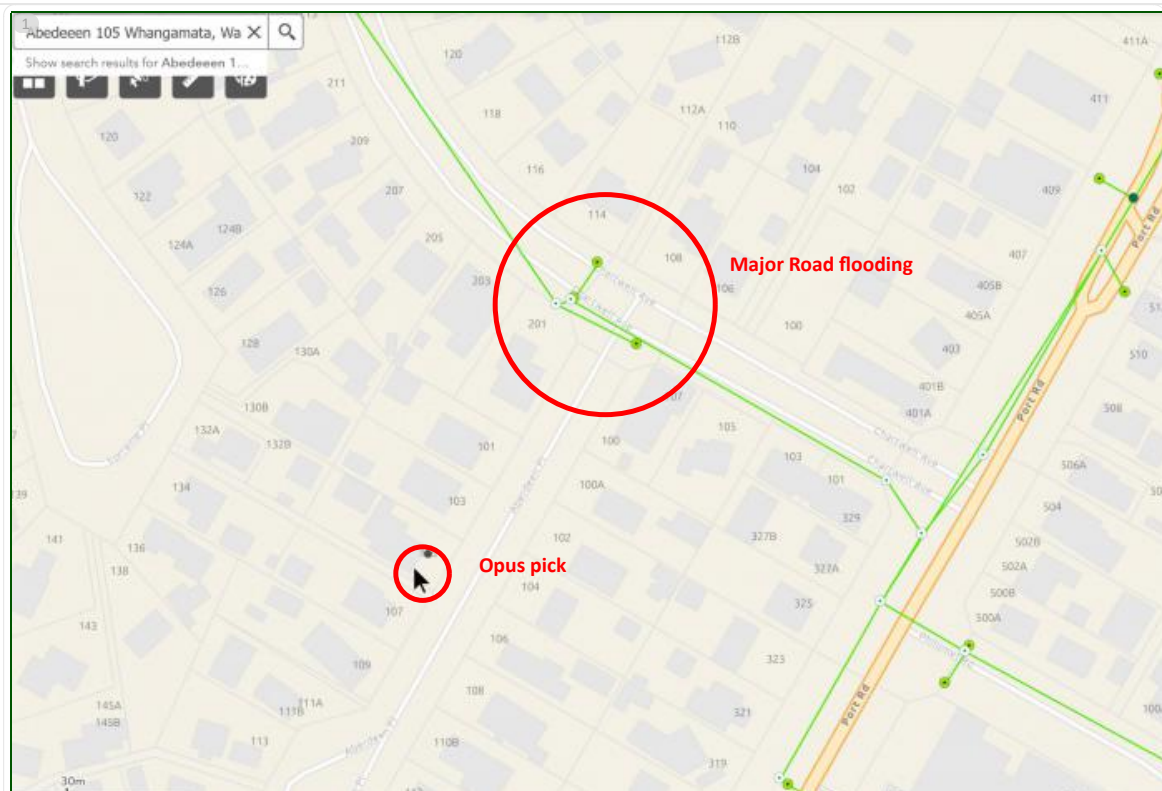


Folder [Compiled street addresses flooding Whangamata SmartMAPS, images and notes including Opus]

WRA Whangamata Rate Payers Association >

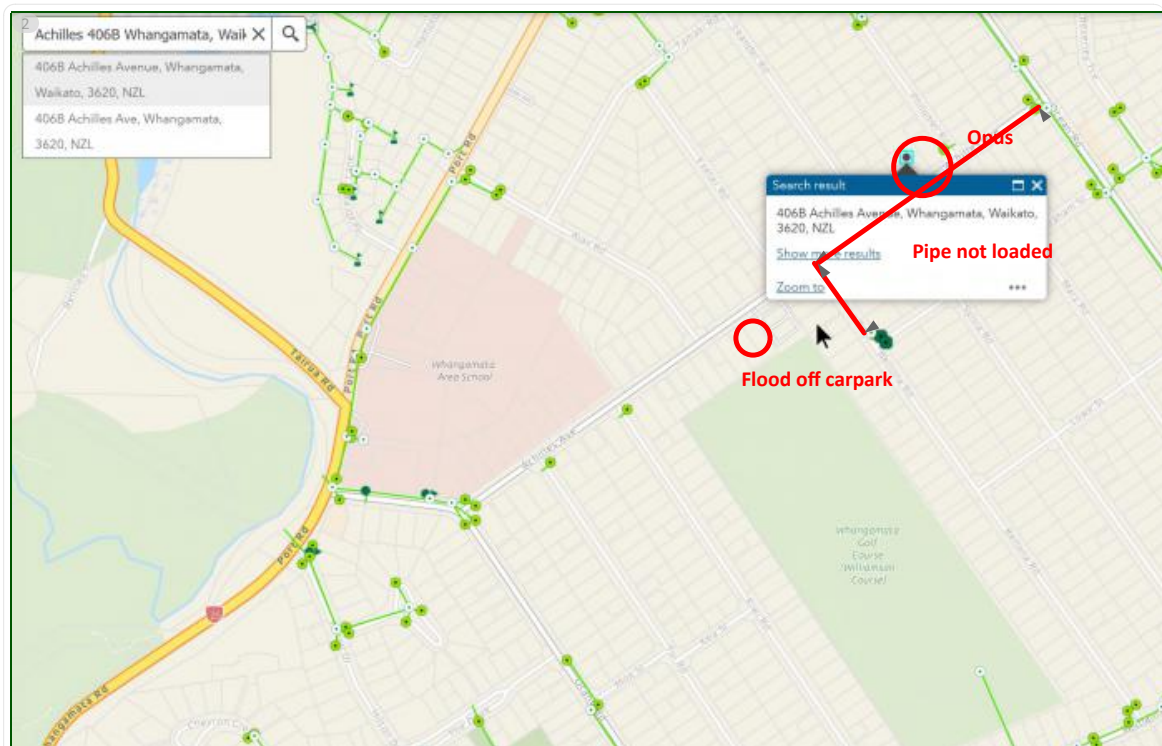
Folder [2003 to 2005 Opus Flood report]



Aberdeen Place 105 001SM.jpg

Opus 2005:

Aberdeen 105, Flooding due to blocked cesspits Existing cesspits at intersection of Aberdeen/Chartwell are to be retrofitted with back entry blocks, along with upgrade of pipe in Chartwell Avenue (between Aberdeen and Charleston – see pipe upgrade table) \$90k \$108k \$119k



Achilles Avenue 406B 001SM.jpg

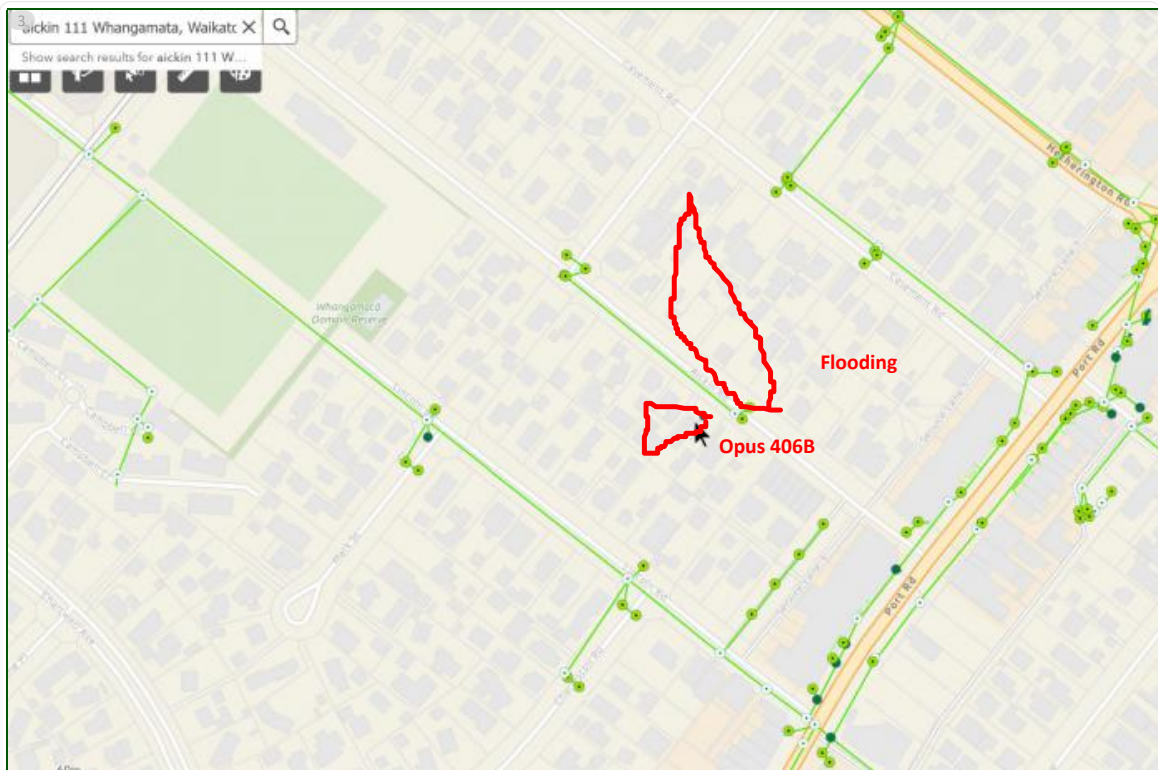
2005 Opus:

Aickin Rd 102, Flooding in private property due to contour of property forming local low point Construction of apartments is planned for this site. Detailed stormwater management options have been outlined in separate letter by Opus to TCDC dated 25th May 2005 n/a n/a n/a

Aickin Rd 111 Flooding in private property and garage due to lack of kerbing and stormwater system in road Install stormwater pipes and cesspits in road \$14k \$17k \$19k

Pipe up from Ocean not loaded in

Goes up to Bellona and down to Graham



Aickin Road 111 001SM.jpg

2005 Opus:

Aickin Rd 102, Flooding in private property due to contour of property forming local low point
Construction of apartments is planned for this site. Detailed stormwater management options have been outlined in separate letter by Opus to TCDC dated 25th May 2005 n/a n/a n/a

Aickin Rd 111 Flooding in private property and garage due to lack of kerbing and stormwater system in road Install stormwater pipes and cesspits in road \$14k \$17k \$19k



Aickin Road apartments 2005 Opus.jpg

Opus 2005

Surface ponding West side - to neighbours fence



Barbara Avenue 118 001SM.jpg

2005 Opus:

Barbara Ave 118, 120, 121A, 123, 125A, and 125B,

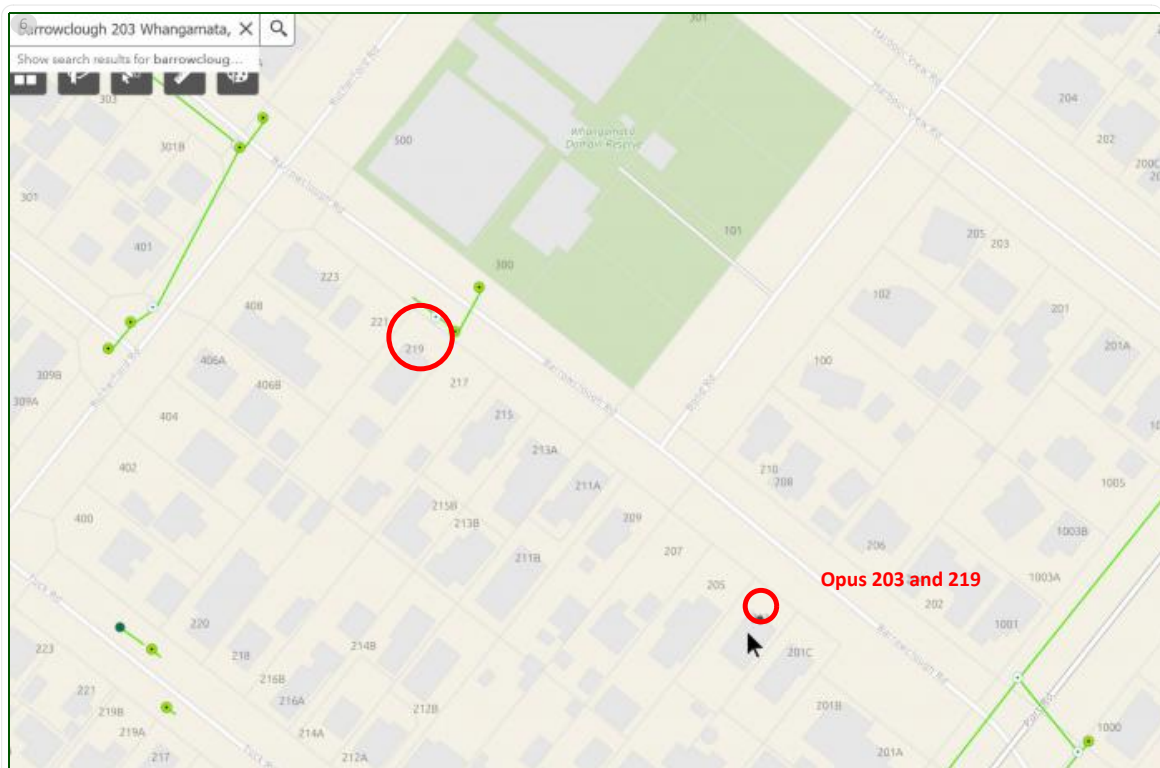
Barbara Ave reported flooding issues. It appears that this area may receive run-off from the service lane behind the shops, which is not well serviced in terms of stormwater reticulation.

Provide local stormwater reticulation in the service lane connected to the existing reticulation in Lincoln Rd. Catchpits should be installed to capture surface water. The adequacy of individual on-site soakage disposal of runoff from roof and paved areas should be investigated.

Similar but less severe stormwater problems are reported adjacent to the service lane on the other side of Lincoln Rd. It would be sensible to extend the stormwater reticulation in this direction also.

*\$108k †\$130k ‡\$143k

Investigate adequacy of on-site disposal systems. Confirm levels and adequacy of downstream reticulation.

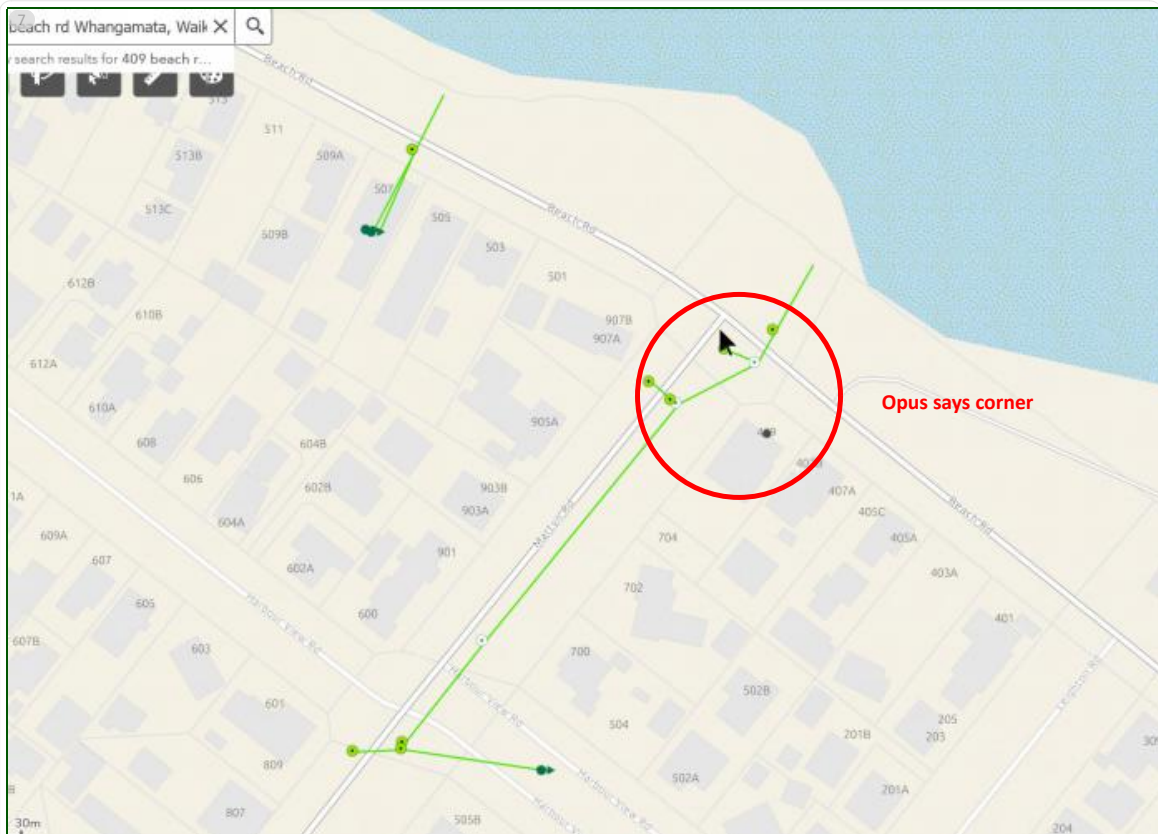


Barrowclough Road 203 001SM.jpg

Barrowclough Rd 203 & 219, Flooding into private property and garage caused by undersized cesspit lead

Replace existing cesspit with double and increase connection size from 150mm to 300mm

diameter \$28k \$34k \$38k

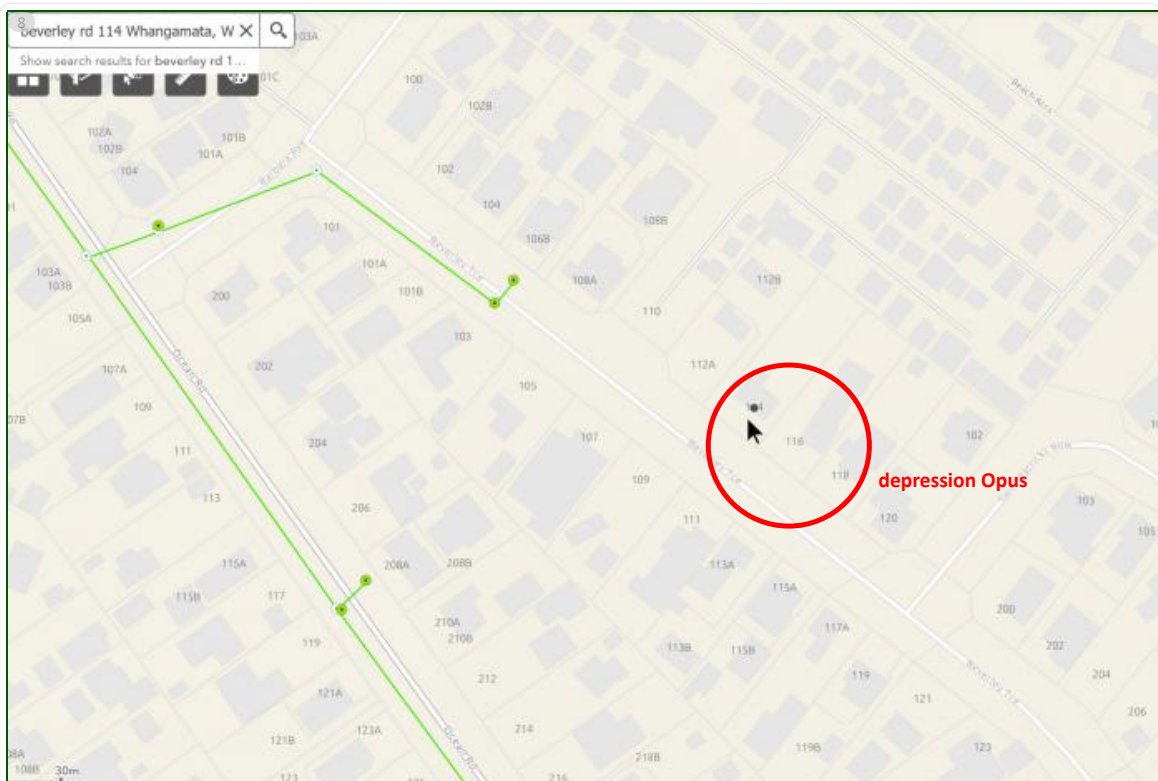


Beach Road corner Martyn 001SM.jpg

2005 Opus:

Beach Road/Martyn Road

Flooding into private property and garage due to undersized outfall pipe work. Outfall pipe size needs to be increased \$118k \$142k \$156k



Beverley Road 114 001SM.jpg

2005 Opus:

Beverley Rd 114 & 116, Flooding to private property and houses due to house being constructed in local low point and runoff from road

Install kerb & channel, cesspits and pipework in road \$37k \$44k \$49



Beverley Road 114 and 107 2005 Opus.jpg

Opus 2005. Beverley Rd 114 & 116, Flooding to private property and houses due to house being constructed in local low point and runoff from road.

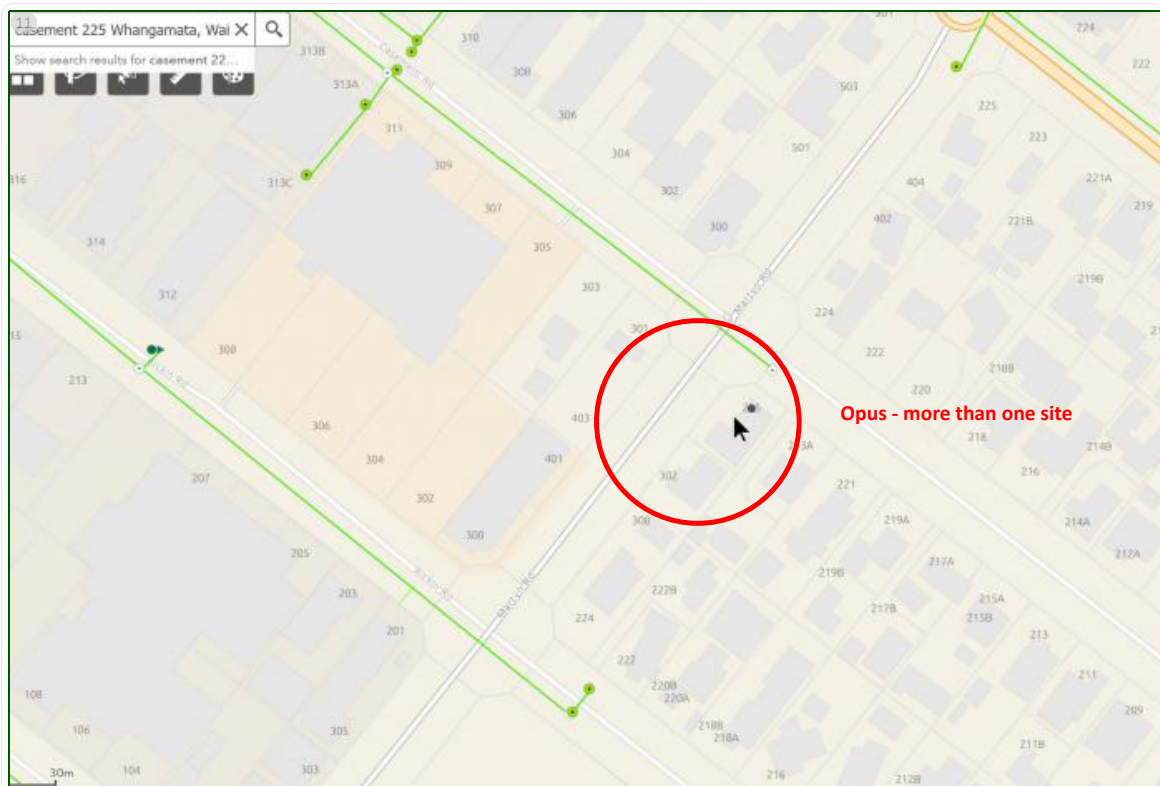
Surface water on road entering properties



Beverley Road 116 2005 Opus.jpg

2005 Opus

Property flooded that is in depression. Comes off road and from Whangamata Campground behind back fence and garage



Casement Road 225 001SM.jpg

2005 Opus:

Casement Road 225, Corner of Casement and Martyn

A number of properties along Casement Road have either been flooded or have reported stormwater problems. These properties tend to be low-lying and receive run-off from the road.

Flooding on-road in vicinity of industrial area impedes access and disrupts work.

Option 1: Lower Martyn Road to allow Overland Flow Path to direct water away from property

Option 2: Install back entry cesspits to replace existing cesspits

Install a road drainage swale along at least one side of Casement Rd. If practicable, consider extending the stormwater reticulation from Casement Rd into this area to drain the swale.

Ideally swale drains should be installed both sides of Casement Rd, however the accompanying cost estimate is for the one-side-only minimum option

Install channel for water to flow from Casement Road to estuary and reduce flooding in road

Carry out a topographic survey to ensure that it is practicable to drain Casement Rd basin into the existing reticulation

\$10k \$12k \$13k

12



Casement Road Opus 2005 (2).jpg

Casement Road 225, Corner of Casement and Martyn

A number of properties along Casement Road have either been flooded or have reported stormwater problems. These properties tend to be low-lying and receive run-off from the road.

Flooding on-road in vicinity of industrial area impedes access and disrupts work.

Option 1: Lower Martyn Road to allow Overland Flow Path to direct water away from property

Option 2: Install back entry cesspits to replace existing cesspits

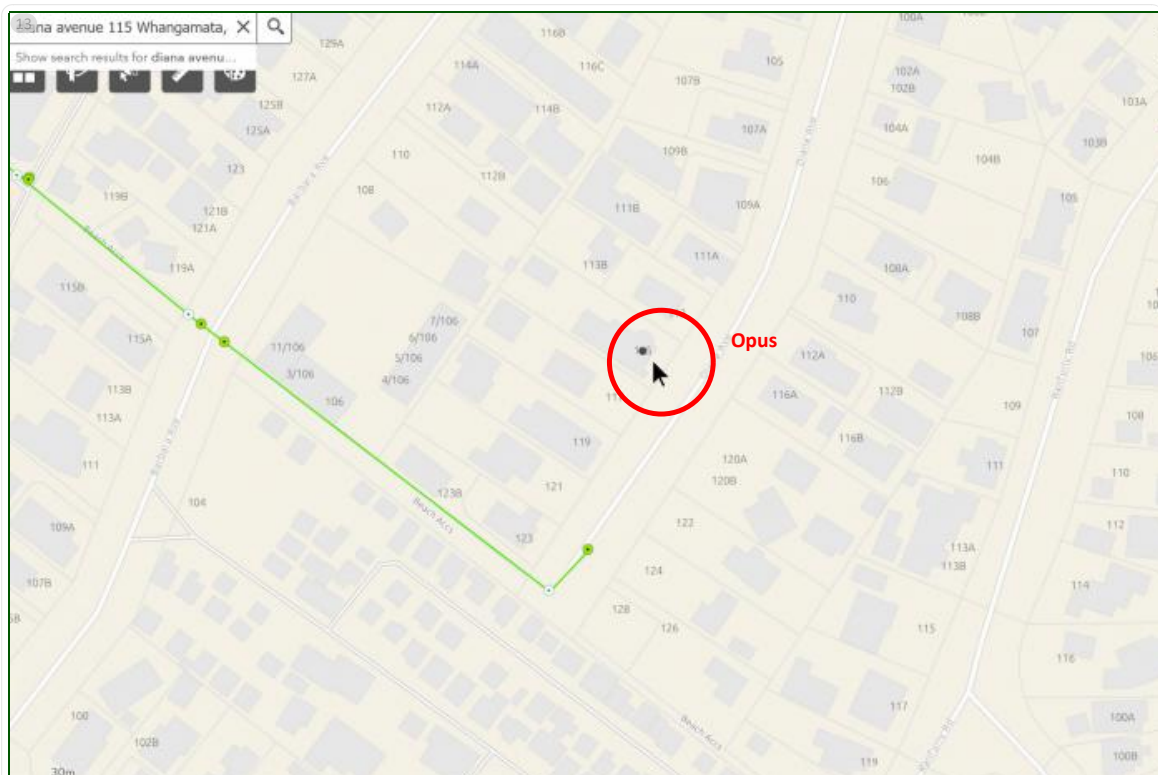
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Install channel for water to flow from Casement Road to estuary and reduce flooding in road

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\$10k \$12k \$13k

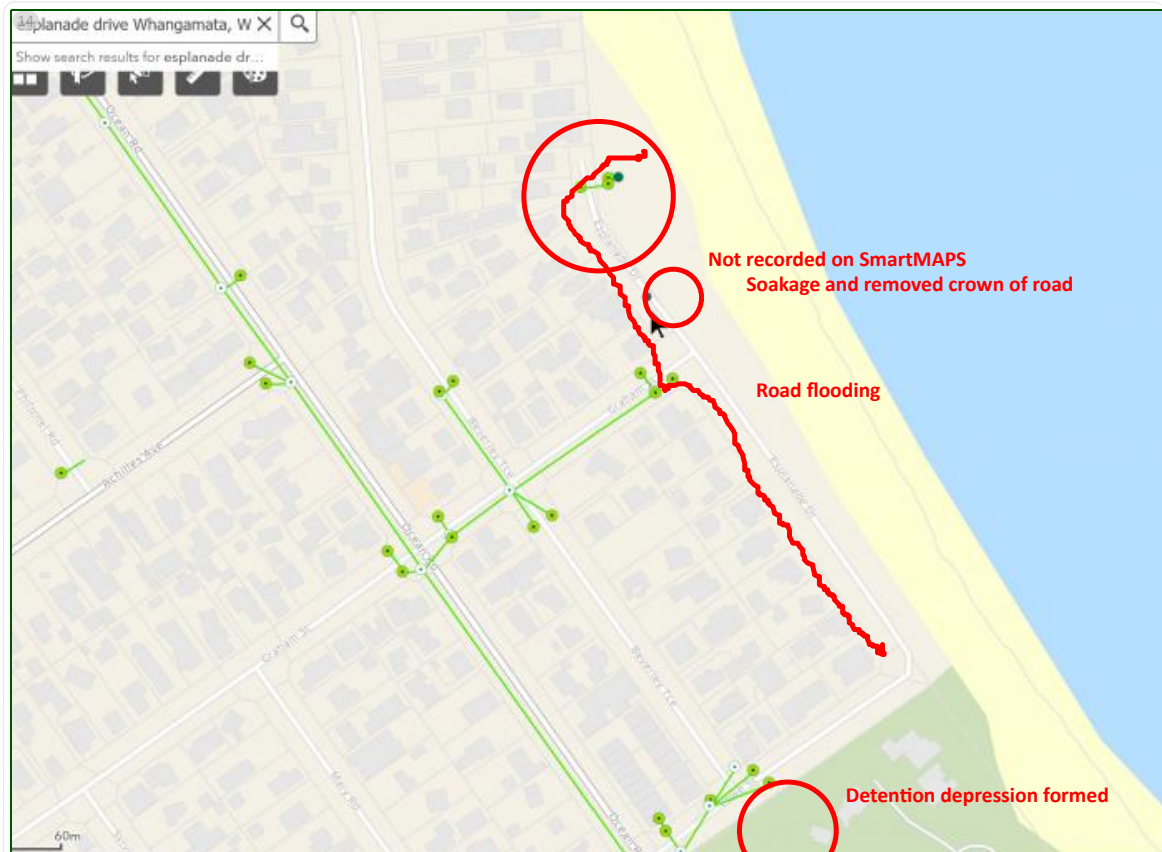


Diana Drive 115 001SM.jpg

2005 Opus:

Diana Ave 115, Flooding of properties and garages caused by lack of kerbing or stormwater system

Requires additional cesspits and pipework \$38k \$46k \$51k



Esplanade Drive 001SM.jpg

2005 Opus:**Esplanade Drive:**

A number of houses at the northern end of Esplanade Drive have been flooded. These houses are in natural depressions and run-off from the

carpark opposite may exacerbate the problem.

Opus considered an open swale alongside the car park in Esplanade Drive (both sides of Graham St), together with a piped stormwater drain connecting with the existing reticulation in Graham St. Unfortunately, this may not be practicable. Further survey is needed to confirm.

Without such drainage works there is little that can be done other than enforcing appropriate floor levels for new buildings.

Carry out topo survey of the low-lying area and confirm whether it is practical to drain \$19k \$22k \$25k



Esplanade Drive 115 2005 Opus.jpg

Esplanade Drive:

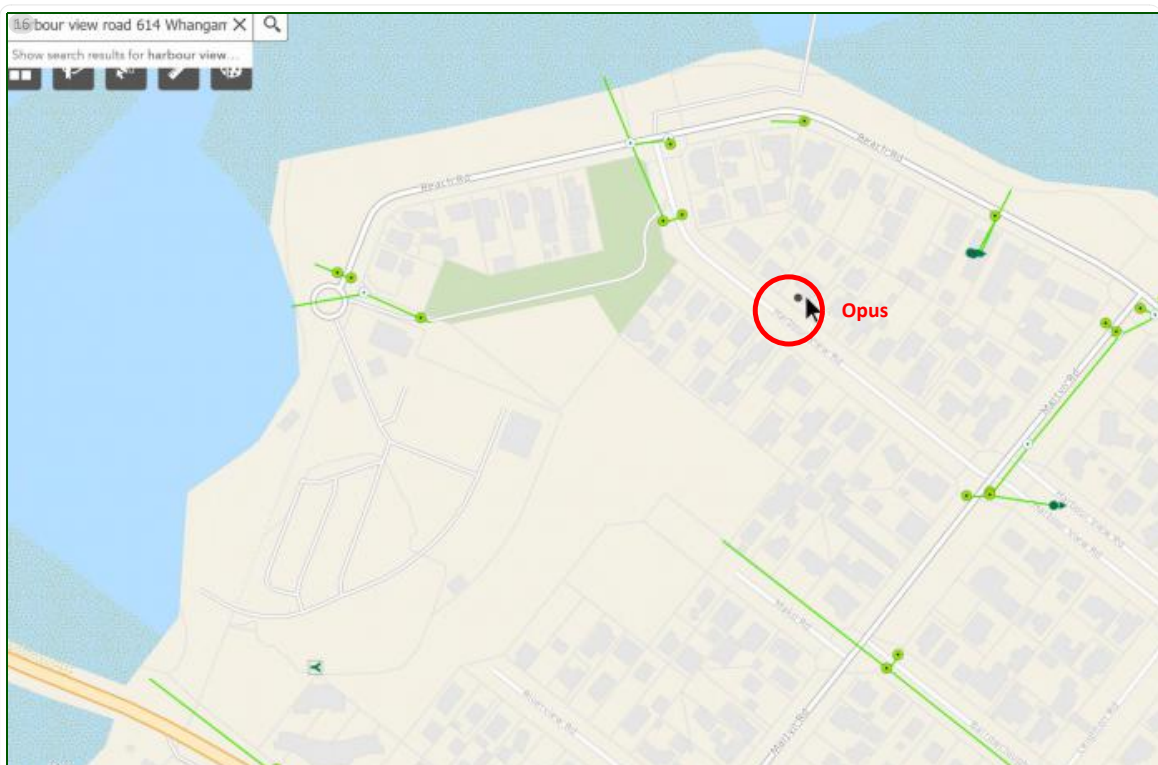
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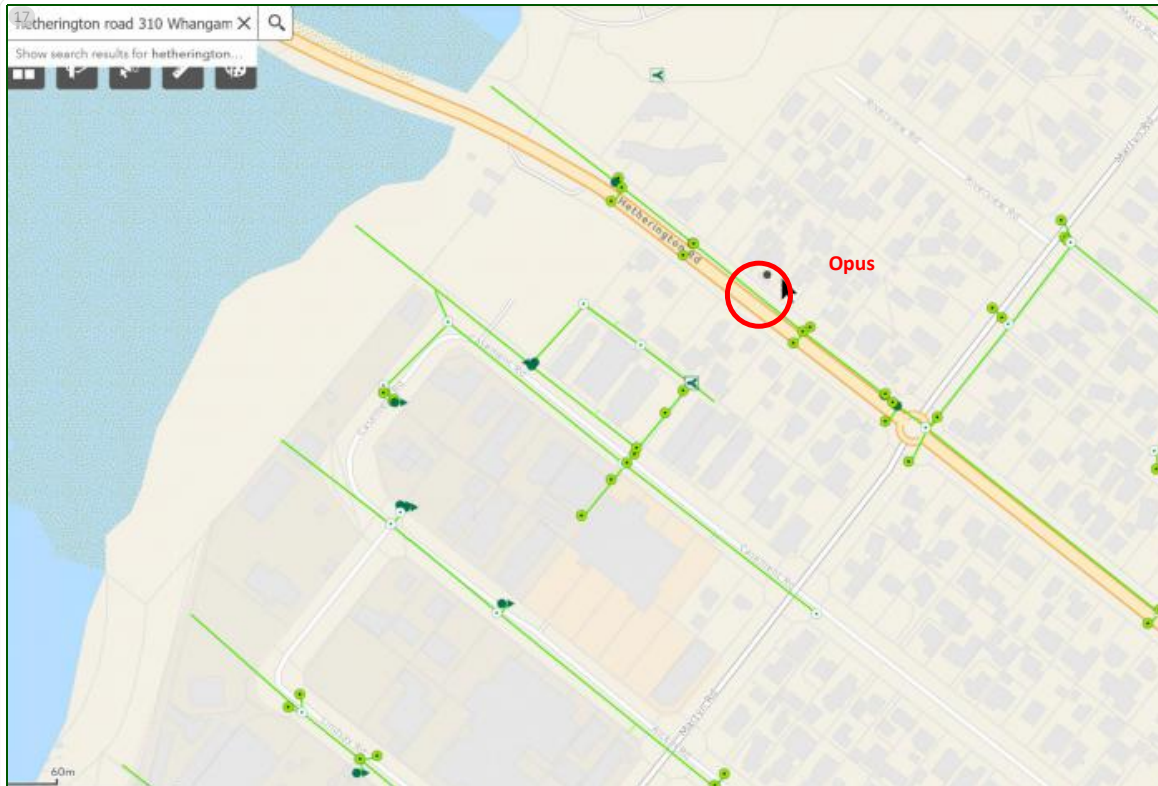


Harbour View Road 614 001SM.jpg

2005 Opus:

Harbour View Road 614, Flooding into private property due to lack of kerbing or stormwater system

Requires additional cesspits and pipework \$67k \$80k \$89k



Hetherington Road 310 001SM.jpg

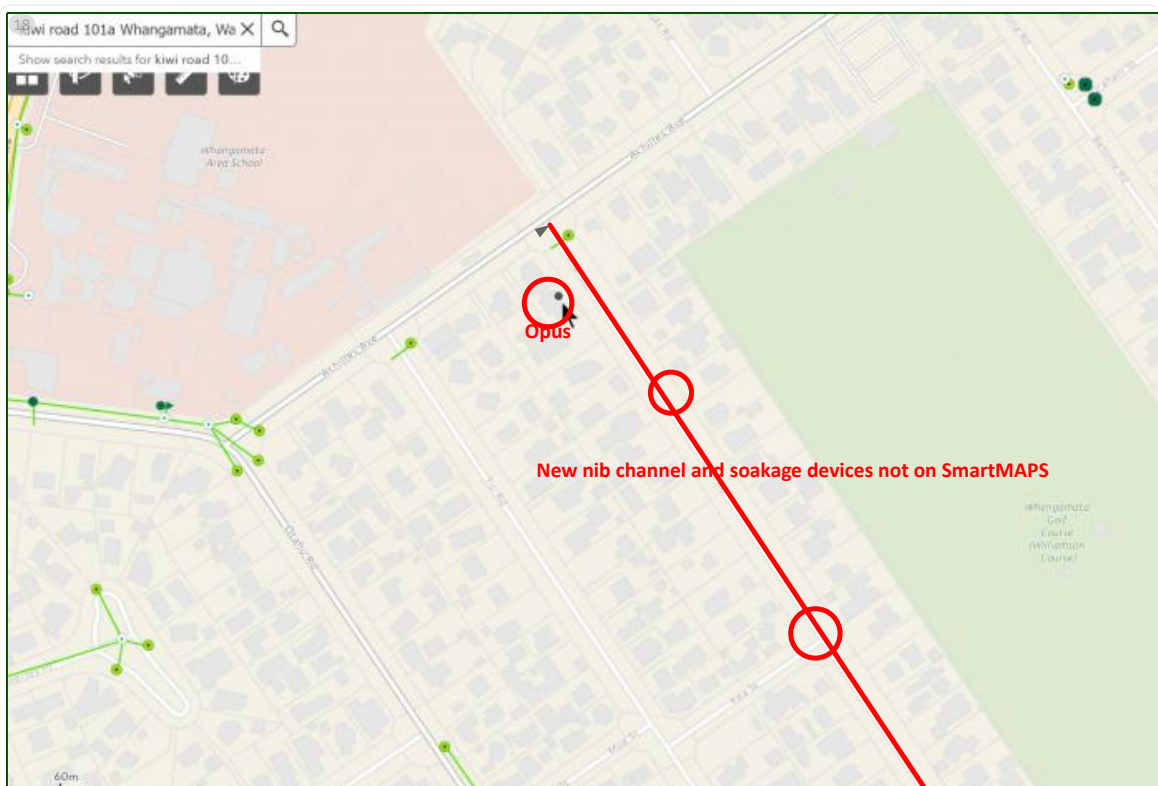
2005 Opus:

Hetherington Road 310, flooding into private property due to lack of cesspits

Option 1: Raise kerb and channel in vicinity of property to restrict flow from road

Option 2: Owner to Install and maintain onsite soakage system

\$8.9k \$11k \$12k



Kiwi Road 101a 001SM.jpg

2005 Opus:

Kiwi Rd 122 & 128, Flooding into private property and garage from road

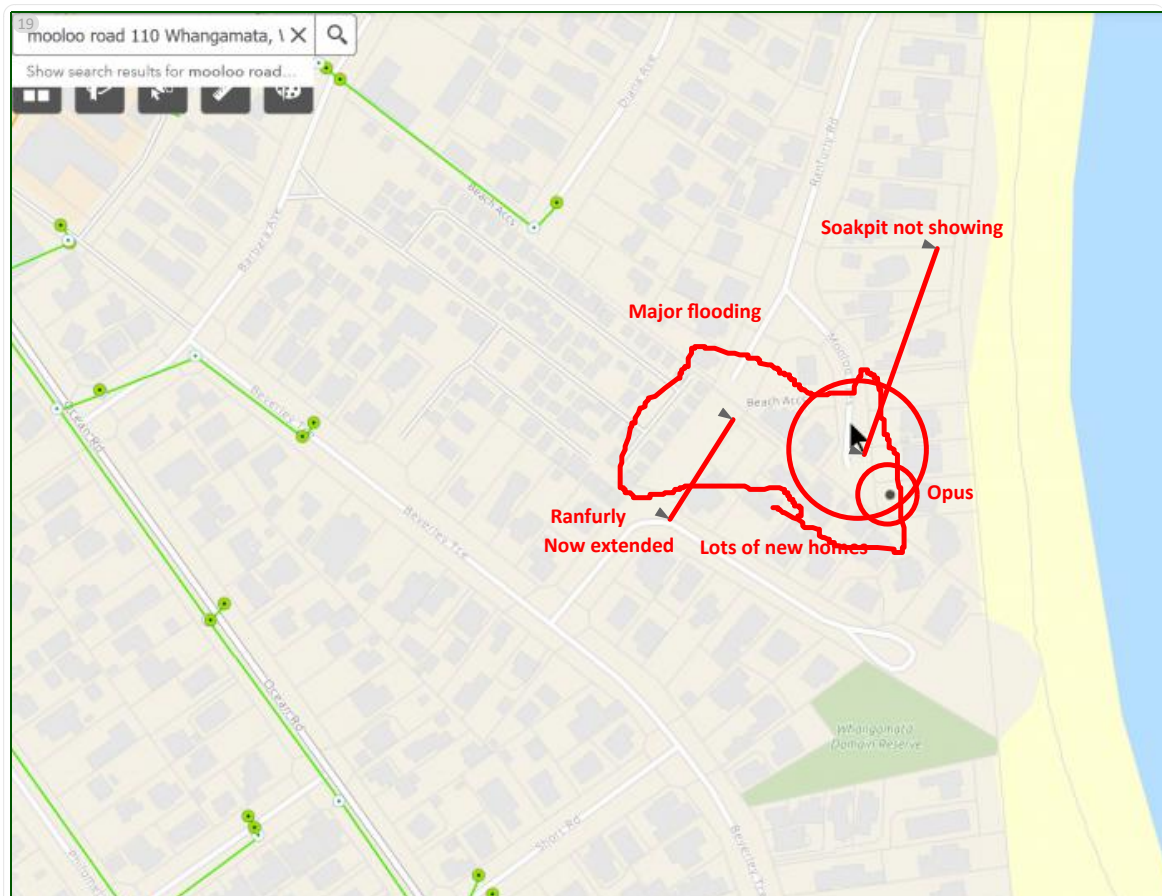
Option 1: Construct overland flow path from Kiwi Road to depression in Golf Course via walkway to

golf course adjacent to 128, ensuring flow is directed away from private properties. Allow depression in golf course to act as soak pit.

n/a \$14k n/a

Option 2 (solution for entire length of Kiwi Road) Install 500m of 375 mm diameter pipe to existing system in Williamson Road.

n/a n/a \$56k



Mooloo Crescent 110 001SM.jpg



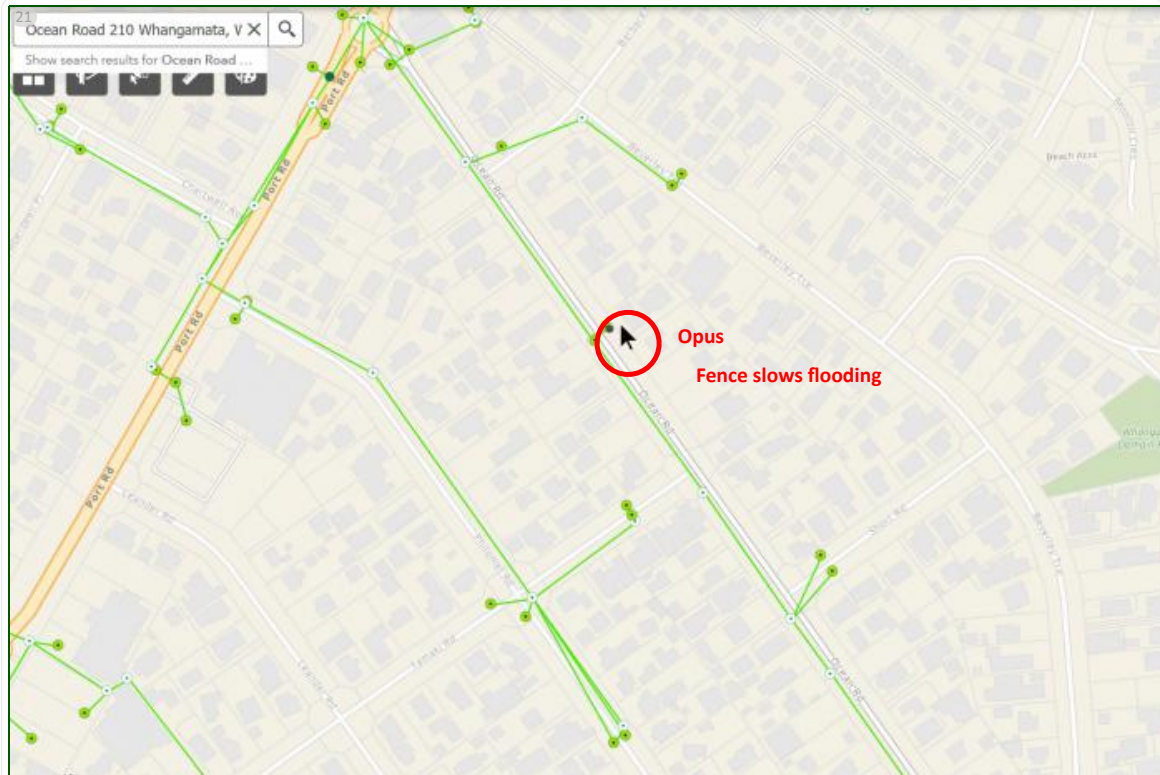
Mooloo Crescent 2005 Opus.jpg

Mooloo Crescent: Houses and road are in a deep natural sand basin, with no natural outlet.

There is no apparent solution. The basin is probably too low to drain into nearby stormwater reticulation. It is probably also impracticable to cut down the foredunes to permit drainage to the beach as this might also permit seawater entry. The house sections are well developed, so that filling of the basin would be difficult. House-raising may be practicable as a private work. Policy measures are recommended relating to maximum impervious surfaces and height of building floors above the surrounding dune level. It is possible that water from the cul-de-sac of St Patricks Row may be flowing to Mooloo Cr via a walkway which connects the two. This should be

investigated and if necessary, stormwater should be addressed from St Patricks Row.

\$19k \$22k \$25k A more detailed topographic survey of the basin and house floor levels is recommended.



Ocean Road 210 001SM.jpg

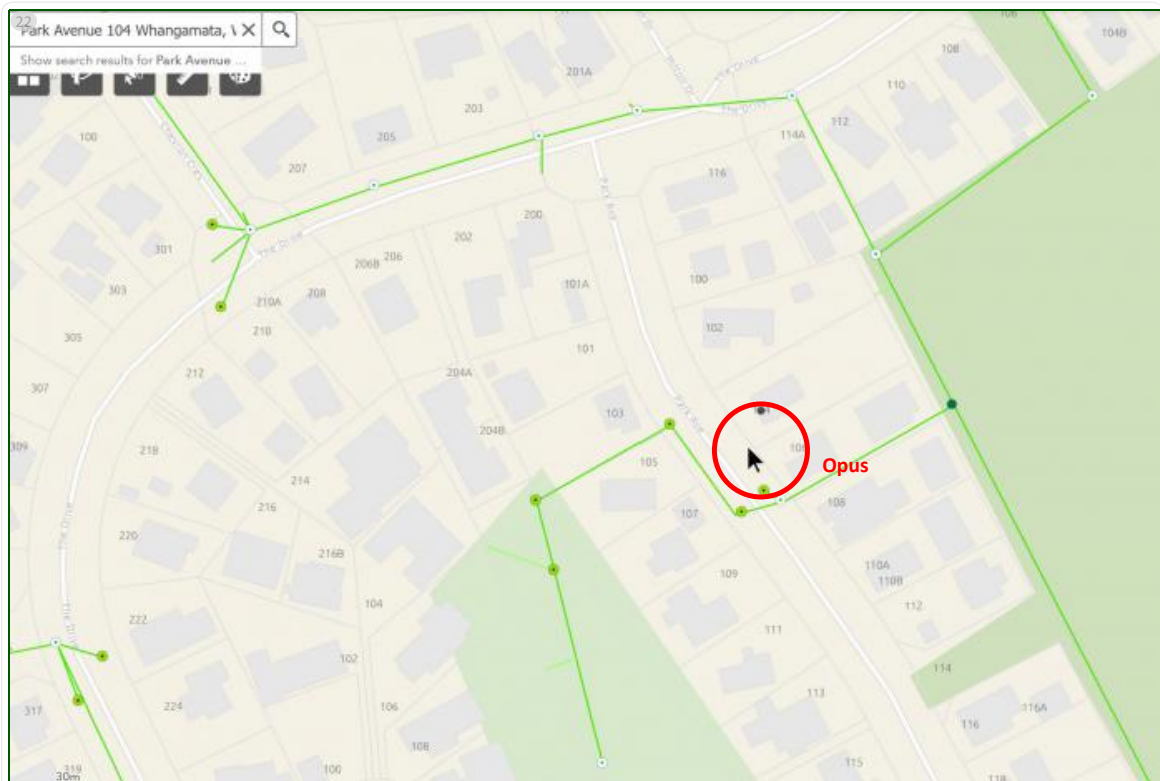
2005 Opus:

Ocean Road 210, House lower than kerb and channel

Option 1: Owner to install private onsite soakage system

Option 2: Owner to install private pump to pump stormwater to council pipe

n/a n/a n/a

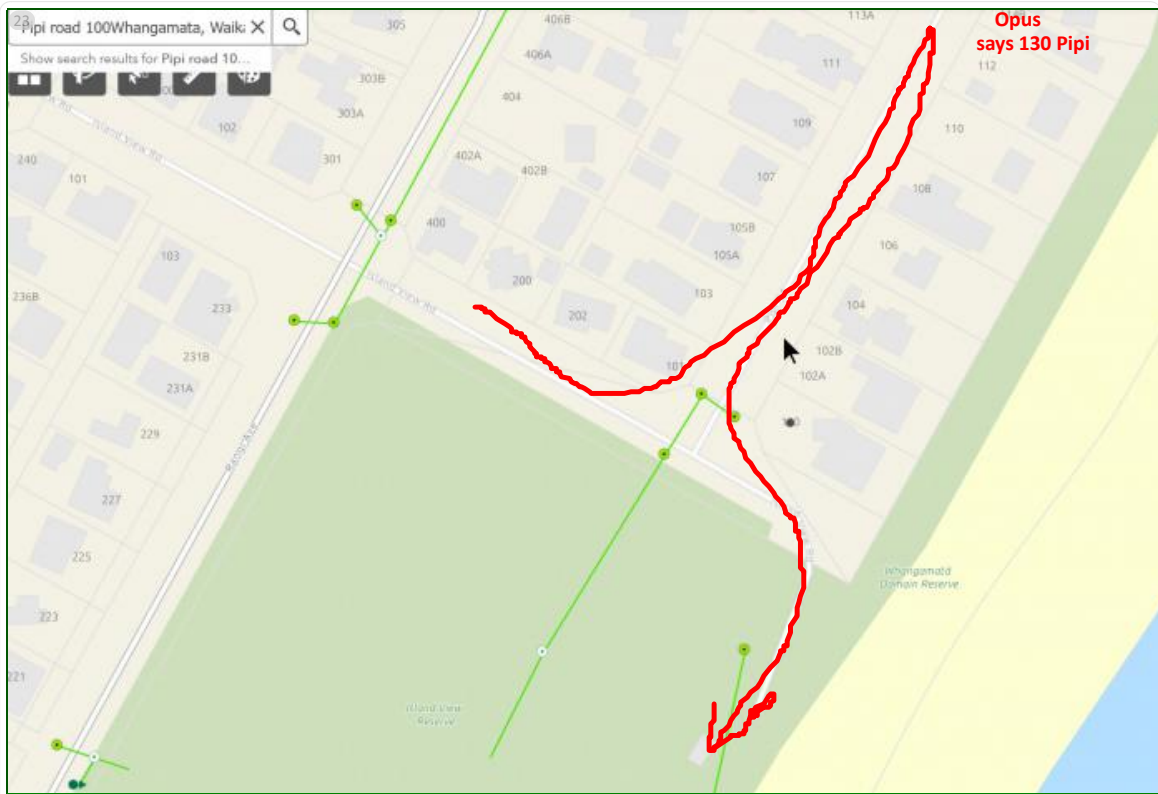


Park Avenue 104 001SM.jpg

2005 Opus:

Park Ave 104 & 106, Flooding of driveway preventing vehicle access caused by direct discharge into open drain

Existing pipe is undersized. Replace with 70m of 375mm diameter pipe \$27k \$32k \$35k



Pipi Road 001SM.jpg

2005 Opus:

Pipi Road 130, Three properties in this area have flooding problems. It appears that these houses receive road run-off.

Option 1: Provide additional catchpit capacity by re-building existing catchpits or installing additional pits.

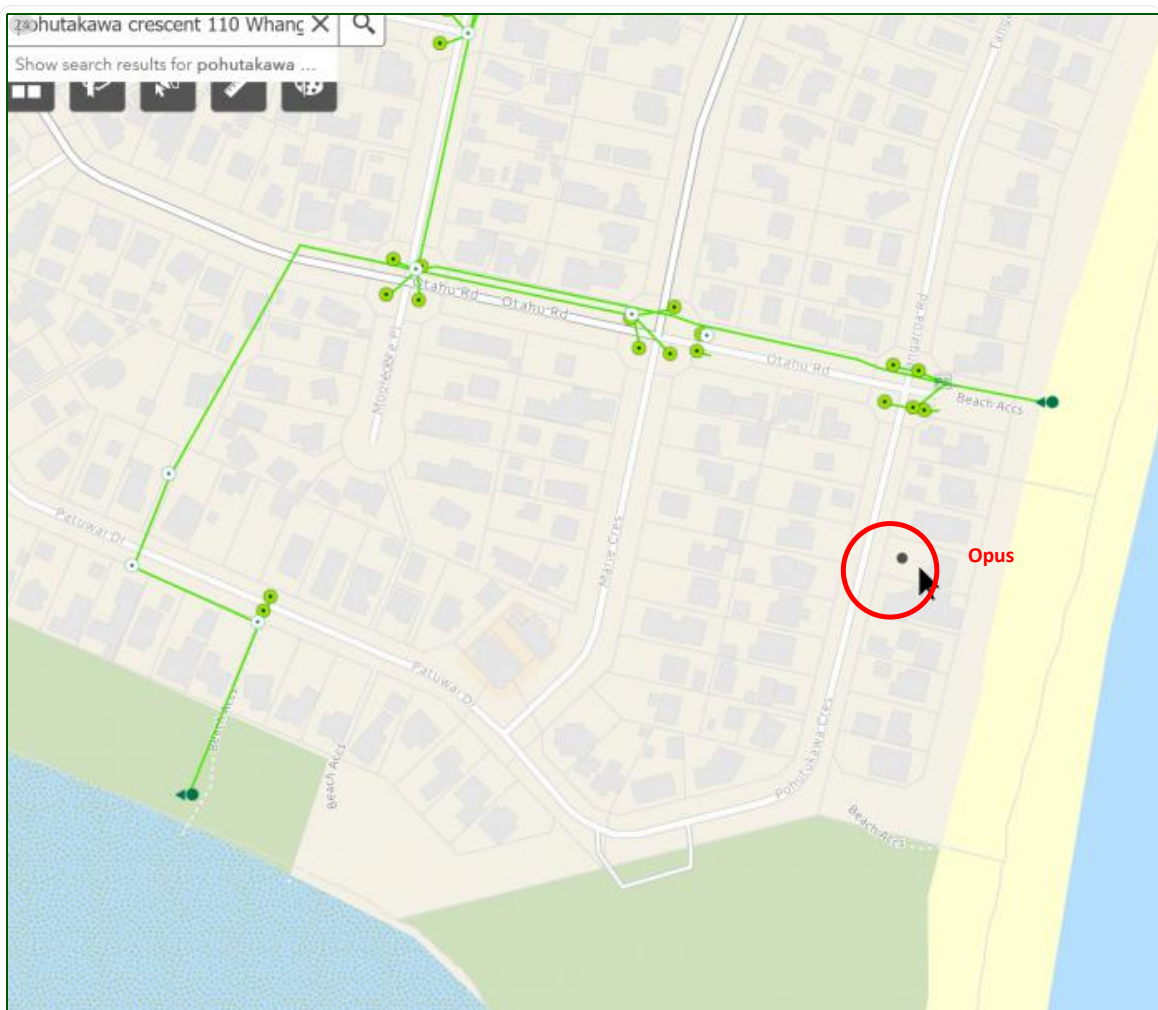
Option 2: Drainage swales on both sides of Pipi Rd may also assist.

Option 3: Lay 240m 300m diameter stormwater pipe

\$22k. \$33k \$86k

Review capacity of existing reticulation.

Perceived pipe-entry problem may in fact be due to pipe capacity shortfall.



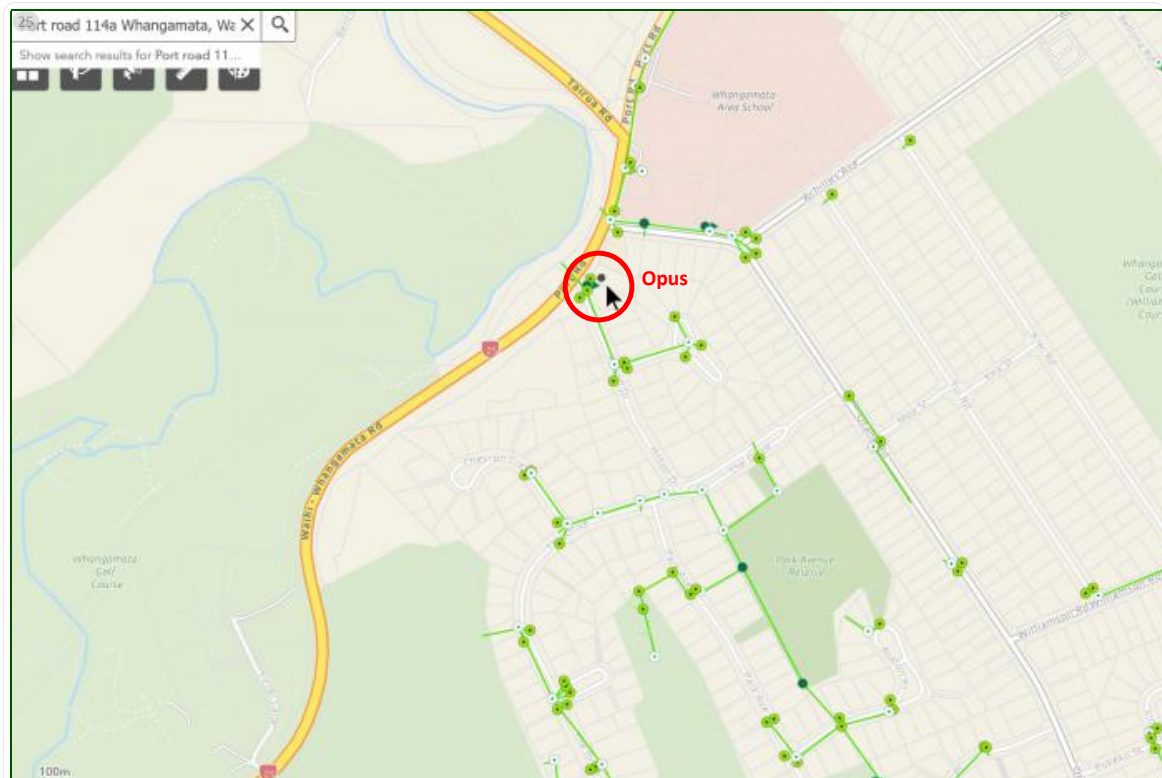
Pohutukawa Crescent 110 001SM.jpg

2005 Opus:**Pohutukawa Crescent/Otahu Road**

110 Pohutukawa Crescent & 801 Otahu Road have been flooded. The houses are located in natural sand basins behind the dunes.

Upgrade road drainage by constructing an open swale. Extend existing stormwater reticulation to serve swale.

*\$36k †\$43k ‡\$48k Carry out topo survey of the low-lying area and confirm that it is practical to drain towards the existing stormwater system



Port Road 114a 001SM.jpg

2005 Opus:

Port Road 114A & B, experiences flooding of properties and shops because stormwater system is undersized

Option 1: Increase pipe size from cesspit to existing stormwater pipe, 10m of 225mm diameter

\$5.4k \$6.5k \$7k

1000 and 1001 Port Road report flooding problems. These are low-lying properties and receive road run-off. Collection of road run-off in this area

appears to be inadequate.

Replace the inadequate road catchpits with a new double catchpit each side of Port Rd. Provide increased maintenance to ensure any blockage is promptly rectified.

\$6k †\$7k ‡\$7.3k



Port town 2005 Opus.jpg

Port Road 114A & B, experiences flooding of properties and shops because stormwater system is undersized

Option 1: Increase pipe size from cesspit to existing stormwater pipe, 10m of 225mm diameter

\$5.4k \$6.5k \$7k

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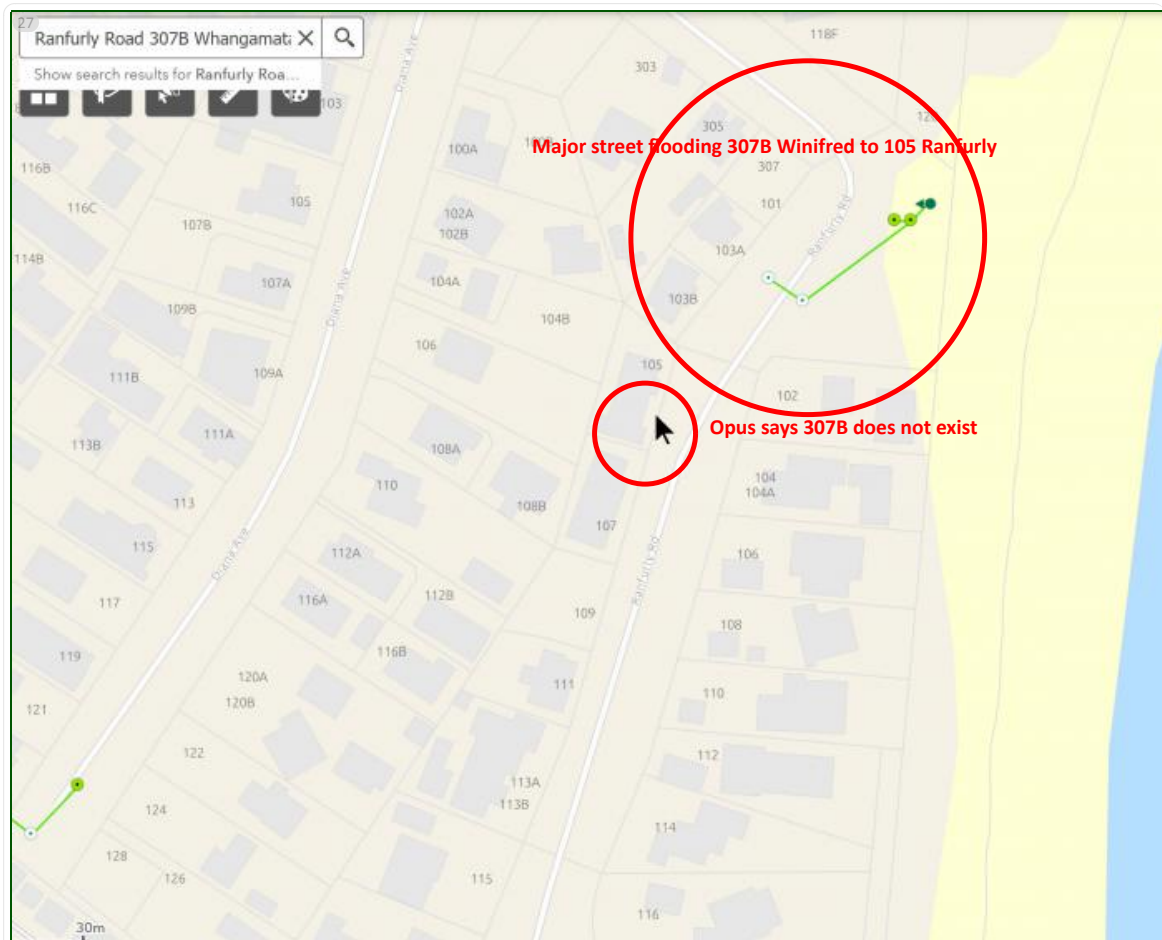
\$6k †\$7k ‡\$7.3k

Winifred Ave 101: flooding of café, due to inadequate stormwater system and cesspits

Option 1: Install soak pit in car park

Option 2: Install gobi blocks in car park

\$34k \$112k \$123



Ranfurly Road 307B 0015M.jpg

2005 Opus:

Ranfurly Rd 307B, Flooding private property, and basement garage due to lack of kerb and channel in road

Install pipe and cesspits \$61k \$73k \$80k



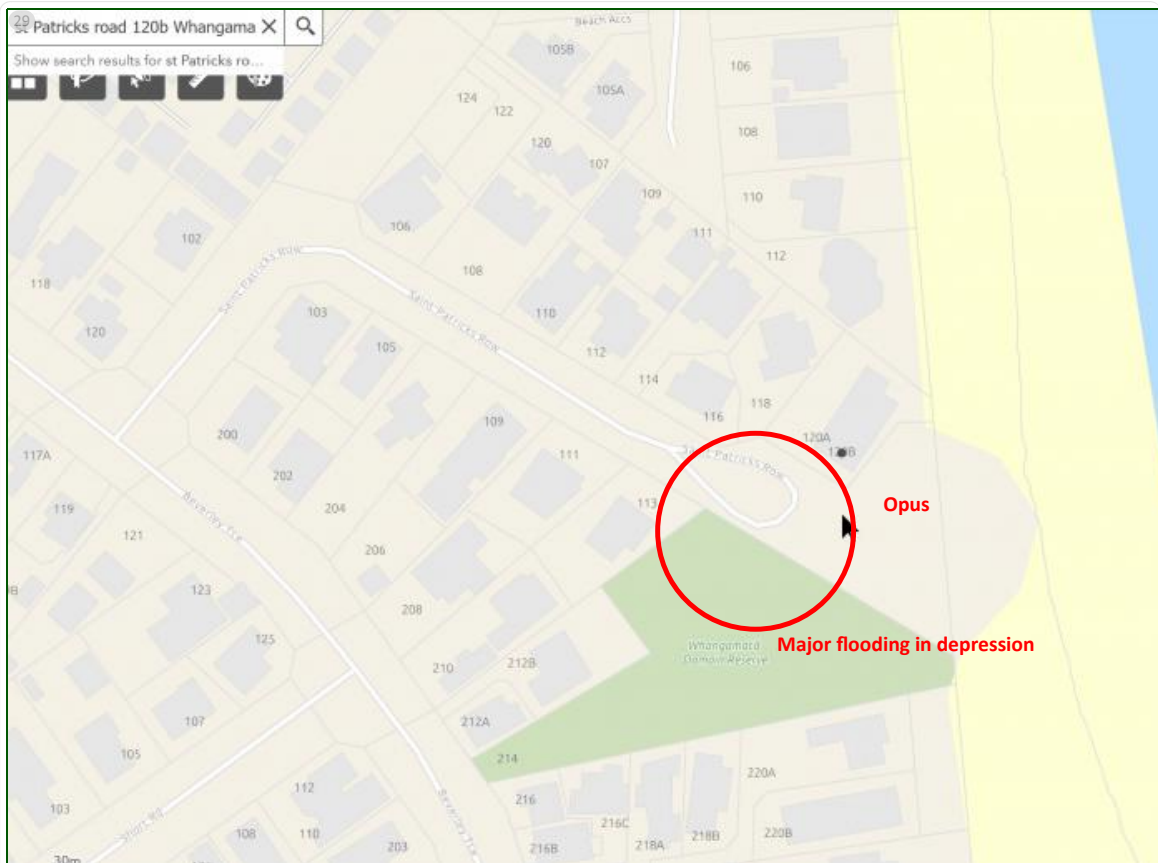
St Patricks Row 120A 2005 Opus.jpg

St Patricks Row 120B, Flooding in cul-de-sac, possibly entering Mooloo Cr via walkway which connects the two streets

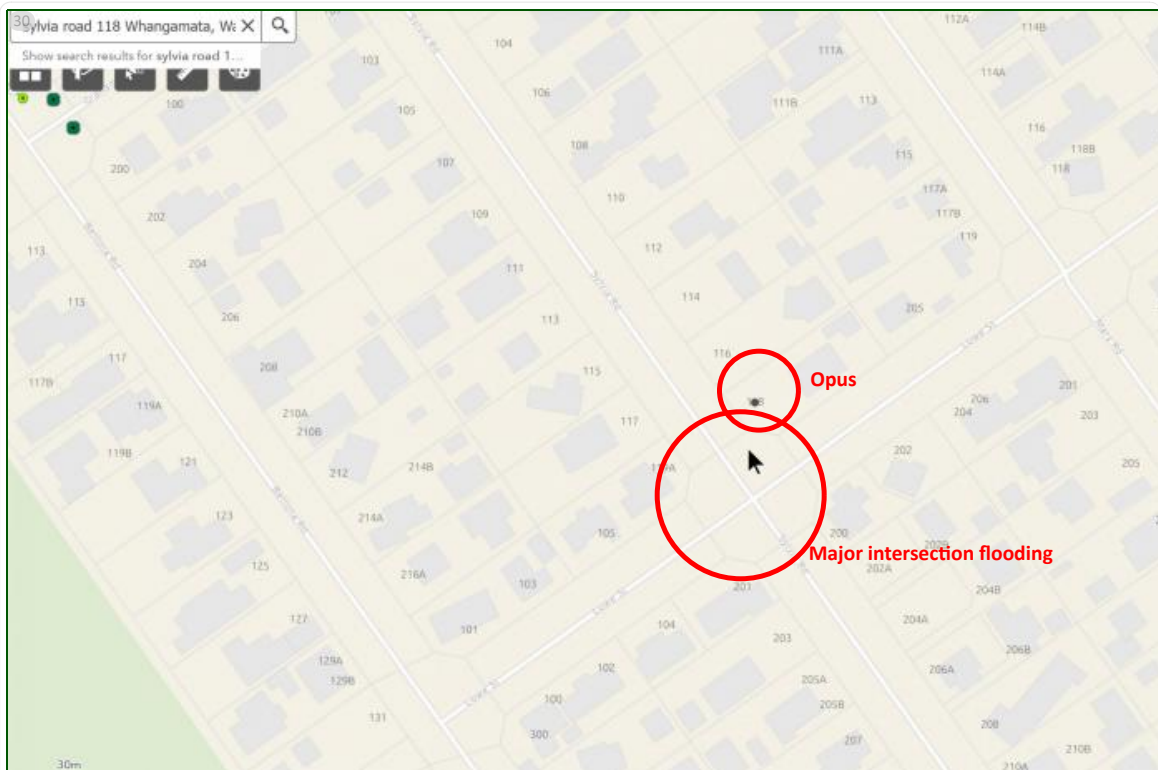
Investigate the option of allowing stormwater to flow through sand dunes to beach \$16k \$19k \$21k

Sylvia Road 118, Flooding to private property due to lack of kerb and channel in road

Install kerb and channelling in road \$5.4k \$73k \$81k



St Patricks Row 120B 001SM.jpg

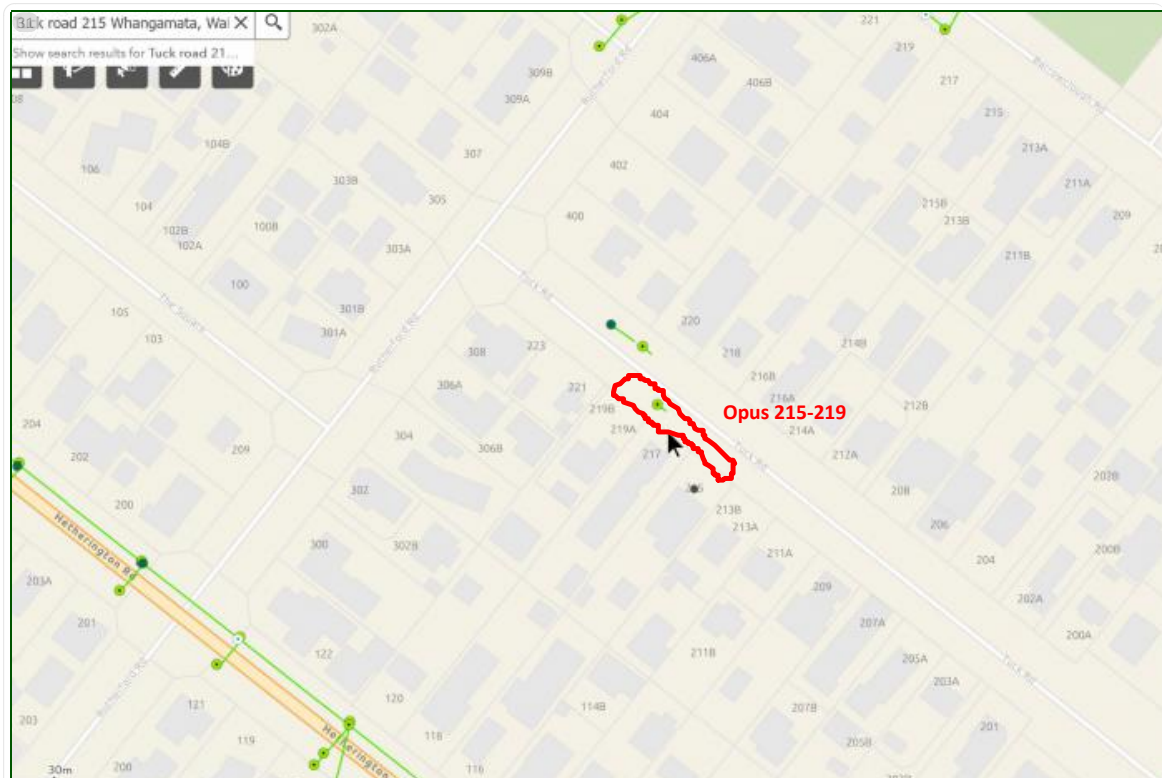


Sylvia Road 118 001SM.jpg

2005 Opus:

Sylvia Road 118, Flooding to private property due to lack of kerb and channel in road

Install kerb and channelling in road \$5.4k \$73k \$81k



Tuck Road 219-219 002SM.jpg

2005 Opus:

Tuck Road: Area around 215 -219 Tuck Road has had a number of reported flooding problems. These houses have a low-lying basin located at the back of the sections and appear to receive road run-off from Tuck Road.

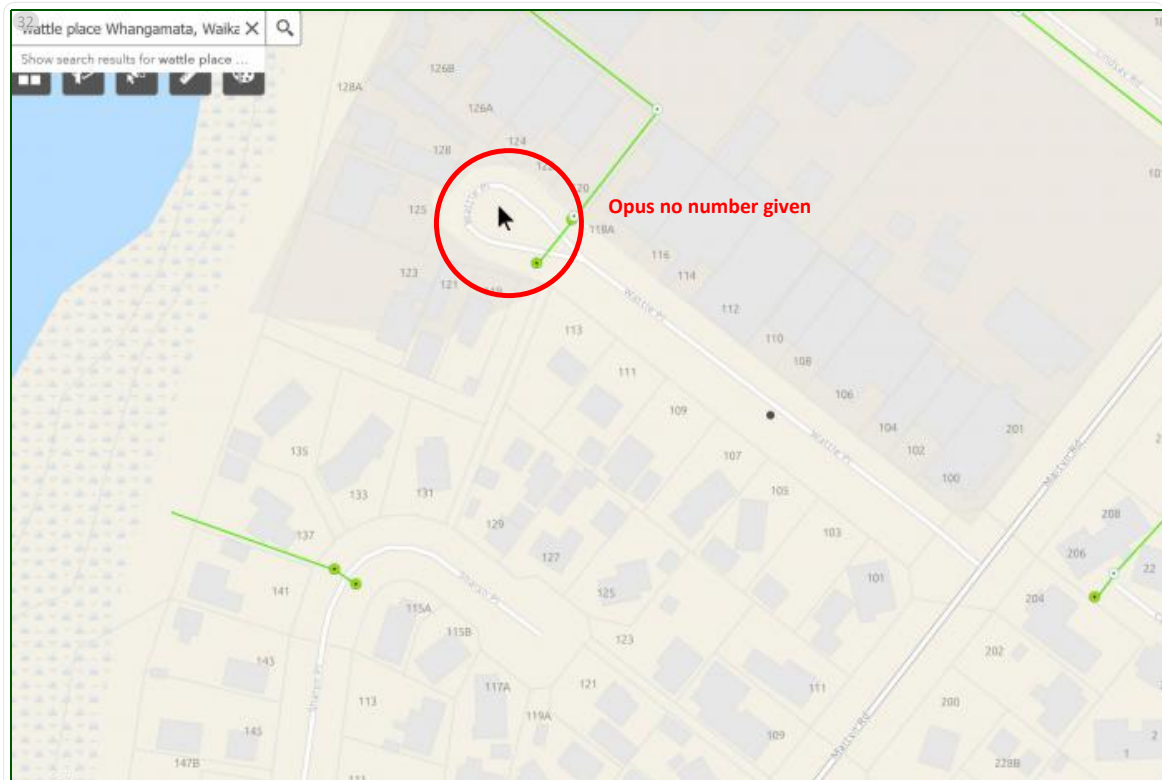
Option 1: Carry out maintenance on existing soak pit in road reserve to improve performance

Option 2: Install 150m 225mm diameter pipe to existing pipe in The Square/Rutherford Road

Option 3: Install 190m 225mm diameter pipe to existing pipe in Port Road

\$2k \$35k \$40k

Confirm level and adequacy of downstream reticulation in relation to area to be drained.



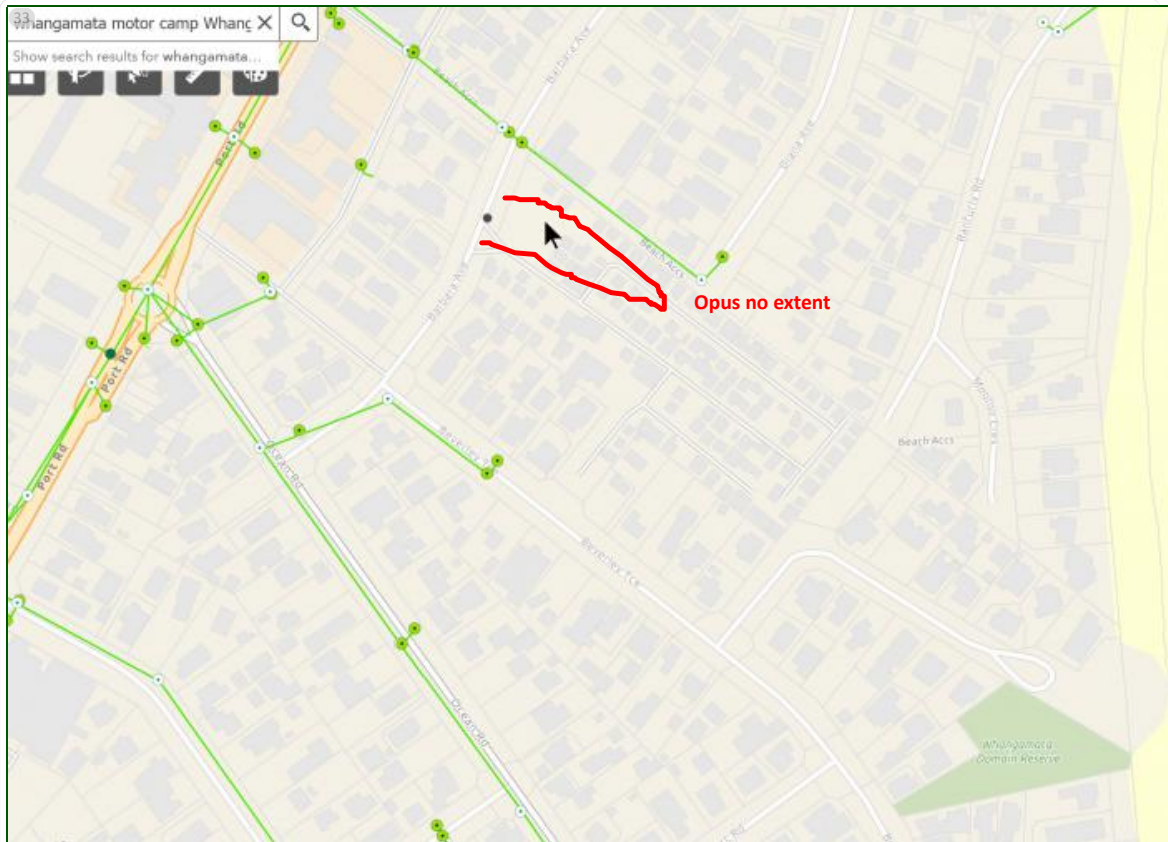
Wattle Place 001SM.jpg

2005 Opus:

Wattle Place: Flooding to factory accessways and properties

Construct a surface channel from end of road to estuary. Ensure existing kerb and channel is not blocked with gravel by cleaning out on a regular basis.

\$9k \$11k \$12k



Whangamata Motor Camp 001SM.jpg

2005 Opus:

Whangamata Motor Camp:

The motor camp has had overland flow, which has resulted in flooding of the camp ground in past years.

More investigation is required to adequately define source and extent of problem. May possibly be aided by construction of additional catchpit capacity in Barbara Ave.

Address this area through specific flood investigation prior to any redevelopment.

\$16k \$19k \$21k Confirm nature and extent of stormwater problem.



Williamson Golf Course 001SM.jpg

2005 Opus:

Williamson Golf Course:

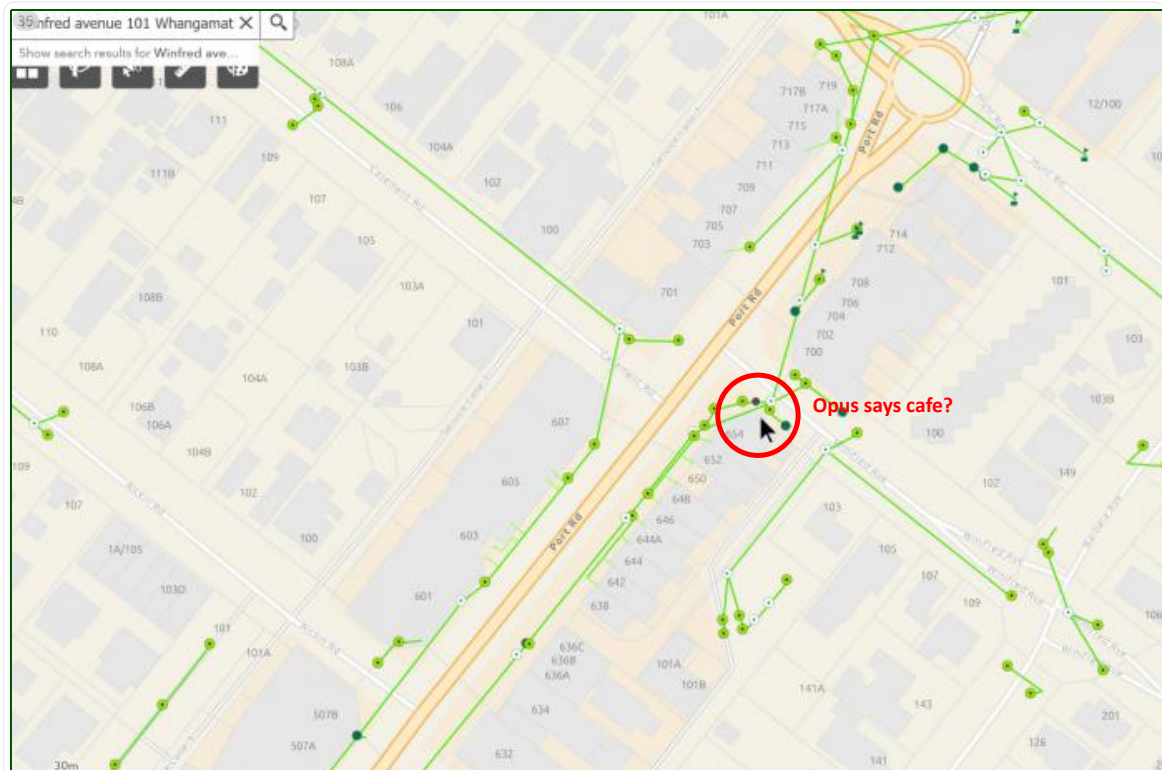
A number of properties surrounding the golf course report some stormwater issues. The golf

course is bounded by a number of mounds resulting in ponding between the golf course and the houses bordering the course. The golf course also reports issues, which are probably related to water ponding on site.

A site survey is needed to confirm levels and define the precise nature of the problem.

The golf course represents a large pervious area, and it may be practicable to utilise the soakage potential of the site. Once survey is available it may be practicable to re-contour to move floodwaters away from the private properties and manage them on the golf course

\$19k \$22k \$25k A specific investigation is required to determine the reason for the reported house flooding. A soils/soakage investigation is therefore also recommended.



Winfred Avenue 101 001SM.jpg

2005 Opus:

Winfred Ave 101: flooding of café, due to inadequate stormwater system and cesspits

Option 1: Install soak pit in car park

Option 2: Install gobi blocks in car park

\$34k \$112k \$123