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PORIRUA PROPOSED DISTRICT PLAN – STREAM 5 HEARING

STATEMENT OF EVIDENCE FROM RAY O'CALLAGHAN, ON BEHALF OF 1010 HOMES LTD

INTRODUCTION

1. My name is Raymond Brian O'Callaghan.
2. I am a sole practitioner consulting infrastructure engineer based in Wellington.
3. I hold the qualifications of Bachelor Engineering (Civil), Dip Hydraulics (Delft) and I am a Chartered Professional Engineer. I am a Fellow of Engineering New Zealand (formally Institute of Professional Engineers New Zealand) and a Past President of the Association of Consulting and Engineering.
4. I have 39 years of experience as a Chartered Professional Engineer (became a Registered Engineer in 1983) and have worked in the field of civil engineering for this period. My engineering work has been mainly focussed on infrastructure including earthworks, roading, stormwater, wastewater, water supply, land development, and resource management processes associated with these projects.
5. I have led consultant services for numerous large land development projects across New Zealand with several years continued input into projects in Hamilton, Taupo, HawkesBay, Wairarapa, Kapiti, Wellington and Christchurch.
6. I have assisted 1010 Homes Ltd over the last 6 years in assessing potential development options on their site at Judgeford Hills and with advancing the site as a Future Urban Zone within the Judgeford Hills Zone of the Proposed Porirua District Plan (pPDP).

CODE OF CONDUCT

7. I have read the Environment Court Code of Conduct for expert witnesses and agree to comply with it.
8. I confirm that the topics and opinions addressed in this statement are within my area of expertise except where I state that I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

BACKGROUND

9. This statement of evidence relates to the submission by 1010 Homes Ltd to the pPDP, relating to medium to long term growth areas in Porirua. The 1010 Homes land is situated in the Judgeford Hills Zone and is proposed to be Future Urban Zone under the pPDP.
10. The 1010 Homes land is approximately 155Ha and ranges between gently rolling to steep hillside country. There are several streams incised in the landform. The site offers the potential to create more than 500 residential properties (depending on the final range of building typologies) and final earthworks design.
11. Detailed assessments of engineering, ecology and urban design aspects have been carried out since 2016 and the outcome of these have assisted the promotion of the site as a suitable Future Urban Zone for the pPDP.

OVERVIEW OF FUTURE ENGINEERING INFRASTRUCTURE REQUIRED TO SERVICE THE SITE

12. An understanding of engineering infrastructure capacity, any possible constraints from the infrastructure and likely options to address those constraints is essential when assessing potential future growth areas.

Transport

13. The site is currently isolated in terms of transport connectivity. The only existing access is from the end of Bradey Road. However, we have carried out extensive engineering assessment, including preliminary design and gaining resource consents for earthworks for a roading connection to the eastern round-a-bout of the Transmission Gully's Whitby/Waitangirua interchange. Our work concluded that an inlet road from the round-a-bout, traversing the hillside above the eastern side of Transmission Gully and crossing over the hill into the site is eminently feasible and modest in industry terms.
14. Resource consents to carry out the earthworks to create the inlet road were issued by both Porirua City Council and Greater Wellington Regional Council in 2020. It was hoped that these earthworks would be carried out during the construction phase of Transmission Gully highway, but the highway contractor became concerned that the inlet road earthworks could adversely affect their program for completing their project and so the work was deferred.

15. It is anticipated that the earthworks and the inlet road construction work would be implemented once the Structure Plan process for Judgeford Hills, and the associated Plan Change from Future Urban to Urban process was progressed.
16. It is anticipated that the road network within the Judgeford Hills zone would extend through to Belmont Road because Greater Wellington Regional Council is keen to see this connection so that better transport connectivity with the Belmont Regional Park can be achieved. The concept design for the residential development within the Judgeford Hills Zone caters for this connectivity and has confirmed a suitable connection on to Belmont Road.
17. It is also possible that the roading network within the development area could connect on to Bradey Road. This roading connection option would be explored during a Structure Planning process.

Water Supply

18. The site does not have residential water reticulation infrastructure on the site, but it does have bulk water mains crossing it that link the Wellington region supply at Te Marua with Porirua. It is envisaged that future water supply to residential development within the site would involve a connection to that bulk supply system. The connection would feed two storage reservoirs on the site, one servicing the lower zone on the site and a second servicing a higher zone in the southern area, closer to the Belmont Regional Park.
19. The concept water supply system is relatively standard in industry terms and is used for the other areas of developed Whitby and wider Porirua. The system would meet all industry standards including the Fire Service requirements for residential areas.

Wastewater

20. There is no wastewater connection to the site and the closest wastewater infrastructure is on the western side of Transmission Gully highway, within Whitby. However, the Judgeford Hills development zone is of sufficient scale to enable the implementation of a zone wide connection to Porirua's wastewater network. Whilst the technical details have not been advanced with the Council, it is expected that the infrastructure required will include a large pump station within the zone and a pumping main to either Whitby or to Waitangirua (approximately 2.5km away). A third alternative is a gravity link down Bradey Road if future development within the wider Judgeford Zone advances a bulk wastewater link between that zone and the Porirua wastewater network.
21. Whilst the scale of the bulk wastewater network required to service the Judgeford Hills Zone might seem huge to some, to put it into perspective, I have over the last 4 years been heavily involved in the planning, consenting and implementation of a bulk wastewater solution involving a very large pump station and approximately 8km of pumping main to service an area of about 10 times the scale of Judgeford Hills at Hamilton. Therefore, I am confident that an appropriate solution will be refined and confirmed as part of Porirua's expansion of their wastewater network to service new growth areas.

Stormwater

22. The site has several water courses draining from the site to the nearby Pauatahanui Inlet. Preliminary ecological assessments carried out as part of our site evaluation over the last 4 years have established that some of these water courses have high ecological values. It is also recognised that there is a high need for effective stormwater management within the wider Pauatahanui Inlet catchment to improve the ecological health of the Inlet. Therefore, stormwater runoff from earthworks activities and development within the Judgeford Hills Zone must be managed to a high standard to achieve catchment wide improvement.
23. Fortunately, development within the Judgeford Hills Zone provides several opportunities to achieve a net improvement for the wider catchment. It is expected that the Structure Planning process will build on our earlier concept work and incorporate extensive wetland development, riparian planning, retirement of stream systems from grazing, instream habitat improvements and avoid, where feasible, earthwork fills within waterways to achieve notable habitat improvement and effective stormwater management outcomes.
24. It is also expected that design principles for stormwater management within the site will utilise low impact stormwater solutions and on-site detention devices to achieve best practice outcomes and an overall net improvement of stormwater runoff from the site.

Earthworks

25. The creation of residential development on the site will require extensive earthworks. Our preliminary assessment of earthworks design has confirmed that a balance of cut to fill can be achieved, avoiding the need to either cart excess material from the site or import additional fill material. The preliminary work has also confirmed that the higher areas of the site are simply too steep to enable technically feasible and/or economic earthworks and/or development on those steeper areas. It is therefore expected that the actual final development footprint will be well less than 50% of the land area with the 1010 Homes site.
26. It is envisaged that the Structure Planning process will confirm the key streams/gully systems to be avoided by earthworks and this would be supported by preliminary earthworks design at that time. It is a given that all earthworks carried out within the site will incorporate best practice industry solutions for the control of erosion and sediment runoff from earthworks areas. I have been responsible for most of the earthwork's design and construction observation within Whitby over the last 20 years. During this time the industry has continued to evolve and develop ever increasingly effective capture and control systems for erosion and sediment runoff during rainfall events. The Guidelines for this aspect of earthworks construction are now very extensive and includes monitoring during rainfall events, with alarm notification and this is now normal industry practice. I am therefore confident that earthworks within the Judgeford Hills Zone can be carried out in a manner that will control erosion and sediment runoff sufficient to avoid adverse effects on the water courses and the lower Pauatahanui Inlet.

ISSUES RAISED IN SECTION 42A REPORT

27. I have reviewed the sections of the 42A report where it deals with the Judgeford Hills Zone. I agree with the report and agree with the Reports view on the submission from Waka Kotahi.

CONCLUSION

28. In summary, I conclude that:
- (a) Future urban development on the 1010 Homes Ltd site at Judgeford Hills is feasible and sensible for the local community, subject to a Structure Planning process confirming appropriate bulk infrastructure solutions are available or implementable to service the site.
 - (b) I am confident appropriate bulk infrastructure solutions to service the site will be progressed as part of the wider development within this area of Porirua.
 - (c) The proposed Future Urban Zone classification for the site within the Proposed District Plan is appropriate for the Judgeford Hills Zone.

Dated this 5th day of May 2022



Raymond O'Callaghan