

**IN THE MATTER OF** the Resource Management Act 1991

**AND**

**IN THE MATTER OF** Proposed Private Plan Change 56 to the Matamata Piako District Plan by Lockerbie Estate Limited and Lockerbie Estate No.3 Limited to rezone approximately 78 hectares of land at 76 Taukoro Road, 182 Morrinsville-Tahuna Road and Lockerbie Street from a Rural Zone (with a Future Residential Policy Area Overlay) to a Residential and Medium Residential Zone with supporting Development Area Plan.

---

**STATEMENT OF EVIDENCE OF DEAN JOHN MORRIS  
ON BEHALF OF LOCKERBIE ESTATE LIMITED**

**Infrastructure**

**4 July 2022**

---

## **INTRODUCTION**

1. My full name is Dean John Morris. I am a Team Leader and Senior Engineer of Maven Associates Limited (“Maven”), which provides specialist civil engineering services.
2. I hold a New Zealand Diploma in Engineering (NZDE Civil), National Diploma in Civil Engineering (Applied) and I am a Chartered Member of Engineering New Zealand (Engineering Technician).
3. I have been engaged by Lockerbie Estate Limited and Lockerbie No.3 Limited (“Lockerbie”) to assist with developing a masterplan and providing infrastructure advice in relation to Proposed Plan Change 56 (“PC56”).
4. I have over fourteen years of experience in civil engineering and have led a diverse range of large-scale projects in the public and private sectors. I am experienced in the design of residential, commercial, and industrial developments, including bulk earthworks, roading, drainage (wastewater and stormwater management) and utilities.

## **CODE OF CONDUCT FOR EXPERT WITNESSES**

5. I am familiar with the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2014) and although I note this is a Council hearing, I agree to comply with this code. The evidence I will present is within my area of expertise, except where I state that I am relying on information provided by another party. I have not knowingly omitted facts or information that might alter or detract from opinions I express.

## **SCOPE OF EVIDENCE**

6. My evidence will cover:
  - (a) Site development including earthworks and roading;
  - (b) Infrastructure and servicing requirements;
  - (c) Consultation with Local Authority and utility providers; and
  - (d) Comments on submissions related to my evidence.
7. My evidence will provide a focus on issues raised within the submissions, as relevant to my expertise, including:

- (a) Water supply capacity
  - (b) Wastewater network capacity
  - (c) Stormwater receiving environment
  - (d) Power supply capacity
8. I have been asked to provide evidence in relation to infrastructure aspects of the Plan Change and confirming that the Plan Change area is suitable for the proposed development. Along with my Maven colleagues, we prepared an Infrastructure report dated 11 November 2021 that accompanies and supports the Plan Change application. I have also been involved in numerous discussions with various infrastructure providers/operators and council-controlled organisations (Waikato Regional Council, Matamata-Piako District Council (“MPDC”), Tuatahi First Fibre and PowerCo) as to the suitability of servicing the Plan Change area.
9. The land is currently zoned Rural within the Matamata Piako District Plan (“MPDP”) and has been identified for future residential development through the Future Residential Policy Area Overlay that applies to the site. In this statement of evidence, I do not repeat the description of the site, or the plan change and refer to the summary of the application in the evidence of Ms Kathryn Drew, Planner.
10. I confirm that I have reviewed and overseen the reporting requirements for the Plan Change area. I have visited the Plan Change area as part of the review process.

#### **EXECUTIVE SUMMARY**

11. My evidence will provide a focus on the suitability for the Plan Change area to be developed and respond to issues raised within the submissions.
12. I can confirm based upon our investigation, preliminary design, and reports to date that residential development of the Plan Change Area can be achieved through implementation of:
- (a) Balanced bulk earthworks for the site that achieves appropriate road grades and developable lots.
  - (b) New three waters infrastructure compliant with local and regional authority standards including water sensitive design techniques to assist with the sustainable expansion of Morrinsville.
  - (c) Expansion of utility providers residential networks for power and telecoms.

- (d) Staging of the development in line with the proposed Plan Change provisions that set out triggers for upgrades to downstream strategic infrastructure.

### **Earthworks**

- 13. The Plan Change area will require earthworks to ensure appropriate road grades and developable lots can comply with MPDC development standards. Whilst the volume of earthworks will be determined through detailed design, preliminary modelling by Maven has identified that the whole Plan Change area can achieve a balanced earthworks outcome to enable development standards to be met.
- 14. Erosion and Sediment control in accordance with TR2009/02 (Erosion and sediment control guidelines for soil disturbing activities) will be implemented to mitigate the adverse effects of earthworks and ensure that downstream watercourses/environment are protected.

### **Roading**

- 15. I refer to Mr Michael Hall's traffic evidence on behalf of Lockerbie that confirms appropriate transport infrastructure can be provided to the Plan Change area.
- 16. The internal road network can be successfully engineered to meet Regional Infrastructure Technical Specifications (RITS) and district standards, and there are no issues with managing the vertical grades or horizontal geometry required within the Plan Change Area. The District Plan provisions, existing and proposed, enable Council to assess these matters at the time of resource consent.
- 17. Suitable connections to external roading networks have been co-ordinated with MPDC, with appropriate vertical and horizontal geometry being integrated throughout the design process. As such, I do not expect any engineering impediments in creating external network connections to existing corridors and/or internal road networks.

### Three Waters Plan

18. The below infrastructure plan diagrammatically demonstrates the three waters infrastructure arrangements, with further details provided in the following sections of this evidence.



LOCKERBIE ESTATE LIMITED  
3 WATERS

## Stormwater

### Stormwater Management Plan (SMP)

19. Maven have developed a SMP specific to the eastern half of the Plan Change area which has been through a robust review and co-ordination with MPDC and Waikato Regional Council (“WRC”) to ensure compliance with the objectives of the regional guidelines and to enable a stormwater discharge consent (AUTH141393.02.01) for this land to be granted.

An additional SMP will be provided to obtain a similar stormwater discharge consent from WRC prior to commencing any works to the western half of the Plan Change area. The existing SMP stormwater strategies for the Plan Change area will be applied to the additional area.

20. The existing SMP provides a comprehensive stormwater solution which addresses known constraints whilst providing an integrated response to catchment wide treatment for flooding and stormwater quality issues as the Plan Change area transitions from rural into an urban land use.
21. We have identified objectives within the existing SMP to protect both the receiving environment within the Plan Change area and the downstream environments to mitigate the effects of urbanisation through appropriately considered water sensitive design. These objectives are summarised as follows:
- (a) Implementation of stormwater quality devices across the catchments, ensuring stormwater runoff is effectively treated before being received by the downstream environment.
  - (b) Provision of conveyance for storm events including conveyance of primary and secondary flows via a combination of pipe networks and new, altered, or existing watercourses within the Plan Change area.
  - (c) Protection of existing watercourses through erosion and sediment management methods and devices. These include volume controls, plus a range of other options including outlet velocity mitigation, riparian zone enhancement and connectivity, plus specific engineering design controlling flow velocities.
  - (d) Mitigation of downstream effects through attenuation of peak storm event flows from both 10-year and 100-year events through both at source, and catchment wide flow and flood management options.
  - (e) Provision for internal overland flow is to be controlled within the proposed road corridors and reserves.

22. Implementing the objectives of the SMP will enable the Plan Change area to be developed without generating adverse effects to the receiving stormwater environment.
23. Post hydrologic modelling of the 100-year ARI rainfall event, with climate change factor included, suggests that meeting the objectives of the SMP will ensure no downstream effects and flooding will be limited to the natural stream extents.
24. Preliminary design of the stormwater network has been carried out for the Plan Change area. Various network scenarios have been modelled and I am confident that a workable and best practicable option compliant with the infrastructure and design considerations of rule 9.4.7 and regional discharge consents can be provided.

### **Wastewater**

25. Preliminary design of wastewater reticulation has been carried out for the Plan Change area. This design has identified that wastewater will discharge to a pump station located to the northern most area of the development adjacent Taukoro Road. The pump station will collect and pump wastewater from the Plan Change area into Council reticulation located at the end of Lockerbie Street via a rising main.
26. Implementation of the pump station and associated rising main is required to be constructed within the first stage of the Plan Change Area, prior to any residential development, to facilitate wastewater disposal to the Council network. This requirement is set out at Rule 9.4.5 and 9.4.9. Design and implementation of the pump station will be funded by the developer.
27. Future stages of the Plan Change area may rely upon greater network upgrades being completed by MPDC, who controls the master planning, design, and implementation of network upgrades. Through consultation with MPDC, we understand that these are anticipated to include:
  - (a) Upgrades to the Allen Street Pump Station;
  - (b) Capacity and treatment upgrades to the Morrinsville Wastewater Treatment Plant to provide for growth, resilience, and compliance with new legislation; and
  - (c) Downstream infrastructure upgrades to the reticulated network.
28. Design and implementation of the network upgrades identified above have all been identified within the MPDC Long Term Plan (adopted 30 June 2021) -

Wastewater Capital and Renewal Expenditure. Furthermore, they are also provided for in Rule 9.4.9 – Triggers for Works, with the caveat that the scale of the works is to be agreed with Council once further information is available at to the necessity and nature of the upgrades.

## **Water Supply**

### Water Treatment Plant

29. Preliminary modelling indicated that there is insufficient capacity in the existing water network to service the Plan Change area. To mitigate this, and to reinforce the wider Morrinsville catchment, MPDC are installing a new Water Treatment Plant within Lockerbie Estate supplied by an existing bore located on Cobham Drive. Rule 9.4.6 and 9.4.9 sets out the works required including commissioning of the Lockerbie Water Treatment Plant prior to the first residential unit of the Plan Change area being serviced.
30. Consenting and delivery of the Water Treatment Plant is being undertaken by MPDC. Delivery is underway with procurement of specialist suppliers tendering for a design and build contract. Completion of the Lockerbie Water Treatment Plant is expected towards the end of 2023.
31. Design and implementation of the Water Treatment Plant above has been identified within the MPDC Long Term Plan (adopted 30 June 2021) - Water Capital and Renewal Expenditure.
32. Provision to supply, design and build a temporary treatment plant, situated within Lockerbie Estate has been included by MPDC as part of the above tender process. This will allow servicing of the Plan Change area as well as providing additional capacity to the MPDC network in the short term until the permanent Water Treatment Plant is implemented at the end of 2023.

### Water Conservation

33. Water sensitive techniques and efficiency measures are proposed to be adopted within the Plan Change Area. These measures will help to provide water conservation throughout summer periods when traditional water restrictions are imposed.
34. Maven have recommended metering and low flow fixtures are provided to individual residential units to promote water wise behaviour. Rule 6.3.12 of the Plan Change Area has been drafted to require water meters for each individual residential unit.



35. We have also recommended rainwater harvesting to individual units to reinforce summer periods by providing for outdoor use such as gardening. Rule MRZ-R1(5) requires rain storage tanks to all developable lots. Rainwater harvesting further supports the Stormwater objectives identified within paragraph 21 above by providing for volume control to the catchments.

#### **Other Utilities**

36. Tuatahi First Fibre has confirmed through consultation that they have suitable infrastructure in the greater region to provide telecommunication servicing for the Plan Change Area.
37. PowerCo has confirmed through consultation that there is sufficient supply from their current feeder (PKO9) for around 450 lots within the Plan Change Area. Residential development above this threshold will require an additional feeder which is undergoing planning and development by PowerCo to maintain security of supply and allow for growth to occur within the wider Morrinsville township.

#### **SUBMISSIONS**

38. The following engineering considerations have been raised through submissions:
- (a) Water supply capacity
  - (b) Wastewater network capacity
  - (c) Stormwater receiving environment
  - (d) Power supply capacity

#### **Water supply capacity**

39. Submitters have raised concerns about the adequacy and resilience of Morrinsville's water supply as well as the water restrictions that are applied by MPDC each year to mitigate the adverse effects of low capacity in the network during summer. As identified in paragraphs 29 through 35 above, these concerns have been addressed through planned infrastructure works to supplement the existing MPDC network and rules that specifically apply to the Plan Change area to promote water conservation including:
- (a) MPDC have planned and have an approved consent for a new water take (AUTH142378.01.01) and associated Water Treatment Plant which is currently undergoing development within Lockerbie Estate.
  - (b) Metering and low flow fixtures to individual residential units is recommended to promote water wise behaviour. Rule 6.3.12 of the

Plan Change area requires water meters for each individual residential unit.

- (c) Rainwater harvesting to reinforce summer periods by providing for outdoor use such as gardening is recommended. Rule MRZ-R1(5) of the Plan Change area requires rain storage tanks to all developable lots.

#### **Wastewater network capacity**

40. Submitters have raised concerns about the adequacy and resilience of Morrinsville's wastewater network. Preliminary design has confirmed that servicing and infrastructure to service the Plan Change area in line with Local and Regional Authority requirements can be provided. As identified in paragraphs 25 through 28 above, concerns regarding downstream infrastructure have been addressed through future works to supplement the existing MPDC network. Works are expected to include:

- (a) Upgrades to the Allen Street Pump Station.
- (b) Capacity and treatment upgrades to the Morrinsville Wastewater Treatment Plant.
- (c) Downstream infrastructure upgrades to the reticulated network.

#### **Stormwater receiving environment**

41. Submissions 22 and 33 have raised concerns about the downstream stormwater receiving environment and its capacity to cope with additional runoff from the urbanisation of the Plan Change area. As identified in paragraphs 19 through 24 above, these concerns have been addressed by the identified objectives within the SMP. These objectives mitigate against the effects of urbanisation by management of discharge of stormwater to the receiving environment and limiting the Plan Change area to 80% predevelopment flows, thereby reducing the effects to the downstream environment.

#### **Power Supply Capacity**

42. Submission 6 raises concerns about the capacity of the existing power grid and its capacity to cope with additional urbanisation of the Plan Change area. As identified in paragraph 37 above, concerns regarding power grid capacity have been addressed through consultation with PowerCo who have advised that there is sufficient supply for around a third of the development and that PowerCo are undertaking development for an additional feeder to Morrinsville to provide additional capacity to the wider township, and the balance of the Plan Change area.

**CONCLUSION**

43. In my opinion, development of the Plan Change area can be supported through implementation and adoption of recommendations within our Infrastructure report and the proposed Plan Change area Rules. As such, there are no infrastructure capacity constraints or reasons why the plan change cannot be approved.

**Dean Morris**

4 July 2022