research on wave energy devices currently being studied in the basin.



**UNSW**  
Water Research  
Laboratory



**First aid station:** Located in "Administration" building  
**Evacuation assembly point:** Adjacent to the "Welcome tent"  
**Emergency services:** Contact 000

We acknowledge Aboriginal and Torres Strait Islander peoples as the First Australians and Traditional Custodians of the lands where we live, learn and work.



**For further info on anything  
you've seen today, visit:  
[wrl.unsw.edu.au](http://wrl.unsw.edu.au)**