Project Kirra

City of Gold Coast (City) completed works in late 2013 to reinstate Kirra Point groyne by 30 metres to its original constructed length.

In 1972, two groynes were constructed at Kirra Point and Miles Street to mitigate coastal erosion along southern beaches.

In 1996, the City removed 30 metres of Kirra groyne after the commencement of the Tweed River Entrance Sand Bypass Project. These works were undertaken to assist with the movement of increased volumes of sand resulting from the bypass project.

As the movement of sand along southern Gold Coast beaches returned to more natural levels, community stakeholders expressed a desire to improve recreational surfing amenity at Kirra Point, and that the City should consider reinstating Kirra Groyne to its original constructed length of 180 metres.

As a result, the City invested $800,000 in the reinstatement of the groyne to its original length. The works are a key element of the Mayor’s strategic initiative to invest in the future management of Gold Coast foreshores and align to the City’s Ocean Beaches Strategy.

Construction

Project Kirra involved the placement of specialist rock material in layers to form the groyne structure. The rock armour layers are the most important elements of the groyne as they resist wave energy and must meet design specifications.

The reinstatement works required both primary (10-15 tonnes) and secondary (5-8 tonnes) rock layers.

To meet project requirements, the City sourced suitable rock materials from a number of sites in Queensland and New South Wales, including the same material used to construct Kirra Groyne and Kirra seawalls in 1972.

The massive rocks (10-15 tonnes) were transported to Kirra using large truck floats, with special arrangements to use public roads.

Partnership

The City’s project team partnered to deliver the works with the Griffith Centre for Coastal Management. The partnering included sharing of information around construction methods, testing and certification, and coastal engineering issues.

The Centre for Coastal Management is a research centre based in the Science, Environment, Engineering and Technology Group of Griffith University.

Milestones

As a result of the lengthened groyne, sand movement has already begun with the beach width increasing as seen in the December 2013 photo.

Further coastal imaging resources can be found on external websites below.

December 2013

On Friday 13 December 2013, the final rocks were placed at Project Kirra, completing major works at the site. Over 7000 tonnes of specialised rock material were used.

Queen Elizabeth Park was then reinstated to its original condition ready for the Christmas holiday period.

November 2013
All specialist plant, including a heavy lift rock grabber, were working on site. Progressive deliveries of rock material were completed after sourcing and testing.

October 2013

Preparation of the groyne crest to accommodate heavy machinery began, and work was underway using specialised equipment to place large rocks.

September 2013

The supply of rock to site for Project Kirra commenced. View the Kirra Point schematic map.

August 2013

The initial stage of works commenced on 29 July. This involved the establishment of access for heavy machines, site fencing and stockpiling of smaller rock material. The extraction and testing of rock at source quarries began in preparation for transport.

Images courtesy of Tweed River Entrance Sand Bypassing Project (New South Wales and Queensland)

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**Frequently asked questions**

**What is Project Kirra?**

Project Kirra commenced works in July 2013 to restate Kirra Point groyne by 30 metres to its original constructed length.

**When was the Kirra Point groyne first constructed?**

In 1872 two groynes were constructed at Kirra Point and Nilsson Street.

**Why was the Kirra Point groyne constructed?**

The purpose of the groyne was to mitigate coastal erosion along southern beaches.

**What is the Kirra Point groyne made from?**

The Kirra Point groyne comprises special bohol rock material in layers to form the groyne structure. The rock layers are graded according to weight.

Primary layer - 15 tonnes
Secondary layer - 10 to 15 tonnes
Core layers - 1 to 5 tonnes

**When and why was the Kirra Point shortened by 30 metres?**

In 1996 City of Gold Coast undertook works to remove 30 metres of Kirra groyne after the commencement of the Tweed River Entrance Sand Bypass Project (TRESP). These works were completed to assist the movement of increased volumes of sand resulting from the sand bypass project.

**Why is City of Gold Coast extending the Kirra Point groyne again in 2013?**

Sand movement along southern beaches has returned to more natural levels in recent times and the local surfing community has asked City of Gold Coast to bring back the Kirra Point groyne.
Community stakeholders expressed a desire to improve the recreational surfing amenity at Kirra Point, and asked the City to consider providing funding in the 2013-14 budget for the reinstatement of Kirra Point groyne to its original length of 100 metres.

**How will Kirra groyne be reinstated?**

Project Kirra involves the placement of specialist rock material in layers to form the groyne structure. The use of specialized plant and equipment is required to stockpile and progressively install the rock layers from a working platform on the coast of the existing groyne.

Temporary staging areas will be in place around surf spots to accommodate the machinery and equipment and rock stockpiles.

The works will include the transportation of massive rock materials (10-15 tonnes each) using trucks and floats with special arrangements to use public roads.

**Where does the rock for this project come from?**

To meet the project requirements, the City will be sourcing suitable rock material from a number of sites in Queensland and New South Wales, including the same material used to construct the Kirra groyne and Kirra seawalls in 1972.

**Is the Griffith University - Griffith Centre for Coastal Management (GCCM) involved in this current effort to reinstate the groyne? What role will it play?**

City of Gold Coast is partnering with the Griffith Centre for Coastal Management (GCCM) to deliver the works.

This will include the sharing of information around construction methods, testing and certification, and coastal engineering issues.

**Who are the key community stakeholders for this project?**

Key stakeholders include:
- Kirra Point Incorporated
- Coolangatta Surf Life Saving Club
- Kirra Surf Life Saving Club
- Gold Coast Surf Council
- Surfrider Foundation - Tread / Gold Coast Chapter
- Kirra Surfers Club
- North Kirra Surf Life Saving Club

**Who is providing the funding for the Kirra Point groyne project?**

The City of Gold Coast has provided an allocation of $600,000 within its 2013-14 financial year budget for the reinstatement of Kirra groyne back to its original constructed length.

**What is the time frame for the Kirra Point groyne project?**

Construction commenced from 29 July 2013. Completion of the works is dependent upon weather conditions, sea conditions and the supply of suitable rock materials. It is anticipated the works will be completed by December 2013.

**Who is responsible for the Kirra Point groyne construction work?**

City of Gold Coast's project team - consisting of Engineering Services Projects, Design and Construction branches is responsible for the works.

**Will construction works disrupt use of Queen Elizabeth Park in Coolangatta?**

There will be temporary pedestrian traffic diverions in Queen Elizabeth Park and along the Oceanway during the construction phase. Traffic control will be in place during the works for both pedestrian and vehicles. Temporary diversions will be in place to maintain pedestrian movement along the foreshore.

**Who do I contact at City of Gold Coast if I have questions about this project?**

If you require further information please feel free to contact City of Gold Coast's project team via email at groyne@cityofgoldcoast.qld.gov.au or visit cityofgoldcoast.com.au/protection for more information.