

Hamilton Section

It's all go in the gullies

The deep gullies between SH1-Cambridge Road and Matangi Road have become a hive of activity in recent months for the team building the Hamilton Section of the Waikato Expressway.

Our goal has been to create stability and strength in a typically unstable environment, before we begin building bridges and embankments.

Last year, tracks were cut into the gullies, and rock armour was placed to create permanent stream channels where the Mangaone Stream and Mangaharakeke Stream merge. Historically, the stream channels have meandered across a wide gully floor, moving and changing with each flood. By creating a clearly defined channel, we reduce the risk of floods damaging the foundations of two new bridges.

This year, our works have focused on making the soft, wet soils on the gully floor stronger – both to support expressway embankments and to protect the new bridges from earthquake damage.

Since January, a crane has been dropping a large concrete weight to drive rock into the soft soils. This forms rock columns under the ground which achieve two things: reducing soil settlement and preventing soil liquefying during earthquakes.

In other areas, we're achieving the same result by drilling a grid of 8m deep concrete piles under the ground using a continuous flight auger (CFA) drilling rig.

To stabilise the steeper gully banks, we're using 8-metre-long soil nails. Soil nails are like long screws that are drilled into the banks to provide improved stability.



A large weight is used to form columns of rock under the ground to increase the strength of the soft gully soils.



8-metre soil nails are placed between coils of drain. These drains unroll and extend as each new section of wall is shaped and nailed below this layer.

Planting begins this winter

Over the next three winters, we will plant 650,000 new plants along the 22km-long Hamilton Section of the expressway. The first 160,000 seedlings will be planted this winter, starting this month.

Our planting team has spent several months placing mulch on expressway embankments to prepare for planting. Most plantings are native species grown from seed sourced in the Waikato. The team is also spot-spraying invasive and noxious species in the southern gullies – first the canopy species such as woolly nightshade, and then the species growing underneath. To do this, the team uses a remote-controlled helicopter sprayer.

Plantings this winter are mainly seedlings to be grown on expressway slopes and borders, plus preparation of some grassed areas.

Plantings in 2019 and 2020 will include specimen trees near interchanges and bridges, plus wetland species to help treat stormwater runoff from the expressway.

We will also restore 20 hectares within Hamilton's gully system. This involves controlling noxious and invasive species, replanting in native species, and controlling pests in these areas.



Compressed air is used to blow woodchip mulch into the slopes along the expressway embankments to prepare for planting.



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Project Update: What's happened since February

1 Osborne Road



The Osborne Road Bridge has opened to traffic, with Osborne Road realigned to improve safety. The expressway route has been excavated under the bridge. Dumptrucks are now travelling under the bridge and no longer need to cross Osborne Road.

2 Resolution Drive Extension



Resolution Drive is being extended 1.9km from the Borman Road roundabout to the Resolution Interchange as part of the construction of the Hamilton Section. This work has begun. It is a collaborative project with Hamilton City Council and will provide a major arterial route connecting the north-east of the city and the expressway. A network of off-road shared walking and biking paths will extend under the Resolution Drive Extension.

3 Kay Road



The concrete deck is complete at the Kay Road Bridge. We will soon begin realigning Kay Road and building the new pavement tie-ins at each end of the bridge. Our target is to reopen Kay Road in October 2018. This closure has been extended so we can complete major road works in Kay Road before reopening. Then we will close Horsham Downs Road near the intersection with Borman Road (near the old chocolate factory), to build the bridge that will take Horsham Downs Road over the expressway.



4 Gordonton Road



Excavation under the Gordonton Road Bridge is almost complete, allowing dumptrucks to haul sand south to build the Puketaha Road Bridge. Embankments north and south of the bridge are being formed from layers of local ash soil and sand.

5 Puketaha Road/Greenhill Interchange



Dump trucks are now crossing Puketaha Road hauling sand to the bridge site to build the ramps that will take expressway traffic up and over Puketaha Road. Construction is under way on the abutments that will support each end of the bridge.

At the Greenhill Interchange, embankment construction is under way.

6 Ruakura Interchange



The bridge abutments are complete. Additional sand has been placed on top to promote settlement of subsoils. Once settlement has been reached, construction will continue.

7 SH26 Morrinsville Road/Ruakura Road



The final layers of low noise asphalt have been laid on the Morrinsville Road Bridge. The expressway route has been excavated underneath.

A roundabout is being constructed at the intersection of SH26-Morrinsville Road and Ruakura Road to improve road safety. A section of Ruakura Road is being rebuilt and is currently one-way. Two-way traffic has been restored on an unsealed surface.

8 Matangi Road



Bridge construction is complete and construction continues on the bridge approaches. Traffic is currently one-way through this site.

9 Mangaone Gully/Mangaharakeke Gully



Ground strengthening works continue in preparation for bridge construction. Soil nailing is in progress on the steeper gully banks. Bridge piling has recommenced.

9 Southern Interchange



The expressway embankments are being completed alongside SH1-Cambridge Road. A 16m high retaining wall that extends into the western gully is complete. Construction of the Cambridge Road Bridge has begun. Construction of the East West Link Bridge near Cherry Lane continues.

Bus tours a big hit at Open Day

Bus tours through live work sites were a big hit at our project Open Day in March. Our event attracted around 2500 visitors, and 1200 took a bus tour. Here are some photos from the event.



Bus tours travelled through 'live' work sites.



Fun times on the small digger.



All aboard for another bus tour.



The Southern Interchange model was popular.

New connection for Rototuna

Earthworks have started on the 1.9km-long Resolution Drive extension from the Borman Road roundabout to the Resolution Interchange.

The Resolution Drive extension is jointly funded by the Hamilton City Council and the NZ Transport Agency. When it opens in 2020, this link will provide a convenient connection between the expressway and the city's north-eastern suburbs and the planned Rototuna Town Centre - for motorists, walkers and cyclists.

Included is a network of off-road shared walking and cycling paths, linking with local roads and extending under Resolution Drive.

At the Resolution Drive extension, rock and sand are being trucked in to form the foundation layers for this new stretch of road. Drainage works will follow, then pavement construction.



Earthworks in progress on the Resolution Drive Extension, with Tennille Street in the background.



Visitor Centre opening hours

NORMAL OPENING HOURS

Monday to Friday from 9.00am to 3.00pm.

NEXT SATURDAY OPENINGS

9.00am to Midday, 2 June, 7 July, 4 August



Any questions?



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