

Hamilton Zoo  
Master Plan  
A Greenprint for the Future



October 2014



# Acknowledgements

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One place can make a difference. Four can change the whole conversation.  
*Hamilton Zoo + Waiwhakareke + Hamilton Gardens + the Waikato River Corridor:  
 Uniting the Waikato's Green Aspirations*

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## I.1 Purpose of the Master Plan

The Hamilton Zoo is both a well-loved community asset and an important institutional member of the Zoo & Aquarium Association | Australasia (ZAA) that is part of the wider World Association of Zoos & Aquariums (WAZA). These organisations are dedicated to helping zoos achieve their full potential “across the whole spectrum of conservation activities, from *ex situ* breeding of threatened species, research, public education, training and advocacy”<sup>1</sup>.

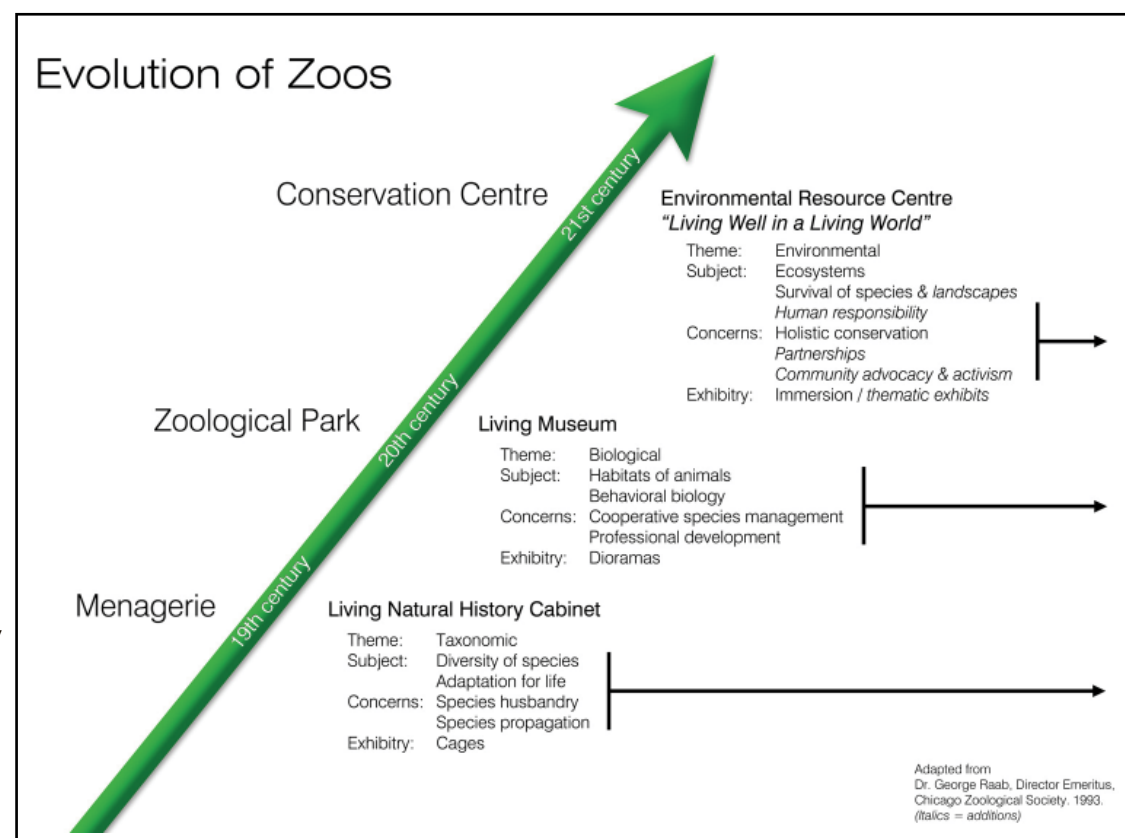
Today, with its 45 year history behind it, the Hamilton Zoo stands, not at a crossroads in need of a new direction, but at a fork in the road where decisions need to be made about whether to transform from ‘business as usual’ to continual ‘reinvestment, reinvigoration and leadership’.

The Master Plan process has investigated the strengths, weaknesses and opportunities for the Hamilton Zoo to take its place among New Zealand’s great zoos, providing its community with an unparalleled window into the workings of Nature and our kinship with all life on Earth.

To accomplish this, we have asked questions about:

- Are experiences with live animals necessary in the 21st century and, if so, how?
- Is there an over-riding mission that drives the institution that is in-synch with community values?
- Will this be a special place that the community can feel proud of?
- How can we achieve a “new zoo” that is both aspirational and responsible to our rate-payers?
- How can the Zoo best relate to and respect Waiwhakareke Natural Heritage Park?

The following report answers these questions and helps each of us understand more clearly the important role of zoological institutions in a rapidly-changing world.



## I.2 The Master Planning Process

On 15 July 2014 Hamilton Council contracted with Studio Hanson|Roberts, an international zoo planning and design firm with offices on Bainbridge Island, Washington, to produce a forward-looking Master Plan for the Hamilton Zoo that takes advantage of the Zoo’s existing assets and sets expectations, direction and development goals that will enable the Zoo to step knowledgeably and responsibly into the future.

To best represent the views of the Zoo’s numerous stakeholders and to provide timely and strategic feedback to the planning team, Council formed a Zoo Review Working Group. This Group directed the compilation of a Zoo Background Briefing Paper in August 2014<sup>2</sup> “to ensure that assumptions being used for the strategic planning process are based on evidence and research”. This document, in combination with the 2008 Hamilton Zoo Development Plan<sup>3</sup> (currently unfunded); the 2011 Waiwhakareke Natural Heritage Park Operative Management Plan<sup>4</sup>; the NIDEA Demographic Snapshot, Hamilton City, June 2014<sup>5</sup>; the Hamilton Zoo Visitor Experience Strategy - 2014; and the consultants’ awareness of international zoo trends and the AustralAsian / New Zealand zoo context have provided the background for the recommendations found in this report.

A Master Planning Concept Development Workshop was held at Hamilton Zoo from 26 – 29 August 2014 with both the Zoo Review Working Group and Hamilton Zoo Staff providing information and insight into current conditions, as well as hopes and aspirations. This report conveys and expands on the directions that were established during that week.

<sup>1</sup>: WAZA (2005). Building a Future for Wildlife, The World Zoo & Aquarium Conservation Strategy. Bern, Switzerland

<sup>2</sup>: Written by Stephen Standley and Cathy Rose.

<sup>3</sup>: Submitted to the Chief Executive from the General Manager Community Services, Sue Duignan, and the Hamilton Zoo Director, Stephen Standley, 26 November 2008.

<sup>4</sup>: Prepared by Parks & Gardens Unit, Hamilton City Council in conjunction with the Centre for Biodiversity & Ecology Research, Department of Biological Sciences, University of Waikato.

<sup>5</sup>: Provided by Gareth Cartwright, Strategic Policy Analyst (Environment) | Strategy & Research.



### I.3 Future Qualities of the Hamilton Zoo

In collaboration with the Zoo Working Group, the following aspirational goals both led, and evolved from, our developing understanding of what the Hamilton Zoo can become in relation to its animals, its visitors and its community. These goals take advantage of a depth of knowledge of the Zoo's existing site and circumstances, its animals and the community's aspirations to create a thriving institution based on:

**1. DISPLAYING A THRIVING COLLECTION OF LIVING PLANTS & ANIMALS OF THE WORLD**

A place of great natural beauty, replete with wondrous encounters with the Zoo's thriving collection of living plants and animals that is embraced and treasured by the entire community;

**2. WELCOMING TO ALL**

An arrival that is easy to find, safe and secure, and welcoming to all;

**3. SHARING OUR NATURAL & CULTURAL HERITAGE**

A destination that celebrates the region's rich natural and cultural heritage, as well as its proximity to the adjacent Waiwhakareke Natural Heritage Park;



**4. SHARING OUR LOVE OF NATURE**

An ambiance that enables the community to share informal conversations and quiet moments that reconnect us to one another and to our shared love of Nature;

**5. PLAY & DISCOVERY FOR ALL**

Multiple opportunities for all ages to seek rest and relaxation; observe and interact with the Zoo's animals, and engage in play and discovery;

**6. CHAMPIONING ANIMAL WELFARE**

A place that champions animal welfare and engages human empathy;



**7. EMBRACING PEOPLE'S INNATE CURIOSITY**

A well-loved institution that embraces people's innate curiosity and acts as a trusted resource to help us all learn how to live well in a living world – onsite, off-site and online;

**8. LIVING LIGHTLY ON THE EARTH**

A responsible urban asset that, through its commitment to green strategies for living lightly on the Earth, is a leader in the wise use of its resources.

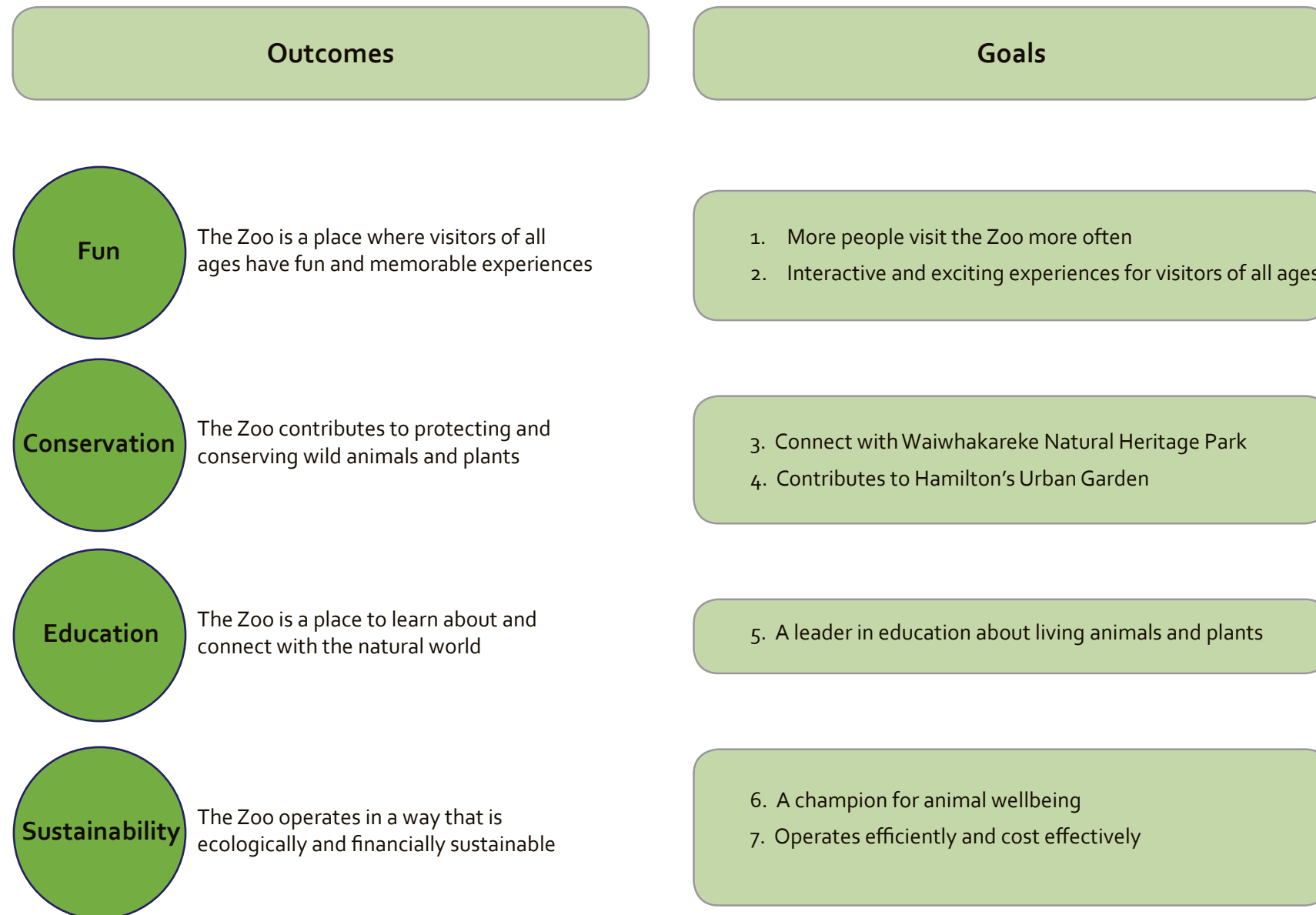
**9. CONTRIBUTING TO CONSERVATION**

Through our work, we will be recognized as a leader in the delivery of community and professional outcomes that contribute to the conservation of wild places and wildlife.





### I.4 Vision: Connecting People with Wildlife Experiences





## I.5 Key Drivers for the Master Plan

The following principles were derived from the information provided by the Zoo Working Group, subsequent discussion and research into the special character of Hamilton City, and knowledge about the focus of other zoos throughout the world– with a special emphasis on the working realities of zoos within the New Zealand | Australasian region. It is apparent that people feel good about visiting zoos knowing that they are actively involved in conservation, education and research, however it is the visitor experience, including the impression that the animals are well looked after, that determines whether they will keep returning.

The following principles are not prescriptive, but are reminders of the over-arching framework within which individual decisions should be evaluated.



The concept of “conservation” lies at the heart of everything that the Zoo undertakes – it is our mission and, through the daily living out of that mission, we hope to advocate and inspire others to reflect on ways that they might participate with us in ensuring that – in the future – we can all live well in a living world.

- **Demonstrate Best, Green Practices in the Care of the Site, the Animals & the Design of the Buildings:**
  - *Make the Master Plan a “Greenprint for the Future”.*
  - *Consider recirculating wetlands, green roofs/walls and other practices as appropriate.*
- **Use the Zoo’s Proximity to Waiwhakareke Natural Heritage Park to Advantage:**
  - *Focus on conservation.*
  - *Shared facilities / shared programmes.*
  - *Extend the native forest into the Zoo.*



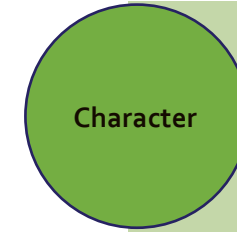
Our animals are our core reason for being – sharing our experiences with them and care for them, and connecting visitors to the conservation values that will enable us to keep them, and their wild cousins, in our lives

- **The care & welfare of our animals is our central focus.**
  - *Provide exemplary housing & habitats that meet the animals’ needs, including providing opportunities for choice & exploration that enable visitors to understand that a ‘defined home’ is not the same thing as ‘confinement’.*
  - *Develop naturalistic habitats with built-in enrichment opportunities that mimic that found in their natural habitat.*



The experience of visiting the Zoo encompasses everything that influences visitors’ sense of comfort, attitude and belief. A great experience confirms that they made the right choice in investing their time with the Zoo, and ensures good memories and a sense of belonging.

- **Never Forget That the Zoo is in the “Visitor Experience” Business:**
  - *Plan for visitor comfort and engagement through the layout of circulation, exhibits, opportunities to become involved with staff and animals, and customer services that meet the specific needs of the Zoo’s constituents.*
  - *Plan the experiences to enable different lengths of stay and levels of interest.*
  - *Integrate areas for play, as well as rest and relaxation – remember that the Zoo should be a cohesive experience where visitors are encouraged to spend time, not just walk through.*
- **Incorporate Commercial Activities that Enable the Zoo to Act as a Responsible Social Enterprise (i.e. maximising earned revenue to defray the costs of providing social benefits without compromising the mission):**
  - *Consider food service, retail and function spaces and products that convey the quality of the Zoo and act as an attraction for Hamilton’s residents and tourists.*
- **Remember that the Zoo is owned by the citizens of Hamilton.**
  - *Provide a “free precinct” at the Entry where visitors can seek refreshment and shelter, speak with Zoo staff and get a preview of the experience within.*



“Character” defines the distinctive nature of place. When tied to unique community attributes, expressions of unique character can lead to a sense of regional pride, community support and lasting memories

- **Celebrate the Agricultural & Pastoral Heritage of Hamilton & the Waikato region:**
  - *Use fences wisely without feeling that they always need to be hidden from view.*
  - *Maintain the feeling of spaciousness and green –utilize landscape solutions, not structural solutions.*
  - *Design buildings that are “of this place”.*
- **Celebrate the region’s arts & commitment to innovation:**
  - *Make the Zoo an extension of the Hamilton spirit.*
  - *Celebrate cultural inclusiveness that focuses on the natural world.*
  - *Search for new solutions that are efficient, effective and easily replicable.*



Zoos have become trusted resources for helping their communities navigate the complexities of our changing relationship with Nature. While few people arrive at the Zoo’s front door wishing to be ‘educated’, few would also deny that this socially important component of the Zoo’s mission is a fundamental component of the Zoo’s reputation and intrinsic attractiveness

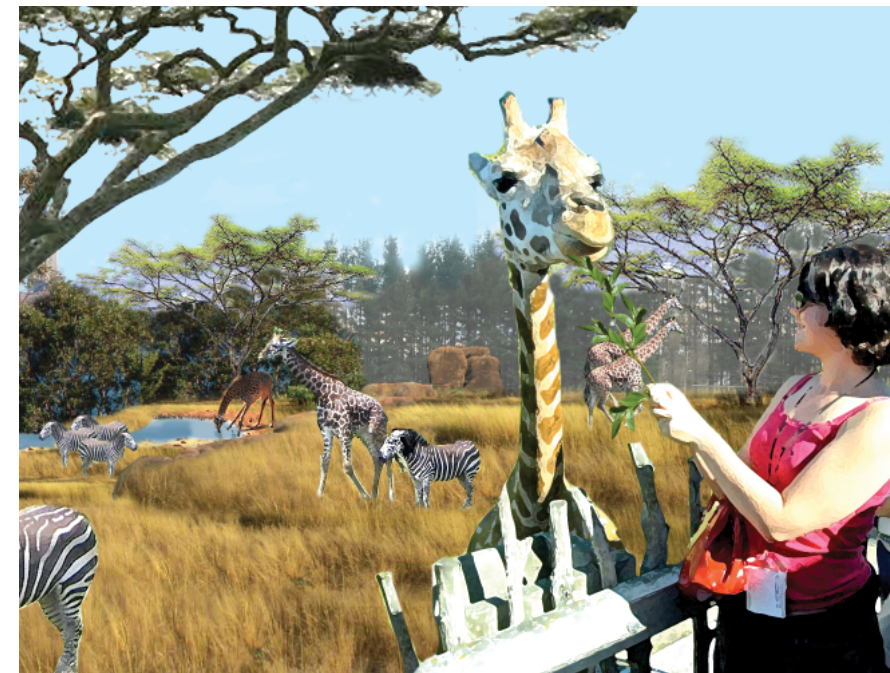
- **Provide a range of authentic discovery and learning experiences that meet the needs of the full range of the Zoo’s audiences.**
  - *Immerse visitors within the different zones engaging them with a range of different learning styles and with their emotions.*
  - *Provide positive learning environment for students, encouraging reflective thought and action.*
  - *Ensure that the learning experiences at Hamilton Zoo and Waiwhakareke Natural Heritage Park are linked and reinforce one another.*
- **Distribute Student Learning Experiences Throughout the Zoo:**
  - *-Get students easily into the Zoo; get them organised; get them onto the site; and get them back together as they leave to share their experiences with one another and with Zoo staff.*
  - *Provide sheltered learning spots throughout the Zoo for use by schools and the general public*







## Conceptual Character Sketches



Giraffe Feeding at Savannah Overlook



Zoo Entry Experience



### 3.1 Access & Parking

Lack of sufficient and safe access, as well as available parking has been identified as one of the reasons for visitors to decide not to come on what are otherwise beautiful days to visit the Zoo. Given that the Zoo depends on public visitation in order to fulfill its mandate as a socially responsible civic enterprise, it is important to develop a plan that addresses these issues

- The current access is via two-lane rural roads with no sidewalks or bicycle lanes, and visitors who park in overflow parking on the far side of Brymer Road have to cross an increasingly busy street.
  - Work with regional transportation authorities to upgrade access and provide safe pedestrian crossing opportunities that enable the road to be shared.

- The existing entry serves the current level of visitation but, with the addition of Waiwhakareke and the increased level of visitation anticipated from the completion of the various Zoo redevelopment projects, the entry needs to be redeveloped to provide safe and reliable access that also welcomes visitors and establishes a sense of place.
  - Work with regional transportation authorities to develop a safe solution for arrivals and through-traffic.
  - Create a “free precinct” where visitors can graciously organise themselves to get ready for their day at the Zoo – or just grab a coffee after a walk at Waiwhakareke and make inquiries at the Discovery & Learning Centre.
  - Separate ticket sales from ticket taking.
  - Establish a unified character that supports the Zoo’s mission.
- Parking needs to be provided to accommodate the anticipated “design day” visitation<sup>6</sup>.

*Current visitation is, for all intents and purposes, 120,000 visitors per year. This equates to 780 visitors/day for a typical “design day” and 1,020 visitors/day for a “peak day”<sup>8</sup> with 150 and 196 parking spaces required, respectively.*

*The 10-year goal for the Zoo is to increase attendance by 50% to 180,000 visitors per year. This would equate to 1,170 visitors/day for a future typical “design day” and 1,530 visitors/day for a “peak day” with 225 and 295 parking spaces respectively.*

*A 100% increase in attendance would be expected to generate demand of between 299 and 392 cars. These numbers do not include the demand for Waiwhakareke since we anticipate the primary demand will be derived from Zoo visitation. Waiwhakareke visitors who drive will tend to adjust their patterns in response to the anticipated parking demands.*



Share the Road Concept

<sup>6</sup>: See 5.2 Capacity Calculations in the Appendix.

<sup>7</sup>: “Design Day”: The Design Day is calculated so that 85% of the annual attendance is expected to occur on days with attendance levels at or below the “Design Day Attendance Level” This number is a function of existing market size, capacity, length of stay, and the social dynamics of a public visitation attraction, and will assure that facilities are designed to comfortably and efficiently handle the crowds at the Zoo 85% of the time. Based upon calculations by ORCA Consulting LLC. See Appendix for tables.

<sup>8</sup>: “Peak Day”: Those days when the Zoo is uncomfortably full and additional resources have to be employed to ensure visitor satisfaction.

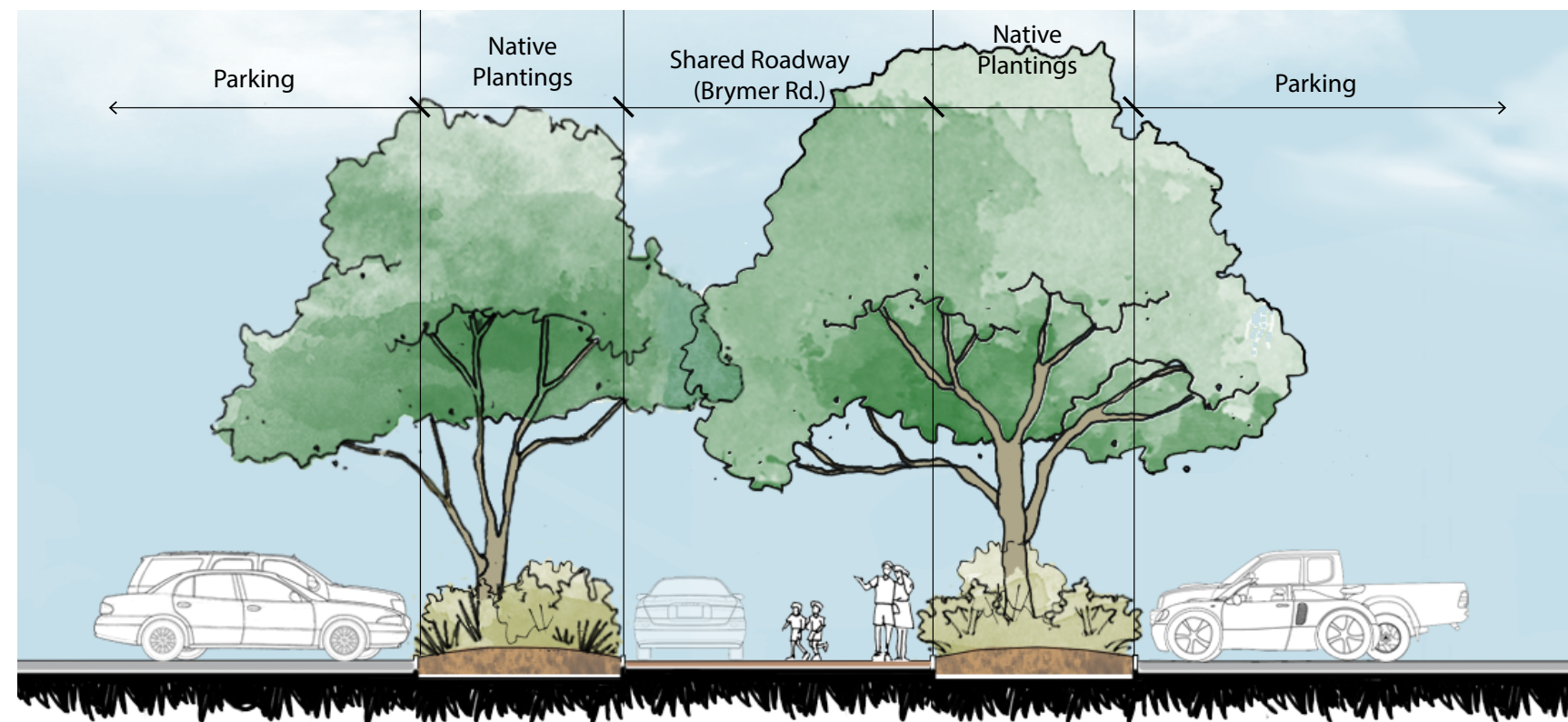


## 3.2 Visitor Circulation & the Allocation of Public Space

Zoos are, in essence, linear public spaces linked together by animal exhibits; areas for rest, relaxation and play; and customer services. The goal of any great public space is to be able to provide for efficient movement of visitors within an environment that accommodates their needs and makes it easy for them to spend time – “where spectators and participants become mixed; those who carry on the business of the world intermingled with those who delight in observing their fellow actors upon the scene<sup>9</sup>” ... both human and animal.

- There is currently no welcome / orientation space that provides an introduction to the Zoo.
  - Create a central gathering area that provides an overview of the Zoo and links it together with Waiwhakareke.
  - Consider the incorporation of “jewel box” exhibits of native species which might be encountered at Waiwhakareke.
- There are currently three primary pathways that lead from the Entry into the heart of the Zoo. It is, thus, impossible to complete a simple loop through the Zoo without missing something.
  - Create one primary loop pathway that provides access to all of the main experiences.
  - Ensure that the loop pathway is an average of 2.5m in width, installed at an accessible grade of no more than 1:20.
  - Create more immersive, smaller-scale pathways that form secondary loops off the main pathway.
- One of these current pathways goes through the NZ Aviary and has no signage warning visitors that they must pass through an aviary (for those who are fearful of birds), or a bypass that enable them to short-cut this experience.
  - Redevelop the NZ Aviary to place it on a loop of its own off of the main circulation loop.

- The public pathways are currently viewed merely as a means of arriving at the next exhibit and not as an interlinked public space that is a formative component of the overall experience.
  - Create gathering areas at regular intervals through out the Zoo. Place them in locations of great natural beauty – or in conjunction with extraordinary tree specimens – where people delight in spending time in the company with others, and where memories are created.
  - “Assume that 8 – 10 % of peak in-park attendance will require seating at any time.”<sup>10</sup> This includes both cafés, as well as benches. We should aim for a rough total between 120 – 150.
  - Encountering, observing and interacting with staff at work is important to making apparent “the business of the world.”



Section through Parking Area at Brymer Rd.

Raised/textured surfacing where pedestrians have right of way over vehicles

<sup>9</sup>: Hecksher, August (1977). Open Spaces. New York, Harper & Row

<sup>10</sup>: Rebori, Stephen Joseph (1993). Theme Parks: An Analysis of Disney's Planning, Design & Management Philosophies in Entertainment Development. A Thesis Presented for the Master of Science in Planning Degree, University of Tennessee, Knoxville.



### 3.3 Customer Services

Customer services, including food and retail, information and medical support, and toilets form the key physical, social and intellectual framework that supports a successful trip to the Zoo to visit “the community’s pets that are too big to keep at home”<sup>11</sup>. Currently, these services at the Zoo are not well-integrated, nor developed in a way that supports the overall character and mission of the Zoo.

- **Food:**  
The current food service provides basic services within a no-frills indoor / outdoor cafeteria setting. It is a commercial operation that is not associated with the Zoo and pays the Zoo a flat rate + percent of profits (if any). These amounts to almost \$16,000 per year which translates to a per capita rate of \$0.13 (total revenue/total # of visitors).
  - *Redevelop the food services to provide a simple café at the Free Precinct at the Entry, supported by an internal café near the Entry that is associated with a view and a play area. Total seating should be approximately 170 between the two at the end of 10 years.*
  - *Additional refreshment outlets could be provided as food carts on peak days on an as-needed basis.*
  - *Complete a business plan to determine the best manner to provide food services at the Zoo. Consult with Wellington Zoo as to their experience. Utilise the services of potential commercial vendors to develop a scope for the redevelopment of the food service facilities.*
- **Retail:**  
The current retail shop, based out of a very small space adjacent to ticket sales, earns between \$60,000 and \$74,000 per year which equates to per capita rate of \$0.50 - \$0.62 (the Zoo only receives a portion of this). Most successful Zoo retail operations in the Australasian region, seek to net \$2,691/SM of retail space or a per capita rate that, when combined with food revenues, nets \$3.50 - \$4.50<sup>12</sup>.
  - *Redevelop the retail shop as a facility that is accessible from the proposed Free Precinct at the Entry.*
  - *Ensure that ticket sales and the shop can be operated by one person on low visitation days.*



- **Toilets:**  
The new toilets in the centre of the Zoo are a good indication of the quality of construction that can be achieved – they are well-located and well-designed. The location and quality of toilets throughout the rest of the Zoo, however, needs improvement to meet visitor expectations for comfort and convenience, and meet the projected 10-year visitation numbers.
  - *Current expectations are the Zoo should provide 16 female and 9 male facilities to meet the demands of current visitation. That number will increase to 24/14 within the next 10 years.*
  - *Disperse that number throughout the site so that there is less than a 2-minute walk to a toilet block with a two-year old from any location on the site.*

<sup>11</sup>: Bobeck, Miroslav. Director of the Prague Zoo. Personal communication.

<sup>12</sup>: ORCA Consultants LLC (2012). [Auckland Zoo Benchmarking Study](#), commissioned by Studio Hanson|Roberts.



## 3.4 Programmes & Special Events Venues

There are currently limited venues for programmes, special events or after-hours rentals, each of which is a driver of visitation and can contribute significantly to the bottom line. Of equal importance is the ability to draw a broader audience to the Zoo who can become familiar with the Zoo's mission and conservation initiatives.

- *Locate a functions centre at the periphery of the Zoo near the front entry to provide easy after-hours access.*
- *Size it appropriate to the market. (currently estimated at approximately 200 people seated.<sup>13</sup>) Complete the necessary business planning to confirm this number and the method of operation.*
- *Ensure that there is sufficient outdoor gathering areas that can be transformed for a range of functions from public celebrations to cocktail parties and weddings.*
- *Work with animal management staff to ensure a good fit with the adjacent animals.*

## 3.5 Discovery & Learning

The Zoo currently primarily serves students from Hamilton with other students coming from South Auckland, and the Waikato / Bay of Plenty regions, as well as a smattering of students from the rest of New Zealand.<sup>14</sup> All come in through the front entry, compromising the experience of the rest of individual Zoo visitors during the school year. The classroom, with its collection of biological artifacts, forms the core of their experience because it is sheltered and available year-round, and because few places on-site are structured to be able to handle groups without compromising visitor circulation.

- *Create a separate entry that funnels students directly into a welcome and orientation area.*
- *Get them onto the site as quickly as possible.*
- *Provide sufficient space and shelter within the exhibit precincts to make this use feasible ("LEAP Shelters": Learning Experience Activity Points).*
- *Provide a venue for school lunches near Education that does not interfere with individual Zoo visitors.*



Building Public Awareness at the Zoo



Close-up Encounter in the New Zealand Aviary

<sup>13</sup>: Kiri Goulter, Chief Executive, Hamilton & Waikato Tourism, personal communication

<sup>14</sup>: Zoo Background Briefing Paper, August 2014.



## 3.6 Visitor Experience Zones

The Zoo experience consists primarily of a series of individual enclosures arranged along the pathway systems. The exception is the Savannah exhibits which, together, build upon the expansive sense of space.

The Plan aims to develop a number of new exhibits, relocate several existing exhibits or species to better-suited locations link the exhibits together through a unified landscape treatment that builds a sense of place and a sense of pacing, as well as a unified interpretive treatment that aggregates exhibits into discrete thematic areas for consistency of messaging.

### 3.6.1 Entry Precinct

A free precinct that is accessible - during operating hours - by all.

A focal point for starting or finishing a visit to the Zoo or Waiwhakereke where information, refreshment and toilets are available within a comfortable and restful setting that provides an overview into the Zoo and the surrounding countryside

### 3.6.2 “Growing Wild”

An informal play & discovery area for the entire family.

### 3.6.3 “Weka Walk”

An immersive and physically-challenging bushwalk in the company of the Zoo’s iconic forest floor resident provides visitors with take-home lessons about bush walking and living with in harmony with NZ wildlife.

### 3.6.4 “Free Flight” The New Zealand Aviary

Redevelopment of the Zoo’s large existing meshed aviary to create a distinct loop off of the future main loop path.

### 3.6.5 “Savannah”

Expansion and redevelopment of the Zoo’s existing Savannah exhibits to provide easier management of larger herds of animals, more expansive enclosures, and an exhibit layout that works with the existing ecology and landscape character.

### 3.6.6 “Social Climbers”

This exhibit precinct is primarily a ‘re-theming’ and improvement of a series of existing exhibits, primarily – but not exclusively – focused on primates. The main considerations for the redevelopment of this area are to make any necessary improvements for animal welfare and visitor experience, and link the exhibit together through a common approach to interpretation that helps visitor experience and understand them as social creatures, much like us

### 3.6.7 “The Glen”

The Glen represents the central lawns, rest areas and picnicking that are located in the lower gully and comprise the half-way point along the main visitor loop. An excellent location for a break in beautiful surroundings

### 3.6.8 “Carnivore Corner”

The redevelopment of this area will provide better viewing for visitors and more space for the tigers, thus enabling the Zoo to significantly contribute to the holding and breeding of this endangered species.

In addition, a new exhibit of Asian small-clawed otters will provide visual interest even when the tigers happen to be sleeping, and will provide an opportunity to interpret the fact that “carnivores” come in all shapes and sizes.

### 3.6.9 “The Challenge Zone”

“The Challenge Zone” utilises a hillside above the Middle Pond to create a series of through-the-trees physical challenge courses.

### 3.6.10 Waterhole Camp

“Waterhole Camp” is a new, overnight stay facility that would be available for individuals, families or groups who are interested in a unique zoo experience. It would include luxury safari-style ensuite tent facilities on platforms, meals, and before- and after-hours behind-the-scenes visits with the animals



Sharing a Family Discovery Moment

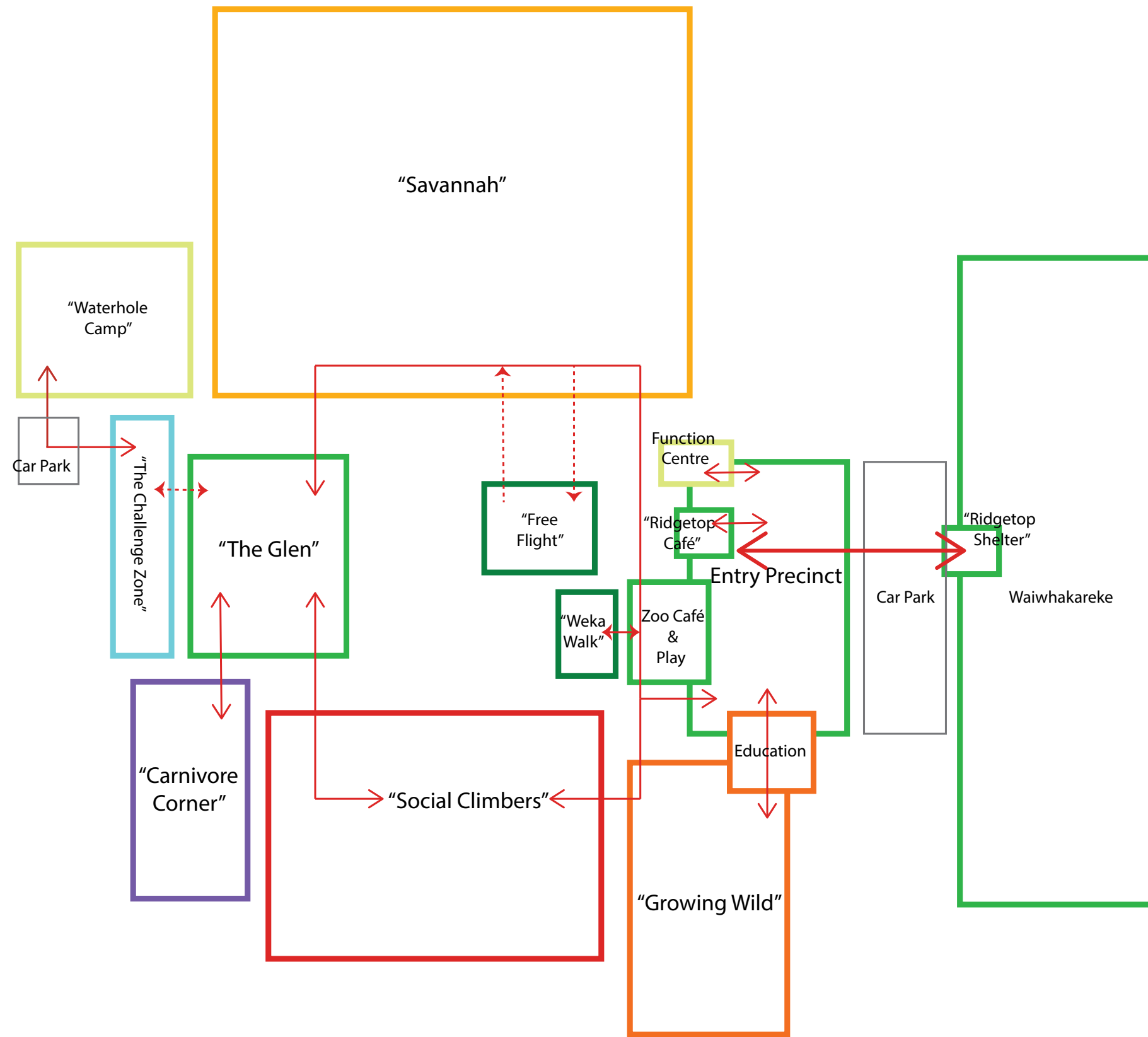


Experience Zone Plan





Zoo Concept Diagram





Circulation & Amenities Plan





Overall Concept Plan (North)





Overall Concept Plan (South)





### 3.6.1 Entry Precinct

*A free precinct that is accessible - during operating hours - by all.*

*A focal point for starting or finishing a visit to the Zoo or Waiwhakareke where information, refreshment and toilets are available within a comfortable and restful setting that provides an overview into the Zoo and the surrounding countryside*

#### Visitor Experience:

**Character:** Naturalistic – no particular cultural overtones since this is primarily an experience-of-this-place & with Nature.

- Consider the use of natural materials including wood, rammed earth, & green roofs & walls, as well as locally-available tin, brushwood and rock.

#### Animal Engagement Opportunities:

- Waiwhakareke: Observations from the trails, boardwalks & hides on the lake.
- The Zoo Entry: "Jewel box" exhibits or dioramas of appropriate NZ native species that can be found in Waiwhakareke.

#### Animal Species: Native species only

#### Ecology / Landscape / Garden:

- The Zoo Entry will integrate with the native ridgetop plantings of Waiwhakareke and feature native plants in a fun and engaging aesthetic setting.
- Relocation of the existing Rhino exhibit will reduce clay and particulate run-off into and through the NZ Aviary.

#### Physical Features:

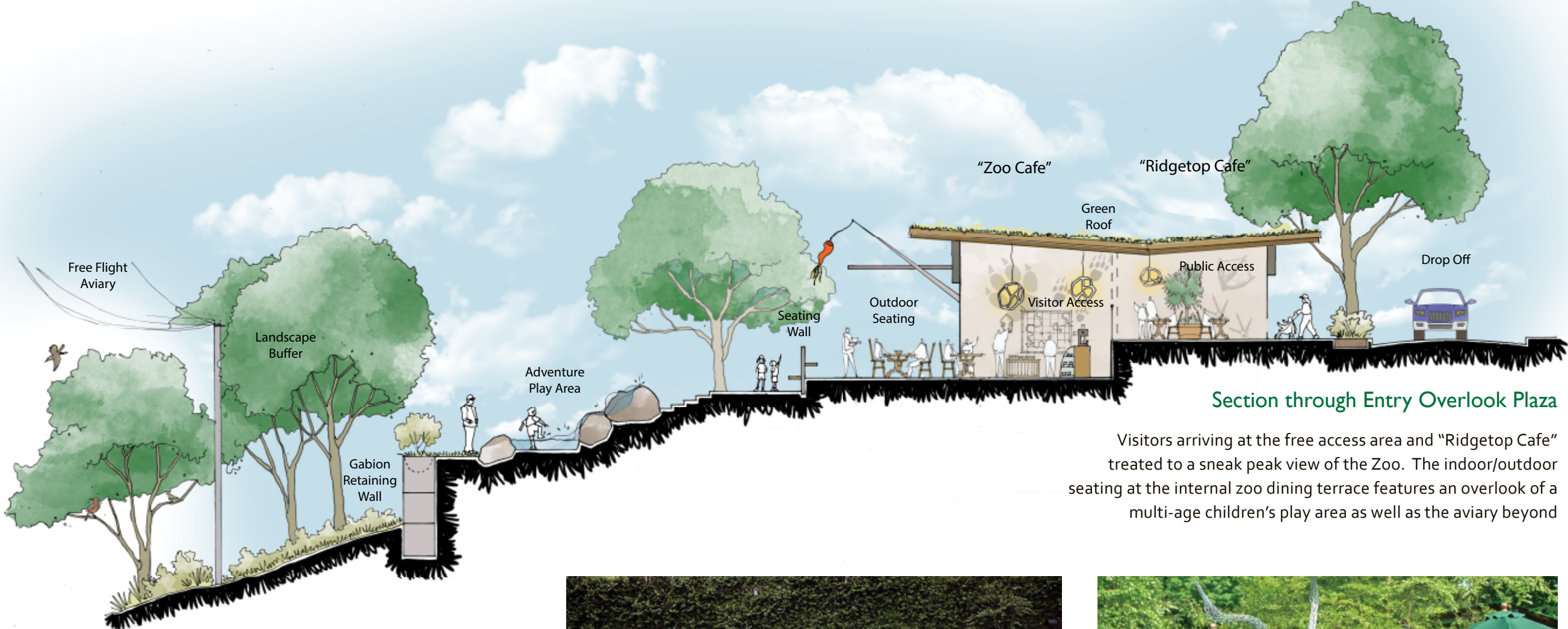
- Parking with access to both the Zoo and Waiwhakareke.
  - Pedestrian Zone & Crossings: raised or textured area in which pedestrians have right-of-way over vehicles.
  - Parking: School buses on school days; campervan vehicles, cars and bicycles.
  - Bus Drop-off (schools & public buses)
  - Sidewalks: 2.5m wide concrete walkways.
  - Service Access: Zoo Staff access & Catering Access to the Function Centre.



Connection to Waiwhakareke

- Waiwhakareke & Public Access Zone
  - **"Kauri Summit" Amphitheatre:** Small gatherings prior to entering Waiwhakareke.
  - **"Kauri Esplanade":** Public accessway round the perimeter of the car park.
  - **"Ridgetop Shelter":** interpretation, group gathering & small functions within the Natural Heritage Park.
- Zoo Facilities:
  - **Perimeter Wall:** A green wall that expresses the character of the Zoo and acts to slow people down as they approach and leave the Zoo
  - **"Zoo Terrace":** Links the Entry facilities (including the Observatory) together with a sheltering canopy and views over the Zoo to the surrounding countryside.
  - **"Ridgetop Café" (The Upper Café):** light refreshments before or after the Zoo visit, or for those using the Park or passing by.
  - **Function Centre:** After/during hours venue for up to 200 seated guests. Servery and storage space included. Views over the Savannah and surrounding countryside.
  - **Ticket Sales, Information & Retail:** Common cash point that can be easily run by 1-2 people on low visitation days, or as separate points of sale for more crowded days.
  - **Ticket-Taking:** This can be handled at Ticket Sales on low visitation days or at a separate entry point prior to entry to the Zoo proper on high visitation days. This allows for groups to get themselves organized prior to entry into the Zoo without everyone having to stand in the queue.
  - **Entry Overlook Plaza:** Internal Zoo plaza / orientation & decision-making point.
  - **Education:** The starting point for a school class visit, as well as space for the Education staff.
  - **"Zoo Café" & Adventure Play Area (The Lower Café):** Internal zoo food & refreshment area that provides indoor/outdoor service and seating that overlooks a multi-age children's discovery play area where children can use up some of their store of energy prior to encountering the animals.





Section through Entry Overlook Plaza

Visitors arriving at the free access area and "Ridgetop Cafe" treated to a sneak peak view of the Zoo. The indoor/outdoor seating at the internal zoo dining terrace features an overlook of a multi-age children's play area as well as the aviary beyond

Learning Outcomes:

- Waiwhakareke and the Hamilton Zoo will be understood to be complementary destinations dedicated to conserving wild species and wild landscapes both at home and around the world.
- Visitors will learn to recognize the native New Zealand species that can free-range between the Zoo and Waiwhakareke.
- Up-close encounters in habitat displays with some of Waiwhakareke's more secretive residents will help visitors learn what to look for in Waiwhakareke.



Perimeter Wall: Green Artwork Option



Cafe at the Bronx Zoo



### 3.6.2 “Growing Wild”

*An informal play & discovery area for the entire family.*

*Dedicated to introducing interesting and emerging issues focused on understanding the concept of “wildness”, as well as the concepts of biodiversity, habitat, personal responsibility and conservation action within a setting populated by an engaging array of the Zoo’s smallest residents.*

#### Visitor Experience:

**Character:** Charming, lively, engaging. Full of interesting information and different ways of understanding the world.

#### Animal Engagement Opportunities:

- Walk-through Squirrel Monkey Enclosure
- Agouti Encounter
- Goldfish Feeding

#### Animal Species:

Animals that have made New Zealand home – both natives & exotics.

- **“Arrival Chorus”** Aviary: songbirds and parrots commonly kept in New Zealand / the Zoo’s greeters. Interpretation about responsible bird keeping.
- **“Minute & Magnificent”**: insects, reptiles, frogs and geckos, both native & exotic.
- **“Forest Dwellers”**: Squirrel Monkeys, Tamarins, Agoutis... among others
- **“Circle of Life”**: Gold fish pool with feeding and interpretation about the evolution of goldfish and our responsibility for their well-being, as well as the well-being of the Waikato River
- Macaw Aviaries

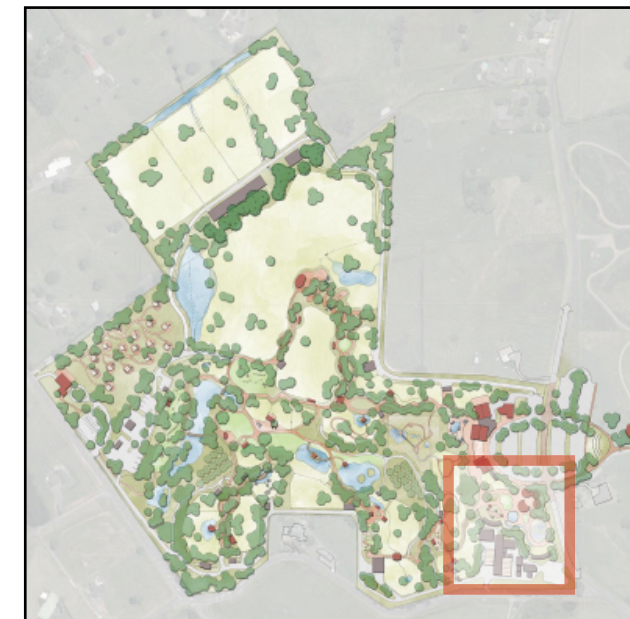
#### Ecology / Landscape / Garden:

- Open, park-like landscape, featuring plants that are edible for both humans and animals.
- Introduction to “browse planting”.
- Focus on identifying and defining ‘weed species’.



#### Physical Features:

- **Amphitheatre:** Informal sheltered space for school group gathering and Keeper Talks.
- **“Earth-Maze Mosaic”**: a walkable discovery art piece that highlights geography and biodiversity.
- **“Ridge & Gully Scramble”**: soft surface play space that interprets the surrounding ridge & gully system of the Hamilton area.
- Picnic Shelters: Shade sail structures for families wishing to picnic



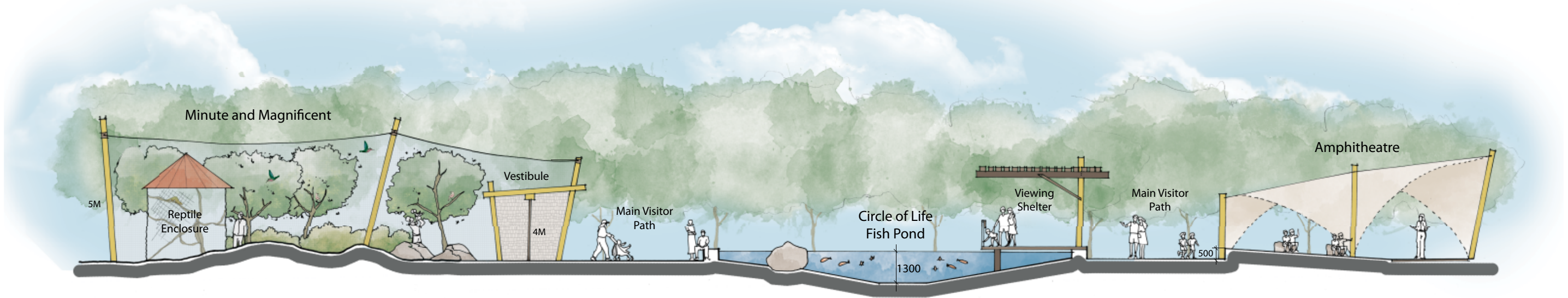
#### Learning Outcomes:

- Waiwhakareke and the Hamilton Zoo will be understood to be complementary.
- Responsible pet ownership and care will be fostered.
- Visitors will participate in creating habitats for our minute and magnificent native species.



Play Area concept “Ridge and Gully Scramble”



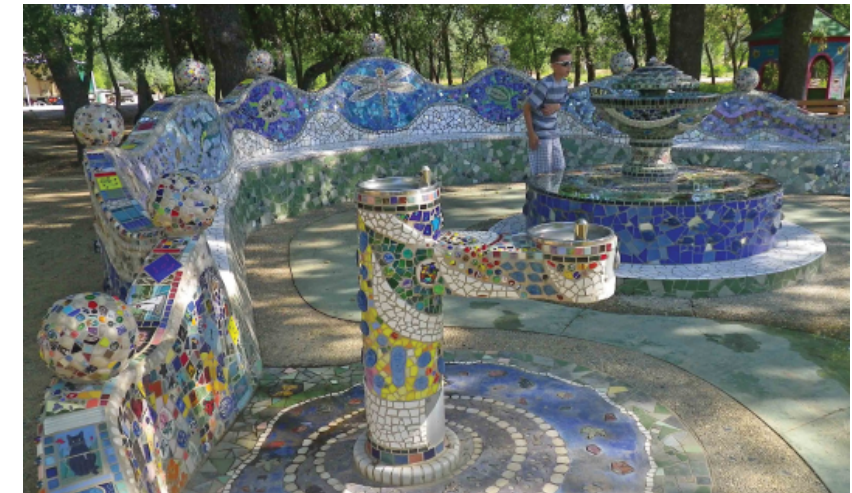


Section through “Growing Wild”

A family discovery area encourages all ages to engage with and learn from the natural world



Giant weta



“Arrival Chorus” Java rice finches



“Forest Dwellers”: Squirrel Monkey walkthrough



“Earth-Maze Mosaic” Options



### 3.6.3 “Weka Walk”

*An immersive and physically-challenging bushwalk in the company of the Zoo’s iconic forest floor resident provides visitors with take-home lessons about bush walking and living with in harmony with NZ wildlife.*

#### Visitor Experience:

- Character: Native bush with ample seating and quiet adventure opportunities
- Animal Engagement Opportunities:
  - Encountering free-range wekas

**Animal Species:** North Island wekas

#### Ecology / Landscape:

Maintain and interpret native vegetation and biological features.

#### Physical Features:

- Log Bridge and Balance Beams
- Benches



#### Learning Outcomes:

- Explore the myriad influences of people on New Zealand’s past and present flora and fauna.
- Locate and observe North Island weka in their native habitat.



Sharing Stories



Weka



Nature Play



### 3.6.4 “Free Flight”: The New Zealand Aviary

*Redevelopment of the Zoo’s large existing meshed aviary to create a distinct loop off of the future main loop path.*

*It will continue to be an immersive, free-range experience in the native NZ bush surrounded by the biodiversity of New Zealand’s birdlife. As such, it will be attractive to those interested in native New Zealand wildlife in general and birds in particular. Consideration should be given to refreshing the experience.*

*The loop will be signed to make visitors who are apprehensive of birds aware of the nature of the destination.*

#### Visitor Experience:

Character: Green / full of sound and movement. Speaks to the adventurous spirit of NZ bushwalks.

Animal Engagement Opportunities: Kaka

Animal Species: NZ birds

#### Ecology / Landscape:

- Consider further biological water treatment options to improve water quality in the pond so that it not only IS clean, but also “appears” clean.
- Manage the vegetation to provide an authentic taste of a mature native bush setting.

#### Physical Features:

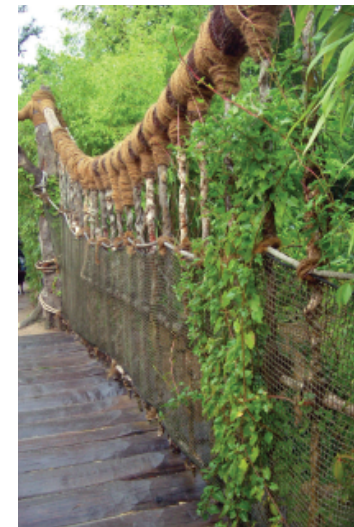
- Renovated boardwalks and decks.
- Possible new suspension bridge to provide additional options for visitor experience.
- Benches
- LEAP Shelter<sup>15</sup>

#### Learning Outcomes

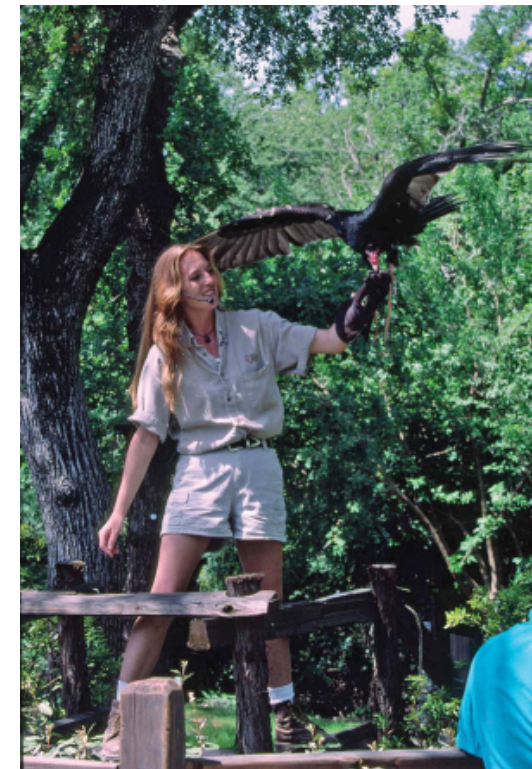
- Wonder at the curiosity and personalities of species that have not been taught to fear us.
- Foster a desire to create comparable settings in home gardens.



Kaka Contact



Suspension Bridge



Bird Encounter

<sup>15</sup>: Learning Experience Activity Point: a sheltered facility for interpretation and discovery that can be used as an outdoor classroom by school groups and Zoo educators, and as a focused family discovery centre by the general public.



### 3.6.5 “Savannah”

Expansion and redevelopment of the Zoo’s existing Savannah exhibits to provide easier management of larger herds of animals, more expansive enclosures, and an exhibit layout that works with the existing ecology and landscape character. A water ring-main would need to be installed as part of this project.

Consideration has been given to the possibility of acquiring additional land in the “Rhino Ridge” area to provide for better animal welfare, visitor experience and expansive views for the future Function Centre. Master Plan Option B shows how this area might unfold should this land eventually be acquired (See Appendix Section 5.4).

#### Visitor Experience:

**Character:** Expansive grasslands interspersed with pockets of trees and savannah-like vegetation. Shelters provided throughout – at both expansive overviews and in more intimate encounter spaces.

#### Animal Engagement Opportunities:

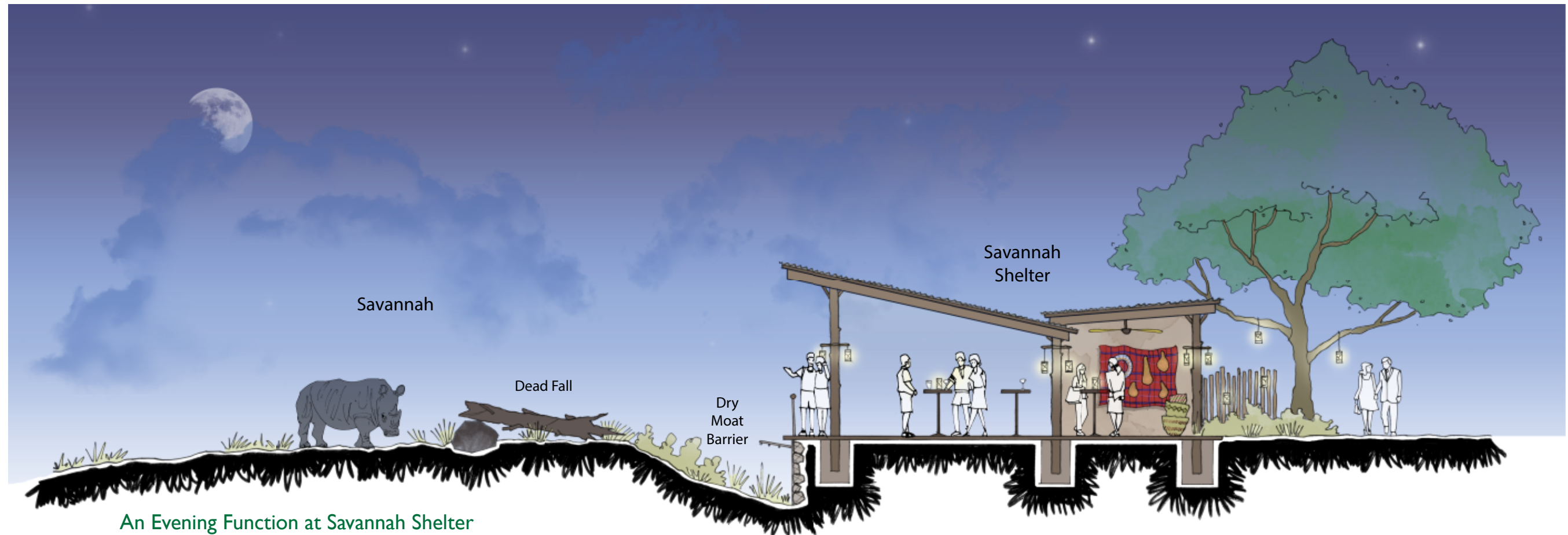
- Rhino contact: Mediated contact with Keepers present
- Giraffe feeding: Facilitated programme with Keepers present
- Cheetah lure: Periodic demonstration of cheetah running ability
- Meerkat contact: Mediated programme for small groups in the animal enclosure

#### Animal Species/Exhibits:

- “Lion Lookout”
- “Rhino Ridge” + Cheetah
- “African Herds”
- “Meerkat Run I & II”
- “Wild Dog Territory”







### An Evening Function at Savannah Shelter

Expansive views from the themed shelter give visitors a snapshot of a mixed species African Savannah

#### Ecology / Landscape:

- Open pastoral setting with trees to block views of adjacent development.
- Work with drainage and water quality to ensure that the water supports a healthy NZ aquatic ecosystem.

#### Physical Features:

- "Giraffe Feeding Platform"
- "Rhino Boma" Mediated Contact Area
- Savannah Shelter: Expansive views & Rental Venue
- "Adventure Slope": A playful way to make your way up and down the slope
- LEAP Shelter

#### Learning Outcomes

- Understand predator / prey relationships.
- Explore adaptations that enable animals to thrive in savannah habitats.



Rhino Contact



Giraffe Feeding



### 3.6.6 “Social Climbers”

*This exhibit precinct is primarily a ‘re-theming’ and improvement of a series of existing exhibits, primarily – but not exclusively – focused on primates. The main considerations for the redevelopment of this area are to make any necessary improvements for animal welfare and visitor experience, and link the exhibit together through a common approach to interpretation that helps visitor experience and understand them as social creatures, much like us.*

#### Visitor Experience:

**Character:** Primarily forested landscapes with lower-storey vegetation that will stand up to the attention of the animals

#### Animal Engagement Opportunities:

- “Lemur Walk-Through”: Free-choice contact with visitors walking through. Walk-through can be closed on an as-needed basis. The entry bridge rails and surface will be infused with hot wire which will be turned on after hours.
- “Red Panda Walk-Through”: Free-choice contact with visitors walking through. Walk-through can be closed on an as-needed basis. Entry gates will be “air-locks”.
- Chimpanzee Keeper Talks: From the bridge

#### Animal Species:

- “Spider Monkey Corner” (Squirrel Monkey)
- “Red Panda Wander”
- “Chimp Gully”
- “Siamang Swamp”
- “Lemur Landing”

#### Ecology / Landscape:

- Forested landscape, interspersed with wetlands that treat the run-off prior to the water entering the ponds at the lower gully.

#### Physical Features:

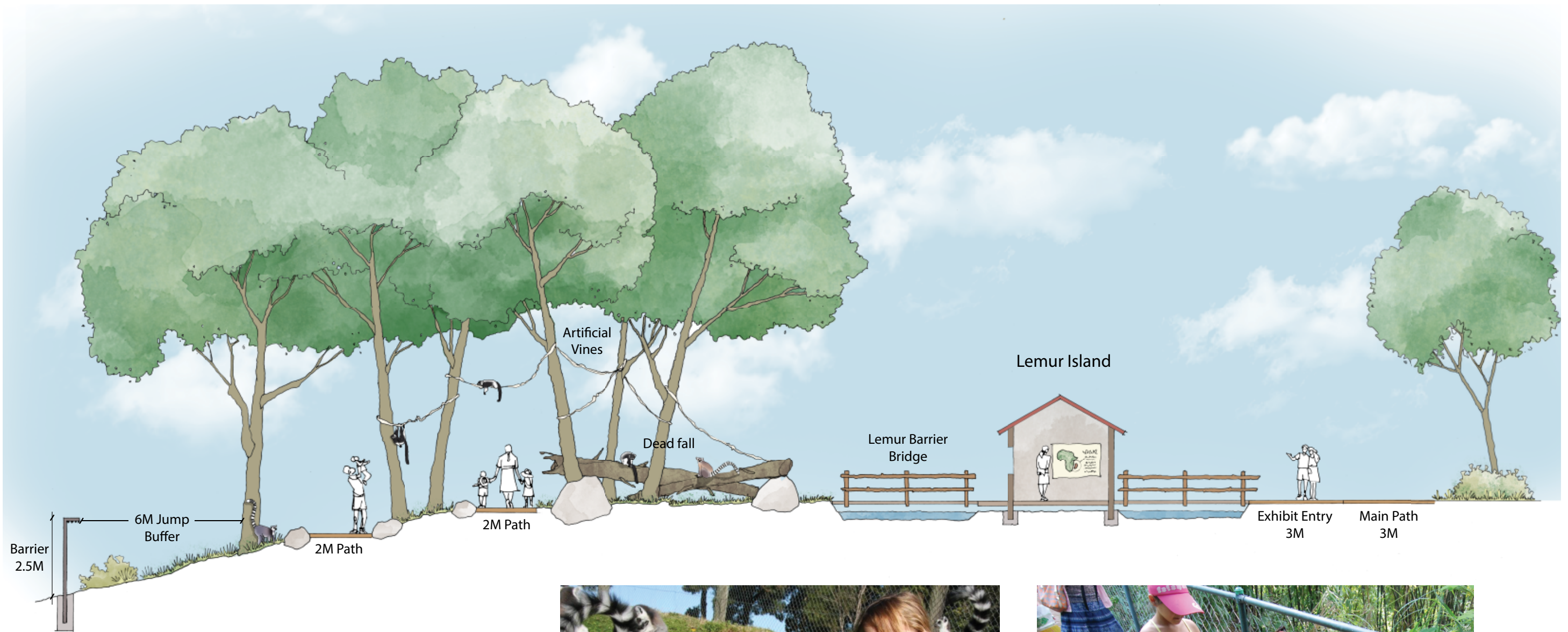
- “Chimp Zip”: Playful way to make your way up and down the slope.
- “Siamang Boardwalk”: Over-water visitor walkway to get closer views of the siamangs in the trees.
- LEAP Shelter



#### Learning Outcomes:

- Contrast primate social characteristics with our own.
- Explore the definition and use of tools.





**Section through Lemur Walkthrough**

Visitors have the opportunity to view the lemurs from afar at the viewing structure and bridge, as well as up-close and personal in the walkthrough area.

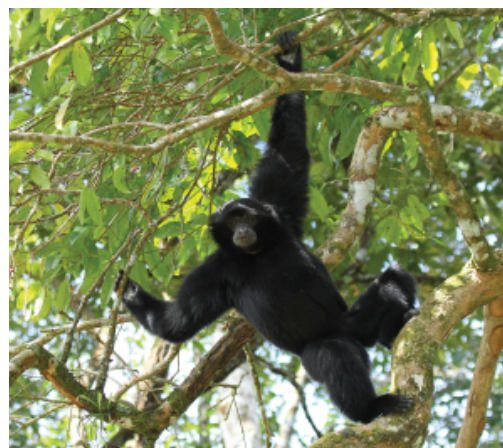
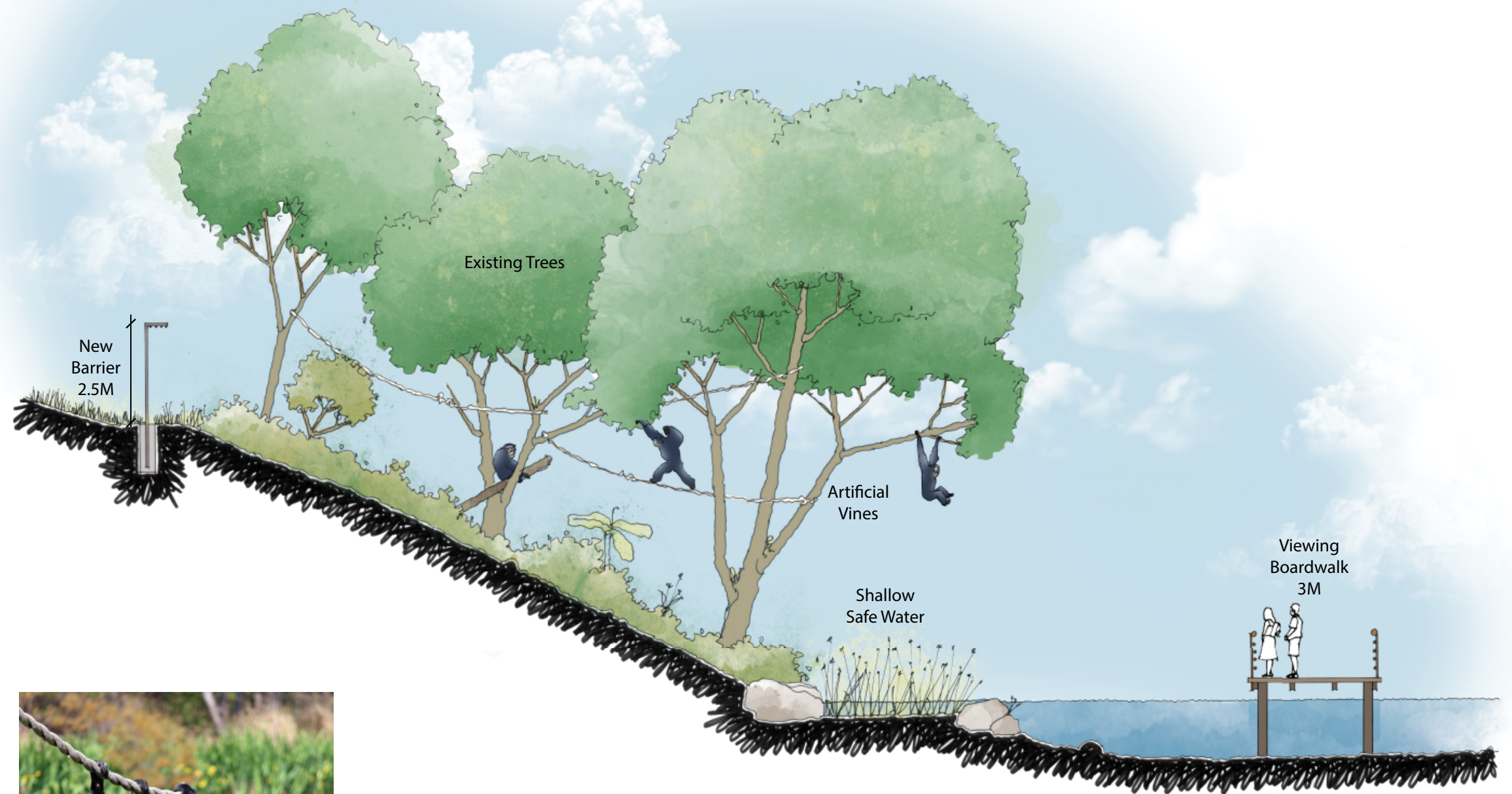


Hands-on with the lemurs



Red Panda Walkthrough, Chengdu, China





Section through Siamang Boardwalk

Visitors on the boardwalk get up close views of the bustling activity in the treetops.



### 3.6.7 “The Glen”

*The Glen represents the central lawns, rest areas and picnicking that are located in the lower gully and comprise the half-way point along the main visitor loop. An excellent location for a break in beautiful surroundings.*

#### Visitor Experience:

**Character:** Well-landscaped areas for gathering that are formed around existing landforms and large native and exotic tree species.

#### Animal Engagement Opportunities:

- Touching / feeding as appropriate.
- Keeper talks.

#### Animal Species:

- Select “farmyard” animals

#### Ecology / Landscape / Garden:

- Vegetation management to maintain the health of existing native and exotic tree species.
- Garden spaces that are full of plants that can be safely and respectfully used with New Zealand natives.
- Bio-filtering wetlands to treat stormwater run-off.

#### Physical Features:

- Picnic tables & Shelters
- Toilets
- Food carts as appropriate

#### Learning Outcomes:

- Take individual and collective action to care for environments that can be enjoyed by all.
- Foster good “reduce, reuse, recycle, rethink” behaviours.



Picnic lawns and Gardens, Bristol Zoo



Up close with domestic animals



### 3.6.8 “Carnivore Corner”

*The redevelopment of this area will provide better viewing for visitors and more space for the tigers, thus enabling the Zoo to significantly contribute to the holding and breeding of this endangered species.*

*In addition, a new exhibit of Asian small-clawed otters will provide visual interest even when the tigers happen to be sleeping, and will provide an opportunity to interpret the fact that “carnivores” come in all shapes and sizes*

#### Visitor Experience:

**Character:** Replicate the character of the tigers’ native home in the forest of Sumatra

#### Animal Engagement Opportunities:

- Opportunities to watch staff work in protected contact with tigers to gain their trust so that they can participate in their own physical examinations and care giving exercises.
- Opportunities to watch tigers pass overhead as they move from one exhibit to another.

#### Animal Species:

- Sumatran Tigers
- Asian small-clawed otters

#### Ecology / Landscape:

- Primarily forested landscape with streams that are recycled and treated biologically.

#### Physical Features:

- Tiger Overpass
- Otter Stream and pool

#### Learning Outcomes:

- Understand the threats that these species face.
- Appreciate their unique adaptations and behaviours that have made them successful in the past.



Tiger overpass



Asian small-clawed otters



### 3.6.9 “The Challenge Zone”

“The Challenge Zone” utilises a hillside above the Middle Pond to create a series of through-the-trees physical challenge courses.

One of those courses would be accessible to all Zoo visitors as they spend time in The Glen. There would be something for the youngest Zoo visitor, as well as the 8-10 year olds that could be accomplished under parental supervision – a low-level ‘ropes and scrambling course’.

They would have views to the for-fee Challenge Course that would be run by others for team building and events that have a more adult focus. This course would have access both through the main Zoo, as well as from the adjacent Waterhole Camp.

#### Visitor Experience:

##### Character:

- Physical challenge and team-building.

##### Animal Engagement Opportunities:

- Observation only

**Animal Species:** Free-range animals.

#### Ecology / Landscape:

- Managed native forest that provides homes for free-range wildlife, and significant trees that are part of the challenge course.

#### Physical Features:

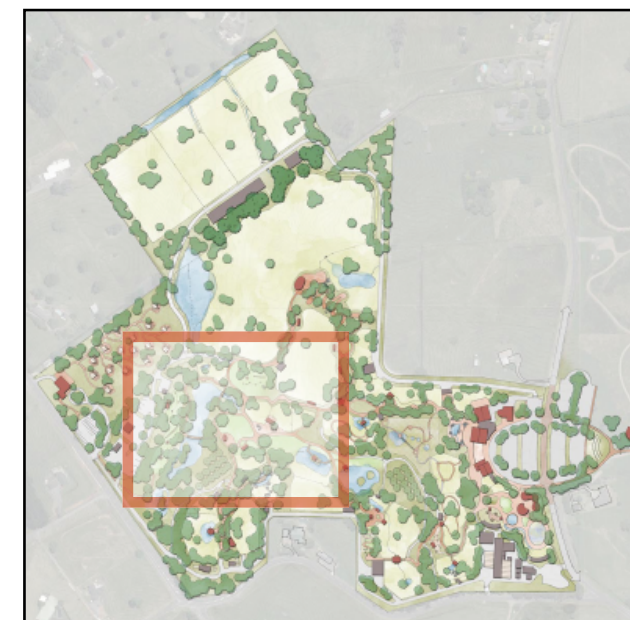
- Challenge courses
- Shelters and access, both for guests, as well as emergency services and maintenance
- Toilets at the For Fee Challenge Course

#### Learning Outcomes:

- Positive attitudes towards physical activity.
- Promote personal health and well-being.



Elevated “Ropes Course” in the For Fee Area



Challenge for varying ages/abilities



### 3.6.10 “Waterhole Camp”

“Waterhole Camp” is a new, overnight stay facility that would be available for individuals, families or groups who are interested in a unique zoo experience. It would include safari-style ensuite tent facilities on platforms, meals, and before- and after-hours behind-the-scenes visits with the animals.

Set on a westward-facing hillslope immediately adjacent to the Zoo’s northwestern corner, the tents will have a view over the Savannah’s waterhole where giraffes and zebra would gather in the mornings and early evening.

Meals would be prepared and served in the existing building onsite that would be re-themed to provide a more Savannah-style experience.

Guests would arrive for late afternoon check-in at a new entry where they would find a secure car park, convenient to the Waterhole Camp dining terrace.

#### Visitor Experience:

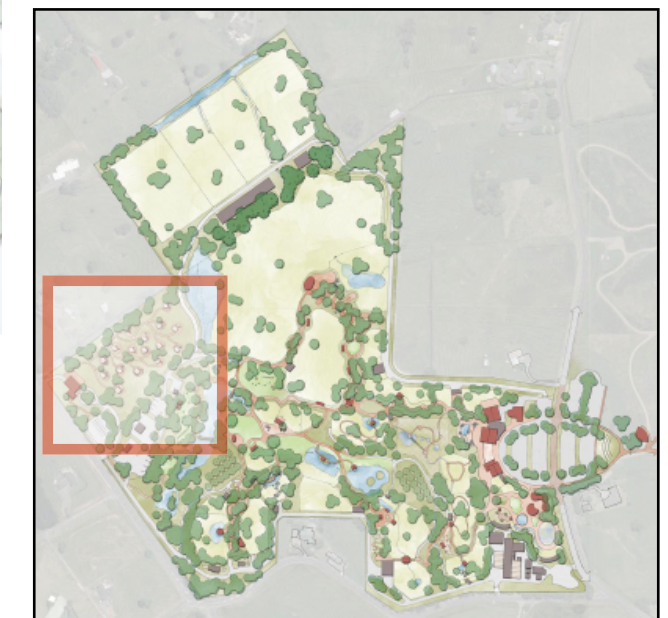
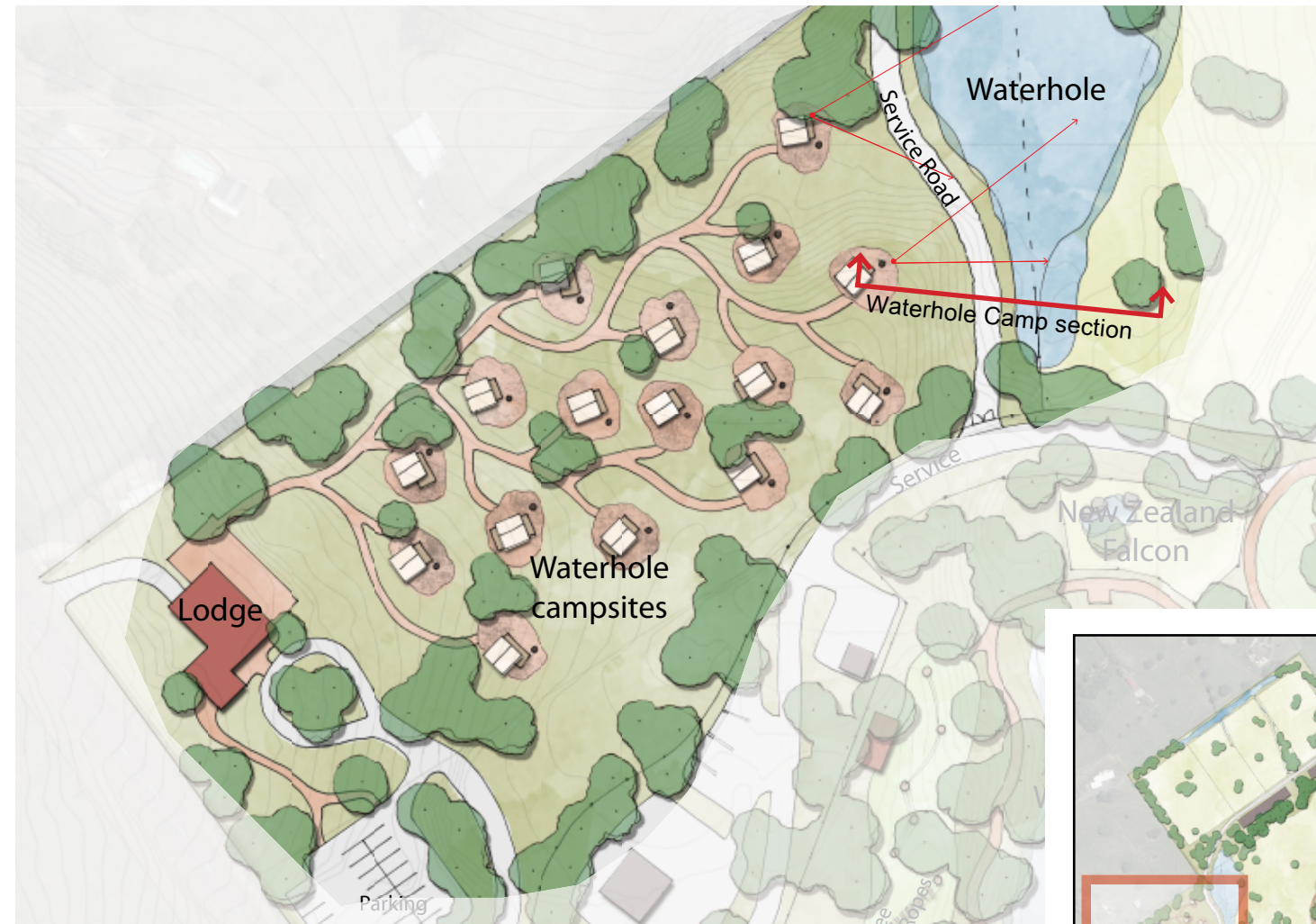
- Overnight group experiences in Nature.
- Character:
  - Treed and landscaped hillslope with tent platforms nestled into the vegetation.
  - Park-like setting with stunning vegetation.
  - Safari-style lodging.
- Animal Engagement Opportunities:
  - Feeding and contact on back-of-house tours.

#### Animal Species:

- Views to Savannah animals.
- Free-range NZ species around the tents.

#### Ecology / Landscape / Garden:

- Low maintenance, lushly-planted landscape with native and/or non-invasive exotic species.



#### Physical Features:

- Boma fence surrounding the Camp.
- “Waterhole Lodge”: the central dining and gathering area for the Camp.
- “Waterhole Camp” tents.

#### Learning Outcomes:

- Get in touch with one’s senses – both day and night.



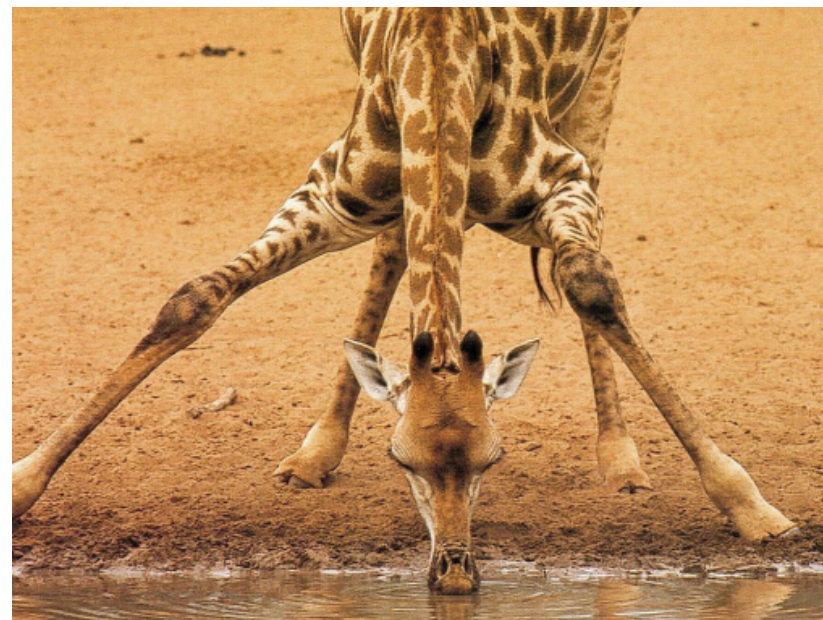


Section through Waterhole Camp: Evening Views

From the comfort of a private tent site, visitors have unobstructed views of the savannah waterhole replete with thirsty Giraffes, Zebra and the whole host of hooved African ambassadors.



Overlooking the Savannah



Giraffe at waterhole



"Waterhole Lodge" campfire at Western Plains Zoo



### 3.7 Overall Landscape and Drainage Diagram



### 3.8 Operations & Maintenance

- One of the keys to ease of maintenance is a well-organised site that has good connections to centralised operations hubs (works, animal management, vet services, commissary, horticulture etc.) and service access that limits the interface with visitor circulation routes. Hamilton Zoo's service access is currently in fairly good shape, with relatively minor improvements necessary.
  - Remove the compost site from the centre of the Zoo, as well as the service road that bisects the site. Ensure that the peripheral service road is completed and utilized, and that all service vehicles that have to use visitor walkways do so before or after hours.
- Maintenance activities in the Zoo include not only the physical assets that affect the health and well-being of the animals, and the visitor experience, but also the living infrastructure that surrounds and influences the environmental quality and aesthetics of the space. This includes vegetation management and water quality management.
  - Institute water quality improvements that enable the Zoo to take its place as a responsible environmental partner (natural wetlands, gravel bed wetlands, re-circulating flow, aeration, and biological management of free-range species that utilize the Zoo's existing water bodies).
  - Develop a horticultural department that is responsible for maintaining the Zoo's landscape to a set of environmental and aesthetic standards that enable the Zoo to act as an effective tourism partner to Hamilton Gardens



Horticulture Support



## 4.1 Implementing the Master Plan

### 4.1.1 MAINTAINING THE VISION

A Master Plan is a constantly evolving, living document that is aspirational in nature and reflects a comprehensive vision comprised of many incremental steps which may or may not occur, depending on market conditions at any given time.

The Zoo already plans for a 25-year life expectancy for all capital projects, based upon material selection and maintenance, as well as changing visitor expectations and the regulatory landscape. Development programmes will be laid out to accommodate both asset renewal, as well as asset development and continual improvement where bold changes will secure the type of animal welfare and visitor experience outcomes that set the Zoo on a more sustainable track in terms of public opinion. As each development programme is completed, the Master Plan should be reviewed to fine-tune the next steps in the Zoo's evolution – not just for the next 10-years, but throughout its life.

### 4.1.2 SECURING THE ZOO'S PERIMETER

It is important to maintain the integrity of "green space" at the Zoo as the surrounding urbanisation creeps closer. We therefore recommend acquisition of the property adjacent to the NE boundary of the Zoo to ensure expansive views of the site without overlooking neighbouring properties, and for additional space that will contribute significantly to animal welfare.

### 4.1.3 DEVELOPING SOUND BUSINESS CASES TO SUPPORT GROWTH

A zoo does not have to be large in order to be successful. Rather, it needs to be right-sized and provide services that the community values and is willing to pay for. Business cases should be developed for each commercial activity within the Zoo, striving to align Mission with developing entrepreneurial opportunities.

### 4.1.4 SECURING COMMUNITY SUPPORT

The Zoo is an extension of the community, reflecting its hopes and aspirations for the future, as well as its willingness to pay for services of a potentially intangible nature. The Zoo must develop a deep understanding of not only its visitors, but also the community at large in order to develop trust and secure their support.

### 4.1.5 PARTNERING

The Zoo becomes stronger with each viable partnership that it undertakes. Such partnerships enable it to focus on the core services that it can apply on site, and extend its important education and conservation services in ways that do not require additional cash expenditure.

### 4.1.6 IMPROVING...CONTINUALLY

The idea is to create a living institution that continually reflects on its practices and procedures to produce better outcomes – for the City, for itself, for its animals and visitors, and for conservation.





### 4.2 Capital Development Strategy

A zoological garden is never complete. Visitors are continually seeking new experiences, and world standards for animal welfare demand constant improvements in animal habitats and care. For a zoo to remain relevant to its audience, it must seek to continually rejuvenate itself through a balanced mix of new and renovated exhibits, and updated and new interpretation, visitor services and educational programmes.

A zoo, like all cultural institutions, requires significant funding to maintain and operate its physical assets over time. Even as it physically ages and depreciates, the Zoo's mandate for wildlife conservation and animal welfare requires that continual improvements be made to its facilities in response to growing scientific knowledge of animal welfare practices. Similarly, visitor expectations reflect an increasingly sophisticated and competitive environment for their leisure time.

This Master Plan has taken a measured approach to defining future re-investment in the Zoo's facilities. It recognises that the quality of the visitor experience and the quality of the facilities must be maintained and improved. The Master Plan's proposed improvements will take full advantage the Hamilton Zoo's large open landscapes, and the ridges and valleys and mature vegetation that define its special places. This minimises the high costs of frequent reinvestment in the exhibit technologies that are frequently found in urban zoos and museums.

### 4.3 Approach to Costing

To test our ability to achieve the Master Plan's vision, Studio Hanson|Roberts prepared budgets for each of the proposed Master Plan elements. The challenge in developing costs for master plans is that detailed plans have yet to be drawn and future regulatory requirements can only be approximated. Studio Hanson|Roberts has extensive experience with comparable "state-of-the-art" zoo construction projects in North America, Asia, Europe, and Australasia. By combining this broad knowledge of zoo construction with targeted knowledge of local construction standards and the labour market, appropriate budgets have been developed to guide project prioritisation and funding.

The project budgets include allocations for buildings and structures, water systems, animal and exhibit interpretive elements, and general site improvements including all services. Project budgets also include 20% contingencies for the design process, and an additional 10% contingency to cover unknown conditions during construction.

"Soft costs" have been included in the estimates to provide a "full project" cost. These soft costs have been estimated at 15% of the construction budgets and include the following:

- Design fees (10% overall: individual disciplines ranging from 6% to 24%)
- Internal project management and dedicated project staff (3%)
- Surveys, testing and permits (2%)



## 4.4 Phase Descriptions

### 4.4.1 Siamang Exhibit + the first LEAP

The Siamang exhibit (budget \$405,000) will take advantage of one of the Zoo’s existing water bodies and mature trees to create a memorable visitor encounter at a very reasonable cost.

The first LEAP<sup>16</sup> facility (budget \$120,000) will demonstrate the Zoo’s approach to integrating education activities within the Zoo experience.

Both projects are currently budgeted.

**Construction + Soft Costs:** \$525,000

**Timeline:** 2014-2015

### 4.4.2 Entry, Retail Shop and Cafe

The new Zoo Entry and Café will provide facilities serving both the Zoo and Waiwhakareke. A ‘free zone’ provides access to the Café and Toilets prior to ticketing. The new Café provides a view into the Zoo from the ‘free zone’.

The Adventure Play area in front of the Café will not be constructed until new construction in the Savannah allows the Rhino to move.

**Construction Budget:** \$TBA

**Construction + Soft Costs:** \$TBA

**Timeline:** 2016-2018

### 4.4.3 Savannah Stage One - Waterhole, New Barns, Meerkats

The Savannah is expanded to the ‘waterhole’ with new barns and off-exhibit paddocks. This sets the stage for Waterhole Camp.

New Meerkat habitats will bring constant activity to contrast with the Wild Dogs and Lions: the Savannah waterhole in the distance.

**Construction Budget:** \$TBA

**Construction + Soft Costs:** \$TBA

**Timeline:** 2018-2020

### 4.4.4 Waterhole Camp

The sixteen luxury tents of Waterhole Camp will engage a new audience for the Zoo. Twilight zoo safaris, with dinner and breakfast at the Lodge overlooking the Savannah waterhole can provide a new revenue stream.

Development of Waterhole Camp must first be tested through research and the development of a detailed business case..

**Construction Budget:** \$TBA

**Construction + Soft Costs:** \$TBA

**Timeline:** 2020-2022

### 4.4.5 Lemur Walk-through

Taking advantage of the mature trees of the existing Spider monkey exhibit, visitors will share the Lemur habitat on a new boardwalk and walkway. Meet-the-lemurs presentations will make this visitor experience a must-see for the summer season.

**Construction Budget:** \$TBA

**Construction + Soft Costs:** \$TBA

**Timeline:** 2022-2023

### 4.4.6 Growing Wild

Growing Wild will bring an intimate visitor experience to the Zoo’s primary audience, young children and their care-givers. Its location at the ‘top of the Zoo’ will complete the new entry of Phase 2

**Construction Budget:** \$TBA

**Construction + Soft Costs:** \$TBA

**Timeline:** 2022-2025

<sup>16</sup>: “Learning Experience Activity Point”: a sheltered facility for interpretation and discovery that can be used as an outdoor classroom by school groups and Zoo educators, and as a focused family discovery centre by the general public.



## 5.1 Observations on the Existing Context

### Hamilton & the Waikato Region

- “Hamilton is New Zealand’s largest inland city, and 4th largest urban area with a population of approximately 150,000 people. It has 3.2 percent of the total NZ population and is one of the fastest growing cities in the country. The city has a youthful population - around half of residents are under 30 years old. NZ European make up three quarters of the population, and Maori 19 percent. Hamilton is home to more than 80 ethnic groups.
- New Zealand’s longest river, the Waikato, flows for 16 km through the city and Hamilton is home to 135 parks and gardens, and 58 sports areas amounting to over 1,000 hectares of open space.
- Hamilton is at the centre of one of the richest agricultural and pastoral areas in the world and is a major service centre for the Waikato region – NZ’s highest export region with 20 percent of all exports. The city is a world class centre of agricultural biotech excellence and home to much of NZ’s science research facilities, as well as being a leading area for hi-tech innovative manufacturing and engineering industries.”<sup>17</sup>
- The population is expected to continue to grow primarily through migration with the population gradually leveling off mid-century. The overall population will be older with 20% being above age 65, and couples without children outnumbering families with children by 2033<sup>18</sup>. While this could be construed as a focus away from families, many communities have found that the ‘fun factor’ of the grandparents’ place of residence can actually increase the attractiveness of time spent with grandparents or older members of the family.<sup>19</sup>
- As part of this process of growing from its agricultural service centre roots into a dynamic urban centre, the city has embraced its natural and cultural heritage, as well as its small city ambiance and its surrounding rural lifestyle. The City’s Plan focuses on “green” strategies (Hamilton is a garden city<sup>20</sup>); the arts (creativity at every turn<sup>21</sup>); and the social, physical and economic well-being of its citizens all pointing to an engaged

and future-looking community that is eager to move forward<sup>22</sup>. However this growth comes at a cost to the rural ambiance, particularly as housing development continues to march outward and begin to overtake areas like the Zoo.

- Hamilton Gardens, first established in 1960 on the banks of the Waikato River, has become one of the region’s premier attractions, focusing as it does on the experiential and aesthetic quality of the many ‘garden rooms’ where everyone can find a favorite place to spend time. Drawing on the region’s agricultural heritage, the Gardens have been able to develop a strong horticultural focus through the Wintec Horticultural Education Centre and the Municipal Nurseries that enables it to provide industry and community training and services that further contributing to Hamilton’s quality of life.
- Both the changing demographics and the developing tourism industry in the Central Waikato are indicative of a desire for authentic experiences of this region .

### The Zoo: Location & Context

- The Zoo is located along rural roads at the edge of the developing suburb of Rotokauri on the outskirts of the Hamilton metropolitan area within Waikato District Council territory. Its fenced 25 hectares provides a home for approximately 600 animals in enclosures that are simple, spacious and provide for optimal animal welfare. Its collection contains more endangered species than New Zealand’s other zoos, and its care and display of native New Zealand species make it an ideal partner for the adjacent Waiwhakareke Natural Heritage Park.
- The existing drainageways, wetlands and ponds are a combination of man-made and natural remnants of the region’s inter-linked gully and pond system that is part of the Lake Rotokauri catchment. The Zoo Drain, which funnels most of the Zoo’s surface water run-off, currently empties directly into the Lake which is considered hypertrophic and the subject of numerous studies and clean-up projects.

Given the seasonal low flow and the clay nature of the site’s soils, the Zoo’s ponds frequently suffer from an excess of suspended particulates, as well as periodic eutrophication.

A high population of eels ensures that few of the ducklings hatched around the Zoo’s ponds survive into adulthood.

Given the Zoo’s commitment to conservation, the institution of Zoo-wide biological and stormwater management strategies will enable the Zoo to fully contribute to the well-being and sustainability of the region’s water resources and the native species that depend on them.

### The Zoo Experience:

- The site itself is full of topographic variation, vistas, wetlands and a mix of forest types (including exotic species) that provide dramatic experiential potential that is typical of the geologic setting of the Waikato. The existing layout of the circulation and the exhibits is confusing however, and appears to have been laid out more in line with the rural Acclimatisation Society game farm that the Zoo evolved from than a high-quality visitor experience where guests can come face-to-face with a fascinating range of animals set within a beautifully landscaped setting where animals and visitors feel fully a part of the natural setting.
- The existing customer services are spartan and do little to engender public confidence in the institution’s practice of “exemplary welfare” for either its guests or its animals.
- The education programmes are spirited and make the best use of the existing facilities which are extremely basic.
- The Zoo is home to a wonderful collection of animals that are well-cared for and engaging, however, if a person does not already like zoos and animals, there is little here that would attract the general public.

<sup>17</sup>: <http://www.futureproof.org.nz/page/22-links-to-councils+hamilton-city-council>

<sup>18</sup>: NIDEA Demographic Snapshot, Hamilton City, June 2014.

<sup>19</sup>: David Walsh, Director of Zoo Advisors, Philadelphia. Personal communication.

<sup>20</sup>: Personal communication. Hamilton Zoo Working Group.

<sup>21</sup>: <http://www.hamilton.govt.nz/our-city/city-strategies/Pages/default.aspx>

<sup>22</sup>: Becca Hanson. Personal observation.



## 5.2 Capacity Calculations

Hamilton Zoo Master Plan - 2014

Design Day Capacity Requirements	existing		25% growth		50% growth		100% growth	
	120,000		150,000		180,000		240,000	
Annual Attendance Growth	Design	Peak	Design	Peak	Design	Peak	Design	Peak
<i>Planning Day - (design day = 85%tile) (peak day = average of 3 highest day)</i>								
Peak and Design Day Factor	0.0065	0.0085	0.0065	0.0085	0.0065	0.0085	0.0065	0.0085
1 <b>Daily Attendance</b>	<b>780</b>	<b>1020</b>	<b>975</b>	<b>1275</b>	<b>1170</b>	<b>1530</b>	<b>1560</b>	<b>2040</b>
Percent Guests in Zoo - Simultaneous	74%	74%	74%	74%	74%	74%	74%	74%
2 <b>Simultaneous Visitors in Zoo</b>	<b>577</b>	<b>755</b>	<b>722</b>	<b>944</b>	<b>866</b>	<b>1132</b>	<b>1154</b>	<b>1510</b>
<b>Parking and Arrival</b>								
1 Percentage of Guests Arriving by Auto	83%	83%	83%	83%	83%	83%	83%	83%
2 Number of Guests Arriving by Automobile	479	626	599	783	719	940	958	1253
3 Number of Guests per Automobile	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
4 <b>Parking Spaces Required</b>	<b>150</b>	<b>196</b>	<b>187</b>	<b>245</b>	<b>225</b>	<b>294</b>	<b>299</b>	<b>392</b>
<b>Ticket Sales</b>								
1 Design Day Hourly Guest Arrivals	20%	20%	20%	20%	20%	20%	20%	20%
2 Design Day Hourly Guest Arrivals	156	204	195	255	234	306	312	408
3 Party Size	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
4 Transaction Time (seconds)	50	50	50	50	50	50	50	50
5 Wait Time (minutes)	0	10	0	10	0	10	0	10
6 Number of Ticket Windows	2.2	2.4	2.7	3.0	3.3	3.5	4.3	4.7
7 <b>Ticket Sales Building Area @ 6.5m2</b>	<b>14</b>	<b>15</b>	<b>18</b>	<b>19</b>	<b>21</b>	<b>23</b>	<b>28</b>	<b>31</b>
<b>Arrival Plaza(s)</b>								
1 Design Day Hourly Guest Arrivals	20%	20%	20%	20%	20%	20%	20%	20%
2 Design Day Hourly Guest Arrivals	156	204	195	255	234	306	312	408
3 Pre-Ticketing Arrival Plaza (2.5m2 per visitor, 15 minute stay)	98	128	122	159	146	191	195	255
4 Post-Ticketing Arrival Plaza (3.0m2 per visitor, 20 minute stay)	156	204	195	255	234	306	312	408
7 <b>Arrival Plaza Total Size - m2</b>	<b>254</b>	<b>332</b>	<b>317</b>	<b>414</b>	<b>380</b>	<b>497</b>	<b>507</b>	<b>663</b>
<b>Food and Beverage</b>								
1 Percent of Guest Eating	40%	40%	40%	40%	40%	40%	40%	40%
2 Guests Eating - Simultaneous	231	302	289	377	346	453	462	604
3 Guests Requiring Seating	115	151	144	189	173	226	231	302
4 Total Seating Area at 1.7m2	196	257	245	321	294	385	392	513
5 Total Kitchen Area at 0.4m2	92	121	115	151	139	181	185	242
4 <b>Total Food &amp; Beverage Area at 2.1m</b>	<b>289</b>	<b>377</b>	<b>361</b>	<b>472</b>	<b>433</b>	<b>566</b>	<b>577</b>	<b>755</b>
<b>Gift Shop</b>								
1 Percent of Visitors in Shop	5%	5%	5%	5%	5%	5%	5%	5%
2 Guests in Shop - Simultaneous	29	38	36	47	43	57	58	75
3 Shop Sales Area at 2.5m2	72	94	90	118	108	142	144	189
4 Shop Storage Area at 25%	18	24	23	29	27	35	36	47
5 <b>Total Shop Area Required</b>	<b>90</b>	<b>118</b>	<b>113</b>	<b>147</b>	<b>135</b>	<b>177</b>	<b>180</b>	<b>236</b>
<b>Toilets</b> (females 4.66 / males 3.75 per 1000)								
1 Fixtures - Simultaneous								
Females @ 0.7% (toilets 67%, sinks 33%)	4	5	5	7	6	8	8	11
Males @ 0.5% (toilets 25%, urinals 50%)	3	4	4	5	4	6	6	8
2 Toilet Facility Area								
Females @ 4m2	16	21	20	26	24	32	32	42
Males @ 3.2m2	9	12	12	15	14	18	18	24
3 <b>Total Toilet Facility Area - m2</b>	<b>25</b>	<b>33</b>	<b>32</b>	<b>42</b>	<b>38</b>	<b>50</b>	<b>51</b>	<b>66</b>



### 5.3 Summary of Guest Features and Facilities

Hamilton Zoo Master Plan																					
Summary of Guest Features & Facilities																					
Oct-14		Animal Engagement:						Public Use Facilities:						Play	\$\$						
		Observation	Walk-Through	Feeding	Free-Choice Contact	Mediated Contact	Keeper Talks	Behind the Scenes	Pathways	Boardwalks	Elevated Decks	Feeding Platforms	Seating	Picnic Tables	Shelters	Lawns	Toilets	Special Use Facilities	Play	Revenue	Notes on Special Use Facilities / Revenue Generation Opportunities:
3.5.1	<b>"Entry Precinct"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				Cafés / Function Centre
	LEAP Shelter																				
	Revenue Generation Opportunities																				Cafés, Retail, After Hours During Hours Rental Venue
3.5.2	<b>"Growing Wild"</b>																				
	Animal Engagement Opportunities																				Squirrel Monkey, Gold Fish, Agouti
	Physical Features																				Education Centre / Amphitheatre
	LEAP Shelter																				
	Revenue Generation Opportunities																				After Hours Rental Venue
3.5.3	<b>"Weka Walk"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter*																				
	Revenue Generation Opportunities																				
3.5.4	<b>"Free Flight"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				Suspension Bridge
	LEAP Shelter*																				
	Revenue Generation Opportunities																				Photographs
3.5.5	<b>"Savannah"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter																				
	Revenue Generation Opportunities																				After Hours Rental Venue / Seasonal Food Carts
3.5.6	<b>"Social Climbers"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter*																				At Siamang Exhibit
	Revenue Generation Opportunities																				After Hours Rental Venue
3.5.7	<b>"The Glen"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter*																				
	Revenue Generation Opportunities																				Seasonal Food Carts
3.5.8	<b>"Carnivore Corner"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter*																				
	Revenue Generation Opportunities																				After Hours Rental Venue
3.5.9	<b>"The Challenge Zone"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				Challenge Courses
	LEAP Shelter*																				
	Revenue Generation Opportunities																				For-Fee Challenge Course
3.5.10	<b>"Waterhole Camp"</b>																				
	Animal Engagement Opportunities																				
	Physical Features																				
	LEAP Shelter*																				
	Revenue Generation Opportunities																				Overnights
	* LEAP: Learning Experience Activity Point																				



### 5.4 Master Plan Option 'B': Adjacent Property Acquisition





