

To: The Chief Executive  
Otago Regional Council  
Private Bag 1954  
Dunedin 9054

**SUBMITTER: BIG STONE FOREST LIMITED ('BSFL')**

1. This is a submission on an application from the Dunedin City Council for a resource consent with reference RM20.080 for activities associated with the proposed Smooth Hill landfill at the corner of Big Stone Road and McLaren Gully Road, Brighton (the **Application**).
2. BSFL is not a trade competitor for the purposes of section 308B of the Resource Management Act 1991 (**RMA**).
3. BSFL wish to be heard in support of this submission and is happy to present jointly with other parties seeking the same relief.

**Specific Points of Submission**

4. BSFL opposes the Application for the following reasons:
  - (a) The Application proposes to operate a class 1 landfill at Smooth Hill, a site which:
    - (i) Has complex shallow and deep groundwater interactions which drain into the Ōtokia Creek, Graybrook Stream, Fern Stream and Flax stream and ultimately flowing out to sea<sup>1</sup>.
    - (ii) Is amidst a network of wetlands.

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<sup>1</sup> Preliminary Site Investigation Report at 3.4 Hydrology and Topography

- (iii) Provides habitat to indigenous biodiversity including the New Zealand Falcon.
  - (iv) Borders large swathes of forestry.
  - (v) adjoins established rural-residential development.
- (b) Some of these factors, like rural-residential development have established since the Applicant selected Smooth Hill as a preferred landfill site in the early 1990s.
- (c) Critically, in the 30 years since the site was selected our awareness and appreciation of environmental risks, like siting landfills away from valleys and waterbodies, has taken great strides. We are far more aware of the fragility of waterways, wetlands, and indigenous biodiversity and of the important role we each play in protecting our environment for future generations. It is our view that under current best practice landfill site selection criteria the Smooth Hill site would not be chosen as a good site for a Class 1 landfill.
- (d) The new National Environmental Standards for Freshwater which protects wetlands are a good example of how New Zealand is taking active steps to preserve these important areas, yet the Application was submitted just before draining of wetlands was prohibited and seeks to drain an area of this precious resource.
- (e) BSFL is concerned that the Application will generate significant adverse effects on the environment and on neighbouring residents. Of particular concern are adverse effects on:
- (i) Hydrology and water quality.
  - (ii) Habitat and indigenous biodiversity.
  - (iii) Fire risk.
  - (iv) Domestic water supplies.
  - (v) Amenity of neighbouring properties from nuisances including odour, dust, pests, noise and failure to contain contaminants.
  - (vi) Rural character, amenity and community wellbeing.

- (f) A landfill management plan and the use of best practice is proposed by the Applicant to mitigate the risk of these adverse effects. However, the documents filed with the application are incomplete and do not allow an informed assessment of whether these methods will be sufficient at this sensitive location.
- (g) The Council made two further information requests dated 13 October 2020 and 21 June 2021, in relation to the Application. The section 92 Report makes clear that the Applicant has not provided the Council with sufficient information to allow it to reach conclusions about the effects of the Application on the environment.<sup>2</sup>
- (h) This is distinct from the general conclusion reached by Tonkin + Taylor (T + T) that modern landfill practices should achieve modern landfill standards.<sup>3</sup> As above the application does not contain adequate information to allow such a conclusion to be reached. In particular the conditions fail to secure the most critical performance criteria discussed in the application and relied upon by the various experts in their conclusions about the effects of the application.
- (i) The Consultant Planner's conclusion that potential effects can be managed by proposed conditions of consent *and* further investigative work<sup>4</sup> is specific to the purpose of the section 92 report.
- (j) The grant of consent cannot sensibly precede the investigative work required to determine the effects of the Application. This missing information about potential effects leaves the ORC unable to determine the Application.
- (k) Despite the management plan and other proposed mitigations the Application does not provide us with confidence that our family will be able to continue to live like we do – swimming, fishing, tramping, biking, native bird watching and generally enjoying the serenity of the semi-rural off-grid lifestyle we've created at our property on Big Stone Road
- (l) Further the Applicant identifies other viable solutions which it has elected not to pursue. We understand that the applicant is concerned they've left this application too late and believe they don't have time to start again on finding

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<sup>2</sup> Section 92 Report page 65, 40, 44

<sup>3</sup> Section 92 Report page 39

<sup>4</sup> Section 92 Report page 41,45

an alternative site, but unlike the applicant we do not believe this is an adequate excuse for putting the environment in which we and Brighton residents live at risk.<sup>5</sup>

## **BSFL**

5. BSFL own a property located across Big Stone Road from the Smooth Hill site. We consider ourselves likely to be one of the most affected parties by this application.
6. We have built our off-grid family home here and consider it to be our own personal retreat from our busy daily lives. We specifically hunted out a location with the isolated and wild qualities of the Big Stone Area. Our family lives here surrounded by forests where we hike, tramp and bike and near the sea where we swim, surf and collect kaimoana. We grow vegetables in our gardens and enjoy an extremely peaceful rural environment along with the added benefits of close connections to our neighbours and Brighton community.

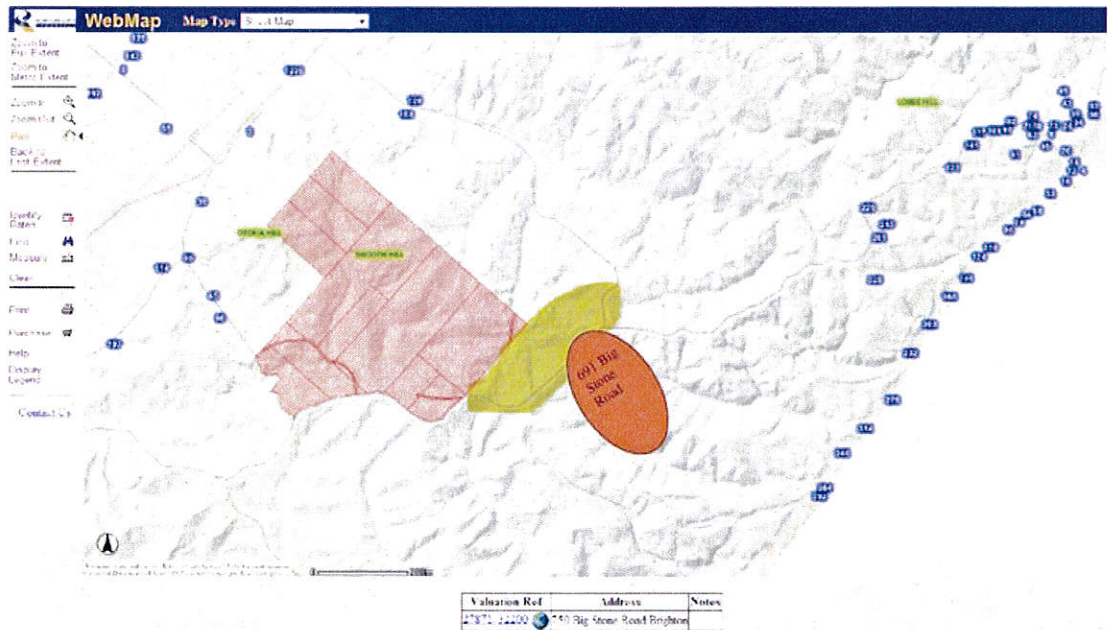
## **Designation**

7. We acknowledge that the site was designated as a landfill site in 1992. When we purchased our property we obtained a LIM report. That report did not identify the designation as being relevant to our land. We were advised of the potential by the real estate agent which promoted me to make further enquiries of the Council. I contacted the Council planning team and spoke with a Council Planner. They advised me that the designation was at 750 Big Stone Road and suggested I search this on the DCC's webmap tool which I did. The area highlighted in red is 750 Big

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<sup>5</sup> Further Section 92 Response dated 5 August 2021

Stone Road.



8. You can therefore imagine our surprise when the DCC plans for the Landfill were made available and the Landfill footprint was located within the area highlighted in yellow. The proposed location and layout of the Landfill is about as bad as it could possibly be from our point of view. We believe that landfill will have significant adverse effects on our ability to enjoy our home and our wider environment. The Landfill will be inescapable. We will be impacted by it every single time we drive out our gate given the proximity of the proposed access and landfill footprint to Big Stone Road directly opposite our property.
9. Given the inconclusive information identified in the section 92 report<sup>6</sup>, BSFL considers there is considerable and continuing uncertainty about significant adverse effects of the Application which means that consent should not be granted. If it is to be granted then there need to be significant improvements made to the consent conditions and Landfill Management Plans to minimise the risks and address uncertainty.

## Ecological effects

<sup>6</sup> Section 92 report page 65, 40, 44, 45

10. T + T reviewed the Application's ecological assessment. While they agreed with the Applicants that the level of effects would likely be low if the effects management actions were implemented, T + T expressed uncertainty about the potential effects due to the lack of base data used in the Applicants model.<sup>7</sup>
11. In the section 92 Report the consultant planner finds it impossible to conclude whether with respect to ecological effects the Application will result in a net loss or gain.
12. T + T express low confidence in the Applicant's ecological effects conclusions noting that they consider the level of effect on lizards, falcon, and wetlands to have been potentially underestimated in the Application.<sup>8</sup>
13. This raises serious concerns about the ecological effects of the Application. Worryingly "*no ecological monitoring is proposed to ensure that the actual effects will be as low as predicted.*"<sup>9</sup>
14. The ecological risk to wetland habitat is potentially significant and the Applicant has not provided sufficient detail to show that it has not underestimated these effects.<sup>10</sup>
15. Wetland habitat risk is exacerbated by unsatisfactory surface and groundwater data and catchment modelling.
16. We spend a lot of time around the landfill area. We mountain bike, horse ride and trail run regularly. During such adventures one of the things we enjoy most about it is the wonderful bird life. We know that there are New Zealand Falcon that use the application site for nesting. We also have enjoyed watching out for lizards when we are in the bush – our neighbour's boys have grown up finding native geckos in the adjacent farm land. In our view it is extraordinary that the Dunedin City Council would be willing to destroy these habitats with no accountability.

## **Effects on waterways and catchments**

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<sup>7</sup> Tonkin & Taylor Limited, Technical Review to Inform Notification Decision Smooth Hill Landfill Appendix 11 Ecology Assessment (**T + T Ecology Review**) dated 3 September 2021 at [17].

<sup>8</sup> Section 92 Report page 64.

<sup>9</sup> T + T Ecology Review at [27].

<sup>10</sup> Section 92 Report page 65.

17. Potential adverse effects of the Application on ground water and surface water include reduced recharge, runoff interception and the removal of groundwater via subsurface drainage<sup>11</sup> which is particularly problematic in relation to wetlands.
18. Troublingly, these are just the potential effects if all goes well.
19. Leachate is produced when rainfall passes through decomposing waste collecting contaminants as it goes. A liner system is proposed in the Application to address this risk but if the liner fails and leachate leaks there is a risk that these contaminants could enter the groundwater system.<sup>12</sup> Some leakage is anticipated by the Applicant both during operations and after the landfill ceases operations.<sup>13</sup> The extent of the impact of this linkage depends on groundwater and surface water levels and interactions which remain to be fully understood.
20. The Application states the landfill footprint and associated infrastructure will be fully located in the Ōtakia Creek catchment but goes on to state that the catchment area encompasses the catchments of three first order streams located in the landfill footprint.<sup>14</sup> It is not entirely clear what downstream effects could happen in which catchments.
21. What is clear from the Application is that is that the proposed site is in an elevated central position between the McColl Creek, Flax Stream and Fern Stream catchments.<sup>15</sup>
22. The Applicant does not even consider the samples used for its surface water flow analysis to be representative.<sup>16</sup> BSFL is concerned that the assessment of effects is fundamentally flawed without accurate baseline data.
23. Stage 1 of the Application does not include the attenuation basin and runoff will be piped into the Ōtokia Creek.<sup>17</sup> The Application treats this as an acceptable outcome without accounting for the increased risk of contaminated runoff.
24. Separately, the lack of data, unattenuated stage 1 and potential for multi-catchment effects are each concerning. Together these factors demonstrate an unacceptable

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<sup>11</sup> Application Appendix 8 Groundwater Report at 4.1

<sup>12</sup> Ibid

<sup>13</sup> Application Appendix 8 Groundwater Report at 4.6.1

<sup>14</sup> Application Appendix 8 Groundwater Report at 2.3

<sup>15</sup> Application Appendix 8 Groundwater Report Figure 4

<sup>16</sup> Application Appendix 8 Groundwater Report at 3.3.3

<sup>17</sup> Application Appendix 8 Groundwater Report at 4.1.2

shortage of information about the potential and actual adverse effects on waterways (and wetlands) arising from the Application.

### **Contaminant effects**

1. While leachate refers to many contaminants, the Application fails to address the risk associated with the disposal of persistent organic pollutants (**POPs**) including elemental mercury, PFAs, dioxins, POP-PBDEs etc. The current waste acceptance criteria does not address these wastes. It is our understanding that POP's are considered problematic because of their persistent and toxic nature. I.e – they kill things and they do not disappear. So, they will remain in the environment forever and beyond the life of the proposed engineering controls. This means they will still be there when the liner inevitably fails – even if that is decades, or potentially centuries into the future. The DCC appear willing to kick that can to future generations to deal with.
2. It is our understanding that it is now common practice for POP's to be prohibited from disposal within even Class 1 landfills. The fact that the DCC have not addressed this issue in the application undermines our confidence in their willingness or capacity for achieving the best practice standards they claim they will adhere to.
3. We also understand that the information on emerging persistent, toxic and bio-accumulative compounds is constantly evolving. The Application fails to explain how it will adapt to emerging risks.

### **Landfill Fire Risk**

4. Landfill fires are a potential major issue for landfills. In addition to the risk of hazardous air pollutants being emitted from the landfill there is also a real safety risk from siting the landfill next to existing forestry plantation which surrounds a number of residential dwellings.
5. Landfill fires can have significant adverse impacts on staff at the landfill as well as the community nearby. One of the purposes of the landfill gas collection system is to reduce the amount of oxygen within a landfill. The Application addresses emissions but does not address the risk posed by oxygen concentration or the impact that this risk has on safety of neighbouring properties. The Application is unclear about the number of flares proposed or what redundancy is to be incorporated to address the risk of flare failure. There do not appear to be any standards proposed in the



conditions to ensure that Oxygen levels within the landfill are managed to minimise the well-known risks of landfill fire.

6. As a neighbouring property surrounded by forestry next to the proposed site, BSFL considers it is particularly affected by these issues and the risk posed by inadequate oxygen management in LFG.
7. This is another reason we are so concerned about the proximity of the Landfill to Big Stone Road. There is only a 10m setback from the road to the landfill footprint. The DCC are proposing that this area is planted in vegetation to provide visual screening. We are concerned about this because it means there will be extensive vegetation very close to the Landfill which will be at risk of catching fire and spreading a fire rapidly to the surrounding forestry. The landfill location can be very hot and windy so in the right conditions fire will be extremely difficult to contain.
8. Having lived in this area for a long time now we are acutely aware of how tinder dry the forestry can get. A few stray sparks on a hot and windy day and a fire will quickly get out of control in this area. There have been instances where the likes of chainsaw sparks or motorcycles have triggered a fire in similar areas. We are very concerned about this because:
  - (a) The fire service will take quite a while to get to us (in April 2020 our immediate neighbour's house fire took 30 minutes for the sole volunteer engine to reach it, another 20 minutes for the City fire brigade. Thankfully it was a wet day and low wind. If it had it not been it's likely to have spread and the whole area would have required evacuation. I cannot see where the Applicant considered the heightened risk of fire for the landfill operation given the proximity of residential activity?
  - (b) We have only one way out of our property – which will be to go towards the fire.
  - (c) It puts our home and lives at risk, both from the fire itself and the toxic fumes are likely to emanate from a fire;
  - (d) It puts our livelihood at risk due to the plantation forestry on our property.
9. Once again, we consider that the application has not adequately addressed these issues. Mitigation requirements are in conflict with one another, there is no

commitment to strict standards to minimise this risk and the risk management response is pitiful.

### **Air Quality effects**

10. While T + T generally agreed with the Application's conclusions about potential odour effects relating to routine waste, this was not the key risk for odour effects rather<sup>18</sup>:

*"T+T considers the key risk in terms of the potential for offensive or objectionable odour relates to the receipt of highly odorous wastes or exposure to landfill gas that has migrated beyond the site boundary."*

11. Though T + T approved of the mitigations proposed it considered further controls were necessary to *"achieve a high standard of odour management to avoid offensive or objectionably odour effects on the closest neighbours"*. Ultimately concluding that effects on near neighbours (within 500 m) were minor.<sup>19</sup>
12. Given the dependence on controls T + T recommend that a more complete and comprehensive Landfill Management Plan addressing odour control be provide prior to any Council hearing of the Application.<sup>20</sup>
13. This further requirement indicates that questions remain about odour control efficacy. This is particularly concerning since the control of highly odorous wastes is one of the most common causes of odour nuisance effects at landfills according to T + T. To address this issue we would expect to see more robust processes to manage this both on its journey to the site and on arrival. This might include a covered dumping zone.
14. We also understand that one of the key sources of odour issues at a landfill is due to the hydrogen sulphide component of Landfill gas that leaks through the capping and working face. This smells like rotten eggs and is widely accepted to be offensive and objectionable. We are aware that other landfills have landfill gas emissions standards and are required to monitor hydrogen sulphide constantly. Once again, the DCC's conditions appear to fall short of what is considered best practice.

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<sup>18</sup> Tonkin & Taylor Limited, Technical Review to Inform Notification Decision Smooth Hill Landfill Appendix 10 Air Quality Assessment (**T + T Air Review**) dated 27 August 2021 at [23].

<sup>19</sup> T + T Air Review at [31].

<sup>20</sup> T + T Air Review at [41].

15. Dust provokes less complaint than odour. However, BSFL does not accept that the lack of reported issues means that dust is not an adverse effect to be considered in its own right. Especially, where the assessment of these effects depends on good practice measures contained in a landfill management plan which is currently woefully inadequate<sup>21</sup> and that the road is currently unsealed and is therefore likely to generate dust with increased heavy traffic movements.
16. We have had numerous meetings with the DCC in relation to this project in an effort to understand how it will operate and the extent of risk it poses to us. During those meetings DCC staff (Chris Henderson, during an on-site visit) indicated that it intended to manage odour to avoiding the receipt of putrescible waste. This gave us considerable comfort at the time because the absence of putrescible waste would have addressed many of our concerns including:
  - (a) Odour,
  - (b) Vermin and pest bird infestations,
  - (c) Risk to aircraft.
17. However, like many of the Council's claims that commitment is not reflected in the application. We understand this measure was also considered necessary to manage aviation safety risk.

### **Noise effects**

18. T + T after reviewing the noise assessment in the Application conclude that these effects are able to be mitigated to the extent that they are less than minor.<sup>22</sup> However, inconsistencies between mitigation methods make it unclear whether this is in fact the case. For example, the first deterrence method listed in the bird management plan being dispersal from the active tip face using noise based bird dispersal methods.<sup>23</sup> In our view this suggests that the conclusion that noise effects will be less than minor is likely unsound.

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<sup>21</sup> Ibid.

<sup>22</sup> Tonkin & Taylor Limited, Technical Review to Inform Notification Decision Smooth Hill Landfill Appendix 16 Acoustics Assessment (**T + T Noise Review**) dated 26 August 2021 at [16].

<sup>23</sup> Smooth Hill Draft Bird Management Plan at 3.2.1

## Community and Rural Amenity Effects

19. The Application seeks to locate in the Coastal Rural zone which is characterised by the visual dominance of natural landforms including the hills and other natural elements such as streams and wetlands.<sup>24</sup> These effects arise directly from the application to discharge contaminants to land and are impacted by the emission of odour, noise etc.
20. As mentioned in 4 (k) above, despite the management plan and other proposed mitigations the Application does not provide us with confidence that our family will be able to continue to live like we do – swimming, fishing, tramping, biking, native bird watching and generally enjoying the serenity of the semi-rural off-grid lifestyle we've created in our environment.
- (a) When we head out for a bike, horse ride or run – we'll be assaulted with the view and smell as we navigate the fenced perimeter of a landfill at our gate.
  - (b) When we spend all day all weekend out planting natives and maintaining our gardens and forests, will it be to the background noise of reversing truck beeps, pests on the landfill being shot and the persistent wafts of odour?
  - (c) On stunning summer evenings when we eat outside will it also be ruined with smell and an influx of a newly resident seagull population?
  - (d) When I play soccer on the lawn with my son when we get home from school at 3.30pm, the landfill will still be in its standard operating hours – will we be at risk from the many trucks on the road on our drive home, and will the noise of workers and machinery destroy our serene afternoons? Noise travels so clearly across the valley from the road to our house, that we can hear people talking on the road – our son came to us only last week worried someone was on the property, but it was people talking on the road – 1km away!

Will our friendly regular Tuis and Falcons still visit us? Eating the flaxes and natives we've planted and floating outside our windows?

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<sup>24</sup> Appendix 7 Section Generation Dunedin District Plan

## **Conclusion**

21. The adverse effects of this proposal and the potential long-term consequences of this are significant. So much so the applicant simply cannot be said to achieve sustainable management.
22. A comparison of the proposed conditions to conditions imposed on other recently approved landfills demonstrate significant deficiencies which mean that many of the conclusions in the various effects assessment reports cannot be relied upon. The proposed conditions mean once approved, operation of the landfill will be inadequately controlled which risks adverse effects arising that have not been assessed. Simply put, the conditions do not reflect a landfill that meets best practice despite the DCC's claims in this regard.
23. The reality is that Dunedin City does not need this landfill. We do not need to spend the money and the Brighton community does not need to have this inflicted upon it. The \$50+ Million earmarked for building this would be better spent on fast tracking waste minimisation, composting of putrescible waste streams and purchasing electric trucks to transport waste to other existing landfills within the South Island.

## **General**

24. Given the lack of information, incomplete assessments, inadequate conditions and potentially significant adverse effects discussed above the proposal is:
  - a) Inconsistent with the National Policy Statement Freshwater Management 2020
  - b) Inconsistent with the Partially Operative Otago Regional Policy Statement 2019
  - c) Inconsistent with the Proposed Otago Regional Policy Statement 2021
  - d) Inconsistent with the Otago Regional Plan: Water and Waste.
  - e) It is also likely to be inconsistent with the National Policy Statement for Indigenous Biodiversity when it becomes operative.
25. Equally the proposal does not achieve the purpose of the Resource Management Act 1991.

## **Relief Sought (in order of priority)**

26. BSFL seeks the consent authority decline the Application in its entirety; or
27. Granting consent with a prohibition on the receipt of putrescible waste; or

28. Granting consent with comprehensive amendments to conditions to actually achieve best practice management of the landfill operations and certainty with respect to the level of adverse effects that will be generated, such as:

- (a) Controls on the size of the working face;
- (b) Controls on oxygen content of LFG
- (c) Prohibition of POP's.
- (d) Requirement for a covered dumping zone to manage odour.
- (e) Obligation to constantly monitor Hydrogen Sulphide.
- (f) More limited operating hours to reduce the impact on our rural amenity.

**Sarah Ramsay**

**Date: 15/11/21**



**Director and Shareholder – Big Stone Forests Limited**

**Alex Ramsay**

**Date: 15/11/21**



**Director and Shareholder – Big Stone Forests Limited**

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