# Note: Proposed Redcliffs school site at Redcliffs Park

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| **Date:** | 28 February 2018 | **Priority:** | High |
| **Security Level:** | In confidence | | Withheld under section 9(2)(a) |
| **Approved by:** | Katrina Casey<br>Deputy Secretary, Sector Enablement and Support | **DDI:** | [redacted] |

## Purpose

- This paper responds to the Minister for Greater Christchurch Regeneration, Minister Woods, and your request for further information regarding the proposal to designate Redcliffs Park for educational purposes submitted to Minister Woods, for her consideration under section 71 of the Greater Christchurch Regeneration Act 2016 (GCR Act). Specifically, clarification on the impact of sea-level rise on the Redcliffs Park site.

- You have requested that advisers meet to either provide agreed joint advice or one set of advice to both Ministers covering the balance of risk between both sites and the respective process and timeframes for each site. We have also provided information about the process used by the Ministry of Education (Ministry) to decide on the option of relocating Redcliffs School to the Redcliffs Park site, and how this compares to similar processes used in the past, beyond Christchurch.

## Background

- Ministry officials met with Minister Woods, Department of the Prime Minister and Cabinet (DPMC) officials and the Chief Executive of Regenerate Christchurch in early December 2017 to discuss the designation process under section 71 of the GCR Act. Minister Woods requested we worked together to provide joined up advice and the Ministry worked to ensure Regenerate Christchurch had the information required to provide their Proposal to Minister Woods.

- Until last week, the Ministry was unaware that Minister Woods may have received separate verbal advice from the Ministry for the Environment. Regenerate Christchurch's Proposal to Minister Woods states that, "although alternative processes have been considered, current legislative constraints mean that this outcome [the rebuilding of Redcliffs School] is only achievable within the next 2-3 years by utilising powers in the GCR Act".

- Officials from DPMC, Ministry for the Environment (MfE) and the Ministry met on 22 February seeking to develop joined up advice to you.

## The process leading to a designation request under the GCR Act

- On the 23rd of March 2015, the Minister of Education announced a proposal to close Redcliffs School. Following consultation, the Minister made an interim decision to close Redcliffs School on the 25th of November 2015. Further consultation was undertaken by the Redcliffs School Board of Trustees (BoT) who in their submission raised the possibility of relocation as a way of mitigating negative psychosocial effects of closure

on the community and on children attending school on the Main Road site. Following further consideration of the BoT's submission, and approximately 2,500 individual submissions, the Minister set aside her interim decision and agreed to the Ministry engaging with the BoT to undertake further investigation into the psychosocial implications of a return to the Main Road site and a feasibility analysis as to whether relocation to another site within the Redcliff's community was realistic.

- The Ministry's "Methodology for New School Site Evaluation" (Methodology) process was used to inform the recommendation that Redcliffs Park site was the preferred site option for the relocation of Redcliffs School. All the details of how this methodology was used is included in two property reports provided to the Minister dated August and September 2016. This Methodology is used to identify and evaluate all new school sites across New Zealand.

- In the Methodology, the first stage is the identification of all potential sites for assessment. This range of potential sites is filtered through four broad criteria; locality, size/shape, current land use and access. For sites that are progressed after the stage 1 process, the second stage of the Methodology involves further detailed evaluation against 20 prescribed criteria. The recommendation from the second stage process may identify risks associated with the site, and further specialist reporting is undertaken as due diligence. The Ministry was made aware that geotechnical, contamination, rock fall, and coastal hazard would be risks for any site in the Redcliffs area, therefore, specialist reports were commissioned.

- The feasibility analysis identified eight potential building platform sites in three locations and scored them against the stage 2, 20 point criteria. A Redcliffs Park site was the preferred site. On the 20th of October 2016 the Minister announced her decision that Redcliffs School should relocate to Redcliffs Park and instructed the Ministry to carry out due diligence on Redcliffs Park and work with the Christchurch City Council (Council) to progress the site purchase. The Minister noted that there would be opportunity for the BoT and community to be involved in developing the plan for the school.

- Numerous reports have been commissioned by the Ministry relating to: geotechnical, contamination, rock fall hazard, flooding, coastal inundation and erosion, acoustic assessment, cultural values and traffic and transportation network matters for the Redcliffs Park site.

- It should be noted that Ministry buildings have an intended design life of 50 years in line with the Building Code, under the Building Act 2004.

- Analysis has been undertaken for the projected future school rolls. Projections suggest that the number of primary aged students in the area is likely to decline in the medium term and begin to increase after 2025. Any future mitigation or retreat from the residential area due to rising sea levels would require monitoring and a review of the need for ongoing education provision. It should be noted that this is also applicable to all other education facilities in such low-lying areas both regionally and nationally.

**Timeframes and process should designation be provided under s.71 of the GCR Act for the Redcliffs Park Site**

- The possible use of the GCR Act was originally suggested by DPMC officials to the Ministry in November 2016.

- It is proposed that the Minister for Greater Christchurch Regeneration exercise powers under sections 67 to 69 of the GCR Act to amend the Christchurch District Plan to facilitate the necessary zoning and designation changes to enable the relocation to proceed. These include:
  - designating and rezoning the Redcliffs Park land to facilitate the development of a school; and
  - rezoning the existing Redcliffs School land to enable the development of a park.

- Ministerial decisions from the Minister for Greater Christchurch Regeneration are required at two points in this process:
  - Section 67 decision to proceed with the Proposal (if approved, Minister must invite public written comments) – this is the stage the Proposal is currently at; and
  - Section 69 decision to approve the proposal for exercise of power.

- Should Minister Woods approve the second decision, the Ministry would confirm purchase and transfer of land, and continue with design and construction of the proposed school.

- It is recognised that the Redcliffs Park site has known geotechnical challenges, however, the Proposal from Regenerate Christchurch is in alignment with the Ministry. These challenges can be mitigated through appropriate design including elevated floor levels, having the buildings located predominately on elevated sections of land, and acceptance of recommended designation conditions.

- These strategies will support the extremely low risk to life and property from flooding/inundation.

**Timeframes and process should designation be declined under s.71 of the GCR Act for the Redcliffs Park Site**

- Should Minister Woods decline the section 71 Proposal, the Ministry could prepare and lodge a Notice of Requirement (NoR) under the Resource Management Act to designate the Redcliffs Park site for education purposes. The Minister of Education is the requiring authority for this Notice of Requirement.

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**Flooding Matters**

- The Council and ECan articulated concerns to Regenerate Christchurch regarding possible future inundation/flooding/High Flood Hazard Management Area (HFHMA) management at Redcliffs Park with the potential effects of sea-level rise. The Chief Executive of DPMC stated that the HFHMA overlay at the current Redcliffs Park site had not been addressed and the Proposal needed to clearly explain how this is being managed. These views were provided under the first stage of the section 71 process under the GCR Act.

- Redcliffs Park and adjacent residential area is shown on the current Council coastal hazard assessment maps as being within both the Coastal Inundation Hazard Zone

(CIHA) and the Coastal Erosion Hazard Zone (CEHZ). The site is also located within a Flood Management Area (FMA) and a HFHMA within the Christchurch District Plan.

- The Ministry and Regenerate Christchurch have both commissioned expert reports to address these future flooding issues and consider designation conditions that require specifically finished floor level requirements, and compensatory storage for stormwater equivalent to fill, address these concerns.

- For context, Redcliffs Park is bounded by Main Road, Beachville Road and Celia Street in Redcliffs, Christchurch. It has existing residential development on three boundaries. The site has views to the estuary. On the other side of Beachville Road is the Coastal Pathway, a wide shared path, parking and an existing revetment (seawall/rockwall). There is residential development on the revetment side of Beachville Road.

- The site is comprised of two different levels – a higher portion upon which school buildings will mainly be located and a lower portion upon which playing fields and car parking will be located. The school buildings will, therefore, be mainly outside of the HFHMA and FMA. Where the buildings do protrude into the FMA, finished floor levels will comply with the FMA requirements.

- Primarily, it will be the playing fields and car parking that is within the FMA and HFHMA.

- The Ministry's engineer's report for Redcliffs Park flooding/coastal inundation was peer reviewed by Jacobs (Jacobs is a global provider of technical, professional, and scientific services, including engineering, architecture, construction, operations and maintenance). The peer reviewer, Ministry expert (T+T) and a Christchurch City Council representative also met for a conferencing session.

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- The diagram attached to this briefing paper illustrates how the proposed school would be affected under the high sea-level rise scenario which equates to sea-level rise of 0.61m above the 1986-2005 average by 2070, or over a 50 year period which is the intended design life of Ministry buildings, and in accordance with the Building Code, under the Building Act 2004. In summary, the diagram reinforces that:

    - There is extremely low risk to life over that 50 year period; and
    - There is extremely low risk to building assets over that 50 year period.

## Consultation

- The Ministry for the Environment and DPMC were consulted on this paper and their feedback has been incorporated where appropriate.

## Next Steps

- Officials recommend you forward this paper to the Minister for Greater Christchurch Regeneration for her information.

# Potential Impacts due to High Scenario Sea-Level Rise (SLR) of 0.61m over 50 years

Notes to be read in conjunction with diagram:

1. This diagram illustrates the potential impacts due to sea level rise (SLR) above the 1986-2005 baseline. A storm tide event with a 1% AEP is used to illustrate this. The storm tide level is shown as a roughly wedge-shaped area (shown in orange hatching). The upper limit represents SLR of 0.61m, which is the "high" sea-level rise scenario from the Ministry for the Environment guideline *Preparing for coastal change: A summary of coastal hazards and climate change guidance for local government* (December, 2017). There is a range in the storm tide level as a result of the uncertainty associated with future SLR due to the various global emissions scenarios as set out by the IPCC (2015).
2. Once the revetment is overtopped from inundation from the estuary, then the lower parts of the Redcliffs suburb, including residential homes and streets, also become equally exposed to tidal flooding. This could impact on over 150 residences in the vicinity of Redcliffs Park. Other shoreline suburbs are also exposed to coastal inundation with some likely to be impacted before the area around Redcliffs Park. See Tonkin and Taylor Redcliffs Park Flood Hazard letter: Figure 1 below.

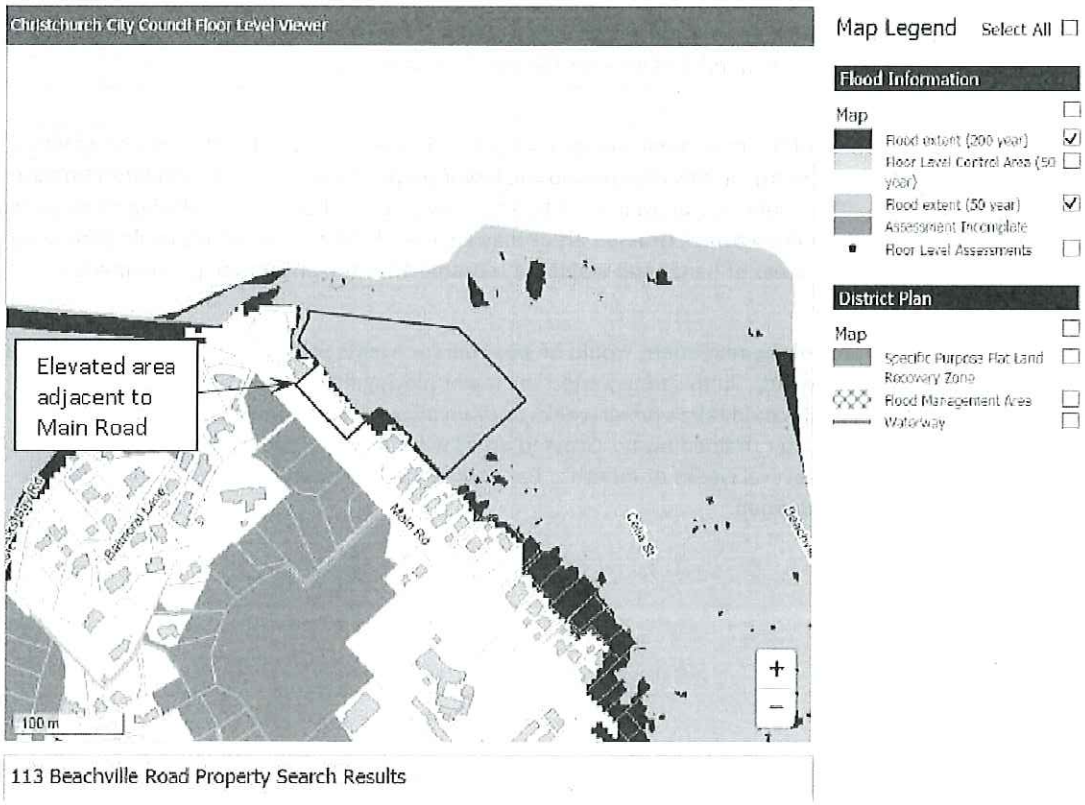


*Figure 1: CCC 50-year and 200 year ARI inundation extents (includes 0.5 m sea level rise)*
*(source: https://www.ccc.govt.nz/services/water-and-drainage/stormwater-and-drainage/flooding/floorlevelmap/)*

3. This scenario is without a community-wide response to inundation/flooding mitigation.
4. At no time over the 50 year horizon is there any risk to life.
5. At no time over the 50 year horizon is there any risk to school buildings.
6. AEP – put simply...
   2% AEP: A 2% probability, in any particular year, of the event occurring (sometimes referred to as a 1 in 50 year event)
   1% AEP: A 1% probability, in any particular year, of the event occurring (sometimes referred to as a 1 in 100 year event)
   0.5% AEP: A 0.5% probability, in any particular year, of the event occurring (sometime referred to as a 1 in 200 year event)

7. Tidal inundation of the lower playing fields is expected to occur once the water level within the estuary exceeds the elevation of the revetment along Beachville Road, which is approximately 11.2 mCDD. This assumes that the flood management devices currently installed continue to operate as designed. For a storm tide with a 1% AEP this may happen from around 2040 onwards, assuming the "high" SLR scenario.
8. The school buildings would have pedestrian access via Main Road, which is the higher elevation of the site, outside of the FMA and HFHMA. Emergency services would also be able to access the school from Main Road.

**2020-2040:**
Inundation of the lower playing fields would be expected to occur due to extreme rainfall events. Experience to date indicates that surface flooding may occur for events exceeding a 20% AEP (1 in 5 year rainfall). The March 2014 storm event with associated extreme rainfall resulted in ponding up to approximately 0.2 – 0.3 m depth, which was drained over a period of a few days. Given that this area of the Park would be used for a car park and playing fields, the school's operational response would be, if such an event occurred during school term time, to restrict access to the inundated area for the period of flooding.

**2040 - 2050:**
After circa 2040, overtopping of the revetment would be possible for events with a 1% AEP (or events with a lower AEP i.e. more extreme event). In this time period the lower playing fields could be inundated up to a depth of around 800mm. This could take up to a week to drain away. Operationally, the playing fields would be unusable until the water drained away. Grassed areas may also need resurfacing, which could take several weeks. Car parking and other areas of hardstand would be reusable after the any ponding is drained.

**2050-2070:**
After circa 2050, overtopping of the revetment would be possible for events with a 1% AEP (or events with a lower AEP i.e. more extreme event). In this time period the lower playing fields could be inundated up to a depth of around 1500mm. This could take several weeks to drain away. Operationally, the playing fields would be unusable until the water drained away. Grassed areas will almost certainly need resurfacing (due to salt water), which could take several weeks or months. Car parking and other areas of hardstand would be reusable after any ponding is drained.