Before the Board of Inquiry
Waterview Connection Project

in the matter of: the Resource Management Act 1991

and

in the matter of: a Board of Inquiry appointed under s 149J of the Resource Management Act 1991 to decide notices of requirement and resource consent applications by the NZ Transport Agency for the Waterview Connection Project

Statement of evidence of Simon Chapman (Herpetofauna) on behalf of the **NZ Transport Agency**

Dated: 8 November 2010

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STATEMENT OF EVIDENCE OF SIMON CHAPMAN ON BEHALF OF THE NZ TRANSPORT AGENCY

INTRODUCTION

1 My full name is Simon Percival Chapman. I am a Principal and Senior Ecologist at Boffa Miskell Ltd (*BML*). I have a Bachelor of Science from Lincoln University New Zealand (1999) and a Postgraduate Diploma in Applied Science from Lincoln University (2007). I have worked full-time as a professional ecologist for the past 10 years. Prior to that I worked intermittently and part-time as an ecologist for four years. I have expertise in botany, ornithology, entomology and native bats. In particular, I have specialist expertise in herpetology (the study of reptiles and amphibians).

2 I am a committee member of the Society for Research on Amphibians and Reptiles in New Zealand, a member of the New Zealand Herpetological Society, and a member of the New Zealand Ecological Society. I have been granted Department of Conservation (*DOC*) permits under the Wildlife Act 1953 to handle, hold in captivity, and relocate native lizards. My permit is valid for five years and the next renewal is due in November 2012.

3 In April 2010 the DOC published a summary of all lizard translocations completed in New Zealand up to early 2010.[1] Of the total of 69 lizard translocations, I had conducted 25. This represents 36% of all New Zealand lizard translocations and all but one (i.e., 96%) of the 26 translocations undertaken to mitigate the effects of works. I have also conducted over 20 short-distance and temporary captivity lizard relocations. These do not technically qualify as translocations (because the release site is the same as, or near to, the capture site) but they require the same expertise and DOC permits. I have completed hundreds of lizard surveys, habitat assessments, assessments of ecological effects on herpetofauna and habitat creation and enhancement projects.

4 The main focus of my work is the assessment and management of ecological effects of development, with an emphasis on infrastructure and, in particular, roading projects. Major roading projects on which I have provided herpetological advice include:

- Transmission Gully Project (2009-ongoing)
- SH1 Northern Busway Extension Preliminary Scheme Assessment (2009)

[1] Sherley, G.H.; Stringer, I.A.N.; Parrish, G.R. 2010: Summary of native bat, reptile, amphibian and terrestrial invertebrate translocations in New Zealand. *Science for Conservation 303.* Department of Conservation, Wellington. 39 p.

- SH1 Waitiki Landing to Cape Reinga Seal Extension (2008-2009)
- SH1 Avalon Drive Bypass (2007)
- SH1 Northern Busway (2005-2008)
- SH1 Northern Gateway Toll Road (2004-2005)
- SH18 Greenhithe Deviation (2002-2003).

5 I have previously presented evidence as an expert witness on herpetological and other ecological matters at council hearings.

6 My evidence is given in support of notices of requirement and applications for resource consents lodged with the Environmental Protection Authority (*EPA*) by the NZ Transport Agency (*NZTA*) on 20 August 2010 in relation to the Waterview Connection Project (*Project*). The Project comprises works previously investigated and developed as two separate projects, being:

6.1 The State Highway 16 (*SH16*) Causeway Project; and

6.2 The State Highway 20 (*SH20*) Waterview Connection Project.

7 I am familiar with the area that the Project covers, and the State highway and roading network in the vicinity of the Project.

8 I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court Consolidated Practice Note (2006), and agree to comply with it. In preparing my evidence, I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed.

SCOPE OF EVIDENCE

9 My evidence will deal with the following:

9.1 Executive summary;

9.2 Background and role;

9.3 Summary of assessment of herpetofauna ecological effects;

9.4 Post-lodgement events;

9.5 Comments on submissions; and

9.6 Proposed herpetofauna conditions.

EXECUTIVE SUMMARY

10 The herpetofauna communities of the Project area have been comprehensively investigated utilising best practise methodologies. Ecologically significant copper skink populations were identified within the Project footprint. The relocation of native lizards is therefore proposed to mitigate ecological effects and to comply with the Wildlife Act 1953.[2]

11 A draft Lizard Management Plan (*LMP*) for the Project has been prepared and is attached to this evidence as **Annexure A**. The ecological effects of the Project on herpetofauna will be mitigated if the LMP is finalised and implemented in accordance with the proposed herpetofauna condition attached to this evidence as **Annexure B**.

BACKGROUND AND ROLE

12 The NZTA retained BML and Bioresearches Group Ltd (*BGL*) as part of a consortia team to assist with the assessment of the ecological effects of the Project. Mr Chris Wedding from BGL, prepared an Assessment of Herpetofauna Ecological Effects (*the Report*) using his own research and mine, which I then peer reviewed. I subsequently worked with Mr Wedding on, and had input into, the final Report and proposed condition.

13 The Report was lodged with the EPA in August 2010 as part of the overall Assessment of Environmental Effects (*AEE*) (specifically, Part G, Technical Report G.8).

SUMMARY OF ASSESSMENT OF HERPETOFAUNA ECOLOGICAL EFFECTS

14 In this section of my evidence I will briefly describe the methodology and key conclusions of the Report.

Methodology

15 Mr Wedding and I assessed the habitat within the Project footprint in terms of its values for native herpetofauna, focusing on lizards as we were confident that no other indigenous herpetofauna would be present. This assessment was conducted by Mr Wedding for the SH16 section of the Project and by me for the proposed SH20 corridor.[3]

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[2] Section 53 of the Wildlife Act 1953.

[3] See pages 3 to 7 of Technical Report G.8.

16 Several methods were used to carry out this assessment, including desktop investigations and onsite visual assessments of the habitat. Additionally, lizard surveys, using artificial lizard refuges[4], were conducted along a length of the existing SH16 corridor from St Lukes to Te Atatu Interchange, as well as through the surface areas of the proposed SH20 footprint, from Maioro Street Interchange to Great North Road Interchange. We surveyed those areas that were considered to potentially provide suitable lizard habitat. Much of the area within the Project footprint was assessed as unsuitable habitat for native lizards. Sampling was conducted in all areas considered to potentially represent habitat of marginal quality or better.

17 Mr Wedding and I also used manual refuge searching and nocturnal spotlight searching to search for lizards in areas of suitable habitat.

Assessment of effects on Herpetofauna[5]

18 Lizard surveys of the Project recorded the presence of two lizard species within the Project footprint – copper skink (*Oligosoma aeneum*) and rainbow skink (*Lampropholis delicata*).

19 Rainbow skinks were present at high abundance at all of the seven surveyed Sectors, particularly in open, debris-laden habitats. Rainbow skinks are an introduced pest species from Australia. In July 2010 their protection under the Wildlife Act 1953[6] was removed and they were declared by the Ministry of Agriculture and Forestry to be an Unwanted Organism under the Biosecurity Act 1993. Therefore, in relation to the Project works, this species does not require any mitigation (i.e. relocation).

20 Copper skink is a non-threatened native species (Hitchmough *et al.* 2007) and is protected under the Wildlife Act 1953. They were detected at nine sites within five Sectors (1, 3, 5, 6 and 9) of the Project.[7]

21 Copper skink populations (being 3+ individuals or where juveniles were recorded) were confirmed at five sites in four sectors. These were Sector 1 (Jack Colvin Park and the western edge of Whau River); Sector 5 (proposed Waterview on-ramp); Sector 6 (proposed laydown site opposite golf course) and Sector 9 (Alan Wood Reserve). The habitat at these sites is ecologically significant due to

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4 An artificial lizard refuge is a 500 x 500 mm sheet of corrugated material (onduline) placed on the ground to attract lizards.

5 See pages 13 and 14 of Technical Report G.8.

6 The Wildlife Act operates by deeming "all wildlife" to be protected, unless it is listed in one of the schedules to the Act. So, the protection afforded to rainbow skinks prior to July 2010 did not reflect a conscious decision to protect these skinks.

7 Figure 4-1 of the Report (attached as **Annexure C** to my evidence).

the presence of copper skink populations, which make a substantial contribution to local biodiversity and are of local, and possibly regional, ecological significance. However the habitats themselves within which these populations occur are dominated by exotic vegetation and weeds (e.g. kikuyu grass), and have little ecological value beyond the presence of native herpetofauna populations.

22 Low numbers of copper skinks (1-2 individuals) were detected at four sites. These were Rosebank Peninsula (Sector 3), Pt. Chevalier off-ramp (Sector 5), end of Parr Rd. (Sector 6), Hendon Park (Sector 9). These areas are not considered to represent ecologically significant lizard habitat.

23 The Report concluded that the effects of the Project, would without mitigation, be significant in the areas where copper skink populations occur.

Recommendations and mitigation

24 Potential adverse effects on copper skink populations should be avoided by relocating copper skinks from sites where populations were identified (see **Annexure C**) to suitable habitat outside of the construction footprint.

25 The relocation of native lizards to suitable habitat should occur prior to, and during, the commencement of works.

26 Measures recommended to provide appropriate mitigation for native herpetofauna populations within the Project are contained within the LMP, a draft of which was attached as Appendix A to the Report.[8] The LMP provides recommendations as to rescue site management, lizard release sites, habitat enhancement, pest management and post-release monitoring.

27 In my opinion implementation of lizard management measures as detailed within the LMP will adequately mitigate the effects of the Project on herpetofauna.

Wildlife Act approval

28 Although a separate process from this Resource Management Act assessment, I note that approvals are required under the Wildlife Act 1953[9] from the DOC for native lizard relocations, as well as for vegetation clearance at other sites where copper skinks occur (sites where less than three lizards were identified).

29 If I am retained to undertake the work, I would be able to utilise my existing DOC approvals to implement the LMP. As the decision on who will undertake the relocations has not yet been made the NZTA

[8] A copy is attached as **Annexure A** to my evidence for ease of reference.

[9] Section 53 of the Wildlife Act 1953.

will need to ensure that the required DOC approvals are obtained before clearing copper skink habitat areas or relocating skinks occurs.

POST-LODGEMENT EVENTS

30 The NZTA has commissioned BML to assess and prioritise potential release sites for relocated lizards (which is a requirement of the proposed herpetofauna condition[10]). Sites are being assessed in terms of their ability to provide sufficient habitat and food resources for relocated lizards. Once complete this research will enable the LMP to be finalised, as required by the proposed condition. I anticipate that the report on the research will be available prior to the Board of Inquiry.

COMMENTS ON SUBMISSIONS

31 I have read submissions lodged on the Project that raise herpetofauna or related issues relevant to my area of expertise. In this section of my evidence I will address these submissions to the extent not already covered in the Report or my evidence.

General Ecological Effects

32 Numerous submissions include broad comments about the effects of the Project on ecology, biodiversity, ecosystems, flora and fauna, and wildlife generally. In my opinion, best practice herpetofauna survey and assessment methodologies were applied to investigate the effects of the Project on herpetofauna. The effects identified will be effectively mitigated if the LMP (attached as **Annexure A**) is finalised in accordance with proposed conditions, and implemented.

Best Practice Mitigation

33 Two submissions[11] including that from the North Western Community Association, consider that insufficient mitigation is proposed for reptiles; and five submissions[12] request the implementation of best practise mitigation for relocation, habitat enhancement and monitoring. I agree that best practise techniques are required to mitigate the ecological effects of the Project on indigenous herpetofauna. The LMP will provide appropriate mitigation with a high probability of success.

34 The Green Party[13] indicated they are not entirely confident that lizard relocation will be successful. Numerous DOC approved herpetofauna relocations have been undertaken in the Auckland

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10 Refer **Annexure B**.

11 Submitters Nos. 185 and 191.

12 Submitters Nos. 115, 119, 156, 206 and 229.

13 Submitter No. 156.

Region and elsewhere in New Zealand. While few long term monitoring reports from relocation release sites are available, I am familiar with several examples of relocation sites where there are strong indications of success (for example, SH18 Greenhithe Deviation, SH1 Northern Busway and the Army Bay Sewage Pipeline and Treatment Plant). The relocation proposed in the LMP is highly likely to succeed.

Auckland City Council

35 The Auckland City Council submission[14]considers that rigorous and comprehensive ecological survey methodologies were generally employed for the ecological survey and that proposed mitigation is based on relatively proven techniques. The Council identifies a number of areas of lizard habitat and raises concerns about the effects of habitat removal, operation of machinery and excessive dust.[15] In my opinion, the LMP once finalised, will be adequate to mitigate the effects identified by the Council.

36 I note the Council's suggestion[16] that sites with low abundance of lizards should not be excluded from the proposed relocation. My Report (prepared as part of an assessment of effects under the Resource Management Act 1991) identifies the loss of 'populations' of copper skinks as a significant adverse effect requiring mitigation, whereas the potential effects in areas of low abundance are only minor. However, under the Wildlife Act 1953 the NZTA will still need authorisation from the Director-General of Conservation to take or kill any protected wildlife, and so the LMP (which will need to comply with approvals given under both Acts) will need to address capture and relocation of copper skinks from any sites where they are found.

37 The Council seeks conditions requiring lizard relocation and pest control at relocation release sites including mustelids, hedgehogs and cats. The LMP already requires appropriate pest management. Controlling rodents is generally the highest pest control priority when protecting lizards. Hedgehog and cat control would probably benefit lizard populations but may not be appropriate in an urban setting. As the lizards within the Project footprint have persisted in the presence of a wide variety of pests, I consider that the primary value of pest control is in temporarily reducing predation pressure during the lizards' establishment at release sites. The pest control section of the finalised LMP should reflect this by focusing on short-term rodent control at lizard relocation release sites.

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[14] Submitter No. 111.

[15] At section 5.4.2 of the Council's submission.

[16] Ibid.

Auckland Regional Council

38 The Regional Council submission[17] considers that the herpetofauna assessment and mitigation proposals are generally appropriate. It also points out that the DOC's permission process will result in adequate mitigation and protection of the lizard population.[18] I agree with their conclusions.

39 The Council requests[19] that the proposed herpetofauna condition be amended to require that the LMP includes relocation timing detail, copies of the required DOC permits, and the submission of the LMP to the Auckland Council for approval. Timing is a detail that would need to be included in the LMP in any event. DOC permits would need to be obtained regardless of whether they are copied into the LMP, and the condition requires that the LMP be submitted to the Auckland Council.

COMMENT ON ARC'S S149G REPORT

40 The ARC, in its s149 Key Issues Report, notes, without further explanation, that "there will be a loss of approximately 20% of [lizard] species due to the loss of habitat due to those lizards that cannot be captured and relocated"[20] It is not clear what this figure is based on, but I consider 20% to be an overestimate of potential lizard species losses. I note that the s149G Report also concludes that the LMP provides "appropriate mitigation measures to mitigate and minimise adverse effects on lizard habitat and populations".[21] I agree with that conclusion.

PROPOSED HERPETOFAUNA CONDITION

41 In the documentation lodged with the AEE, the NZTA included a set of Proposed Conditions (see Part E, Appendix E.1). This included (at page 34 of that Appendix) a proposed herpetofauna condition which I recommended would be appropriate to attach as a condition to the designations sought.

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17 Submitter No. 207.

18 At section 4.5.8 of the Regional Council submission.

19 At section 4.5.9 of the Regional Council submission.

20 See section 2.3.5.3 of the ARC report (October 2010).

21 Ibid at section 2.3.5.2.

42 I consider that the condition is still appropriate but I have amended the condition to address the timing and pest management concerns expressed by the Auckland Regional and City Councils. A copy of the amended condition (with amendments in underline) is attached as **Annexure B** to my evidence.

Simon Chapman
November 2010

Annexures:

A - Lizard Management Plan
B- Proposed Herpetofauna Condition (amended)
C - Figure 4.1 from the Report

ANNEXURE A: LIZARD MANAGEMENT PLAN

1. Lizard Management Plan

Pre-vegetation clearance lizard salvages from all five areas of habitat where copper skink populations were detected, and implementing appropriate relocation management (e.g. pest management, habitat enhancement) will achieve effective mitigation. Copper skink populations occur at: Jack Colvin Park and the west-bound edge of Whau River (Sector 1); Waterview on-ramp (Sector 5); laydown site opposite golf course (Sector 6) and Alan Wood Reserve (Sector 9). This could be staged within Sectors, complimenting proposed construction timing.

The following measures are recommended to provide appropriate mitigation for native herpetofauna populations within the project footprint. Recommendations for relocation sites and relocation site management are also provided.

1.1 Rescue site Management

1.1.1 Installation of silt-fences

Habitat clearance would operate as a 'staged approach,' and vegetation clearance contractors would be responsible for installing silt-fences that demarcate the project's footprint boundaries at sites where copper skinks were recorded. These fences will prevent salvaged lizards returning to construction zones if released into adjacent habitat and prevent dust effects on any herpetofauna populations outside construction zones.

Contractors working in those areas should be advised that the silt-fencing demarcates works boundaries that should not be breached.

1.1.2 Pre-Clearance Trapping

Following the installation of silt-fences, a pre-clearance trapping stage would operate before any works commence. It would incorporate intensive trapping of copper skinks and some removal of existing vegetation (e.g. rank grass, low shrubs) and shelter structures by DOC permitted herpetologists.

Salvaged lizards will be placed immediately into temporary containment boxes, with secure meshed lids to allow adequate ventilation. The boxes will be furnished with surrounding vegetation (i.e. soil and leaf litter) to provide cover during containment. Salvaged lizards would not be contained for more than 24 hours. Skinks should not be released into areas of herbicide spraying within 24 hours of spraying.

1.1.3 Vegetation Clearance

Controlled vegetation clearance by approved contractors, will commence under the guidance of DOC permitted herpetologists. The vegetation clearance will involve the removal of all remaining vegetation via heavy machinery and facilitate herpetologists in salvaging any remaining lizards on site. Excavators should claw back vegetation using root-rakers (rakes) or toothed buckets. The estimated time for each site would be 1-2 days.

1.1.4 Lizard Relocation

Due to the extent of habitat removal in some areas of the footprint, it may not be appropriate to release lizards into immediately adjacent habitats in all instances. In those cases, lizards should be released into alternative habitat (E.g. Harbutt Reserve, Traherne Island). Release areas will require additional habitat enhancement and restoration prior to the release of any salvaged lizards.

1.2 Recommended Lizard Release Sites

1.2.1 Planting Areas within the Network

A number of planting locations occur within the network and could be enhanced to provide appropriate lizard relocation sites, such as within the Hobsonville Deviation Project and beside SH16 between the St Lukes and Newton Rd interchanges.

1.2.2 Parks and Reserves

A number of parks and recreation reserves occur within and around the greater area of the project footprint and some may provide suitable habitat for salvaged lizards, depending on Council agreement. Notably, Harbutt Reserve and Heron Park occur within the vicinity of the Avondale Heights Tunnel and provide excellent opportunities for copper skink habitat restoration. These sites already have suitable habitat within which some skinks could be released, however Harbutt Reserve would also require additional habitat enhancement to account for an increase in skink density in these areas. Up to 2 ha of habitat enhancement planting could be undertaken at Harbutt Reserve, dependent on Council agreement.

Habitat planting should be contiguous with existing shrubland or revegetation sites and ideally, consist of a 2-5 m buffer around existing vegetation patches. Released lizards would be expected to survive at an elevated density within existing vegetated areas until adjoining planted habitat matures sufficiently for colonisation to occur. Vegetated areas within these reserves should be supplied with additional refuges (e.g. small log, rock piles) prior to any lizard release to reduce potential refuge competition with any resident lizards.

Suitable habitat planting has already been undertaken at Heron Park that would currently facilitate the release of up to 30 skinks, dependent on Council agreement. Additionally, Waitakere City Council is currently considering Moire Park (Massey) as a potential lizard sanctuary.

1.2.3 Traherne Island

Traherne Island provides excellent opportunities for ecological restoration and would be a suitable release site for native lizards if 'lizard friendly' habitat enhancement were undertaken. Traheme Island would require weed removal and appropriate pest control operations to make it suitable for native lizards and other native animals. Much of the native vegetation that currently occurs on the island provides suitable lizard habitat, including flax *(Phormium tenax),* pohuehue *(Muehlenbeckia complexa)* karamu *(Coprosma robusta)* and taupata *(Coprosma repens).* Some exotic species also provide excellent habitat, particularly pampas *(Cortaderia selloana)* and areas of kikuyu grass *(Pennisetum clandestinum).* These could potentially be replaced with native toetoe *(Cortaderia richardii), Carex* spp. and *Microlaena* grass species.

NZTA is carrying out a natural heritage restoration project on Traherne Island, which is separate to the present Project. There may be opportunity to work with the Traherne Island Natural Heritage Restoration Project to benefit native lizards affected by the Project.

1.3 Lizard Habitat Enhancement

The provision of lizard habitat restoration, through revegetation planting and provision of lizard refuges will offset the effects of habitat removal. The objectives of habitat restoration are to provide protected habitat for salvaged lizards by planting areas with densely spaced native plants, supplying additional lizard refuges, and undertaking appropriate weed and pest control operations. Lizard habitat restoration should occur within any area of park or reserve that lizards are released into, dependent on Council agreement.

The following native plants would contribute towards suitable lizard habitat: flax *(Phormium tenax),* toetoe *(Cortaderia fulvida),* pohuehue *(Muehlenbeckia complexa),* carex grasses *(Carex* spp.), rice grass *(Microlaena stipoides),* taupata *(Coprosma repens),* mingimingi *(Coprosma propinqua),* and karamu *(Coprosma robusta).* Plants should be large (e.g PB 18+) and planted densely where appropriate. Gaps between plants should be sewn with native grass (e.g. *Microlaena stipoides)* seed. This will increase the speed at which suitable lizard habitat establishes.

The use of mulch and woodchips to cover re-vegetated areas is not appropriate in lizard habitat areas. Mulch and woodchips eliminate important ground cover (habitat) for lizards and maintain open spaces between plants. Wood chips also remove and disrupt invertebrate communities that provide important food resources for native lizards.

Woodchips or mulch may be used immediately around the base of newly planted trees if necessary. Small weeds (e.g. grasses) should generally be allowed to grow up between plantings, as these provide temporary cover for the lizards during plant establishment. Native grass species (e.g. *Microlaena stipoides)* could be encouraged rather than exotic species by sewing seed in these areas. Plantings (PB18+) should quickly shade small weeds out. Priority weeds and those that directly inhibit the establishment of plantings should be spot sprayed.

Additional refuges such as log piles, rocks, and log discs should be placed strategically throughout the lizard habitat to provide salvaged lizards refuge from predators.

It is recommended that a 1-2 metre strip of grassland scrub be encouraged to grow against bush edges, to provide lizards with a more complex structured habitat.

1.4 Pest Management

Pest control is required throughout all release areas to ensure that relocated lizards can successfully re-establish. Pest control operations will involve the installation of rodent bait stations throughout lizard habitat areas, at least one month prior to the release of salvaged lizards. Pest control operations should be implemented and managed by a registered pest management provider. Pest control should be maintained on a monthly basis by refreshing bait blocks in stations and providing regular synopsis reports that detail the effectiveness of the pest control.

It is recommended that pest control continue at least until such time as the rescued lizards have become established within their new environment. This timeframe is estimated to be at least one year, after which time pest control may be terminated.

The existing pest management plan for Traherne Island is suitable to facilitate the establishment of released lizards.

1.5 Post—Release Monitoring

Post-release lizard monitoring is required if a significant population of copper skinks (> 20 animals) and/or threatened species (e.g. ornate skinks) are rescued from any particular site. In that instance, post-release monitoring would be conducted the following year, to determine whether efforts to mitigate the impacts of the proposed development are successful and whether further management is required. Monitoring would follow the methodology described earlier in this report (section 3); involving the use of ARs and manual habitat searches to survey for relocated lizards at release sites. Post-release monitoring would aim to indicate the presence and survivorship of relocated skinks and determine if breeding is occurring (via the detection of gravid females and/ or juveniles). Annual monitoring would be undertaken each summer and/ or spring) until those criteria are

met. If criteria are not met at five years post-release, the relocation would be deemed unsuccessful and a report detailing the outcome and potential reasons for this would be prepared for NZTA and the DoC. A DoC permitted herpetologist must supervise the post-release monitoring programme.

ANNEXURE B: PROPOSED HERPETOFAUNA CONDITION (AMENDED)

H.1	The NZTA shall finalise the Lizard Management Plan (LMP) submitted with this application to include details of the following: (a) Lizard capture methodology <u>including timing</u>; (b) Lizard release locations(s); (c) Lizard habitat enhancement at release sites <u>including a detailed pest control programme</u>; (d) Location(s) of lizard protective fencing; (e) Post-release monitoring methodology; and (f) Lizard captive management methodology. The NZTA shall submit the finalised LMP to [Auckland Council] prior to the commencement of site works and shall implement the LMP.

ANNEXURE C: FIGURE 4.1 from TECHNICAL REPORT G.8

Western Ring Route: Waterview Connection (SH16-20) - Lizard Survey Results