

THE WEST COAST REGIONAL COUNCIL/GREY DISTRICT COUNCIL

**MINUTES OF THE MEETING OF
THE GREYMOUTH JOINT FLOODWALL COMMITTEE
HELD ON 10 SEPTEMBER 2013,
AT THE OFFICES OF THE WEST COAST REGIONAL COUNCIL,
388 MAIN SOUTH ROAD, GREYMOUTH, COMMENCING AT 3.00 P.M.**

PRESENT:

A. Robb (Chairman), T. Kokshoorn, I. Cummings, A. Birchfield, P. Berry, D. Truman

IN ATTENDANCE:

C. Ingle (WCRC Chief Executive), M. Meehan (WCRC Planning and Environmental Manager), P. Birchfield (WCRC Engineering Officer), P. Pretorius (GDC Chief Executive), M. Sutherland (GDC Assets Manager), M. Gardner (Consultant), T. Jellyman (Minutes Clerk).

APOLOGIES:

There were no apologies.

BUSINESS

A. Robb welcomed all present to the meeting and introductions were made.

CONFIRMATION OF MINUTES

Moved: That the minutes of the Joint Floodwall Committee meeting held 23 October 2012, as circulated, be confirmed as correct
T. Kokshoorn / I. Cummings - Carried

MATTERS ARISING:

Action Points were updated.

C. Ingle advised that he did write to Grey District Council requesting that Saltwater Creek / New River rating district business be included in this meeting each year.

PUBLIC FORUM TIME – SPEAKING RIGHTS

There was no request for public speaking rights.

FINANCIAL REPORT

M. Meehan presented the financial statement for the financial period 1 July 2012 to 30 June 2013. He reported that the closing balance in the maintenance account is \$112,365.12 and the closing balance in the loan account is \$16,708.80.

C. Ingle advised that the closing balance in the New River / Saltwater Creek account is \$1,393.69. T. Kokshoorn asked how many times the New River / Saltwater Creek outlet has been opened. P. Birchfield advised that the outlet has been opened twice during the reporting period and once recently in the current financial year. She advised the New River opened a new mouth opposite the Highway bridge recently but the beach is now building up again. M. Meehan advised that Graeme Smart (NIWA scientist) is going to do some more work in this area. An Envirolink grant will be used to fund this.

WORKS REPORT

P. Birchfield advised that spraying around Preston Road, Cobden floodwall and Greymouth and Blaketown floodwalls have been taking place throughout the year.

P. Birchfield reported that projected works for the period 1 July 2012 to 30 June 2013 amount to \$80,000 which includes \$10,000 for the spraying of Cobden Island, \$25,000 for the removal of wooded vegetation along the floodwall, \$10,000 for rock for the main wall and \$10,000 for unforeseen maintenance and \$25,000 for consultant costs associated with floodwall investigations.

C. Ingle advised that the works reports are maintenance only and not capital works. He stated that should a new asset or capital work decision need to be made then this would be dealt with separately.

2014 / 2015 RATE STRIKE

P. Pretorius asked if the rate strike of \$50,000 is for maintenance only. C. Ingle responded that any capital works would be discussed separately. Cr Robb noted that the rate strike is for the coming year and that the balance in the account at the beginning of the next financial year would be around \$82,000. T. Kokshoorn asked if there is a policy in place of having a target balance of around \$100,000. C. Ingle stated that for a rating district of this size a balance of around \$100,000 is ideal. He stated that this was discussed last year and it was agreed that affordability for ratepayers needs to be taken into account. Cr Birchfield stated that last year's recommended rate strike was \$100,000 but the meeting agreed to lower it to \$50,000. T. Kokshoorn stated that he is happy with a \$50,000 rate strike. It was agreed that the rate strike would be \$50,000.

Cobden Flooding

M. Meehan stated that over the years there have been ongoing problems with flooding in Cobden. M. Meehan advised that Council has engaged the services of Matt Gardner, from River Edge Consulting Ltd to provide a report on the flood mitigation options for Cobden Lagoon and Range Creek. M. Meehan introduced M. Gardner to the meeting.

M. Gardner addressed the meeting and gave a history of the flooding in this area. He provided a PowerPoint presentation and spoke to this. M. Gardner advised that originally Cobden Lagoon was draining freely into the Grey River but since 1988, Cobden Lagoon has been separated from the Grey River by a stopbank and is connected by a culvert with a control gate. This gate can be manually closed to prevent backflows into Cobden when the Grey River is high.

If heavy rainfall occurs in the Cobden catchment whilst the Grey River is already high, water backs up in the lagoon, causing floodwaters to inundate the properties nearest to the lagoon and increases general levels in Range Creek. To help alleviate this problem, a channel has been cut from the lagoon directly to the sea. During a flood event, the cut relieves pressure on the lagoon if the tide is not too high to prevent drainage at this outlet. However, it has been reported that if the sea is too high, then this cut is ineffective.

Water levels are also known to back up at the Bright Street Culvert during regular events, requiring the road to be closed. In large flood events, water is also known to spill from Range Creek and flow overland towards the lagoon.

M. Gardner advised that has liaised with both Grey District Council staff and West Coast Regional Council staff on this matter. He spoke to local residents and was given some very good photographs of the area which he included in his report. He displayed the photographs and explained them to the meeting.

M. Gardner advised that option 1 is to create storage in park area. He stated that the first option considers creating storage in the park adjacent to Cobden Lagoon. He stated that this park area is equal to or slightly higher than the land on the adjacent properties. It may be advantageous to

lower this area by some degree. Lowering this land will allow some of the extra volume of water to first fill up this area before spilling onto the residential properties. M. Gardner stated that he has modeled two options for this scenario. Option 1a considers lowering the land by a fixed amount. Option 1b considers lowering the land to a fixed level, creating a level surface (approximately 0.6 metres below Nelson Quay levels). It was agreed that this area is not used that much. T. Kokshoorn stated that the dog run area would still be able to be used.

Option 2 consists of constructing a raised earth embankment. This would be compacted gravel and compacted earth and would be around a metre high. He stated that in order to prevent water ponding in behind the bank, preventing it from draining to the lagoon, it may be necessary to place some culverts through the base of the embankment with one way flap valves attached to them.

M. Gardner explained Option 3 which is a combination of options 1b and 2 and the aim would be to create storage and construct a raised bund which is providing the extra storage is intended to compensate for the increase in flood levels demonstrated in Option 2.

Option 4 is a combined Flood wall and the construction of a raised bund along the left bank of range creek with a raised bund similar to that in options 2 and 3.

M. Gardner advised that Option 5 - Channel smoothing out the channel bed downstream from the Clifford Street Bridge to the 90 degree bend.

Option 6 is Diversion to Lake Ryan. M. Gardner advised that the concept of diverting water from the upper reaches of Range Creek into Lake Ryan has been discussed for the last 30 – 40 years. It is believed that there are concept plans for a similar option dating back to the 1970's however council staff were unable to locate these plans. M. Gardner stated that based on personal observations on site and inspection of contours provided by Grey District Council, it is apparent that significant earthworks would be required to construct this option. The main obstacle is that the land slopes upwards before dropping down a steep terrace into Lake Ryan. This option will require: Excavation of a large channel from Range Creek to the top of the terrace, Construction of some form of energy dissipation structure to get the water from on top of the terrace into Lake Ryan, raising the access road to prevent adjacent farmland from flooding as well as maintaining access plus purchase of land.

Option 7 is lowering of the existing cut to sea, so that it is more effective. Lowering the invert by approximately 0.5 metres to an invert level of 1.2 metres allows the water to begin to flow out of the cut, prior to inundating any properties.

Option 8 -Lowering of cut to sea and installing outlet culvert. M. Gardner advised that this option would work out to be quite expensive and involves lowering the invert of the cut as was investigated in Option 7. Instead of relying on the need to manually make a cut each time through the dune system, a culvert could be placed through the dunes allowing the water to freely flow to the sea. A 6x1.5 metre culvert has been modeled to allow sufficient flow through out to sea. The culvert would need to be approximately 50 metres in length. The culvert will likely need unblocking at the start of a flood. Restriction of access to the culvert may be necessary also (such as installation of a grill). M. Gardner stated that this option would be expensive and would require a lot of maintenance.

Option 9 involves installing a pump station adjacent to the sewerage treatment plant. A range of pump capacities have been investigated, however the pump for the presented results has a maximum capacity of 5 cumecs.

M. Gardner advised that Option 10 is a combination of Options 3 and 7. Option 10 has been modeled to determine the likely benefits of combining both Option 3 and Option 7.

Based on both cost and effectiveness, Option 10 is the most recommended option. This involves lowering the ground levels in the park adjacent to the lagoon, constructing a bund around the

properties adjacent to the lagoon as well as lowering the existing cut to the sea by approximately 0.5 metres. This option is the most promising low cost option that does not generate adverse effects to adjacent properties. Whilst flooding is still present in the catchment, the worst affected properties are expected to be relatively flood free to a greater than a 1 in 20 year event. Where flooding still occurs, water levels are expected to be significantly lower than existing levels. M. Gardner advised that Option 10 will provide significant advantages compared to the existing situation, however the catchment will not be completely flood free. He advised that his study has highlighted the potential hazards in larger flood events, and highlights the need for adequate emergency response plans for the area. M. Gardner recommended that serious consideration be given to implementing Option 10. He feels that as a minimum, he recommends that Option 7 should be implemented as a first priority.

M. Gardner stated that with sea levels currently increasing and predicted to increase more rapidly in coming years, the effectiveness of the cut to sea is likely to decrease in time. He feels that more expensive options in the future or long term planning measures may need to be considered.

M. Gardner answered various questions from those present. Discussion took place on flood events that have occurred since the installation of the floodwall. T. Kokshoorn advised that the flood in 2010 was the closest scenario to what is trying to be modeled here. M. Meehan agreed and stated that property was flooded but not the inside of any houses with the worst affected being the properties on Nelson Quay. M. Gardner stated that this work could be implemented in stages. T. Kokshoorn asked what the percentage rate increase would be. M. Meehan stated that the cut is the obvious option to do this financial year and there are funds in the account to do this. He stated that the ponds could be done in year two and this could be done within the existing rate. M. Sutherland advised that a walkway is now in place all the way around the lagoon. He stated that where the Range Creek outlet comes into the lagoon there is a bridge to be placed in this area. Cr Robb stated that it seems as though Option 10 is the preferred option and over a period of two to three years that this is progressed so that rates do not go up significantly.

Moved: That the meeting adopts the recommendation for the half metre cut in the spillway.

T. Kokshoorn / A. Birchfield – Carried

General discussion took place on where to from here. P. Pretorius asked when the report would become final. M. Gardner advised that he can finalise the report today.

Cr Berry stated that it would be good to get some more accurate information and to be able to get this area dry. It was noted that more survey data will be required prior to progressing with option 10. T. Kokshoorn stated that he is keen to see this work progress. M. Meehan stated that the half metre cut needs to be done now and costings are required now as well.

M. Gardner stated that if LiDAR (Light Detection and Ranging) would greatly assist in developing and assessing options to further mitigate the flood risk to properties in the Cobden area. M. Gardner stated that the cost of obtaining LiDAR data has significantly fallen in recent years. This data would have many beneficial uses, not only for flood mitigation studies but also for cost cutting reasons as well.

Cr Robb thanked M. Gardner for his assistance.

GENERAL BUSINESS

C. Ingle advised that there has been an approach from DoC staff to present to the committee about the work that they are doing in the Cobden Lagoon area. M. Meehan advised that they are currently working towards an MOU with DoC. M. Meehan stated that it would be good to see a report from the conservation group coming to this meeting each year.

C. Ingle advised the meeting of the possibility of some of the NIWA flood warning sites potentially being removed. He stated that the Grey River is not affected apart from the Ahaura site which

NIWA is offering to council. T. Kokshoorn stated that it is extremely important that the tributaries are gauged for Greymouth's sake.

There being no further business, the meeting went into committee at 4.18 p.m.

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Chairman

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Date