Rob O'Grady's walk around Ruby Bay.  Summary of findings.

I have summarised the points raised below and have had brief discussions with my colleagues this morning.  Richard Kirby, the Engineering Services Manager, will discuss the feedback received at the Engineering Manager's meeting next week and formulate a plan to respond.

To clarify, all of the information presented below is feedback from residents, unless stated.  There is quite a bit of background information Council can collate to further inform discussion.  I have not attempted to add comment from a Council perspective at this stage.

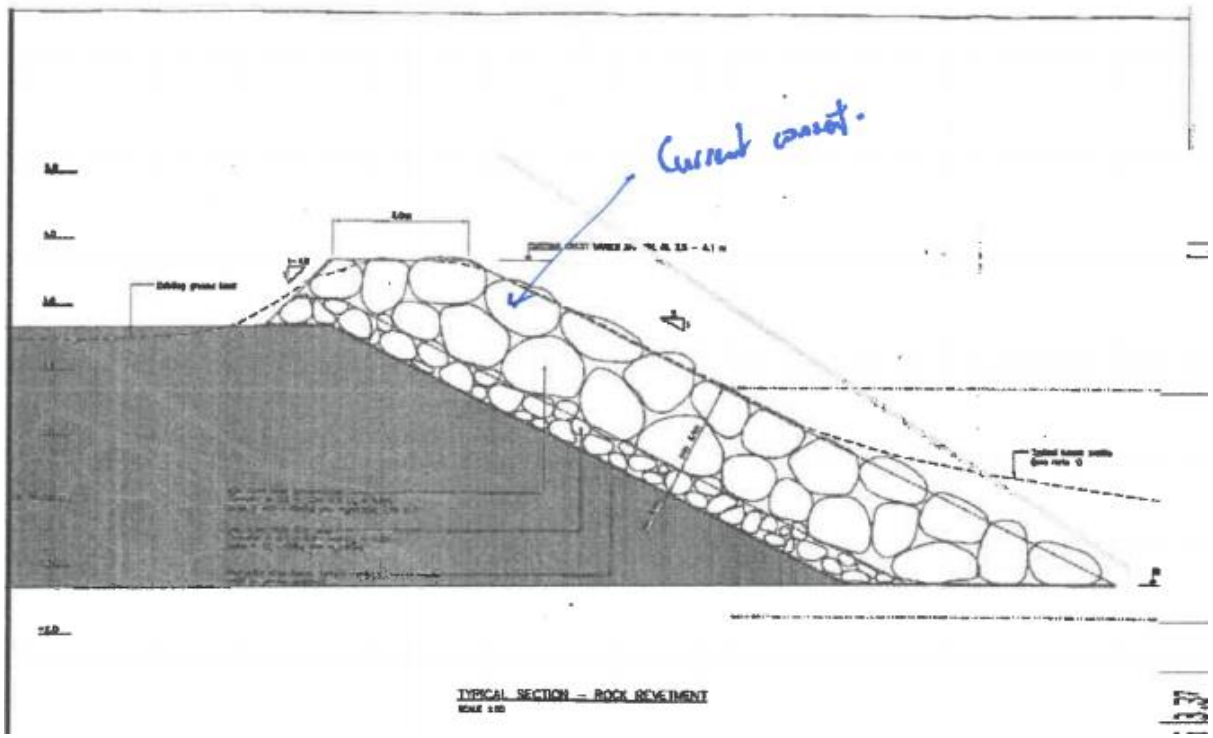
Thanks also to Bruno for arranging and chairing the meeting.

**1.  Construction of sea wall and inability of water behind the wall to drain back through the structure**

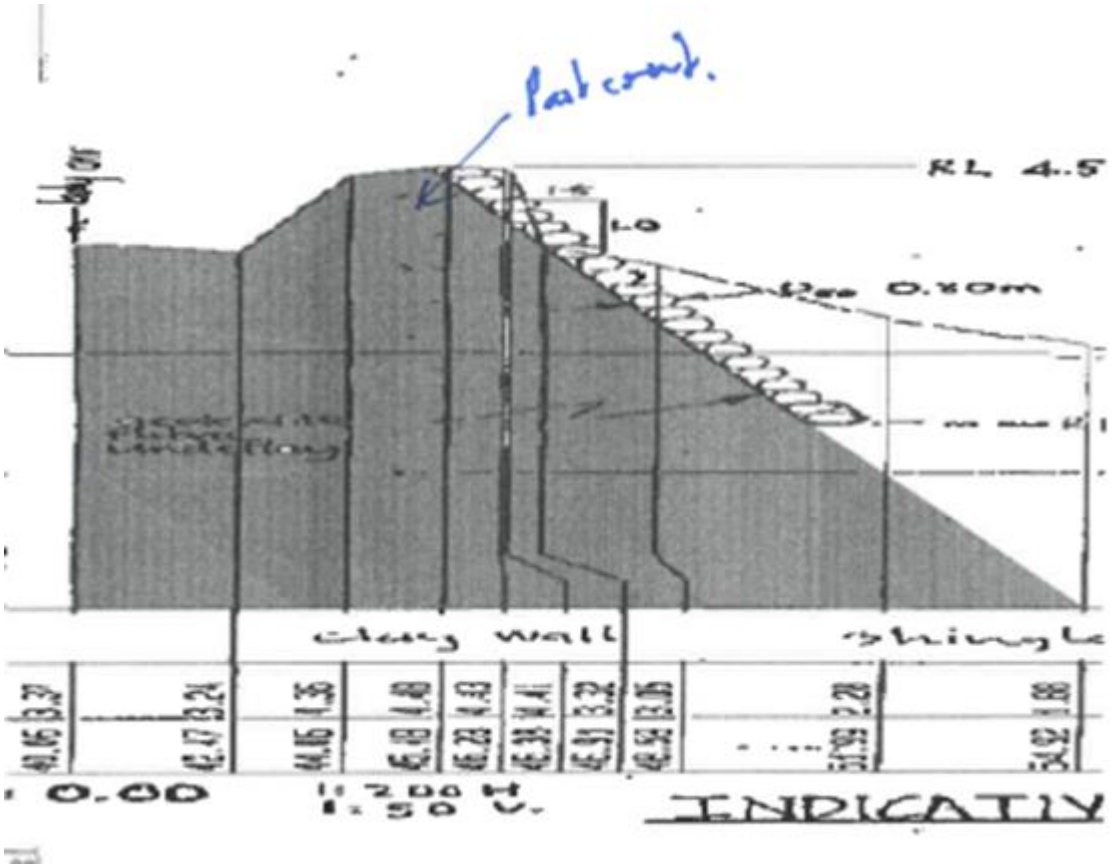
It was recounted that during Cylcone Fehi most of the flood water was generated by waves splashing up over the sea wall, as opposed to waves surging over the wall.  It was suggested that if the water splashing over the sea wall could have flowed back through the sea wall then flood waters would not have accumulated to the same extent.  The seawall effectively acted as a dam.

It was suggested that, if the part of the sea wall that extends above the walkway was made of large rocks with voids between, then water could flow through the seawall back down to the beach.

A drawing was presented which showed the sea wall design as per below. We were informed that this was a cross section as per the resource consent for the sea wall. It was suggested that if the wall was built as per this design then water could flow back through the wall via the voids between the rocks.




Another drawing was presented (below) which more closely represented the current sea wall construction. We were informed that this was from the old resource consent which had expired. This shows a clay core wall with rock armour over.




It was suggested that penetrations through the sea wall, or sections of wall reconstructed out of large rocks with voids between, could be installed at strategic locations to allow water to drain from behind the sea wall. One suggestion was to locate these penetrations/ sections of large rock at the ends of the alleyways running from Broadsea Ave, and at the end of Tait St. It was also suggested that the boat ramp in Chaitor Reserve was a potential location where water could drain away back out to sea if the top of the ramp was lowered and the reserve area regraded.


It was suggested that additional stormwater drains could be laid down the two alleyways off Broadsea Ave to improve drainage off the street.

It was suggested that small rocks previously placed on the top of the sea wall were easily dislodged by waves and were ineffective and hazardous.

It was suggested that fences erected by residents facing the sea on Broadsea Ave act as a reasonable second line of defence to flooding caused by wave action. Because there is nowhere for the water to go once it gets trapped behind the sea wall and the fences it eventually builds up and floods back out onto Broadsea Ave, then flooding lower lying properties.

It was suggested that a small bund at the end of Tait St could be constructed to stop water flowing onto Tait St and Broadsea Ave from behind the wall. During Cyclone Fehi it was observed that this was the route that a lot of the flood water took onto Broadsea Ave.


It was reported that scruffy domes located at the end of Tait St and in Chaitor Reserve regularly become blocked which prevents water from draining away from the area of the walkway behind the sea wall. There were several people who said that they periodically helped to clear debris away from the scruffy domes. There were volunteers who suggested they were prepared to help Council with preparation for storm events to clear any debris that might cause them to block.

**2. Orientation of elbow at the end of the Tait St Outfall Pchaitoripe**

It was suggested that the elbow at the end of the Tait St outfall pipe could be rotated so that it faces down the beach towards Mapua, which is away from the prevailing direction of the incoming waves. At present the pipe points down towards the sand and there is a booming noise up Tait St as the tide washes in and out.

**3. Capacity of existing stormwater outfall pipes to convey stormwater and drain flood waters from tidal inundation events**

It was suggested that there was insufficient capacity to drain water through the existing stormwater outfall pipe at the end of Broadsea Ave.

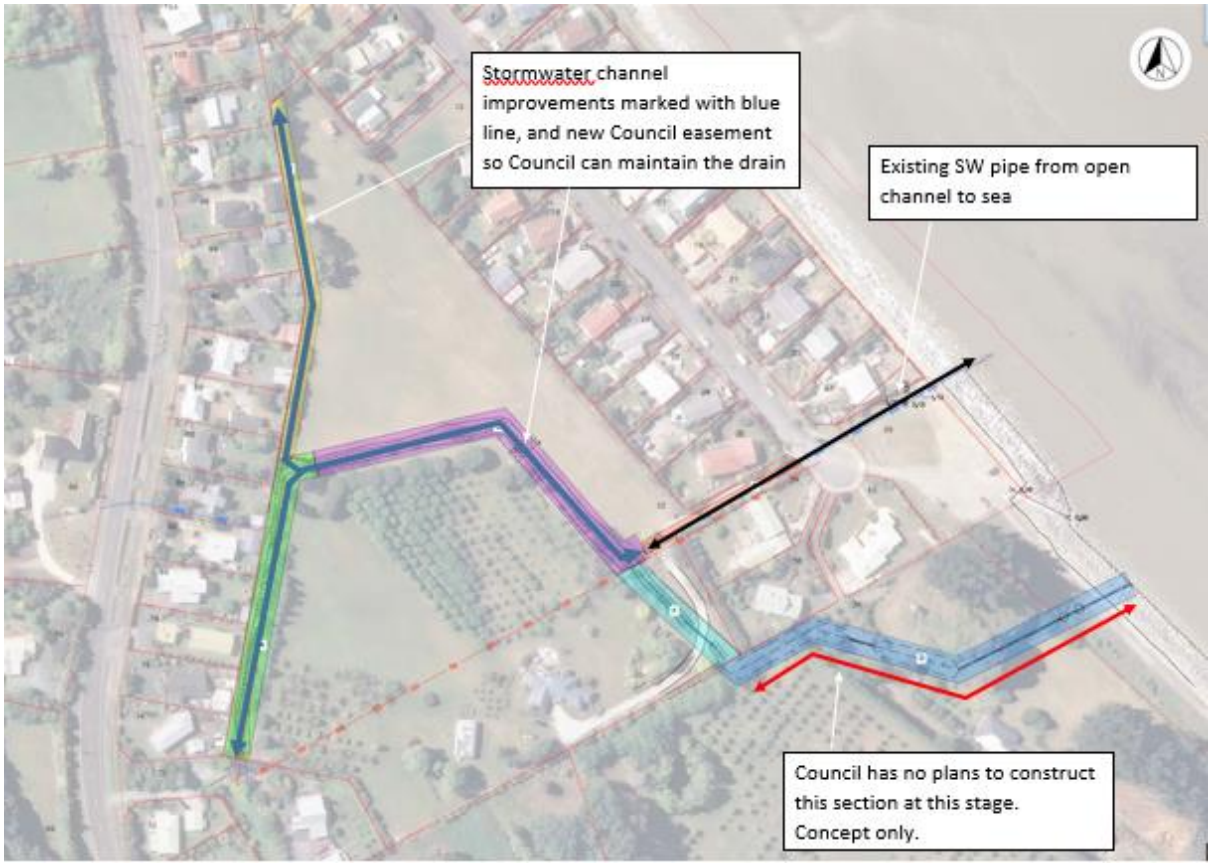
It was reported that storm water and ground water used to be able to drain out to see via the "Senior Drain", previously located beyond the end of Broadsea Ave, which was permanently blocked when the sea wall was constructed. It was reported that it had been filled in by a previous land owner, prior to the sea wall being constructed, to stop sea water flowing inland. It was suggested that Council had a legal obligation not to cause an adverse effect by permanently blocking the drain in terms of the sea wall resource consent.

The concept plan that Council have prepared for a second outfall pipe via 38 Broadsea Ave was presented by the landowners that have been party to the easement negotiations (see below). I reported that it had been costed at $350,000 by the design consultants, and would likely cost more once all costs [including resource consents etc] were factored in. I reported that there wasn't funding for a second outfall pipe and Council were not planning to construct a second outfall pipe at this stage. I reported that a catchment study was programmed for the area, which would better inform the situation with respect to flooding resilience. This would include assessing flow down to the estuary in a southerly direction during flooding. I reported that, even if a second outfall pipe was constructed, the main issue was that the area was low lying and there was inadequate fall to effectively drain the area to sea via overland and piped drainage.


Concern was raised that if there was a plan to direct water down towards the estuary that this would put more pressure on existing drainage out towards the estuary, which was already being pressured by intensification caused by development in Mapua.


**4. Improvements to drainage for properties on Stafford Drive**

The improvements planned for the existing drainage through 32 Broadsea Ave and 10a Broadsea Ave were discussed (as per marked up drawing below). I confirmed that this work was planned for this summer subject to final details being confirmed. Feedback was positive and the project was welcomed.




**5. Wastewater contamination of flood waters**

It was reported that residents were not told about wastewater contamination of floodwaters in the aftermath of Cyclone Fehi. Several reported walking around in wastewater. They would have liked better information.

It was suggested that wastewater issues were linked with stormwater and tidal inundation issues. It was accepted that the issues were caused by flooding but some emphasised that this resulted in a wastewater problem.

**6. Footpath flooding on Stafford Drive**

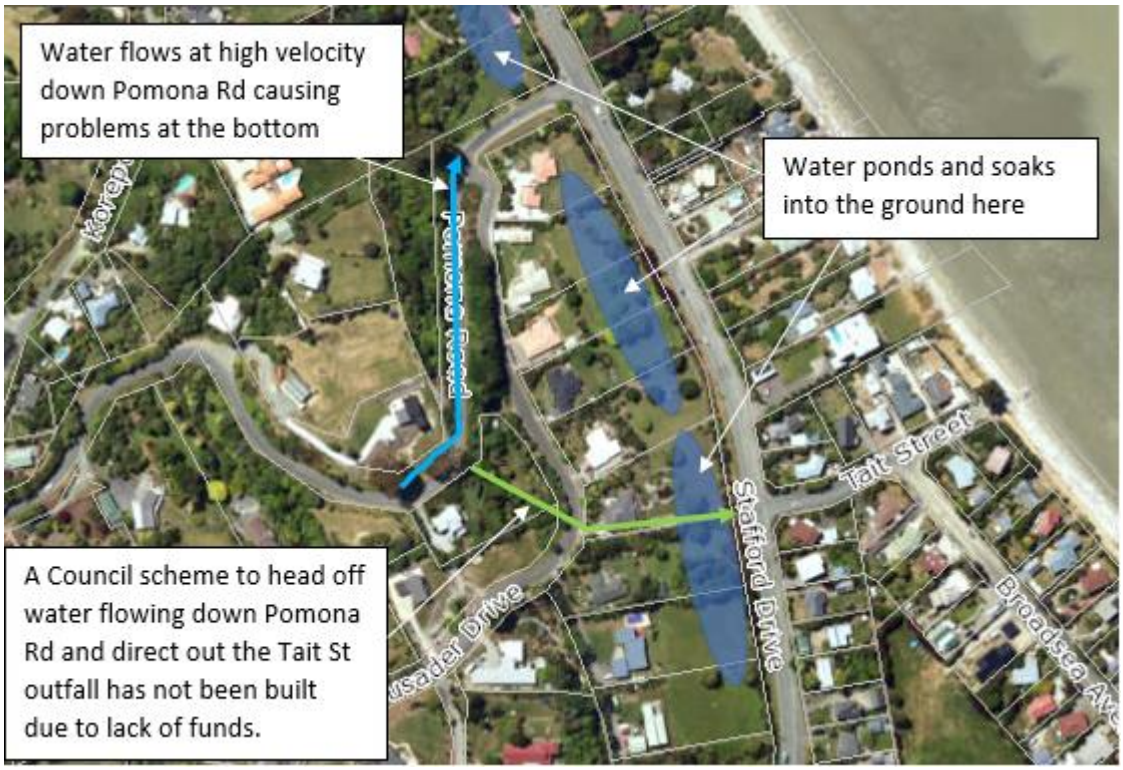
It was reported that there are frequently large puddles outside 70 Stafford Drive were there is a low spot in the footpath. It was suggested this was a safety hazard, particularly for school children, who walk out onto the road to go around the puddles.

**7. General feedback on submissions made to Council**

Several people raised concerns that their submissions to Council were not being heard. Concern was raised that Councillors were relying on the advice of Council staff who, having reviewed submissions, have said that flooding is not an issue in the area. The Councillors were then making a funding decisions for the Long Term Plan based on advice from staff.

**8. Surcharge of groundwater due to soakage of stormwater from subdivisions on the hill behind Ruby Bay**

Complaints were made about the soakage of stormwater into properties on the western side of Stafford Drive caused by flow off subdivisions on the hill. In particular it was felt that Separable Portion 2 of a previous Council stormwater project, to collect and direct flows off Pomona Road and out into the Tait St outfall under pressure, should be completed. It was felt that an elevated groundwater table caused by soakage of stormwater was exacerbating surface flooding of properties in rainfall events.




**9. The drain at the bottom of Pomona Rd is prone to blocking**

It was reported that the drain at the bottom of Pomona Rd is often blocked and last time it was reported it took Downers 2 months to get to site to clear because other work was prioritised.

**10. Other drainage on Stafford Drive does not appear to function as intended**

Issues were reported as per the marked up photo below.


There is often roadside flooding here
Water does not seem to flow to this drain
Rubbish Collection Day: Wednesday
Stafford Drive
Crusader Drive
Pomona Road