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4th July 2024

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PROPOSED FRANKSTON PLANNING SCHEME AMENDMENT C160FRAN

Slide 1 PPBay

1. Port Phillip Conservation Council (PPCC) Inc. represents thirteen conservation groups around Port Phillip Bay and their hundreds of individual members. For over 50 years our major focus has been the preservation and rehabilitation of Port Phillip, its unique coastal areas and hinterland.

2. Port Phillip Bay is by far the largest area of Australian sea that is almost entirely sheltered from the ocean. This distinctive feature underpins its significant flora and fauna, its landscapes, seascapes, temperate climate and "liveability".

3. PPCC has an over 50-year association with Frankston and those working to protect Frankston unique coastal setting. Frankston has a unique character as a seaside city on Port Phillip Bay's coastline. It has become a desirable place to live and visit to enjoy those unique coastal characteristics now under threat, particularly from some of the directions set for Precinct 4 in the proposed Schedule 1 to a new Activity Centre Zone (ACZ1) for the FMAC. We will be focussing on Precinct 4.

4. Frankston has not always capitalised on its magnificent coastal location, as evidenced in various developments which have dwarfed and degraded its natural coastal amenity. Imposing an 'Activity Centre' into Frankston's coastal zone will sadly reinforce and facilitate private developments monopolising views of the coastline and wider vistas across the Bay, and equitable access to beaches and foreshore.

5. Designated as one of the nine Metropolitan Activity Centres in Plan Melbourne 2017-2050, Frankston stands to lose some of its unique character, as what is consistently overlooked, or deliberately ignored, is that Frankston is the only Metropolitan Activity Centre with a coastline to Port Phillip Bay. This makes Frankston unique, with the Bay and Kananook Creek as the cultural and recreational heart of Frankston. These are huge assets for the people of Frankston and the wider region.

6. So, rather than government and planners considering Frankton as just one of nine Metropolitan Activity Centres, all with common features and amenities; Frankston's unique character and marine and coastal attributes must be recognised and protected as fundamental to Frankston's liveability and local economy.

Slide 2 : Olivers Hill

7. The proposed high rise in Precinct 4 – and others that may follow – would permanently intrude into the prized view lines from various viewing sites along the coast, and especially from Oliver's Hill, a prized naturalistic feature that is important to locals and Victorians and a significant tourist drawcard and benefit to Frankston's economy.

8. High rise would dominate skyline vistas and mar the panoramic views from the iconic Olivers Hill, and would be seen from across the bay, forever altering the picturesque coastal landscape and views beyond to the Dandenong Ranges.

9. Tourism Victoria's website Visit Melbourne[1] *says: "For the best scenic views across Port Phillip Bay, stop at Oliver's Hill Lookout. This is a top stop to see Frankston City's coastal vistas, the sparkling blues and turquoise of Port Phillip Bay, with the Melbourne CBD skyline across the horizon".*

10. With "preferred" heights of 41 metres/12 storeys for Precinct 4, high rise towers would significantly overshadow public spaces including Kananook Creek, planned outdoor dining spaces, the foreshore, beach, walking paths and overlook private properties.

[1] Hyperlink Olivers Hill lookout

11. Proposed preferred heights for Precinct 4 are counter to objectives of the Structure Plan including:
    - OBJECTIVE 5 - Provide high quality-built form across the FMAC that contributes to the coastal character and 5.1 - heights respond to sensitive interfaces.
    - OBJECTIVE 6 - Strengthen visual and physical connections to the water.
    - OBJECTIVE 7 - Protect streets, plazas and parks from overshadowing, wind and storm water impacts.
    - OBJECTIVE 9 - Respond to sensitive interfaces and protect amenity of existing and future residents.

12. Planning provisions must deliver net community benefit, not just for the select few seeking private gain. Despite there being clear planning justification for mandatory heights in Activity Centres where waterways, views and vistas are recognised as important, these controls have been disregarded for Precinct 4 - which is ironically most deserving of strict controls and protections due to its irreplaceable coastal and waterway assets.

13. Lower heights and mandatory controls are essential to protect not just the Frankston coastal environs from view stealing high rise developments proposed for Precinct 4; but also to maintain the coastal landscape around the entire east side of Port Phillip Bay.

14. From Portsea to St. Kilda, Councils have low-rise building controls in their coastal precincts, and very few areas where private dwellings even exist seaward of Nepean Hwy - or their coastal roads closest to the foreshore.

15. Inexplicably, Frankston's coastline is the outlier, with high-rise private developments planned (and championed) so close to the coastline, and seaward of Nepean Hwy., setting an ugly precedent for the rest of Port Phillip Bay's coastline coming under challenge for waterfront high rise.

16. The term "preferred' is ill defined and unhelpful. Preferred by whom? It signals decision makers will likely approve variations to preferred heights, creating opportunities for taller and taller and more dominating structures near the coast, and ever more developer demands. We suggest "preferred" be removed from at least Precinct 4 of the Structure Plan,

and that mandatory height restrictions be included to protect the irreplaceable coastal environmental assets and ambience that - of all the MACs - only Frankston has.

17. Otherwise, high rise towers between Kananook Creek and Nepean Highway would begin to transform Frankston's waterfront area - culminating in a wall of masonry from Wells St. to Beach St. and perhaps further south? separating Frankston's prime waterfront from its city centre.

18. This threat is already evident in applications for side-by- side apartment towers of 14 and 16 storeys in Frankston's Promenade (Waterfront) precinct recently before VCAT.

19. The Planning Scheme Amendment is an opportunity to signal the need for tighter controls to protect the irreplaceable, unique features Frankston's coastal location provides to the community and the broader environment – before it is forever diminished and degraded by a permissive Planning Scheme.

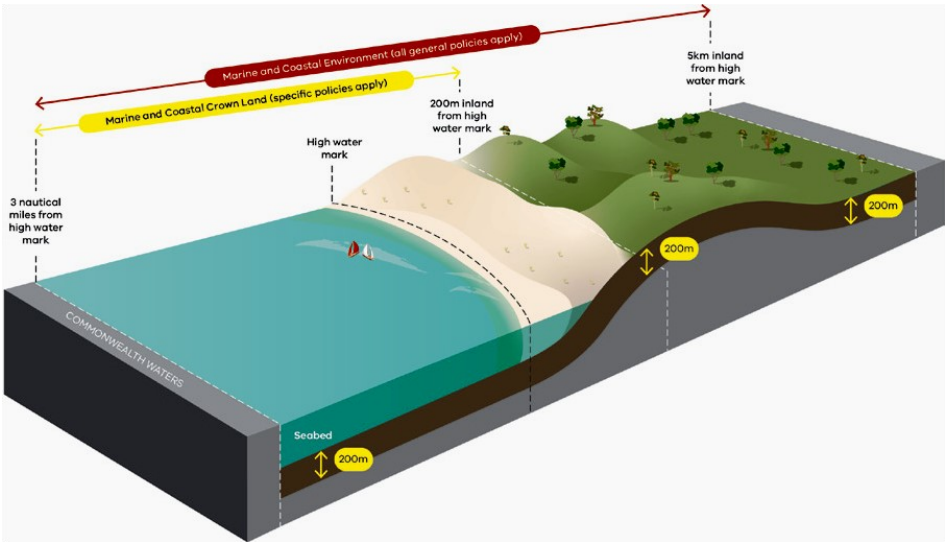
20. For Frankston's coastline and Kananook Creek, the PS Amendment fails that essential task. And- once that area and the unique features it offers the public realm have been hijacked for private gain, the opportunity to protect this irreplaceable public asset for its beauty and equitable enjoyment will never again be available.

Marine & Coastal Act and Policy

Slide 3 M&C environment

21. 'Definition of 'Marine and Coastal environment'[2].

[2] See M&C Policy 2020 Page 7



22. 'Marine and Coastal environment' has a specific meaning in the Marine & Coastal Act 2018

    Marine and Coastal Act Section 5:

    (1) Subject to this section, *marine and coastal environment*[3] means the following between the outer limit of Victorian coastal waters and 5 kilometres inland of the high-water mark of the sea—
    (a) the land (whether or not covered by water) to a depth of 200 metres below the surface of that land;
    (b) any water covering the land referred to in paragraph (a) from time to time;
    (c) the biodiversity associated with the land and water referred to in paragraphs (a) and (b).

23. Unarguably, Precinct 4 is located within the 'Marine and Coastal environment' as per the Marine & Coastal Act 2018 and M&C Policy 2020 definitions[4]

24. It is also quite clear that the entire ACZ1 Precinct 4, seaward of Nepean Highway is part of the Marine and Coastal environment and thus subject to special protections under the Act.

25. Therefore, we submit that all of the ACZ1 west of Nepean Highway and adjacent to Kananook Creek should not be part of an 'Activity Centre'. That entire area is at most 250 metres from the Port Phillip Bay shoreline and foreshore at its Nepean Hwy. boundary.

    Substantial sections are much less than 200 metres from Nepean Highway to the shoreline.

[4] M&C Policy 2020 Page 7

26. As such, developments currently proposed for Precinct 4 in the proposed Schedule 1 to the new Activity Centre Zone for the FMAC, or any future similar proposals, do not or would not meet the clear intent of the M&C Act 2018, M&C Policy 2020, or *The Victorian Coastal Strategy 2022*, *Siting and Design Guidelines for Structures on the Victorian Coast* (2020) and reference document *Landscape Setting Types for the Victorian Coast* (May 1998).

Slide 4 Proposed development sites Precinct 4

Approx. 195 metres from centre of the proposed development at 438 - 444 Nepean Hwy to landward edge of the beach

Google Maps 23 June 2023

27. Some of the current proposals in Precinct 4, at their seaward boundary, are significantly less than 200 metres from Port Phillip Bay's high-water mark, and only approx. 20 metres from Kananook Creek – a waterway with its entire length at sea level. So, as sea levels rise, so too will the water level in Kananook Creek. By applying the rule of thumb Bruun Rule[5], it is possible that creek water could encroach 50 – 100 metres into sites adjoining Kananook Creek - depending on tide level, storm surge and wind direction, or confluence of events.

28. In our view, Precinct 4 should instead be completely re-imagined as an area designed for climate change resilience, eschewing any further housing or commercial developments and instead employing natural and soft engineering responses to create a resilient "coastal buffer

[5] https://en.wikipedia.org/wiki/Bruun_Rule Other studies have suggested that on flat land, a 1:100 ratio might apply. So, a 1 cm rise in SL could lead to up to a 100 metre inundation.

parkland" able to withstand future impacts of increasingly challenging coastal conditions. This would create more open space for recreational coastal activities and superior protection for Frankston's coastline whilst also protecting important coastal assets.

Climate Change and the coastal environment

29. We submit the directions set for Precinct 4 give little to no regard to the compelling body of evidence that, to deal with looming global heating impacts, future coastal development must depart radically from the Business-as-Usual (BAU) model which seem to dominate FCC's current "vision" for its coastline.

30. Further, the proposed directions for Precinct 4 do not meet various legislation and policies regarding the Marine and Coastal environment and broader environment and climate change policies. Therefore, the proposed high-rise, high-density developments envisaged for this area are utterly unsuitable for Precinct 4 and Frankston's future as a climate change resilient coastal city.

How long can we continue to ignore the very different future we face, especially in our coastal zones?

How long have we already been in denial?

31. In 2004, the Victorian government was already warning of increasingly intense winds, storms and sea level rise for the coastline of both Westernport and Port Phillip Bay[6]. And that the significant urban infrastructure on the eastern side of Port Phillip Bay increases its vulnerability to climate change.

32. By 2008/9, CSIRO was warning that, for the Port Phillip Bay region, if sea level rise exceeds 1.1 m., low-lying coastline now vulnerable to inundation during a 1 in 100-year storm tide event, will by 2070 occur every one to two years. By 2100, inundation could occur on a daily basis when tidal levels are above mean SL; and even more significant inundation during fortnightly spring tides and during storm tides.[7] And at what cost to the community?

[6] *CLIMATE CHANGE IN PORT PHILLIP & WESTERNPORT* State of Victoria. Department of Sustainability & Environment 2004

[7] *Climate change and extreme sea levels in Port Phillip Bay* McInnes et al. in Future Coasts: *Preparing Victoria's Coast for Climate Change*. Victorian Government Department of Sustainability and Environment, Melbourne, November 2009, and *The Effect of Climate Change on Extreme Sea Levels in the Westernport region,* McInnes et al CSIRO 2009

33. In 2008, the Intergovernmental Panel on Climate Change (IPCC) advised an upper limit for sea level rise of 0.8 metres by 2100[8] which was accepted by the Victorian Government for inclusion in our Planning Scheme. This 15 year old projection is still the official reference level informing planning decisions[9].

34. Since 2008, IPCC has issued several updates on these predictions, corroborated by other prominent agencies, including CSIRO and US government agency National Ocean and Atmospheric Administration (NOAA).

35. In 2019, factoring in ice melt, IPCC's 'Special Report on the Ocean and Cryosphere'[10] warned inaction on climate change will likely result in sea level rise of 1.1 metres by 2100, (up from their 2013 projection of 0.9 metres), and 5 metres SL rise by 2300.

36. In 2021, IPCC's 6th Assessment found that atmospheric CO2 concentrations were higher than at any time in at least 2 million years (high confidence), and concentrations of CH4 (Methane) and N2O (Nitrous Oxide) - both potent GHGs- were higher than at any time in at least 800,000 years (very high confidence)"[11] (well before modern humans emerged). Australian Museum says humans 160,000

37. In 2021 IPCC also warned of the possibility of sea level rise of up to 2 metres by 2100, if GGE reduction is inadequate, saying:

"The scale of recent changes across the climate system as a whole – and the present state of many aspects of the climate system – are unprecedented over many centuries to many thousands of years[12]"

[8] https://www.theage.com.au/national/erosion-flooding-the-high-price-of-sea-views-20080216-ge6qho.html
[9] PPN 53 Managing coastal hazards and the coastal impacts of climate change
[10] https://www.ipcc.ch/srocc/chapter/chapter-4-sea-level-rise-and-implications-for-low-lying-islands-coasts-and-communities/
[11] Summary for Policymakers IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis Para A.2; A.2.1
[12] Ibid

38. Following its 2021 findings IPCC introduced a new high end risk scenario, stating that global sea level rise approaching 2 metres by 2100 and 5 metres by 2150 under very high GGE scenario cannot be ruled out due to deep uncertainty in ice sheet processes[13].

39. In 2022, further research by the World Climate Research Programme[14], (joint work with the World Meteorological Organisation, International Science Council and Intergovernmental Oceanographic Commission) warned that high-end global mean sea-level rise was projected to be up to 1.3 to 1.6 metres for strong warming by 2100.

40. Researchers made the point that these predictions should be of particular interest to stakeholders engaged in long-term adaption planning where such uncertainties are important, such as long-life infrastructure projects or coastal land use. We suggest coastal High rise buildings are such an example

41. IPCC 2023[15] advised that sea level rise projections remain on track to exceed previous predictions and will continue in the 21st Century, and that extreme sea level events that occurred once per century in the recent past are projected to occur at least annually at more than half of all tide gauge locations by 2100. And, that risks for coastal ecosystems, people and infrastructure will continue to increase beyond 2100 (high confidence).

42. IPCC's 2023 findings also warn the probability of low-likelihood outcomes associated with potentially very large impacts increases with higher global warming levels (*high confidence*), and there is *high confidence* this would lead to regional changes greater than assessed in many aspects of the climate system. Why deliberately take such risks??

43. We have already noted that any reliance on 0.8m projected sea level rise by 2100 in planning assessments is 15 years out of date and increasingly and alarmingly inadequate. We are in unchartered territory.

[13] Summary for Policymakers IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis Para. B.5.3

[14] New high-end estimate of sea level rise projections in 2100 and 2300. https://www.wcrp-climate.org/news/science-highlights/1955-new-sea-level-projections-2022

[15] Global IPCC. AR6 Synthesis Report: Climate Change 2023. Geneva, Switzerland: IPCC; 2023

What's more climate change action is still struggling under the yoke of Business and Usual influences, with diminishing likelihood of success in achieving even modest, inadequate, goals.

44. At the local level, In January 2024 CSIRO's Port Phillip Bay Coastal Hazard Assessment[16] Final Report was finally released. It contemplates a 1.1 metre sea level rise around parts of Port Phillip Bay in coming decades, and up to 1.4 metre sea level rise by 2100 in extreme weather events. The report reminds us that stronger winds, bigger waves and changes in the level of ground water- all expected consequences of climate change , are driving increasing rates of sea level rise.

45. Just weeks ago,[17] hundreds of the world's leading climate scientists stated they expect global temperatures to rise to at least 2.5°C above pre-industrial levels this century, significantly exceeding internationally agreed targets and causing catastrophic consequences for humanity and the planet. Almost 80% of the IPCC respondents foresee at least 2.5° C of global heating. Only 6% thought the internationally agreed 1.5C° limit would even be met. **The rest thought 3° C more likely.**

46. Numerous of these experts said they feel hopeless, infuriated and scared by the failure of governments to act despite the clear scientific evidence provided.

    This high level of certainty, accompanying despair and the consistent warnings for over 20 years expressed by so many scientists is impossible ignore, isn't it? And morally reprehensible?

47. In April this year I attended a lecture by local BOM and CSIRO climatologists[18], who reported that rising CO2 emissions are accelerating; SE Australia has the greatest rates of temperature increase; and 90% of that extra energy is in the ocean. Port Phillip Bay is armer than average, with some parts the highest on record. All this means higher than

[16] CSIRO Port Phillip Bay Coastal Hazard Assessment Final Report May 2022. McInnes et al.
[17] World's top climate scientists expect global heating to blast past 1.5C target. Guardian 8th May 2024 https://www.theguardian.com/environment/article/2024/may/08/world-scientists-climate-failure-survey-global-temperature
[18] Joint VNPA and LSV sponsored seminar. Speakers Drs. Grant Smith, Jonathon Pollock. 10th April 2024.

expected temperatures, higher sea levels, and more coastal erosion with higher waves hitting Port Phillip Bay's shoreline.

48. It is now more than 20 years since we were first warned, but serious action to prepare Frankston's coastline for the very different future it faces is still not evident. Planning decisions continue to load our coastal environment with oversized, climate vulnerable structures. Local decision makers appear oblivious, or wilfully ignorant of the risk for developments on the coast. It will unfortunately be understandable when developers chase decision makers for compensation if their inappropriate developments in the marine and coastal environment are approved, and become a liability.

Responsible Authorities must take a stand to change the public mindset on what is appropriate for the coastal environment and this PS Amendment offers that opportunity.

Planning Scheme Clauses and Precinct 4

02.03-3 Environmental risks and amenity

49. This significant clause quotes CSIRO research indicating Frankston City Council's coastline and tidal creek environments are significantly exposed to climate extremes and natural hazards such as storm surge, coastal inundation and floods, and are vulnerable to any increase in sea level. And, as a result of climate change these hazards are projected to increase in frequency and severity.

It directs that

- *Careful planning is needed for all major developments proposed in coastal waters, along the foreshore,* close to Kananook Creek and in low lying areas of the Frankston municipality including the Frankston MAC.
- *In order to avert serious or irreversible climate change effects when planning for the city, the 'precautionary principle' is to be applied. NOT MAYBE. It IS to be applied*
- *The community is to be protected from economic, social, and environmental risks associated with flooding and increased flooding in future.*

50. As much of Precinct 4 is a tidal creek environment vulnerable to ANY increase in sea level – we submit that any new developments in Precinct 4 should be low rise, low impact, resilient to climate change and ideally contribute to increased coastal resilience. Stress ANY.

51. Frankston is a municipality manifestly dependent on its coastal assets for its cultural, heritage and social identity and those irreplaceable assets are important contributors to the city's economic viability and success. Therefore, it would be prudent not to proceed with this PS Amendment in its current form, especially regarding Precinct 4.

Clause 12.03-1S River and riparian corridors, waterways, lakes, wetlands and billabongs

52. The objective is to protect and enhance waterways and riparian corridors.

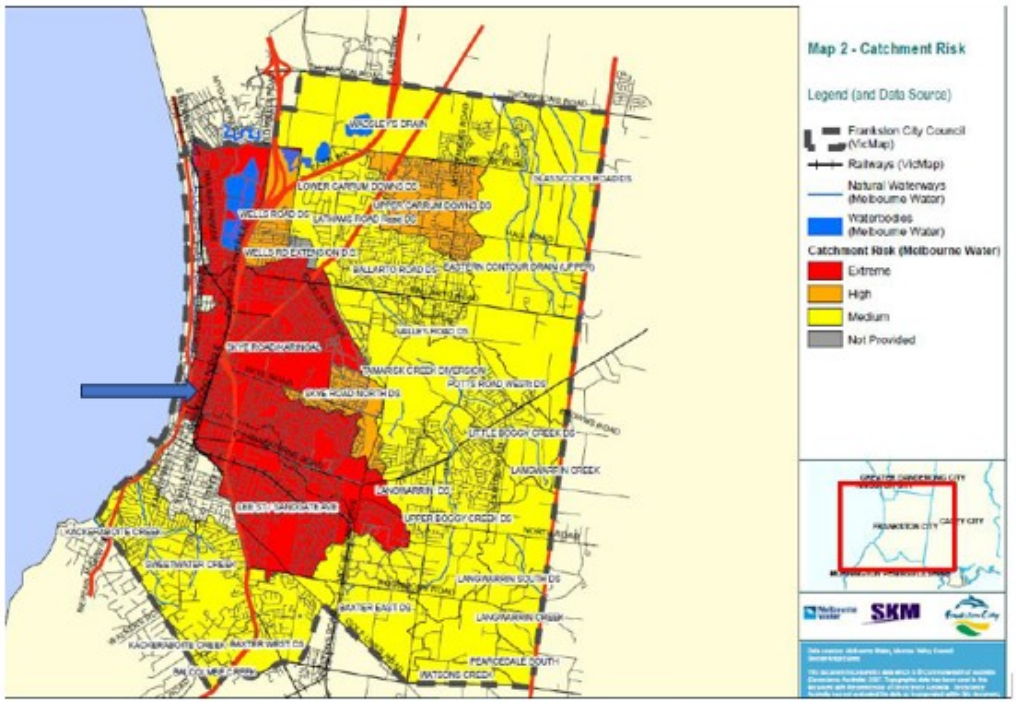
The comprehensive list of Strategies to meet this objective includes -

- *Protect cultural, landscape values of waterway systems as significant economic, environmental and cultural assets.*
- *Conserve waterway systems and the landscapes and environmental values surrounding them by protecting ecological values, indigenous vegetation, terrestrial and aquatic habitats and encouraging biodiversity.*
- *Sensitively design and site development to maintain and enhance the waterway system and the surrounding landscape setting, environmental assets, and ecological and hydrological systems.*
- *Protect geomorphology, bank stability and flood management capacity to strengthen the environmental value and health of waterway systems by*
    - *Limiting earthworks in proximity to waterway systems to minimise alterations to geomorphology, natural drainage, natural flows and water quality.*
    - *Protecting existing topographic features and maintaining a sense of naturalness through sensitive design and siting.*

- *Discouraging privatisation of spaces that interface with or provide access to waterway systems.*
- *Avoiding overshadowing of waterway systems, their banks and adjacent public open space.*
- *Minimising the visual intrusion of development on the natural landscape views*
- *Ensuring development is visually subordinate to the local landscape setting, including through the use of vegetation to filter views of development.* This welcome clause includes consideration of matters critical to the future management of risks for waterways and the marine and coastal environment.

53. We fail to see how facilitating high rise development in Precinct 4, especially in the narrow strip of land between Kananook Creek and Nepean Hwy - some perhaps within 20-30 metres of Kananook Creek - responds positively to achieving ANY of the objectives of this Clause.

Slide 5 Catchment risks



Frankston City Council Catchment Risks[19] (Kananook Creek location marked at arrow)

[19] From Flood Management Plan for Frankston City Council and Melbourne Water 2011. p21

54. The Frankston Flood Management Plan 2011, identifies one of three areas of key flooding risk which is high or extreme in adaptation plans for 2030 and 2070, and which will be exacerbated by climate change - as KANANOOK CREEK[20] which traverses Precinct 4.

55. As far as we can tell, that risk is not limited to only a small part of the creek- but all of it. If so, it is axiomatic that extreme caution should be applied to any further development anywhere along the creek.

Slide 6 Kananook Creek

Slide 7 Kananook Creek in flood April 2009

Kananook Creek in flood, 15 years ago, between Wells Street and Beach Street
https://www.youtube.com/watch?v=QwhUraOuxlc

56. Melbourne Water's submission[21] to this Planning Scheme Amendment raised significant concerns about Climate Change and flooding for the FMAC area[22], including in Precinct 4, and commented on issues with direct consequences for any proposed developments adjacent to Kananook Creek including:

- *There may also be some sections of the promenade along Kananook Creek where due to the low natural surface levels, safe access* (to developments) *in the 2100 1% AEP flood extent cannot be achieved. Consideration should be given to alternative access points .....and/or whether the sites are appropriate for intensification of development given flood hazard and the criteria in the DELWP 2019 Guidelines[23].*

- *Melbourne Water would strongly discourage any changes to the Planning Scheme which would increase the overshadowing of Kananook Creek, (and) if this is proposed*

[20] Flood Management Plan for Frankston City Council and Melbourne Water 2011, p29.
[21] MW submission dated 22nd December 2023 as provided by FCC in its City Planning Reports Item 11.3 Attachment F to its 18th March 2024 Council Meeting.
[22] As above Page 2
[23] Guidelines for Development in Flood affected Areas DELWP 2019

MW would want to see an ecological report demonstrating that the ecological health of Kananook Creek has been taken into account and will not be compromised[24].

57. Notably, all existing and demolished buildings in Precinct 4 along Kananook Creek are or were significantly lower height than the proposed "Preferred heights" for Precinct 4. So it is axiomatic that overshadowing of the creek will increase if those "Preferred heights" for Precinct 4 remain in the Structure Plan.

58. In its Hydrology and Hydraulic assessment Melbourne Water's notes include:

- *It is highly recommended that council further investigates the area proposed for redevelopment in the Activity Centre as the impacts of climate change may influence the potential to develop the area.*
- *Proposals that also increase density and impervious surfaces in the FMAC Structure Plan are likely to exacerbate flooding to the immediate downstream catchment as well as within the activity centre pondage area, and as such would NOT be supported by Melbourne Water.*

This clearly includes Precinct 4

59. Whilst commenting on a May 2023 meeting it had with Council officers, Melbourne Water states:

- *Melbourne Water officers raised concern about flooding issues in the proposed FMAC boundary. MW officers indicated it would be best for council to defer implementation of the structure plan until the flood study has been completed to inform flood hazard risk of the proposed intensification of the area.*

60. It seems clear to us that Melbourne Water has concerns that future Precinct 4 developments would not meet even its current requirements to achieve its *Healthy Waterway* objectives, let alone what it is likely to recommend in its new flood mapping due for completion mid 2025.

[24] MW submission Page 3 as

61. We understand Melbourne Water's Frankston flood mapping project is due for completion in July 2025 and, as noted by Melbourne Water it WILL - (not maybe!) significantly impact the opportunity for development within the area[25]. Delaying the PS Amendment seems wise, at least until Melbourne Water's revised flood modelling has been released and its requirements incorporated into the Planning Scheme.

62. FCC must consider its responsibilities to protect its ratepayers and residents from unwelcome BUT avoidable future financial burden; and for taxpayers and developers; in facilitating development proposals within the FMAC areas that are at risk of flooding either under current guidelines, or future and more stringent requirements, as foreshadowed by Melbourne Water.

14.02-1S Catchment planning and management

Slide 8 Depth to water table

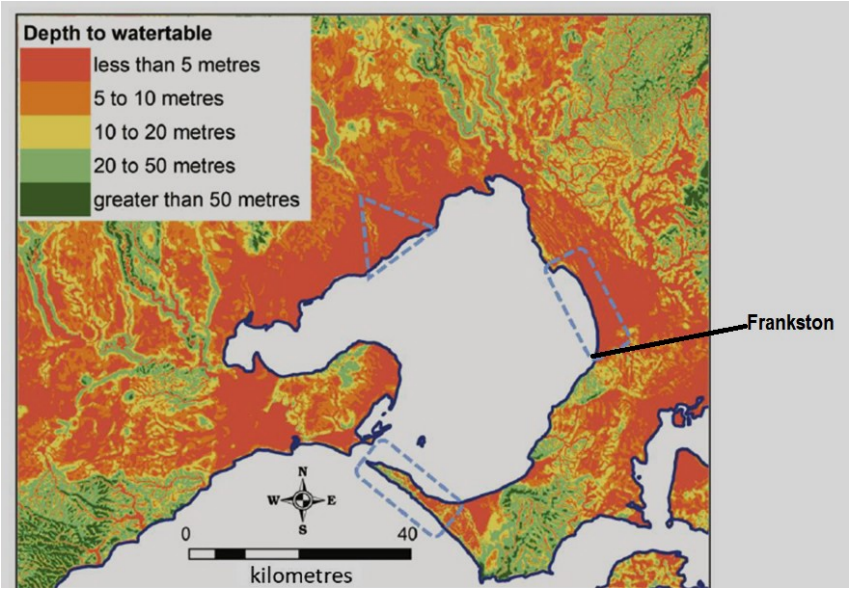


Figure 6.5: Depth to water table in the PPB region (source: CeRDI, 2020)[26]. Locations of the detailed conceptualisations – Werribee, Mentone to Frankston, and Nepean Peninsula delineated by blue broken lines

63. CSIRO's above map (Figure 6.5) indicates depth to water table in coastal Frankston is less than 5 metres. Council must be aware that ground water in much of Precinct 4 and

[25] Page 5 MW submission
[26] CSIRO Port Phillip Bay Coastal Hazard Assessment Final Report May 2022 Page 115

Kananook Creek area is relatively high, thus likely to be breached by deep excavations for high rise developments.

64. We understand that Bay water levels and the level of Kananook Creek is a key determinant of the groundwater level in this location, and the invert of the creek is at about –1.0 m AHD[27] (i.e. –1.0 m below mean sea level) and the mean creek level is only slightly over 0.0 m AHD over most of its length, So -

- Dunes between the Bay and the creek must have a water level above –1.0m AHD and more than likely be at about mean creek water level of 0.0 m AHD or higher in winter. If these dune areas are 3 - 4 m AHD the groundwater is therefore 3 to 4 m below the surface.
- Land east of the creek slowly rises, as does the groundwater table. But within 20-30 metres of the creek the groundwater level would likely be just above the mean creek water level. If the sand deposits here are at 4 to 5 m AHD, the groundwater is likely to be at a depth of 4 to 5 m below ground level and even higher in winter.
- If excavations for foundations and basements in this general area were deeper than 4 to 5 metres, we expect groundwater pumping could be required, perhaps indefinitely as per the nearby Quest building on east side of Nepean Hwy. - where basement pumps run 24/7/365.
- If high rise development was permitted in Precinct 4 adjacent to Kananook Creek, once disturbed by excavations, breached groundwater would likely have a high sediment load. We assume it could be disposed of Kananook Creek, altering its ecology and contributing to flooding events. (and likely contrary to PS Clause 12.03-1S river and riparian corridors).

Slide 9 Ground water salinity

[27] Australian Height Datum

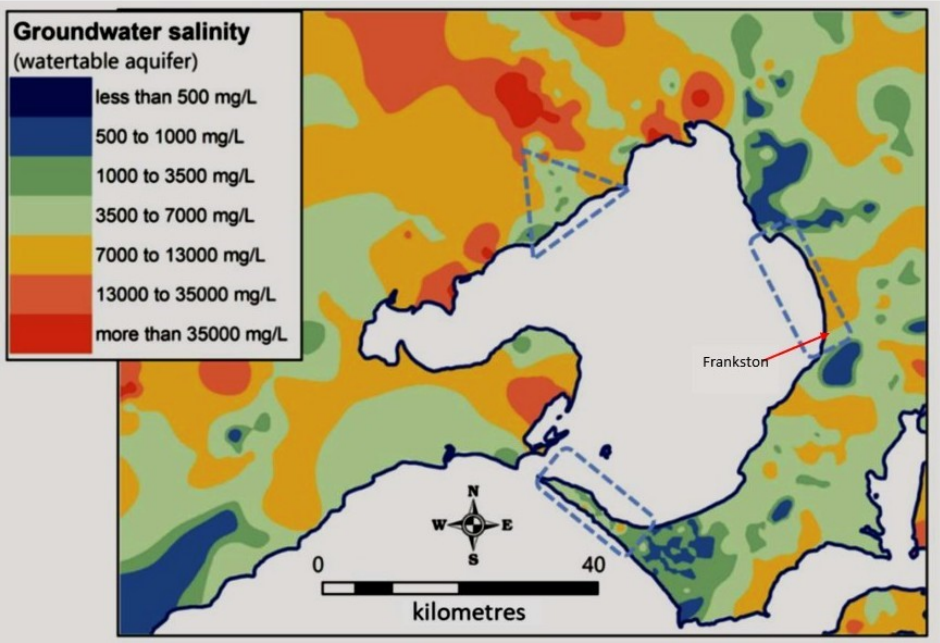


Figure 6.8: Water table salinity in PPB region (from CeRDI, 2020), CSIRO PPBay Coastal Hazard Assessment Study 2022 Page 122

65. We understand brackish groundwater is generally defined as having total dissolved solids (TDS) of 3,000 – 10,000 mg/litre and can damage concrete and steel basement infrastructure.

66. In its PPBay Coastal Hazard Assessment 2022[28] only released in January 2024, CSIRO, assessed three coastal areas, one being Mentone to Frankston, which CSIRO noted has numerous assets potentially at risk for groundwater hazard, and that groundwater salinity at Frankston likely ranges from 3500 to 13,000 mg/litre salinity.

67. CSIRO also noted since most of the shallow groundwater is saline to some extent (As per Figure 6.8 above), salt attack on building and construction materials, through chemical corrosion and erosion of materials by prolonged wetting and drying cycles may be significant.

As an aside ***

68. Given all of the above, we submit that high rise development in Precinct 4 would impose significant threats to Kananook Creek, ground water and any future developments requiring deep excavations.

Low rise development is clearly the only logical and environmentally sound solution for Precinct 4.

[28] PPBay Coastal Hazard Assessment Final Report 2022, Page 121

CONCLUSION

Slide 10 Gould St. residences

69. FCC professes to be extremely proud of its coastline and natural assets. They feature prolifically in Council documents, its website and social media showcasing Frankston's enviable beachside attributes. Statements such as *Frankston City's foreshore is renowned as the most pristine and accessible stretch of foreshore on Port Phillip* [29] attest to Council's awareness of the value of its coastal assets, and the need for protecting them. So, FCC's current vision for Precinct 4 is contrary to its own rhetoric regarding Frankston's coastal assets.

70. FCC's Structure Plan Precinct 4 provisions fail to protect or enhance the marine and coastal environment, or protect the coastal foreshore, Kananook Creek. or minimise detrimental impacts on the environment as contemplated by various clauses of the Planning Scheme.

71. It also fails to maintain, enhance and protect significant landscapes, sensitive environments, view lines and vistas, as contemplated by various clauses of the Planning Scheme.

72. There is a groundswell of informed advice that for the sake of humanity and the planet Business as Usual (BAU) cannot continue as it is. In our use of natural resources, we are now borrowing from the future by 1 August each year [30].

73. As we see it, especially for Precinct 4, the PS amendment is grounded in outmoded BAU motivations. Precinct 4 High rise towers are being justified as good for the economy. However, future climate related changes including sea level rise, storm events, inundation and flooding have long been predicted for coastal locations, such as Frankston, but planning for the very different future we face seem to have been pushed aside in an unseemly race to exploit the coast while we still can.

[29]. In FCC's Coastal Management Plan June 2016

[30] In 2024, Earth Overshoot Day will fall on 1st August. https://overshoot.footprintnetwork.org/

74. Planning a sustainable, liveable future for Frankston should not be knee jerk responses to pressure from business at the expense of Frankston's other irreplaceable natural assets. Businesses, and developers, by their very nature, move on or close down for a multitude of reasons. Losses of natural environments and amenity are permanent. It is time for all of us to consider a very different future, not one directed by Business as Usual.

75. High rise development in Precinct 4 would have adverse impacts, now and forever more on Frankston's beloved coastline, other parts of the Waterfront/Promenade precinct, and the amenity for the wider public realm and local community.

76. The current projections for sea level rise indicate that any developments should be low impact, low rise and mindful of the very different future we face regarding climate change impacts near the coast.

77. The PS Amendment is an opportunity to signal the need for tighter controls within the Planning Scheme so as to protect the irreplaceable and unique features Frankston's coastal location provides to the community and the broader environment – before it is forever diminished and degraded by a permissive Planning Scheme.

78. In precincts that adjoin the coastline and Kananook Creek it fails that essential task. And-once the coast and creek have been diminished by overbearing private development and its impacts, the opportunity to protect this irreplaceable public asset for its beauty and equitable enjoyment will never again be available.

79. Please consider this Planning Scheme Amendment as a never to be repeated opportunity to protect Frankston's coastline, foreshore, waterways and the landward Activity Centre from the inevitable encroachment of the sea and rising groundwater before it is covered in immoveable concrete and glass high rise, basement car parks and other infrastructure. Otherwise, ratepayers and taxpayers will be unwittingly signing up to fund endless and futile efforts to hold back the sea and increasingly vain attempts to preserve private assets.

As an aside No. 2

Once natural landscapes, seascapes and coastal amenity is lost they can never be replaced, and Port Phillip Bay is forever diminished.

***As an aside: Para 67

No. 1

Coastal geology investigations have established[31] that ground water intrusions into the foundations of a Miami seaside apartment building in Florida which partially collapsed in 2021, killing 98 people, was caused by rising sea levels driving saltwater into the ground water beneath the tower, causing corrosion in its concrete foundations. It was approx. 140 metres from beach

*** As an aside No. 2

2100 is only 65 years away, and great change is already underway and intensifying as we approach 2100.

It won't all just happen on 31 December 2099. We are already living through the start of it. Experts are warning **us NOW** that we are on a trajectory that cannot be slowed in that time period, so the best we can do is prepare with care and intelligence, and not repeat the mistakes that got us into this situation.

Precinct 4 high rise apartments MIGHT still be there in 2100 …. But conditions will likely be very different for residents – if they still want to live there.

[31] NBC News *Surfside collapse exposes an overlooked threat: Saltwater rising from underground* Feb. 17, 2022 https://www.nbcnews.com/news/us-news/surfside-condo-collapse-salt-groundwater-rcna16473