Central Interceptor – Point Erin Extension

NATURAL CHARACTER, LANDSCAPE AND VISUAL ASSESSMENT REPORT

February 2023

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INTRODUCTION AND SUMMARY

1 Watercare Services Limited ("**Watercare**") is proposing to extend the Central Interceptor ("**CI"**) wastewater conveyance and storage tunnel from Tawariki Street in Grey Lynn to a new terminal shaft in Point Erin Park ("**Project**"). The tunnel extension will ensure combined overflows are picked up and conveyed to Māngere Wastewater Treatment Plant for safe treatment, reducing overflows to the environment and improving the quality of waterways and swimmable beaches by 2028.

2 Isthmus Group Ltd ("**IGL**") has been engaged by Watercare to provide landscape design advice and undertake an assessment of the natural character, landscape and visual amenity effects arising from the Project. This report only assesses the effects of the Project on the natural character, landscape and visual amenity values within Point Erin Park.

3 It is understood that at least five mana whenua entities[1] have indicated their interest in preparing a Cultural Values Assessment which will consider effects of the Project on cultural values and cultural landscapes. This report does not consider the effects of the Project on cultural values and cultural landscapes.

4 Works within the Point Erin Park are proposed to occur in two locations:

a) The terminal shaft and associated construction area is proposed to be located in the grassed area immediately to the south of the Point Erin Pools (referred to as the main construction area).

b) The control chamber, plant room and associated construction area is proposed to be located in the southwest corner of Point Erin Park near the intersection of Curran and Sarsfield Streets (referred to as the southwestern construction area).

(Referred to in this report as the "**Point Erin Park Shaft Site**" throughout this report).

5 In summary:

- The overall effects of the Project on the natural character values of Point Erin Headland are **Low** (positive).
- The temporary effects on open space amenity (during construction) are no more than **High** (adverse).
- The permanent effects on open space and landscape character (post construction) are **Low Moderate** (adverse).

[1] Te Ākitai Waiohua, Ngāti Te Ata, Ngāti Whatuā Ōrakei, Ngāti Maru, Ngaati Whanaunga

- The temporary effects on visual amenity assessed from public locations ranges from **High** (adverse) to **Low** (less than minor, adverse).

- The permanent effects on visual amenity assessed from public locations ranges from **Low Moderate** (adverse) to **Neutral**.

- The temporary effects on visual amenity assessed from private residences ranges from **High** (adverse) to **Low** (less than minor, adverse).

- The permanent effects on visual amenity assessed from private residences ranges from **Moderate** (adverse) to **Neutral**.

STRUCTURE OF THIS REPORT

6 This assessment is set out as follows:

a) Assessment Methodology

b) A description of the Project

c) A description of the existing environment

d) An overview of the relevant planning considerations

e) An assessment of the effect of the Project on the natural character of Point Erin Park

f) An assessment of the effect of the Project on the open space amenity of Point Erin Park

g) An assessment of the effect of the Project on the landscape character of Point Erin Park

h) An assessment of the effect of the Project on the visual amenity from both public and private views

i) Landscape recommendations

j) Summary

METHODOLOGY

7 The following methodology has been used to assess the natural character, landscape and visual amenity values of Point Erin Park and, the Project's potential effects on those values:

- A desktop review of Point Erin Park, relevant documents and relevant statutory provisions;

- Site visits to Point Erin Park, and the surrounding roads and pathways from which the Point Erin Shaft Site can be viewed. Three site visits were undertaken on 6 October 2022, 10 November 2022 and 17 January 2023. Photographs were taken during the site visits, included within **Appendix B – Graphic Attachments.** The author is also generally familiar with the area;

- A description of the existing landscape context of Point Erin Park and the Point Erin Park Shaft Site. The description includes reference to the existing land uses of the Point Erin Park Shaft Site and the coastal setting which contributes to the landscape and natural character values of the site and the Waitematā Harbour;

- An analysis of the natural character attributes and values of Point Erin Park and the surrounding area;

- An analysis of the landscape character and values of Point Erin Park and of the surrounding area;

- An assessment of the visibility of the Project from land and Waitematā harbour-based viewpoints;

- An assessment of the potential natural character effects of the Project;

- An assessment of the potential landscape effects of the Project on Point Erin Park and on the wider context; and

- An assessment of the potential visual effects of the Project on Point Erin Park and on the wider context.

8 An assessment of effects on landscape character and visual amenity is included within this report, referring to a rating scale for the value. To be consistent with the ratings of the values described, in relation to potential effects, the same seven-point scale (below) is used to achieve a level of standardisation[2]. Words are used in preference to numbers to reduce the likelihood of using 'scores' in a formulaic way.

9 Comparisons of how adverse value ratings assigned in accordance with Te Tangi a te Manu – Aotearoa New Zealand Landscape Assessment Guidelines (TTatM) relate to the RMA terminology of 'less than minor', 'minor' and 'more

[2] The scale is symmetrical around 'moderate'. The scale is based on the recommended NZILA Best Practice Guide and is consistent with the Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'.

than minor', and the New Zealand Coastal Policy Statement ("**NZCPS**") terminology of 'Significant' are provided below.

Adverse Effect Rating	Very Low	Low	Moderate – low	Moderate	Moderate – high	High	Very high
RMA terminology	*Less than Minor*		*Minor*	*More than Minor*			
NZCPS terminology						*Significant*	

10 It should be noted that a change in a landscape does not in itself mean that a proposal will result in an adverse effect on the values of that landscape:

> *"Change itself is not an effect: landscapes change constantly. It is the implications of change for a landscape's values that is the effect."*[3]

11 The nature of effects can be **Adverse** (negative) or **Beneficial** (positive). An assessment of effects combines both value ratings (Very Low – Very High) and nature of effects (Adverse, Positive).

- An adverse effect relates to an activity which results in a reduction in landscape and / or visual amenity values; in this circumstance the RMA terminology of 'less than minor', 'minor' and 'more than minor' is applied.

- A positive effect relates to an activity which enhances landscape and / or visual amenity values through restoration and / or provision of positive elements or features.

12 Where a proposal will result in a change, but that change will have no effect on the characteristics or values of a particular landscape or view, a nature of effect rating of '**neutral**' will be provided.

13 The assessment methodology is based on **Te Tangi A Te Manu Aotearoa New Zealand Landscape Assessment Guidelines** Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

14 The methodology section above sets out a series of 'steps' that have been taken to assess the relevant natural character, landscape and visual effects of the proposal on the receiving environment. The list is provided for completeness to set out the key matters that have been taken into consideration. The detailed description of the work undertaken is contained under the relevant headings throughout the report.

[3] Refer 6.03 - Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'

DESCRIPTION OF THE PROJECT WITHIN POINT ERIN PARK

15 The Project has been developed to a concept design stage. As it moves through the detailed design process and as construction methodology is confirmed, it is likely that some details will change, but will remain within the envelope of effects assessed in this report. All figures and dimensions provided are approximate and will be confirmed during the detailed design stage.

16 The Project involves the construction, commissioning, operation and maintenance of a wastewater interceptor and associated activities at Point Erin Park.

17 The Point Erin tunnel will extend from the consented shaft site at Tawariki Street, Grey Lynn and will be entirely located below ground at depths ranging between 20m and 60m[4]. The tunnel will be approximately 1.6km in length and will have an internal diameter of 4.5m. The proposed alignment of the tunnel is illustrated on **Figure 4** within **Appendix B – Graphic Attachments**.

18 The tunnel will terminate at Point Erin Park with works proposed at two locations within the park:

Terminal Shaft

19 The proposed terminal shaft will be located on the grassed area to the south of Point Erin Pools. The terminal shaft will allow for the removal of the Tunnel Boring Machine ("**TBM**") and will include a terminal shaft venting arrangement. The terminal shaft construction area will include:

- A temporary construction area of approximately 3,150m². The construction area will be fenced-off (1.8 -2.4m temporary fencing) and will be closed to the public.
- Cut and fill earthworks to create a level construction platform, which will result in an approximate 2m high temporary retaining wall along the western edge of the construction area. The retaining wall will be constructed from timber posts / piles and boards.
- A terminal shaft excavated to a depth of approximately 30m and approximately 12m in diameter.
- The terminal shaft will require a venting arrangement for infrequent discharge[5]. The venting arrangement will include an approximate 2.6m² vent area elevated approximately 3m above ground level. The external appearance of the ventilation structure will be designed in

[4] Rising to approximately 17m as it enters Point Erin Park.

[5] Up to once annually, but most likely no more than once in ten years.

consultation with Auckland Council Parks Department, and the local board (depending upon their interest) and mana whenua partners as part of the wider park re-instatement programme (outlined further below). The ventilation arrangement will either include one singular structure or will be halved in size and split across two grouped structures.

Control Chamber and Plant Room

20 The proposed control chamber and plant room will be located in the south-western corner of Point Erin Park. The control chamber will connect to the Sarsfield overflow collector and the St Marys Bay pressure line, and the construction of a stub connection to facilitate a potential future wastewater connection. The control chamber and plant room construction will include:

- A temporary construction area of approximately 1,880m². The construction area will be fenced-off (1.8 -2.4m temporary fencing) and will be closed to the public. The construction area will be terraced into two platforms.

- The upper platform will include temporary fill works and will create a level area in the corner of the park to allow construction access and movement between Sarsfield Street and Curran Street.

- The lower platform will be cut into the landscape and will include up to 4m high retaining walls along its western and southern sides. Smaller retaining walls will be provided along the eastern edge of the lower platform to tie-in to existing levels within the park. The retaining wall along the western side of the lower construction platform (parallel to Curran Street) will be permanent.

- The temporary closure of a short section of footpath in the south-western corner of Point Erin Park. As recommended within the Recreational Assessment[6], a temporary (stepped) path along the edge of the construction area will be provided to maintain access. Signage will be provided to an accessible route in the south eastern corner of the park.

- The proposed construction area will require the removal of a limited number of trees in the south-western corner of the park to allow access to the construction area and space to construct the control chamber and plant room (discussed further below).

[6] Prepared by Rob Greenaway & Associates

- The construction of a control chamber (approximately 20m deep) to direct flows from existing wastewater pipes into the Central Interceptor tunnel.

- Construction of a plant room which will house equipment to control the gates within the control chamber. The plant room will be an above-ground permanent structure and will have a maximum footprint of approximately 40m² and height of 4m[7]. It is intended that the external appearance of the plant room will be designed in consultation with Auckland Council Parks Department, and the local board (depending upon their interest) and mana whenua partners as part of the wider park re-instatement programme (outlined further below).

- Following construction of the plant room and control chamber, the construction platform will be reduced to approximately 10m in width, with the permanent retaining wall along Curran Street being completed, and a smaller permanent retaining wall (or reinforced embankment) along the eastern edge of the platform. A permanent vehicular access will be retained adjacent to the plant room, between Sarsfield Street and Curran Street. It is anticipated that a handrail / fence / safety barrier will be required along the top of the retaining wall to comply with *F4 Safety from Falling* building codes.

Tree Removal

21 A detailed assessment of trees to be retained and removed is included within the Arboricultural Assessment of Effects (The Tree Consultancy Company) which accompanies this application. Trees identified for removal are based on a 'worst case' scenario, and it is understood that effort will be made to retain trees in the southwestern corner where possible throughout the construction stage.

22 In summary, it is understood that a total of 17 trees are to be removed:

- 8 trees (Trees 19, 20, 21, 22, 23, 24, 25, and 38[8]) are juvenile and their removal is a permitted activity.

- 5 trees (Trees 16, 17, 18, 42 and 43) are to be removed to facilitate the southwestern construction area.

- 4 trees (Trees 1, 2, 12 and 15) are recommended for removal due to poor condition or health and are otherwise unimpacted by the proposed works.

[7] Above finished ground level.

[8] Tree 38 is a recently planted Pūriri in good condition, proposed to be relocated within the reserve

- In addition to these removals, pruning of trees 44 and 45 is proposed to facilitate entrance and egress of construction vehicles from the main construction area.

23 Trees to be removed are illustrated on **Figure 6 – Appendix B Graphic Attachments.**

Duration of Works and Activities

24 The TBM is expected to arrive at Point Erin Park in May 2025. Ideally, construction works at the park will commence at least 12 months prior to the arrival of the TBM.

25 The terminal shaft construction is expected to occur over a 4 – 6 month period (around September 2024 – February 2025), followed by a short break whilst the TBM arrives. This will be followed by approximately 9 months of activity (May 2025 – February 2026) to remove the TBM and complete the internal structure of the shaft.

26 The control chamber construction is anticipated to occur over a 4 – 6 month period (around January 2025 – June 2025).

27 Where possible, construction activity at Point Erin Park (including truck movements) is proposed to occur between 7am – 6pm (Monday – Friday) and 8am – 6pm (Saturday). However, due to the nature of construction and the Project's timeline it is likely that some activities will be undertaken outside these usual hours, for example during summer daylight savings periods and under certain circumstances. It is understood that works outside of standard hours will be limited as far as is practicable and that based on experience at other CI sites, works and activities outside of standard construction hours typically occur intermittently and for a limited period of time. Recent examples of works outside of standard construction hours at other CI sites are set out in the Assessment of Noise and Vibration Effects for the Project at section 2.4.3. Although works outside of hours are expected to occur intermittently and for limited periods of time, this assessment has taken the conservative approach to assess continued construction activity at the park, albeit of varying levels of intensity over the duration of the construction period.

28 Site lighting will be required during night-time hours to create a safe working environment. Any proposed site lighting will comply with the relevant lighting standards within the AUP.

29 The proposed tunnelling operations between Tawariki Street and Point Erin will occur up to 24 hours a day, 7 days a week.

30 Overall, construction works at Point Erin Park are expected to take approximately 2 – 3 years. The Project is expected to be completed mid to late

2026, with the northern section of Central Interceptor (including the Point Erin Tunnel) expected to be commissioned in 2026/2027.

31 The construction of the terminal shaft, control chamber and plant room will require a variety of large-scale machinery and equipment within the park. Machinery will include cranes and excavators. It is anticipated that two telescopic cranes (anticipated to be approximately 15m in height) may be required on site at any one time during the construction period. An additional, larger crane (anticipated to be approximately 50m in height) will be required to recover the TBM, which will be on site for approximately 2 months.

Park Re-Instatement Programme

32 Once construction works are complete, the park will be reinstated. The permanent above ground infrastructure will be limited to the ventilation arrangement in open space and, plant room and retaining walls (and associated fencing) in the southwestern corner of the park. All remaining infrastructure being flush with[9], or below ground level.

33 Watercare is intending to work with mana whenua, Auckland Council Parks Department, and the local board (depending upon their interest) to determine the nature of the reinstatement works. Whilst this process is not yet complete, the re-instatement plan as a minimum is required to include:

- The removal of construction yards, equipment, temporary retaining walls, and construction access not required for operation and maintenance access.
- Replacement of facilities that have been removed (e.g. footpaths and park furniture).
- Consideration of re-contouring / mounding and landscaping, which could comprise a mixture of grassed areas and tree and shrub planting (species mix and location to be determined).
- Consideration of the treatment of permanent retaining walls, to include wall construction, design, planting and any health and safety requirements (e.g. fencing).
- The re-instatement of grassed recreational areas.
- Consideration and design of the external appearance of the plant room and ventilation arrangement.

[9] Including manholes and the access road.

34 Consideration will also be given to opportunities to enhance Point Erin Park including its existing recreation and landscape values (e.g. additional or alternative walkways, seating, appropriate recognition of cultural values, etc), and planting and landform modification around the plant room, ventilation arrangement and retaining walls to assist in the visual integration of any permanent above ground infrastructure.

35 The Project is outlined in full within the Assessment of Environmental Effects (AEE) prepared by Tonkin and Taylor and is illustrated in the Preliminary Site Layout Plan (construction), Preliminary Tunnel Alignment and Operational Site Plan included within **Appendix B – Graphic Attachments.**

DESCRIPTION OF THE EXISTING ENVIRONMENT

36 The author has undertaken three site visits to Point Erin Park and has taken photographs at various land and harbour locations. These are included as the photographs from Viewpoints 1 – 7 within **Appendix B - Graphic Attachments** and provide a visual representation of the Point Erin Park Shaft Site and its context. A series of photographs taken from within Point Erin Park are also included as Context Viewpoints A – E.

Description of the Point Erin Park's localised setting[10]

37 Point Erin is a headland to the south of the State Highway 1 (SH1) bridge over the Waitematā Harbour (Auckland Harbour Bridge), north of Herne Bay.

38 The area has a complex cultural and historical background and is part of the highly modified coastal environment of the Auckland City edge and coastline.

39 Point Erin Headland includes an ancient Pā site (Okā/Te Koraenga) which along with Te Onewa Pā (Stokes Point) were the gateway headland Pā sites at the narrowing of the harbour.

> *"The legendary taniwha and guardian of the Hauraki people, Ureia, roamed the gulf and frequented Pt Erin to scratch his back against the cliff and reef."* [11]

40 The reclamation of the waterfront which began in the 1850's and the construction of the SH1 Waitematā Harbour Bridge in the late 1950's has resulted in substantial modification to these headlands and Pā sites. Point Erin now includes an expanse of reclaimed land, the SH1 bridge landing with associated on and off ramps, and residential, commercial and recreational developments.

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10 Point Erin and the enclosing residential, recreational and harbour setting

11 Refer Auckland City Heritage Walks – Auckland's Original Shoreline Brochure. Auckland City Heritage Walks (aucklandcouncil.govt.nz)

41 Point Erin Headland is defined by Curran Street and the harbour edge to the west and north, SH1 to the east and Sarsfield Street to the south. The SH1 on and off ramps cross the headland and the Point Erin Pools entranceway and the surrounding coastal and residential roads contribute to the network of roading infrastructure in the area.

42 The wider harbour edge to the west of Point Erin includes densely vegetated cliffs, bays and beaches. Masefield Beach Reserve is located immediately west of Curran Street, at the base of a steep escarpment, accessed by a shared cycle and walkway which traverses the coastal edge to the north.

43 The localised and wider context to the west, south and south-east of Point Erin includes residential development within Herne Bay and Saint Mary's Bay, located to the west of Curran Street and south of Sarsfield Street. Residential properties vary in scale, typically between 1 – 3 storeys in height with views across the Waitematā Harbour and to the tree-lined boundaries of Point Erin Park.

44 The northern part of Point Erin Headland, to the north of the SH1 on-ramp, is located on reclaimed land. This part of the headland has shallower topography with a large area of open grassland and areas of hardstand, interspersed with native tree planting and avenue planting along Curran Street.

45 Curran Street is a frequently used recreational area for fishing (surf-casting), walking and cycling. The Harbour Bridge Bungee and Climb is also located at the northern end of the Headland, accessed off Curran Street.

46 The SH1 Harbour Bridge and the on and off-ramps are a dominant feature within the localised setting of Point Erin. The Harbour Bridge is an iconic and highly recognisable feature of Auckland and has substantial social and historical associations.

47 SH1 traverses the harbour edge to the east of Point Erin Headland, with Westhaven Marina located beyond.

48 The south-eastern corner of Point Erin Headland, east of the SH1 off-ramp / Shelly Beach Road includes a small area of residential development, generally between 2 – 3 storeys in height.

Description of Point Erin Park and its immediate setting

49 Point Erin Park is located at the crest of Point Erin Headland. The park is generally defined by Curran Street to the west, the SH1 on-ramp to the north, SH1 to the north-east, the SH1 off-ramp to the east and Sarsfield Street to the south.

50 The park boundaries are defined by a mature and established mix of native and exotic trees which largely contain views into the park. Glimpsed views into the central area of the park are available where breaks in vegetation occur and during winter months when leaf cover is reduced.

51 Point Erin Pools, playground and car park are notable developments within the park boundary. The pools include a grouping of single storey buildings and fenced-off outdoor pools in the northern part of the park. Point Erin car park and playground are located along the eastern edge of the park, accessed from Sarsfield Street to the south.

52 A dense and mature area of predominantly native trees are located in the northern part of the park, to the east, west and north of the pools. This area of vegetation broadly aligns with the original harbour edge and location of the Okā/Te Koraenga Pā site. The vegetation is identified as a Significant Ecological Area within the Auckland Unitary Plan (AUP) and the area (and northern part of Point Erin Pools) is identified as a Site and Place of Significance to Mana Whenua within the AUP.

53 The central part of the park includes an area of open grassland / recreational space located on the crest and west facing slopes of the headland. A footpath is located around the edges of the open space to the south, west and north, connecting to Sarsfield Street and the Point Erin Pools entranceway. The footpaths are located within the vegetated parts of the park and provide access to the wider Foreshore Heritage Walk along the original Auckland coastline to the east.

54 Point Erin Pools is located on the high-point of the headland, with the topography gently falling in all directions. The park and open space are located on the west facing slopes of the headland, with topography falling to Curran Street to the west. The footpaths to the south and south-west of the park are located in a shallow gulley, with the landform rising more sharply to both Curran Street to the south-west and Sarsfield Street to the south.

55 The northern part of the park, north of the original harbour edge includes a small area of grassed reclaimed land, adjacent to the SH1 on ramp. This area includes existing Healthy Waters infrastructure which includes a weir structure, underground pump station and odour control units.

56 This assessment considers[12] that Point Erin Park is located within the Coastal Environment due to its proximity to the coastal edge. However, whilst located within the Coastal Environment, the park has few natural characteristics that contribute to its coastal setting. The natural character values of the coastal environment are concentrated around the historic cliff edge to the north of

[12] It is understood that there is no Coastal Environment boundary published by Auckland Council.

Point Erin Pools and the edges of the headland where the visual connections and physical access and proximity to the harbour edge are strongest. The extensive modification, roading infrastructure and coastal reclamation around the headland have weakened connections between Point Erin Park and the coast.

57 The site and its local setting are illustrated on **Figures 1-2** within **Appendix B Graphic Attachments.**

PLANNING CONTEXT

58 This section of the report highlights the provisions most relevant to natural character, landscape and visual matters. A full planning assessment of the Project has not been undertaken as that is not within the scope of this report and is provided in the AEE document prepared by Tonkin and Taylor.

Resource Management Act 1991

59 With regard to Part 2 of the RMA, the relevant provisions are within section 6: Matters of National Importance and section 7: Other Matters.

Section 6[13]

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:"

- *s6(a) - The preservation of the natural character of the coastal environment (including the coastal marine area), and the protection of them from inappropriate subdivision, use, and development*
- *s6(d) - The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers*

Section 7

"In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to:"

- *s7(c) - The maintenance and enhancement of amenity values.*

[13] Due to the distance between the site and any Outstanding Natural Features and landscapes, s6(b) has not been considered.

- *s7(f) - Maintenance and enhancement of the quality of the environment.*

New Zealand Coastal Policy Statement (NZCPS)[14]

60 The objectives and policies of the NZCPS address the management of the coastal environment, which Point Erin Park and the Shaft Site is within. The provisions of the NZCPS are relevant to this assessment under the RMA.

61 **Objective 2** seeks to (emphasis added):

*"…**preserve the natural character** of the coastal environment and protect natural features and landscape values through:*

- *recognising the characteristics and qualities that contribute to **natural character**, natural features and **landscape values** and their location and distribution;*
- *identifying those areas where various forms of subdivision, use, and development would be inappropriate and **protecting** them from such activities; and*
- *encouraging **restoration** of the coastal environment."[15]*

62 **Objective 4** seeks to (emphasis added):

*"…**maintain** and **enhance** the **public open space qualities** and **recreation opportunities** of the coastal environment by:*

- *recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;*
- ***maintaining** and **enhancing** public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and*
- *recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland" [16]*

63 The policies of the NZCPS that are relevant[17] include:

[14] Full excerpts of the NZCPS Policies are included within Appendix A - Landscape Related Policy.
[15] Objective 2 of the New Zealand Coastal Policy Statement (2010)
[16] Objective 4 of the New Zealand Coastal Policy Statement (2010)
[17] From a landscape, visual and natural character perspective.

- **Policy 1 -** The extent and characteristics of the coastal environment
- **Policy 6 -** Activities in the coastal environment
- **Policy 13** - The preservation of natural character
- **Policy 14 -** The restoration of natural character
- **Policy 15 -** The protection of natural features and natural landscapes and the avoidance of effects on outstanding features and landscapes
- **Policy 18 –** Recognition of public open space

64 The detail of the specific policies[18] of the NZCPS as they relate to the assessment of the Project are addressed in the assessment of the landscape and natural character values, later within this report.

Auckland Unitary Plan (AUP)

65 The proposal is to construct wastewater infrastructure and as such, the objectives and policies of **Chapter B3 (Regional Policy Statement): Infrastructure, transport and energy** and **Chapter E26 (Auckland-Wide) – Infrastructure** are relevant (emphasis added):

- **Objective B3.2.1 (2) -** *The benefits of infrastructure are recognised, including:*
  - *a) providing essential services for the functioning of communities, businesses and industries within and beyond Auckland;*
  - *b) enabling economic growth;*
  - *c) contributing to the economy of Auckland and New Zealand;*
  - *d) providing for public health, safety and the well-being of people and communities;*
  - *e)* ***protecting the quality of the natural environment****; and*
  - *f) Enabling interaction and communication, including national and international links for trade and tourism.*
- **Objective B3.2.1 (3) -** *Development, operation, maintenance, and upgrading of infrastructure is enabled, while managing adverse effects on:*
  - *a)* ***The quality of the environment*** *and, in particular, natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources,* ***coastal environment****, historic heritage and special character;*

[18] Outlined in full within Appendix A.

*b) The health and safety of communities and **amenity values**.*

- **Policy B3.2.2 (3) -** *Provide for the locational requirements of infrastructure by recognising that it can have a functional or operational need to be located in areas with natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, **coastal environment,** historic heritage and special character.*

- **Policy B3.2.2 (6)** - *Enable the development, operation, maintenance and upgrading of infrastructure in areas with natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, **coastal environment**, historic heritage and special character while ensuring that the **adverse effects on the values of such areas are avoided where practicable** or otherwise remedied or mitigated.*

- **Objective E26.2.1 (9) -** *The **adverse effect**s of infrastructure are **avoided**, **remedied** or **mitigated**.*

- **Policy E26.2.2 (1) -** *Recognise the social, economic, cultural and **environmental benefits** that infrastructure provides, including:*
  a) enabling enhancement of the quality of life and standard of living for people and communities;
  b) providing for public health and safety;
  c) enabling the functioning of businesses;
  d) enabling economic growth;
  e) enabling growth and development;
  *f) **protecting and enhancing the environment**;*
  g) enabling the transportation of freight, goods, people; and
  h) Enabling interaction and communication.

- **Policy E26.2.2 (4) -** *Require the development, operation, maintenance, repair, upgrading and removal of infrastructure to **avoid**, **remedy** or **mitigate adverse effects**, including, on the:*
  *a) health, well-being and safety of people and communities, including nuisance from noise, vibration, dust and odour emissions and **light spill**;*
  b) safe and efficient operation of other infrastructure;
  *c) **amenity values of the streetscape and adjoining properties**;*
  d) environment from temporary and ongoing discharges; and
  e) Values for which a site has been scheduled or incorporated in an overlay.

- **Policy E26.2.2 (5) -** Consider the following matters when assessing the effects of infrastructure:

a) *the **degree to which the environment has already been modified**;*
b) *the **nature**, **duration**, **timing** and **frequency** of the **adverse effects**;*
c) *the impact on the network and levels of service if the work is not undertaken;*
d) *the need for the infrastructure in the context of the wider network; and*
e) *tThe **benefits provided** by the infrastructure to the communities within Auckland and beyond.*

66 Point Erin is located within the Coastal Environment, as such the relevant objectives and policies of **Chapter B8 (Policy Regional Statement): Coastal Environment**, and **Chapter E18 (Auckland-Wide): Natural character of the coastal environment** have been considered (emphasis added):

- **Objective B8.2.1 (2) -** *Subdivision, use and development in the **coastal environment** are designed, located and managed to **preserve** the **characteristics** and **qualities** that **contribute to the natural character of the coastal environment.***

- **Policy B8.2.2 (4) -** ***Avoid significant adverse effects** and **avoid**, **remedy** or **mitigate** other **adverse effects** on **natural character** of **the coastal environment** not identified as outstanding natural character and high natural character from inappropriate subdivision, use and development*

- **Objective B8.3.1 (2) -** *The **adverse effects** of subdivision, use and development on the values of the **coastal environment** are **avoided**, **remedied** or **mitigated**.*

- **Policy E18.3 (3)** - *Manage the effects of subdivision, use and development in the coastal environment to **avoid significant adverse effects**, and **avoid**, **remedy** or **mitigate** other **adverse effects**, on the **characteristics and qualities that contribute to natural character values**, taking into account:*
  a) *the location, scale and design of the proposed subdivision, use or development;*
  b) *the extent of anthropogenic changes to landform, vegetation, coastal processes and water movement;*
  c) *the presence or absence of structures, buildings or infrastructure;*
  d) *the temporary or permanent nature of any adverse effects;*
  e) *the physical and visual integrity of the area, and the natural processes of the location;*
  f) *the intactness of any areas of significant vegetation, and vegetative patterns;*

g) *the physical, visual and experiential values that contribute significantly to the wilderness and scenic values of the area;*

h) *the integrity of landforms, geological features and associated natural processes, including sensitive landforms such as ridgelines, headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs, streams, rivers and surf breaks;*

i) *the natural characteristics and qualities that exist or operate across mean high water spring and land in the coastal environment, including processes of sediment transport, patterns of erosion and deposition, substrate composition and movement of biota, including between marine and freshwater environments; and*

j) *the functional or operational need for infrastructure to be located in a particular area.*

67 The site is located within the Informal Recreation Zone, as such, the relevant objectives and policies of **Chapter H7 (Zones): Open Space Zones** have been considered (emphasis added):

- **Objective H7.5.2 (1) -** *The **open** and **spacious character**, **amenity values** and any historic, Mana Whenua, and natural values of the zone are **maintained**.*

- **Policy H7.5.3 (2) -** ***Maintain** or **enhance** the **natural character values** of open spaces by retaining significant vegetation (where appropriate and practical) and through weed removal, new planting and landscaping*

- **Policy H7.5.3 (3) -** *require development, including new buildings and structures, located near scheduled Sites or Places of Significance to Mana Whenua to recognise the relationship of Mana Whenua to the area.*

- **Policy H7.5.3 (5) -** *Locate and design buildings and structures to:*
  a) ***complement the open and spacious character**, function and **amenity values** of the zone;*
  b) *maintain public accessibility and minimise areas for exclusive use; and*
  c) *protect any natural or historic heritage values.*

- **Policy H7.5.3 (9) -** ***Avoid** use and development in locations adjoining the coast or water bodies where they will have **more than minor adverse effects** on any of the following:*
  a) ***public access**;*
  b) *the **visual amenity** values of the coast and water bodies;*
  c) *areas of high natural or historic heritage value; or*
  d) *Mana Whenua values.*

68 The proposed development will require the removal of a limited amount of tree planting within Point Erin Park to facilitate the construction stage, as such, *the* relevant objectives and policies of **Chapter E16 (Auckland-Wide): Trees in Open Space Zones** have been considered (emphasis added):

- **Objective E16.2 (1) -** *Trees in open space zones that contribute to cultural, **amenity**, **landscape** and ecological **values** are **protected**.*
- **Policy E16.3 (2)** - *Manage trees within open space zones to **protect** their cultural, **amenity**, **landscape** and ecological **values**, while acknowledging that multiple uses occur in open space areas.*
- **Policy E16.3 (3)** - *Encourage the use of indigenous trees and vegetation for planting within open space zones, where appropriate, to recognise and reflect cultural, amenity, landscape and ecological values.*

ASSESSMENT OF EFFECTS

69 The following section assesses the Project's effects on the natural character, landscape and visual amenity values of Point Erin Park. The specific **Natural Character**, **Landscape Character** and **Visual Amenity** effects considered are:

a) ***Natural Character*** *effects:*

b) ***Open Space Amenity -*** *Temporary effects (Construction)*

c) ***Landscape Character*** *effects:*

i. Permanent Effects – Open Space and Landscape Character.

d) ***Visual Amenity*** *effects of the Project in relation to:*

i. Public viewpoints within the immediate and local setting of Point Erin Park; including:

a) Users of Point Erin Park

b) Views from the Harbour Bridge

c) Views from Masefield Bay and the wider Waitematā Harbour

ii. Private viewpoints within the immediate setting of Point Erin Park.

a) Properties to the east of Shelly Beach Road

b) Properties to the south of Sarsfield Street

c) Properties proximate to the junction of Curran Street and Sarsfield Street

d) Views from the wider residential setting

Natural Character Effects

70 Point Erin Park and the Shaft Site is located within the Coastal Environment. Under s6(a) of the RMA this makes the consideration of natural character matters relevant to this assessment.

71 Policy 13 of the NZCPS determines that natural character includes the following matters:

> *a) natural elements, processes and patterns;*
>
> *b) biophysical, ecological, geological and geomorphological aspects;*
>
> *c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;*
>
> *d) the natural movement of water and sediment;*
>
> *e) the natural darkness of the night sky;*
>
> *f) places or areas that are wild or scenic;*
>
> *g) a range of natural character from pristine to modified; and*
>
> *h) experiential attributes, including the sounds and smell of the sea; and their context or setting.*

72 Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines includes an interpretation of natural character:

> *'Natural character is the distinct combination of an area's natural characteristics and qualities, including degree of naturalness.'*[19]

73 Natural character is not defined in the RMA nor the NZCPS; however, NZCPS Policy 13 Guidance Note[20] (page 24) defines 'natural character' as:

> *'Natural character is the term used to describe the natural elements of all coastal environments. The degree or level of natural character within an environment depends on:*
>
> *1. The extent to which the natural elements, patterns and processes*[21] *occur; and*

19 Refer Chapter 9 Natural Character, Paragraph 9.4, Te Tangi A Te Manu Aotearoa New Zealand Landscape Assessment Guidelines.

20 Produced by the Department of Conservation.

21 For the purposes of interpreting the NZCPS 2010 Policy 13.2, 'elements, patterns and processes' means: biophysical, ecological, geological and geomorphological aspects; natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks; and the natural movement of water and sediment.

2. The nature and extent of modification to the ecosystems and landscape/seascape.

3. The degree of natural character is highest where there is least modification.

4. The effect of different types of modification upon natural character varies with context and may be perceived differently by different parts of the community'

74 Furthermore, at workshops organised by the Department of Conservation in 2012 the following was added to the above definition of natural character:

> *"Policy 13(2) makes it clear that natural character includes all natural aspects of the land and sea, including the underlying ecological, hydrological and geomorphological processes that shape landforms (including underwater features) and the natural movements of water and sediment. Natural character also includes aspects of the environment that affect human experience including the natural darkness of the night sky, the sounds and smell of the coast, and the context and setting of natural places."*

75 This definition of natural character is consistent with Te Tangi a te Manu and is widely used. It is the definition adopted for use in this assessment.

76 The highest level of natural character occurs where there has been the least amount of modification from the original natural state.

77 Historically, Point Erin contributed substantially to the natural character of the wider area because it was a natural headland and Pā site, with areas of established native vegetation.

78 Within Point Erin Park, in contrast, the natural character values of the coastal environment are concentrated around the historic cliff edge to the north of Point Erin Pools and the edges of the park and headland. However, the extensive modification, roading infrastructure and coastal reclamation have weakened connections between Point Erin Park and the coast.

79 Experience of the Waitematā Harbour and the coastal edge is mostly through the use of Curran Street seawall and the beaches and bays to the west of Point Erin where the visual connections and physical access and proximity to the harbour edge are strongest.

80 Due to the separation of the park from the original coastal edge, there are few natural characteristics relating to the coast within the open space of Point Erin Park.

81 Overall, the natural character values of Point Erin Park are assessed as being **Low**.

82 When considering **natural elements, processes and patterns**, Point Erin Park is a highly modified landscape and is separated from the coastal edge by roading infrastructure and a seawall. The natural coastal elements, processes and patterns of the harbour edge are strongest along Curran Street and Masefield Beach Reserve at the tidal edge. The surrounding coastal modifications separate the site from the natural coastal elements, processes and patterns.

83 The Project will require substantial **biophysical** modification within the park and includes earthworks to construct an approximate 4.5m wide and 1.6km long tunnel from Grey Lynn, terminal shaft, control chamber and landform modification. These biophysical modifications will have a limited effect on the natural characteristics of the coastal environment which already includes extensive modification, reclamation and development along the coastal edge.

84 When considering the **ecological** aspects of natural character, the Project will result in the loss of up to 17 within the park (eight of which are a permitted activity). The proposed re-instatement plan includes the provision of a mitigation planting. The proposal will result in wider benefits through the reduction of wastewater overflows into urban streams and the Waitematā Harbour which will have positive effects on the overall health of the harbour and coastal environment.

85 The **natural landform** of the headland has been modified from its original natural state through extensive historical reclamation and development, including the construction of the SH1 harbour bridge, its landing, Point Erin Pools, residential development, roading infrastructure and car parking. The Project will result in temporary alterations to the landform of the park to create level construction workspaces and permanent landform modifications (including retaining walls) in the south western corner of the park within the context of an already modified, man-made earth embankment. A reinstatement plan will be provided as a condition of consent which will ensure the landform of the park is appropriately re-designed.

86 The location of Point Erin Park and its separation from the coastal edge ensures that the **natural movement of water and sediment** along the harbour will be unaffected by the Project.

87 The **natural darkness of the night sky** is diminished along the Auckland City edge, with multiple bright lights visible during night-time hours. Point Erin Headland is enclosed by street lighting along Curran Street and the SH1 corridor, and residential lighting within Herne Bay and St Marys Bay is visible as a lit backdrop to the headland. Lighting within the site during the construction stage will be required from time to time to enable out of hours work, however this will be temporary, will comply with permitted activity standards and will have a limited effect on the natural darkness of the night sky due to the extent of lighting already within the area. Once construction is complete, no additional lighting is proposed within the park.

88 Point Erin Park and Headland is a highly modified environment with limited **wild aspects** and values. The vegetated edges of the park contribute to the **scenic qualities** and setting of Waitematā Harbour where natural character values of the coastal environment are strongest. The Project will result in the removal of a limited amount of tree planting, however the vegetated setting and scenic value of the park within the context of the Waitematā Harbour will remain unchanged.

89 When considering **experiential attributes**[22] of natural character, the park provides limited contribution to the experience of the smell, sound or feel of the coastal environment due to its separation from the coastal edge. The visual relationship between the park and the coastal environment is the strongest experiential attribute, with mid-distance views along the coastal edge and across the Waitematā Harbour filtered by coastal vegetation along the park edge (west of the main construction area). Once constructed, the Project will not restrict views towards the harbour. The vegetation to be removed will not detract from the overall experiential attributes of Point Erin Park, and the visual relationship between the park and the coastal edge will remain unchanged.

90 Overall, due to the extensive modification of the area and separation of the park from the coastal edge, there are few characteristics within the Point Erin Park that contribute to the natural character of the coastal environment, and the natural character values of the park are assessed as being Low.

91 The strongest natural characteristic of the coastal environment within the park is the visual relationship with the Waitematā Harbour, with views to the wider harbour setting filtered by intervening vegetation to the west of the main construction area. Once construction is complete, this natural character value will remain largely unchanged.

92 The Project will result in some (less than minor) adverse effects on the natural characteristics of the coastal environment. The proposal will result in wider

[22] Including the sounds and smell of the sea, visual connections to the coastal edge and sense of place.

benefits to reduce wastewater overflows into urban streams and the Waitematā Harbour and will have positive effects on the overall health of the harbour and coastal environment. Overall, the Project will result in **Low** (positive) effects on the natural character of the coastal environment.

Open Space Amenity - *Temporary Effects (construction)*

93 A Recreation Assessment has been prepared by Rob Greenaway & Associates which accompanies this application. The Recreation Assessment provides a detailed assessment on the use of Point Erin Park (types of users, duration and areas of the park most frequently used). The Recreation Assessment includes an 'Observational Analysis' which gives an indication of the number of visits to the park. During the analysis parameters (24hrs, spread across 6 days), 634 individuals were recorded within the park.

94 Point Erin Park is predominantly used by dog walkers and recreational walkers, with visitors to Point Erin Pools also visiting the park. Other users recorded include visitors to the playground, picknickers, joggers / runners and cyclists.

95 The use of the park is comparable[23] within each four quadrants of the park, with the Recreation Assessment Analysis finding that the grassed open space parts of the park are used as frequently as the footpaths in the southern, more vegetated part of the park.

96 The open space amenity values of the park relate to the undeveloped and parkland setting[24], areas of grassed open space and vegetated setting[25].

97 During the construction phase of the Project, two areas of Point Erin Park will be closed for approximately 2 - 3 years with public access restricted.

98 Park closures include an area of open space to the south-west of Point Erin Pools (approximately 3,150m²) and the south-western corner of the park and pedestrian footpath (approximately 1,880m²). Both construction areas will require landform modification to create a level construction workspace, resulting in approximate 2m and 4m high retaining walls.

99 The construction footprint within Point Erin Park, including both the main and southwestern construction areas, will occupy approximately 12% of the Point Erin Park open space (excluding the pool and parking areas)[26]. The impact on recreation activities within the Park has been assessed separately within the Recreation Assessment, which finds that the construction activity has the

23 After discounting the large school-trip to the pool which only used the north eastern quadrant of the park.
24 Which is often why users are enticed to a park, rather than walking along road reserves.
25 Which are predominantly used by dog walkers and recreational walkers.
26 Outlined within the Recreational Assessment.

potential to displace park users, however recreation opportunities within the park can be maintained with appropriate mitigation measures[27].

100 The construction area in the south-western part of the park will result in the temporary closure of a main throughfare into the park from Sarsfield Street. It is recommended that this path is diverted, and a temporary (stepped) path is provided along the edge of the construction area, avoiding impacts with existing trees to be retained. Temporary signage will be provided to an accessible route in the south-eastern corner of the park, providing access for mobility impaired users, push chairs / strollers and cyclists.

101 The duration of the construction and extent of park closure will result in (temporary) effects on the open space amenity of the park.

102 The users of Point Erin Park will be aware of the construction activity, and the undeveloped and 'remote' parkland character values will be diminished.

103 The proposed (approximately 2m and 4m high) retaining walls along the edges of the construction areas will result in visually prominent features within the park. The ongoing construction work (noise, movement of trucks, visual dominance) will likely deter some users of the park during the construction phase of the Project.

104 Overall, when construction activity is at its highest intensity, the proposed construction period will result in **High** (adverse) effects on the open space amenity of the park (as experienced by users of the park). Over the duration of the construction period, the intensity of activity will fluctuate. During times of reduced activity (eg, when the construction areas are established but construction activity is not actively taking place) then the effects will reduce to **Moderate** (adverse).

105 Long-term (operational) effects are considered below, within the assessment of Open Space and Landscape Character (post construction).

Landscape and Character Effects

Open Space and Landscape Character (post construction)

106 The methodology for assessing the effects of an activity or development on landscape character requires a four-stage process:

i. Definition of 'landscape';
ii. Analysis of landscape characteristics;
iii. Overall synthesis (or appraisal) of landscape character; and

[27] Outlined within the Recreational Assessment.

iv. Assessment of effects of an activity or change on those characteristics.

'While landscape draws strands from diverse sources (natural sciences, humanities, cultural perspectives), it is perceived and experienced as a unified phenomenon. It is an integrated whole. It is more than a summary of data – the whole is greater than the sum of the parts.

The current professional practice of conceptualising 'landscape' as the overlap of its physical, associative, and perceptual dimensions'[28]

107 The three overlapping dimensions of landscape character include:

- **Physical** aspects (its geomorphology, ecological communities and processes) of the site;
- **Perceptual** aspects (the vividness and memorability of the landscape features); and,
- **Associative** aspects, including such meanings as the historical connections of the site.

108 When considering the **physical** aspects of the site, the Project will require substantial earthworks to construct the tunnel route and shaft sites (terminal shaft and control chamber). Whilst there will be a substantial amount of earthworks involved in the construction of the tunnel, chamber and shaft, these components of the Project will be undertaken below ground.

109 The southwestern corner of the park (along Curran Street) will include landform modification to create a shallow platform and retaining wall along the road edge. The landform modifications will allow for vehicular access between Sarsfield Street and Curran Street, parallel to the park's western boundary. It is understood that the current embankment landform in this part of the site was formed by spoil from the construction of the Curran Street / SH1 on-ramp.

110 The proposed Curran Street retaining (up to approximately 4m in height) wall will result in permanent landform modification, however it will be seen in place of the existing modified embankment along the road edge.

111 T the main construction area (south of Point Erin Pools) will be resurfaced and re-contoured as part of the proposed park re-instatement programme.

112 The Project will require the removal of 17 trees (of which, the removal of 8 are a permitted activity) to facilitate the construction works. Their removal will have physical effects, however the wider vegetated setting of the park will

[28] Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Paragraphs 4.21 – 4.22

remain intact. The proposed re-instatement plan will include mitigation planting and will ensure that the overall vegetated character of the park is maintained.

113 When considering the **perceptual** aspects of the site, the above ground components of the Project which will be visible (post construction) are limited to the plant room and retaining wall in the south-eastern corner of the park and the ventilation structure to the north of the current grassed recreational space. The external appearance of these structures will be designed in consultation with mana whenua, Auckland Council Parks Department, and the local board (depending upon their interest) as part of the wider park re-instatement programme.

114 The plant room and ventilation structures will be small in scale and will be consistent with activities which commonly occur in a parkland setting[29].

115 The proposed landform modification and approximate 4m high retaining wall in the southwestern corner of the park will be more visually distinctive. A landscape planting / mitigation plan will be prepared as part of the park re-instatement plan which will provide further clarification on the materiality of the retaining wall and any proposed vegetation coverage (eg. trained vines). The park re-instatement plan will ensure that the retaining wall is integrated into the parkland setting and that the overall memorability and vividness of the park is not diminished. Once completed, the park will be reinstated to ensure that an appropriately designed and usable park setting is provided.

116 When considering **associative** aspects, Point Erin has a complex historical and cultural background. As part of the engagement process with mana whenua, Watercare have received confirmation that at least five mana whenua entities have indicated their interest in preparing a Cultural Values Assessment which will address cultural effects, including any associative effects in relation to Okā/Te Koraenga Pā.

117 The historical background (post European settlement) to the site and the wider Auckland waterfront setting includes extensive development and reclamation which has resulted in a modified harbour edge, including around the original Point Erin Headland / shoreline.

118 Point Erin Headland was part of a wider land area purchased by John Campbell in 1845. At this time, the European name for the headland was Point Willoughby. The land was purchased by Auckland City Council and Point Erin Park was officially opened as a public park and recreational space in 1911, prior to the Harbour Bridge being constructed in the 1950's. The existing residence

[29] With small built structures and buildings such as toilet blocks, pump stations, ventilation stacks, transformer buildings and caretaker / groundsman storage sheds (and all of the associated activities) being commonplace in parks.

on the property was converted to a tea kiosk, luncheon rooms, and caretaker's cottage.

119 The post European settlement historical associations of the site are strongly connected to its parkland use and setting.

120 Once construction is complete, the Point Erin Shaft Site will be retained as an open public park and will include a re-instatement programme to ensure that the park is appropriately designed and that an overall parkland setting and character is maintained.

121 The Project permanent above ground infrastructure and their activities will be consistent with structures and activities which commonly occur in parkland settings, and the re-instatement programme will ensure that the visible structures are appropriately designed and will not detract from the use or historical associations of the park.

122 Overall, the Project will result in **Low Moderate** (adverse) effects on open space and landscape character, post construction, for the following reasons:

- The majority of earthworks required to facilitate the Project will be undertaken below ground, however the permanent landform modification and retaining wall structure will be distinctive features within the park.
- The project will require the removal of a limited number of trees; however, these will be mitigated (over time) with replacement planting and the overall vegetated setting of the park will remain.
- Once complete, the park will be reinstated and retained as a public open space.
- The proposed ventilation arrangement and plant room will not appear out of place and are consistent with activities which commonly occur in a parkland setting.

123 There is potential for effects to reduce following the confirmation of the design / details of the reinstatement of the park and any mitigation measures (which could include landform contouring, mitigation planting and retaining wall treatment and planting).

Visual Amenity

124 The author has undertaken three site visits, with viewpoint photographs taken from land and harbour locations. These are included as photographs from **Viewpoints 1 – 7** within **Appendix B - Graphic Attachments** and provide visual illustrations of the setting and context of the site.

125 The potential viewing audiences are identified as:

i. Public viewpoints within the immediate and local setting of the site; including:

a) Users of Point Erin Park

b) Views from the Harbour Bridge

c) Views from Masefield Bay and the wider Waitematā Harbour

ii. Private viewpoints within the immediate setting of the site.

a) Properties to the east of Shelly Beach Road

b) Properties to the south of Sarsfield Street

c) Properties proximate to the junction of Curran Street and Sarsfield Street

d) Views from the wider residential setting

126 The below visual amenity assessment considers the Project during construction (temporary effects) and at completion (permanent effects).

Users of Point Erin Park[30]

127 During construction, the proposed temporary earthworks, retaining walls, truck movements and construction machinery (including cranes) will be visually prominent elements within the setting of Point Erin Park.

128 The proposed construction activity will be most visible from the open space, car park and the footpaths along the western and southern edges of the park. Users of the park will have views across and into the construction areas.

129 During construction, the Project will result in **High** (adverse) effects on the visual amenity of users of Point Erin Park.

130 Once the Project is complete, the above ground permanent infrastructure will be limited to the plant room and retaining wall in the south-western corner of the park and a ventilation arrangement to the north of the open space.

131 The ventilation arrangement and plant room will be visible; however they will not be out of keeping within a parkland setting (with small buildings and structures such as public toilets, transformer buildings, plant rooms and maintenance sheds being commonplace in parks).

132 The retaining wall will be a distinctive modified feature within the southwestern corner of the park. The proposed landscape treatment of the

[30] Refer Viewpoint 1 and Context Viewpoints A, B, D and E within Appendix B – Graphic Attachments.

retaining wall (materiality and planting) will assist in visually integrating the retaining wall into the park.

133 The proposed park reinstatement program will provide further detail on the design of the structures and will ensure that they are appropriate to the parkland context.

134 Tree removals are focussed in the southwestern corner of the park and will be mitigated by replacement planting throughout the park.

135 Once completed, the Project will result in **Low Moderate** (adverse) effects on the visual amenity of users of Point Erin Park.

Views from the Harbour Bridge

136 Views into the Point Erin Park Shaft Site from the Harbour Bridge are contained by the mature and dense vegetation on Point Erin Headland, north of Point Erin Pools. The construction areas will not be visible from the Harbour Bridge; however the larger scale machinery and equipment (cranes) will be visible above the treeline.

137 The two telescopic cranes within the park required for the duration of the construction period are anticipated to be approximately 15m in height. It is anticipated that these structures will likely be almost entirely contained by the mature trees to the north of Point Erin Pools, with only the upper parts of the crane within the main construction being visible above the treeline. The larger crane (approximately 50m in height) required to recover the TBM will be required on site for approximately 2 months and will be visible above the treeline.

138 Where visible, the cranes will be seen against the developed backdrop of Herne Bay and Ponsonby and seen within the context of the broader Auckland waterfront and cityscape vista which is the focus of the view from the Harbour Bridge.

139 Users of the harbour bridge are limited to motorists, and the attention of drivers will be on the road. Visual effects are therefore focussed on passengers, and views will be fleeting in duration.

140 The TBM crane will be visually comparable to other large construction cranes currently in the Auckland area and will include a latticework of metal with a relatively slim form, allowing for views through the crane and ensuring that it is not a visually solid or opaque structures.

141 During construction, the Project will result in **Low** (less than minor, adverse) effects on the visual amenity of users of the Harbour Bridge.

142 Once construction is complete, the cranes will be removed and the permanent above ground infrastructure will be visually contained by the existing trees to the north of Point Erin Pools. Once complete the Project will result in **Neutral** effects on the visual amenity of users of the Harbour Bridge.

Views from the Masefield Bay and the wider Waitematā Harbour[31]

143 The existing mature trees along the western boundary of Point Erin Park (west of the main construction area) largely contain views into the park from the coastal edge and Masefield Bay to the west. Glimpsed views of the grassed recreational area are available, seen below tree canopies, with more open views available in winter months when leaf cover reduces.

144 During construction, the cranes, retaining wall[32] and general construction activity will be visible from the bay and coastal edge, seen within the context of the Curran Street seawall and roading infrastructure. The cranes will be tall and visually prominent features within the park.

145 Smaller scale construction equipment and earthworks in the south-western corner of the park will likely be contained by Curran Street and the proposed retaining wall.

146 From the wider harbour setting, where visible, the construction works will be seen within the context of the developed harbour edge which includes extensive residential development to the south and west of Point Erin Park, and the wider Auckland Waterfront and city centre (which includes large-scale buildings and frequent construction activity) to the east.

147 During construction, the Project will result in **Moderate High** (adverse) effects on visual amenity from Masefield Bay and the coastal edge. Effects on the wider Waitematā Harbour setting will reduce as the distance from the park increases.

148 Once construction is complete, the permanent above ground infrastructure includes a plant room and retaining wall in the south-western corner of the park and a ventilation arrangement to the north of the grassed recreational area.

149 The permanent retaining wall will not be visible from Masefield Bay, and will largely contain views of the plant room, with only the upper elevations of the structure being visible.

150 Views of the ventilation arrangement will be filtered by the trees along the western edge of the park. Where views are available, the ventilation

31 Refer Viewpoint 6 within Appendix A – Graphic Attachments.

32 In the northern construction area.

arrangement will be seen within the setting of Point Erin Pools and will not detract from the overall quality of the view.

151 The structures will be seen within the wider context of the developed headland which includes roading infrastructure and residential development and will be visible against a vegetated backdrop, ensuring they are visually recessive.

152 Once complete, the Project will result in **Very Low** (adverse) effects on visual amenity from Masefield Bay and the coastal edge. Effects on the wider Waitematā Harbour will be **Neutral**.

Properties[33] to the east of Shelly Beach Road[34]

153 Residential development to the east of Point Erin Park is typically 2 – 3 stories in height, with properties orientated to the west. Properties are located approximately 100m from the construction area at its closest point.

154 The existing mature vegetation along the park's eastern boundary and the Shelly Beach Road / SH1 off ramp largely contain views to the west, with filtered views of the grassed recreational space seen beyond the Shelly Beach Road reserve and the Point Erin car park.

155 During construction, the proposed temporary fencing will contain views into the construction area from ground floor views, however filtered views may still be available from upper floors. Larger scale equipment and machinery will be visible above the fencing and beyond the mature treeline.

156 During night-time hours (when required) site lighting will be visible, seen within the context of street lighting along Shelly Beach Road and Curran Street, residential light sources and headlights from cars using the surrounding road network. Proposed lighting will comply with the relevant lighting standards within the AUP.

157 The development will be a visible component in the view, seen within the context of the existing road networks, areas of parking and largely screened by mature tree planting. During construction the Project will result in **Moderate** (adverse) effects on the visual amenity of properties to the east of Shelly Beach Road.

158 Once construction is complete, the ventilation arrangement will likely be the only above ground infrastructure visible from properties to the east of Shelly Beach Road. The structure will be seen beyond intervening vegetation and against the vegetated backdrop of the park, ensuring that it is a recessive and barely perceptible component of the view. Where the ventilation arrangement

[33] Focussed on 121 A-C, 117 and 115 Shelly Beach Road.

[34] Refer Viewpoint 7 within Appendix B – Graphic Attachments.

is visible, it will be seen within the context of the Point Erin Pools buildings and other park infrastructure and will not detract from the overall quality of the view.

159 Once constructed, the Project will result in **Neutral** effects on the visual amenity of properties to the east of Shelly Beach Road.

Properties[35] to the south of Sarsfield Street[36]

160 Properties to the south of Sarsfield Street (south-east of the park) are oriented north, towards the vegetated boundary of Point Erin Park.

161 The southern part of the park includes an area of mature and dense tree planting which largely contains views into the open space area in the centre of the park; however glimpsed views are available where vegetation thins, or during winter months when leaf cover reduces.

162 Views towards the construction area in the south-western part of the park will also largely be contained by tree planting, with views from these properties being at an oblique angle.

163 The properties are set back from the construction areas, with existing tree planting providing a strong degree of visual and physical separation. 14 Sarsfield Street[37] is located approximately 55m from the south western construction area and approximately 115m from the main construction area .

164 During construction, the retaining walls, construction machinery and activity will be visible in both construction areas, seen beyond established vegetation (to be retained). The upper elevations of proposed cranes will likely be visible above the tree canopy.

165 During night-time hours, construction lighting will be visible, filtered by the intervening trees. Construction lighting will introduce new light sources into the park setting; however, lights will be seen within the context of the developed setting of Point Erin (which already includes residential and street lighting, in combination with passing headlights). Lighting will comply with the relevant lighting standards within the AUP.

166 During construction, the Project will result in **Moderate** (adverse) effects on the visual amenity of properties to the south of Sarsfield Street.

167 Once the park is re-instated, the only visible above-ground components of the project will be the ventilation arrangement to the north and plant room and retaining wall in the south-western corner of the park. Views of these

35 Focussed on 82 Shelly Beach Road, 4(A), 6(A), 8, 10, 12 and 14 Sarsfield Street.
36 Refer Viewpoint 5 within Appendix B – Graphic Attachments.
37 The property which is furthest west in this grouped assessment.

structures will largely be contained by intervening vegetation. Where visible, they will not appear out of place within a parkland setting and will be seen within the context of Point Erin Pools and the developed context and setting of the park.

168 Once constructed, the Project will result in **Very Low** (adverse) effects on the visual amenity of properties to the south of Sarsfield Street.

Properties[38] proximate to the junction of Curran Street and Sarsfield Street[39]

169 Properties proximate to the junction of Curran Street and Sarsfield Street have open views into the south-western corner of Point Erin Park. The proposed construction works in the southwestern construction area will require the removal of 5 trees, allowing for open views of the construction access, activity, retaining walls and machinery / equipment, which will be prominent and visible features within the view.

170 The proposed construction arrangement will include a terracing of platforms. The upper platform will be located at the corner of Curran Street and Sarsfield Street and will be level with these roads to allow for construction vehicles (including trucks) to cross the southwestern corner of the park. The lower construction platform will be located further north and will be contained by retaining walls. It is anticipated that a vehicular access ramp will connect the two construction platforms.

171 The most visibly prominent components during construction will likely be the vehicular activity in the upper construction platform and the crane and construction of the plant room / control chamber in the lower platform. Views of the smaller scale construction machinery and activities within the lower platform will largely be contained by the enclosing retaining wall and construction fencing.

172 During construction, the Project will result in **High** (adverse) effects on the visual amenity of properties proximate to the junction of Curran Street and Sarsfield Street.

173 Once construction is complete the southwestern corner of the park will include an approximate 10m wide shallow platform with an approximate (up to) 4m high retaining wall along Curran Street. The shallow platform will be commensurate in elevation to the park, with a vehicular access between Curran Stret and Sarsfield Street provided along the western boundary.

174 A Single storey plant room will be located on the shallow platform proximate to the proposed access track exit onto Curran Street. The design and façade

[38] Focussed on 18, 22, 24, 26, 28, 30, 32,34, 38 Sarsfield Street, 64, 70, 72, 74 Curran Street and 6, 7 Masefield Avenue; and the immediately surrounding properties.

[39] Refer Viewpoints 2 and 3 within Appendix B – Graphic Attachments.

treatment of the plant room will be confirmed and detailed as part of the proposed park re-instatement programme, however the scale and use of the building will be consistent with structures typically found in parkland settings.

175 The upper construction platform will be removed, with the landform being re-graded to provide pedestrian access into the park and enable vehicular access to the plant room.

176 From 18, 22, 24, 26, 28 and 30 Sarsfield Street, the plant room, access track and retaining wall will be visible. The park re-instatement plan includes replacement tree planting in the southwestern corner of the park, and consideration of the materiality and landscape treatment of the retaining wall, which will assist in visually integrating the infrastructure into the environment.

177 From these properties[40], the Project will result in **Moderate** (adverse) effects on visual amenity, with effects reducing to **Low Moderate** (adverse) once landscape mitigation planting matures.

178 From 32, 34, 38 Sarsfield Street, 64, 70, 72, 74 Curran Street and 6, 7 Masefield Avenue, the 'sunken' platform will be largely contained by the proposed retaining wall. The vehicular access entry and exit will be visible, and views of the upper parts of the plant room will be available beyond the retaining wall, seen against the vegetated backdrop of the park.

179 Once the proposed mitigation planting in the southwestern corner of the park matures, the infrastructure will be visually integrated into the environment.

180 From these properties[41], the Project will result in **Low Moderate** (adverse) effects on visual amenity, with effects reducing to **Low** (minor) (adverse) once landscape mitigation planting matures.

Views from the wider residential setting[42]

181 The wider residential setting to the south and south-west of Point Erin Park is located on gently rising topography, with views towards Point Erin Park available from residences[43] within the south-eastern and eastern parts of Herne Bay. Two multi-storey residential buildings (between 16 – 17 storeys) are located proximate to the south-eastern corner of Herne Bay, north of Jervois Road, with expansive views to the north and across the Waitematā Harbour.

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40 18, 22, 24, 26, 28 and 30 Sarsfield Street

41 32, 34, 38 Sarsfield Street, 64, 70, 72, 74 Curran Street and 6, 7 Masefield Avenue

42 Focussed on development located on the north facing slopes of Herne Bay to the south and south-west of Point Erin Park.

43 As observed during the site visit through a 'reverse visual assessment', illustrated on Context Viewpoint D, Appendix B - Graphic Attachments.

182 From the wider residential setting, views of the construction sites and smaller-scale machinery and equipment will likely be contained by intervening vegetation and development; however, views of the telescopic cranes and the larger TBM crane will be available, seen against the backdrop of the park, harbour and skyline.

183 The TBM crane will not be visually prominent and will include a latticework of metal with a relatively slim form, allowing for views through the crane and ensuring they it is not a visually solid or opaque structure. The cranes will be seen at distance, and within the context of the wider developed residential context and cityscape.

184 During construction, the Project will result in **Low** (less than minor, adverse) effects on the visual amenity of residences within the wider residential setting.

185 Once completed, the permanent above ground infrastructure will be visually contained by intervening development and vegetation. Where any glimpsed views of the permanent infrastructure are available, they will be seen as barely perceptible features within the wider developed context.

186 Once constructed, the Project will result in **Neutral** effects on the visual amenity of residences within the wider residential setting.

Table 1: Overview of Effects

Effects on the **Natural Character** of Point Erin Headland		**Low** *(positive)*
Temporary Effects on **Open Space Amenity** (during construction)		**High** *(adverse)*
Open Space and **Landscape Character** (post construction)		**Low Moderate** *(adverse)*
Visual Amenity – Users of Point Erin Park	Construction	**High** *(adverse)*
	Completion	**Low Moderate** *(adverse)*
Visual Amenity – Users of the Harbour Bridge*	Construction	**Low** (*less than minor)* *(adverse)*
	Completion	**Neutral**
Visual Amenity – Views from Masefield Bay	Construction	**Moderate High** *(adverse)*
	Completion	**Very Low** *(adverse)*
Visual Amenity – Properties to the east of Shelly Beach Road (121 A-C, 117 and 115 Shelly Beach Road)	Construction	**Moderate** *(adverse)*
	Completion	**Neutral**
Visual Amenity – Properties to the south of Sarsfield Street (82 Shelly Beach Road, 4(A), 6(A), 8, 10, 12 and 14 Sarsfield Street)	Construction	**Moderate** *(adverse)*
	Completion	**Very Low** *(adverse)*
Visual Amenity – Properties proximate to the junction of Curran Street and Sarsfield Street (18, 22, 24, 26, 28, 30, 32,34, 38 Sarsfield Street, 64, 70, 72, 74 Curran Street and 6, 7 Masefield Avenue)	Construction	**High** *(adverse)*
	Completion	**Moderate** to **Low Moderate.** Reducing once landscape planting has established. *(adverse)*
Visual Amenity – Views from the wider residential setting	Construction	**Low** (*less than minor)* *(adverse)*
	Completion	**Neutral**

*Focussed on passengers within vehicles.

RECOMMENDATIONS

187 The below recommendations (also outlined and referenced throughout this assessment) will assist in integrating the proposal into the landscape.

a) The provision of a park re-instatement plan to ensure that a parkland character is maintained. The re-instatement plan should include:

(i) Consideration of the replacement of any facilities that have been removed or relocated by the proposed works (eg, footpaths, park furniture).

(ii) Consideration of landform re-contouring and the materiality of retaining walls.

(iii) Consideration of landscape treatment (grassed areas and mitigation planting).[44]

(iv) Consideration of the landscape treatment of retaining walls.

(v) Consideration and design of the external appearance of the plant room and ventilation arrangement.

(vi) Consideration of the enhancement of Point Erin Park recreational values (to also include cultural values).

b) The provision of replacement and mitigation planting in the southwestern corner of Point Erin Park and along Sarsfield Street to mitigate the amenity lost from trees to be removed.

c) The proposed planting plan (for the planting in the southwestern corner of the site, and any additional planting specified as part of the park re-instatement plan) should be prepared by a suitably qualified landscape architect and should include species, grade, quantity / mix, location and size of planting. Any proposed planting should be supported by a landscape management and maintenance plan to ensure the longevity and health of the planting is achieved.

d) It is recommended that the footpath in the southwestern corner of Point Erin Park which will be temporarily closed is diverted and a temporary (stepped) path along the edge of the construction area will be provided to maintain access. Signage should be provided to an accessible route in the south-eastern corner of the park.

[44] Subject to landowner approval.

e) It is recommended that any temporary retaining walls required for construction are constructed in timber post and board[45].

CONCLUSIONS

188 The Point Erin Park Shaft Site is located at Point Erin Park and is part of a coastal headland to the south of the SH1 bridge over the Waitematā Harbour, north of Herne Bay.

189 The Project is for the extension of the consented Central Interceptor tunnel from Tawariki Street to Point Erin and two construction areas within Point Erin Park to construct a terminal shaft, control chamber and plant room.

190 The Project has been assessed against the natural characteristics, landscape character values and visual amenity values of the site, and will result in:

- The overall effects of the Project on the natural character values of Point Erin Headland are **Low** (positive).
- The temporary effects on open space amenity (during construction) are **High** (adverse).
- The permanent effects on open space and landscape character (post construction) are **Low Moderate** (adverse).
- The temporary effects on visual amenity assessed from public locations ranges from **High** (adverse) to **Low** (less than minor, adverse).
- The permanent effects on visual amenity assessed from public locations ranges from **Low Moderate** (adverse) to **Neutral.**
- The temporary effects on visual amenity assessed from private residences ranges from **High** (adverse) to **Low** (less than minor, adverse).
- The permanent effects on visual amenity assessed from private residences ranges from **Moderate** (adverse) to **Neutral**.

191 The Project will result in some temporary **High** adverse effects[46] during construction on visual amenity and open space amenity due to the closure and restriction of access to areas of the park and the proximity of the construction areas to some residences.

192 Once construction is complete, 'more than minor' effects will be limited to a small catchment of properties to the southwest of the site. The

[45] Unless advised otherwise by the project engineer.

[46] Noting the level of effects are consistent with other infrastructure projects of a similar scale.

recommendation within this assessment includes mitigation planting within the south western corner of the park, which once matured would assist in integrating the Project into the environment, reducing effects to 'no more than minor'. Overall, the Project will result in 'no more than minor' effects on landscape character and will result in overall positive effects on natural character.

Isthmus

February 2023

Appendix A – Landscape Related Provisions

New Zealand Coastal Policy Statement (2010). (**Emphasis added**)
Policy 1 - Extent and characteristics of the coastal environment

1) *"Recognise that the extent and **characteristics** of the **coastal environment** vary from region to region and locality to locality; and the issues that arise may have different effects in different localities.*

2) *Recognise that the **coastal environment includes**:*

   a. *the coastal marine area;*

   b. *islands within the coastal marine area;*

   c. *areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these;*

   d. *areas at risk from coastal hazards;*

   e. *coastal vegetation and the habitat of indigenous coastal species including migratory birds;*

   f. elements and features that contribute to the natural character, landscape, visual qualities or amenity values;

   g. *items of cultural and historic heritage in the coastal marine area or on the coast;*

   h. *inter-related coastal marine and terrestrial systems, including the intertidal zone; and*

   i. *physical resources and built facilities, including infrastructure, that have modified the coastal environment."*[47]

Policy 6 - Activities in the coastal environment

1) *"In relation to the **coastal environment**:*

   a. *recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;*

   b. *consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable*

[47] Policy 1 of the New Zealand Coastal Policy Statement (2010)

needs of population growth without compromising the other values of the coastal environment;

c. *encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth;*

d. *recognise tangata whenua needs for papakāinga, marae and associated developments and make appropriate provision for them;*

e. *consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;*

f. *consider where development that **maintains** the **character** of the existing built environment should be **encouraged**, and where **development** resulting in a **change** in **character** would be acceptable;*

g. *take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;*

h. *consider how adverse **visual impacts** of development can be **avoided** in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;*

i. *set back development from the coastal marine area and other water bodies, where practicable and reasonable, to **protect** the **natural character**, open space, public access and amenity values of the coastal environment; and*

j. *where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.*

2) *Additionally, in relation to the coastal marine area:*

a. *recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations:*

b. *recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;*

c. *recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;*

d. *recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and*

e. *promote the efficient use of occupied space, including by:*

   i. *requiring that structures be made available for public or multiple use wherever reasonable and practicable;*

   ii. *requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and*

   iii. *considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay"*[48]

Policy 13 Preservation of natural character

1) *"To **preserve** the **natural character** of the coastal environment and to protect it from inappropriate subdivision, use, and development:*

   a. *avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and*

   b. ***avoid significant adverse effects** and avoid, remedy or mitigate other adverse effects of activities on **natural character** in all other areas of the coastal environment;*

   including by:

   c. *assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and*

   d. *ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.*

2) *Recognise that **natural character** is not the same as **natural features** and **landscapes** or **amenity values** and may include matters such as:*

   a. *natural elements, processes and patterns;*

[48] Policy 6 of the New Zealand Coastal Policy Statement (2010)

b. biophysical, ecological, geological and geomorphological aspects;

c. natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;

d. the natural movement of water and sediment;

e. the natural darkness of the night sky;

f. places or areas that are wild or scenic;

g. a range of natural character from pristine to modified; and

h. experiential attributes, including the sounds and smell of the sea; and their context or setting."[49]

Policy 14 Restoration of natural character

*"Promote **restoration** or **rehabilitation** of the **natural character** of the **coastal environment**, including by:*

b. identifying areas and opportunities for restoration or rehabilitation;

c. providing policies, rules and other methods directed at restoration or rehabilitation in regional policy statements, and plans;

d. where practicable, imposing or reviewing restoration or rehabilitation conditions on resource consents and designations, including for the continuation of activities; and recognising that where degraded areas of the coastal environment require restoration or rehabilitation, possible approaches include:

*i. **restoring** indigenous habitats and ecosystems, using local genetic stock where practicable; or*

ii. encouraging natural regeneration of indigenous species, recognising the need for effective weed and animal pest management; or

iii. creating or enhancing habitat for indigenous species; or

iv. rehabilitating dunes and other natural coastal features or processes, including saline wetlands and intertidal saltmarsh; or

v. restoring and protecting riparian and intertidal margins; or

vi. reducing or eliminating discharges of contaminants; or

[49] Policy 13 of the New Zealand Coastal Policy Statement (2010)

vii. *removing redundant structures and materials that have been assessed to have minimal heritage or amenity values and when the removal is authorised by required permits, including an archaeological authority under the Historic Places Act 1993; or*

viii. *restoring cultural landscape features; or*

ix. *redesign of structures that interfere with ecosystem processes; or*

x. *decommissioning or restoring historic landfill and other contaminated sites which are, or have the potential to, leach material into the coastal marine area."*[50]

Policy 15 Natural features and natural landscapes

*"To **protect** the **natural features** and **natural landscapes** (including seascapes) of the **coastal environment** from inappropriate subdivision, use, and development:*

a. *avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and*

b. *avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment; including by:*

c. *identifying and assessing the natural features and natural landscapes of the coastal environment of the region or district, at minimum by land typing, soil characterisation and landscape characterisation and having regard to:*

i. *natural science factors, including geological, topographical, ecological and dynamic components;*

ii. *the presence of water including in seas, lakes, rivers and streams;*

iii. *legibility or expressiveness—how obviously the feature or landscape demonstrates its formative processes;*

iv. *aesthetic values including memorability and naturalness;*

v. *vegetation (native and exotic);*

vi. *transient values, including presence of wildlife or other values at certain times of the day or year;*

vii. *whether the values are shared and recognised;*

[50] Policy 14 of the New Zealand Coastal Policy Statement (2010)

viii. *cultural and spiritual values for tangata whenua, identified by working, as far as practicable, in accordance with tikanga Māori; including their expression as cultural landscapes and features;*

ix. *historical and heritage associations; and*

x. *wild or scenic values;*

d. *ensuring that regional policy statements, and plans, map or otherwise identify areas where the protection of natural features and natural landscapes requires objectives, policies and rules; and*

e. *including the objectives, policies and rules required by (d) in plans."*[51]

Policy 18 Public Open Space

"Recognise the need for public open space within and adjacent to the coastal marine area, for public use and appreciation including active and passive recreation, and provide for such public open space, including by:

a. *ensuring that the location and treatment of public open space is compatible with the **natural character**, natural features and landscapes, and **amenity values** of the **coastal environment**;*

b. *taking account of future need for public open space within and adjacent to the coastal marine area, including in and close to cities, towns and other settlements;*

c. *maintaining and enhancing walking access linkages between public open space areas in the coastal environment;*

d. *considering the likely impact of coastal processes and climate change so as not to compromise the ability of future generations to have access to public open space; and*

e. *recognising the important role that esplanade reserves and strips can have in contributing to meeting public open space needs."*[52]

[51] Policy 15 of the New Zealand Coastal Policy Statement (2010)
[52] Policy 18 of the New Zealand Coastal Policy Statement (2010)

Appendix B - GRAPHIC ATTACHMENTS (refer separate document)

Point Erin - Central Interceptor
Watercare
Appendix B - Graphic Attachments

January 2023
—

Isthmus.

Land.
People.
Culture.
Isthmus.

Isthmus.

Document record

Issue	Revision	Author	QA	Date
Draft	A	SButt		11.11.22
Final	B	DCole	SButt	31.01.23

Contents

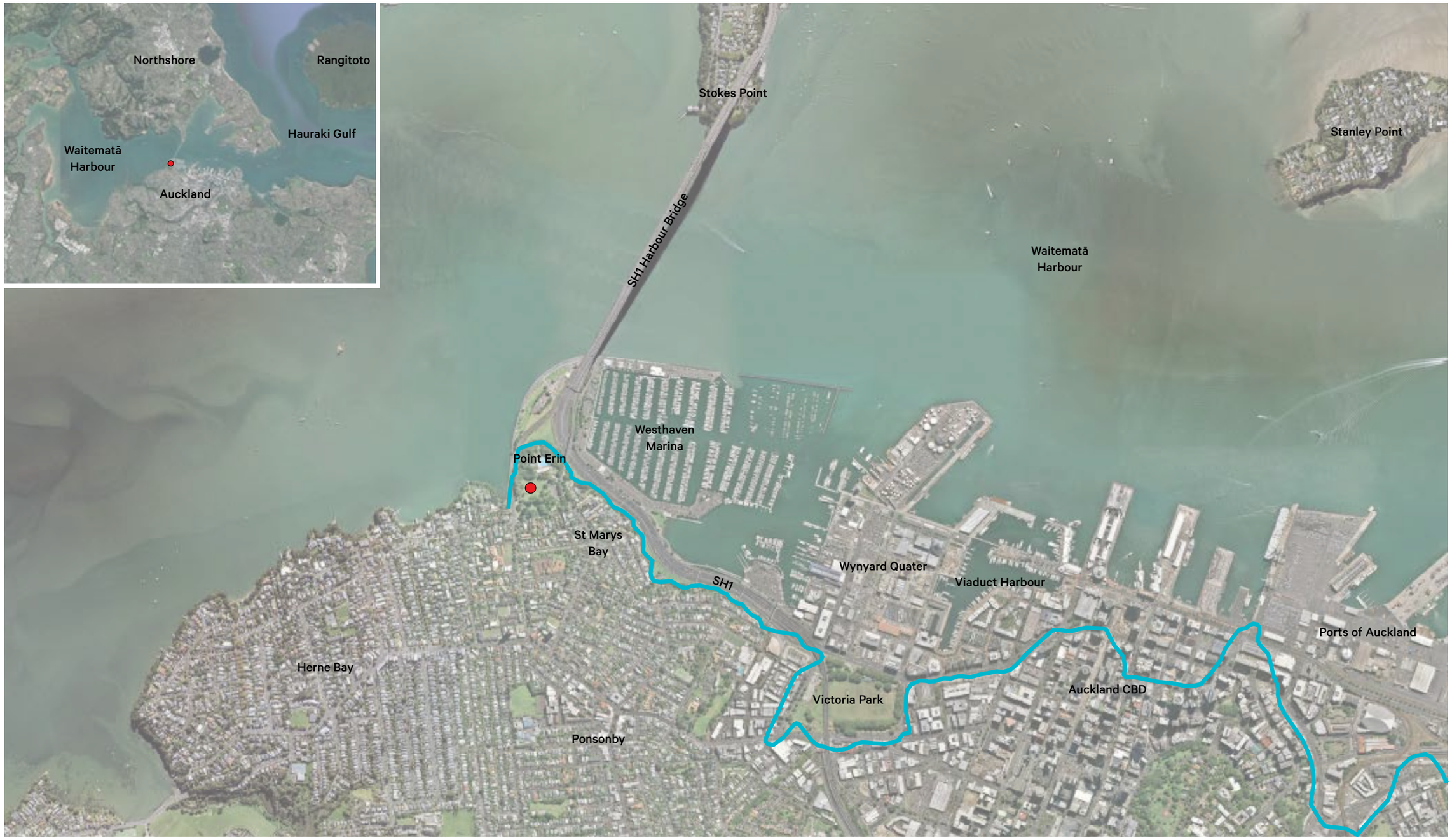


Figure 1 - Site Location Plan

Site location

Oringinal Auckland Coastline
1840 Mean High Water Mark, plotted by Aranne Donald,Auckland City Heritage Division 1992

N

0m 150m 300m 750m

1:15,000 scale bar

Isthmus.

Figure 2 - Site Area Plan

Expected extent of construction works area.

Existing paths / walkways

Contours (1m)

N

0m 25m 50m 125m

1:2,500 scale bar

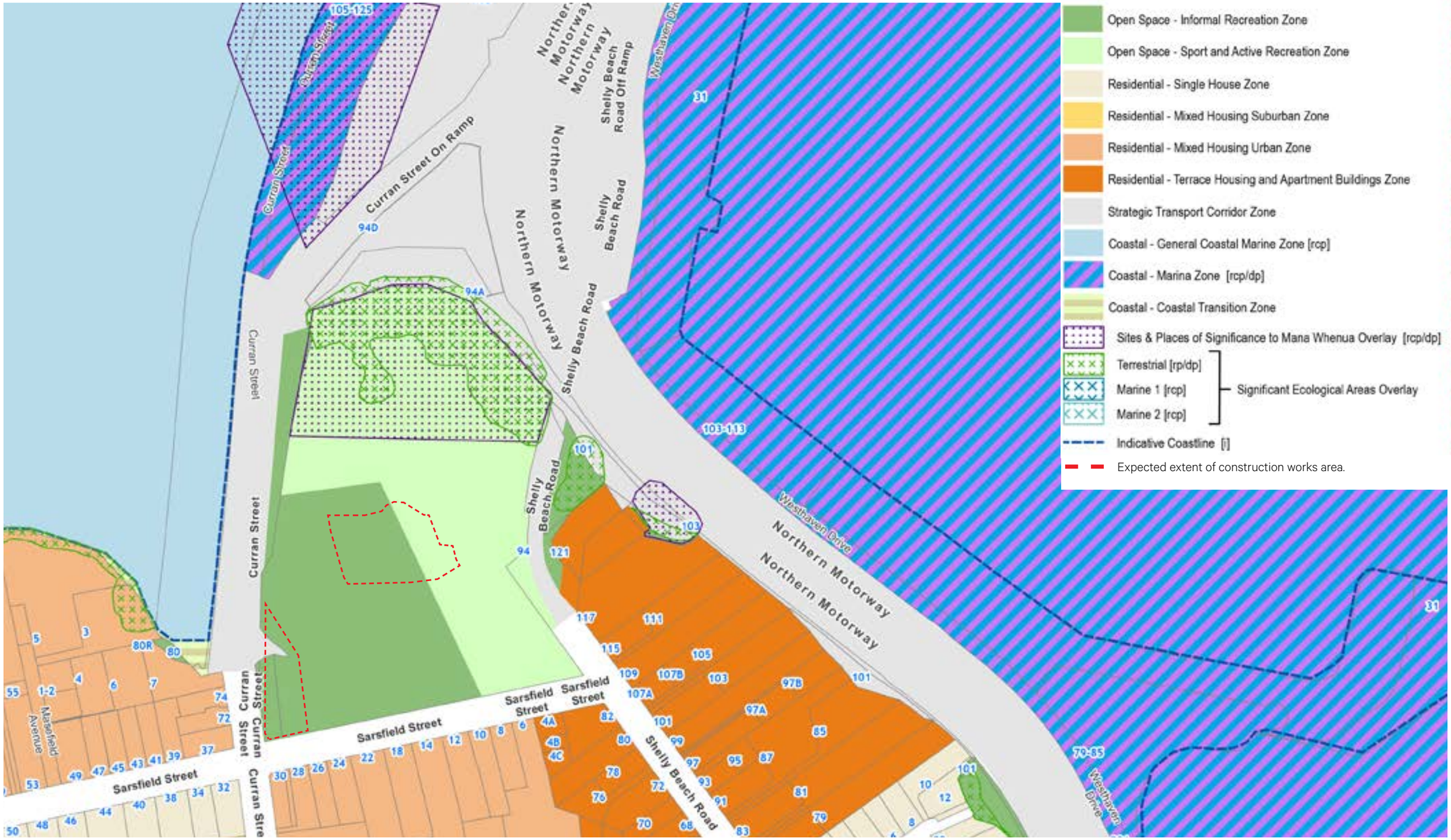


Figure 3 - Statutory Conext Plan

Source: Auckland Unitary Plan Maps

N

0m 25m 50m 125m

1:2,500 scale bar

NOTES:

1. DESIGN AT CONCEPT STAGE AND SUBJECT TO CHANGE THROUGH DESIGN PROCESS.
2. TUNNEL ALIGNMENT SHOWN WITH 2.5m WIDE CORRIDOR EITHER SIDE OF PROPOSED ALIGNMENT.

PLAN
SCALE. 1:2000

Figure 4 - Preliminary Tunnel Alignment

SCALE 1:2000 (A1)

0 40 80 120 160 200m
40 20

CONCEPT DESIGN

JACOBS AECOM McMILLEN JACOBS ASSOCIATES

ISSUE	DATE	AMENDMENT	BY	APPD.
1	21.12.22	ISSUED FOR CONSENT APPLICATION	PJG	

DESIGNED	AD	12.22
DES. CHECKED	MBS	12.22
DRAWN	PJG	12.22
DWG. CHECKED	PMF	12.22
PROJECT LEADER		
INFRAST'R APP'D		
BY		DATE

OPERATIONS

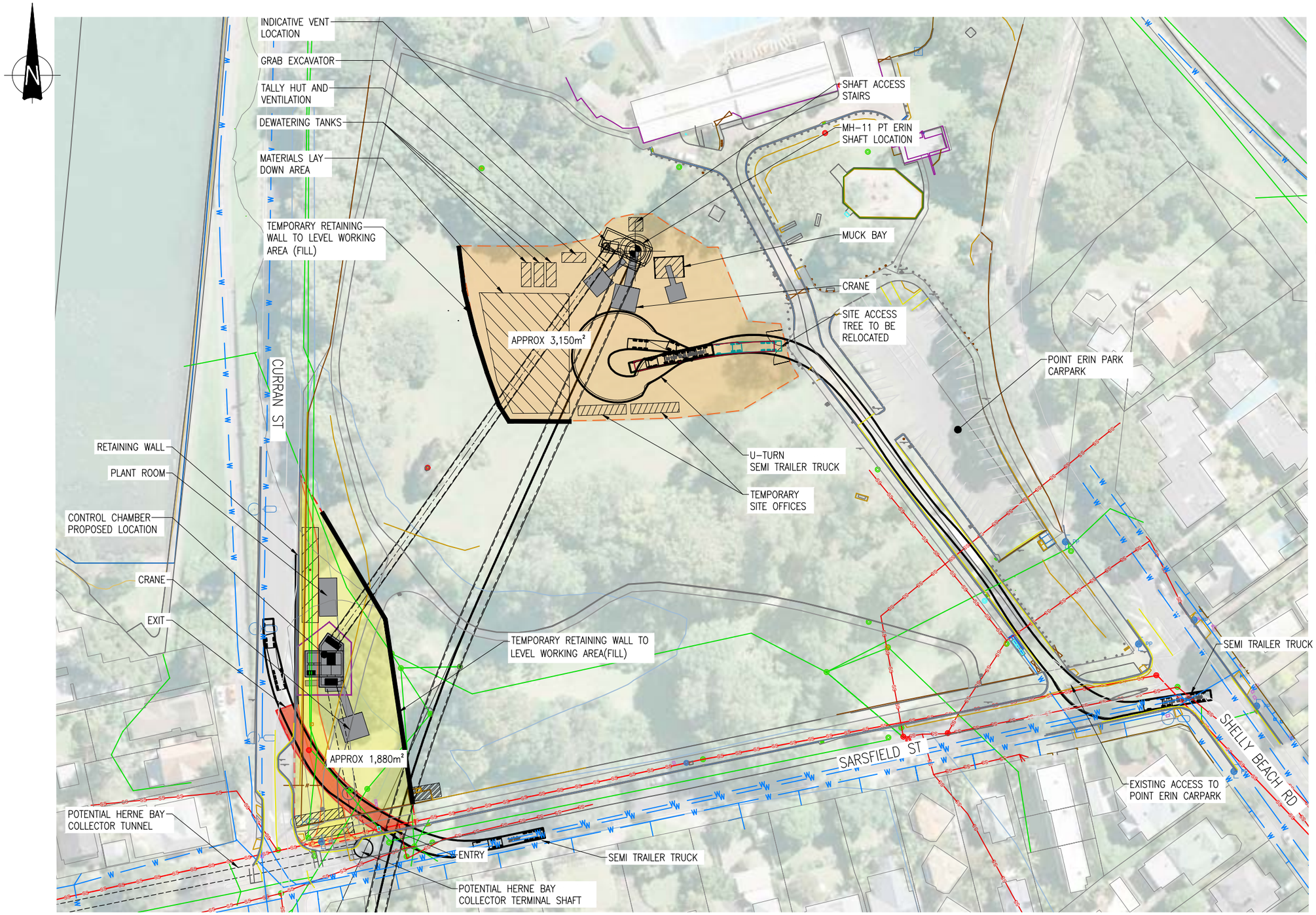
INFRASTRUCTURE

Watercare

CENTRAL INTERCEPTOR (DSCIN)
82 GRAVITY SEWER INCLUDING MANHOLES
TAWARIKI ST TO PT ERIN – TUNNEL PLAN

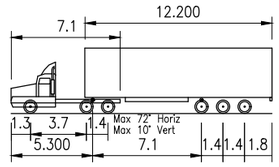
CAD FILE 2011933.006	DATE 21.12.22
ORIGINAL SCALE A1 1:2000	CONTRACT No. 6661
REF. No. CI-STAT&PLAN	ISSUE
DWG. No. 2011933.006	1

Plot Date: Jan 12, 2023 - 12:53pm C:\pw_work\jacques.greyling@jacobs.com\dms88648\ 2011933.006.dwg



KEY

- MAIN CONSTRUCTION AREA
- SOUTH-WESTERN CONSTRUCTION AREA



SEMI-TRAILER (TNZ GEN. MIN. DESIGN RADIUS)

OVERALL LENGTH	17.000m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.250m
MIN. BODY GROUND CLEARANCE	0.417m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
WALL TO WALL TURNING RADIUS	10.000m

Figure 5 - Preliminary Site Layout

PLAN
SCALE. 1:500

SCALE 1:500 (A1) 0 10 20 30 40 50m

CONCEPT DESIGN

JACOBS AECOM McMILLEN JACOBS

ISSUE	DATE	AMENDMENT	BY	APPD.
1	21.12.22	ISSUED FOR CONSENT APPLICATION	PJG	

		DATE
DESIGNED	AD	12.22
DES. CHECKED	MBS	12.22
DRAWN	PJG	12.22
DWG. CHECKED	PMF	12.22
PROJECT LEADER		
INFRAST'R APP'D		

OPERATIONS

INFRASTRUCTURE

Watercare

POINT ERIN – CENTRAL INTERCEPTOR (DSCIN)
00 SITE GENERAL
POINT ERIN SITE – CONSTRUCTON PHASE PLAN

CAD FILE 2013964.003	DATE 21.12.22
ORIGINAL SCALE A1 1:500	CONTRACT No.
REF. No. CI-STAT&PLAN	ISSUE
DWG. No. 2013964.003	1

Plot Date: Jan 12, 2023 - 2:02pm
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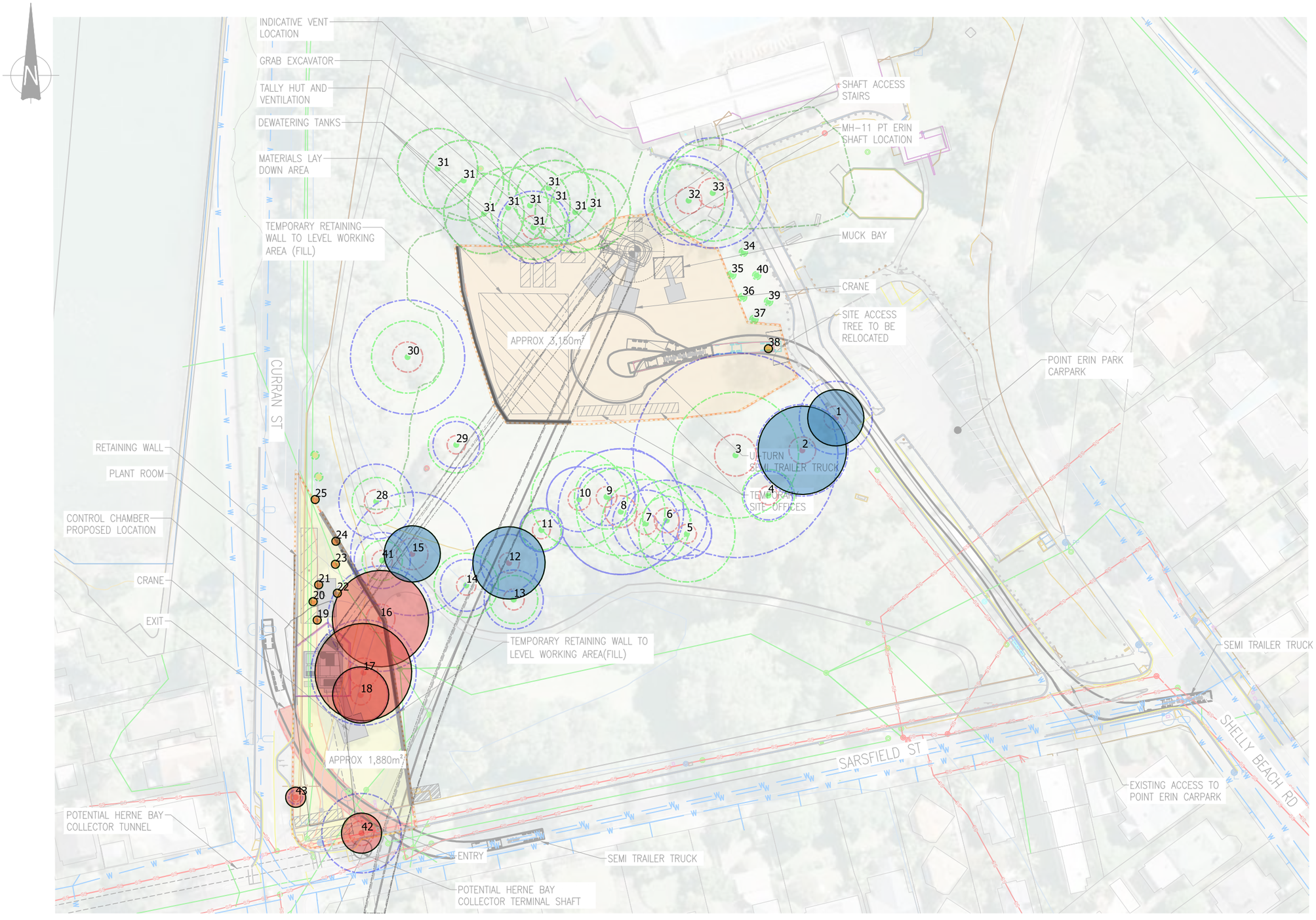
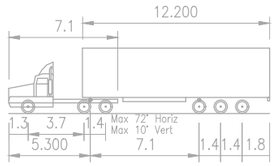


KEY

- MAIN CONSTRUCTION AREA
- SOUTH-WESTERN CONSTRUCTION AREA



SEMI-TRAILER (TNZ GEN. MIN. DESIGN RADIUS)

OVERALL LENGTH	17.000m
OVERALL WIDTH	2.500m
OVERALL BODY HEIGHT	4.250m
MIN. BODY GROUND CLEARANCE	0.417m
TRACK WIDTH	2.500m
LOCK-TO-LOCK TIME	6.00s
WALL TO WALL TURNING RADIUS	10.000m

- Tree to be removed due to poor health
- Tree to be removed to facilitate project
- Juvenile tree to removed (permitted activity).

Figure 6 - Tree Removal

PLAN
SCALE. 1:500

Base plan provided by Watercare (Drawing 2013964.003 dated 21.12.22)
Tree removal extent identified by the Tree Consultancy Company (Drawing 2499_001_B dated 23/12/22)

SCALE 1:500 (A1) 0 10 20 30 40 50m / 10 8 6 4 2

CONCEPT DESIGN

JACOBS AECOM McMILLEN JACOBS ASSOCIATES

ISSUE	DATE	AMENDMENT	BY	APPD.
1	21.12.22	ISSUED FOR CONSENT APPLICATION	PJG	

		DATE
DESIGNED	AD	12.22
DES. CHECKED	MBS	12.22
DRAWN	PJG	12.22
DWG. CHECKED	PMF	12.22
PROJECT LEADER		
INFRAST'R APP'D		

OPERATIONS

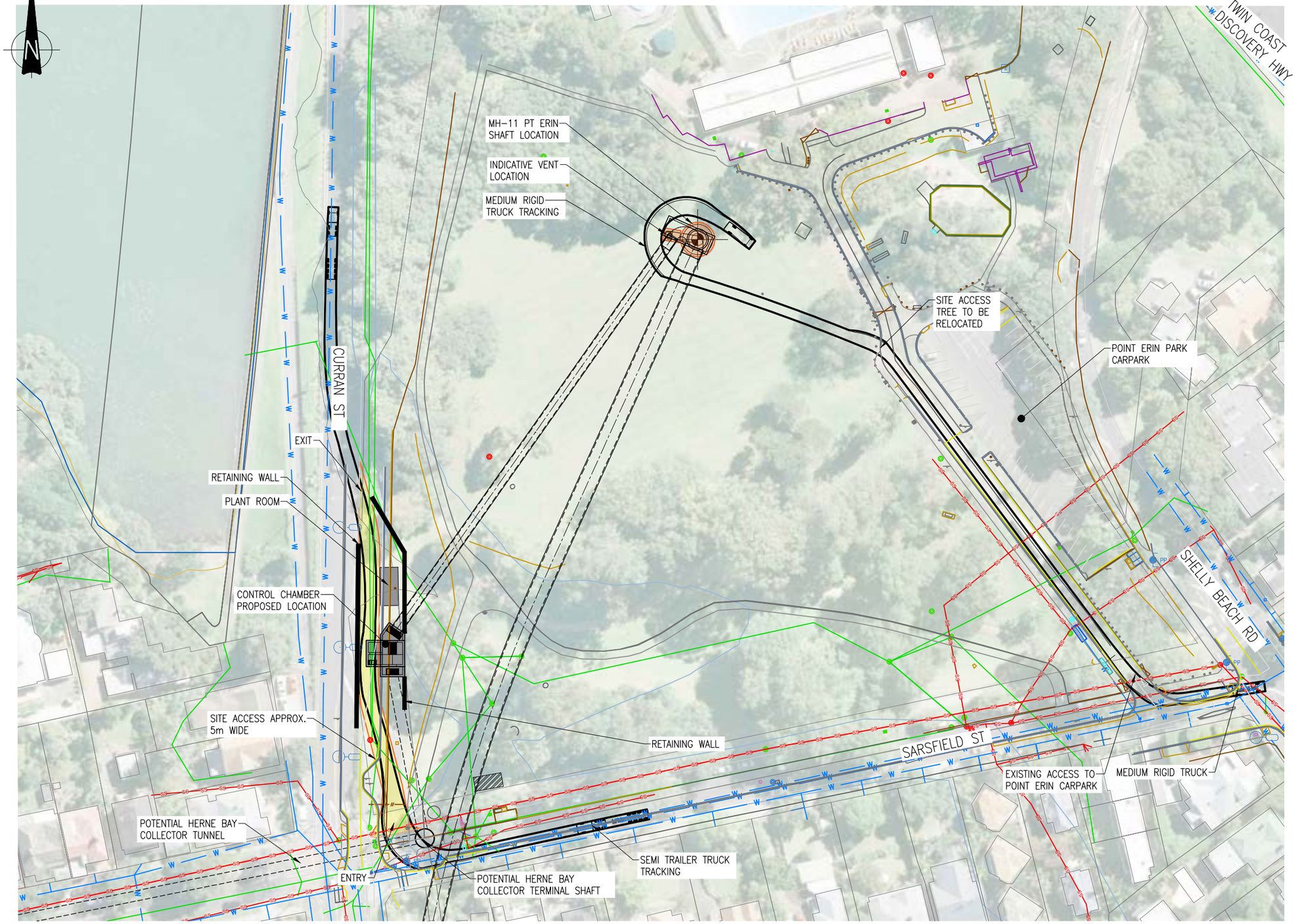
INFRASTRUCTURE

Watercare

POINT ERIN – CENTRAL INTERCEPTOR (DSCIN)
00 SITE GENERAL
POINT ERIN SITE – CONSTRUCTON PHASE PLAN

CAD FILE 2013964.003	DATE 21.12.22
ORIGINAL SCALE A1 1:500	CONTRACT No.
REF. No. CI-STAT&PLAN	ISSUE
DWG. No. 2013964.003	1

Plot Date: Jan 12, 2023 - 2:02pm C:\pw_work\jacques.greyling@jacobs.com\d0127059\2013964_003.dwg



KEY

- MAIN SITE OPERATIONAL AREA
- SOUTH-WESTERN SITE OPERATIONAL AREA

Figure 7 - Operational Site Plan

PLAN
SCALE. 1:500

SCALE 1:500 (A1) 0 10 20 30 40 50m

CONCEPT DESIGN

JACOBS AECOM McMILLEN JACOBS ASSOCIATES

ISSUE	DATE	AMENDMENT	BY	APPD.
1	21.12.22	ISSUED FOR CONSENT APPLICATION	PJG	

DESIGNED	AD	12.22
DES. CHECKED	MBS	12.22
DRAWN	PJG	12.22
DWG. CHECKED	PMF	12.22
PROJECT LEADER		
INFRAST'R APP'D		
	BY	DATE

OPERATIONS

INFRASTRUCTURE

Watercare

POINT ERIN – CENTRAL INTERCEPTOR (DSCIN)
00 SITE GENERAL
POINT ERIN SITE – OPERATIONAL PHASE PLAN

CAD FILE 2013964.004	DATE 21.12.22
ORIGINAL SCALE A1 1:500	CONTRACT No.
REF. No. CI-STAT&PLAN	ISSUE
DWG. No. 2013964.004	1

Plot Date: Jan 12, 2023 - 2:02pm
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Figure 8 - Viewpoint Location Plan

Site location

Viewpoint Location

Context Viewpoint

N

0m 25m 50m 125m

1:2,500 scale bar

Viewpoint 1

View from Point Erin Car Park

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 12:37pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

Viewpoint 2

View from the south western corner of Point Erin Park, Sarsfield Street.

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 12:43pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

Viewpoint 3

View from the top of the shared cycleway / footpath, west of Curran Street.

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 12:54pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

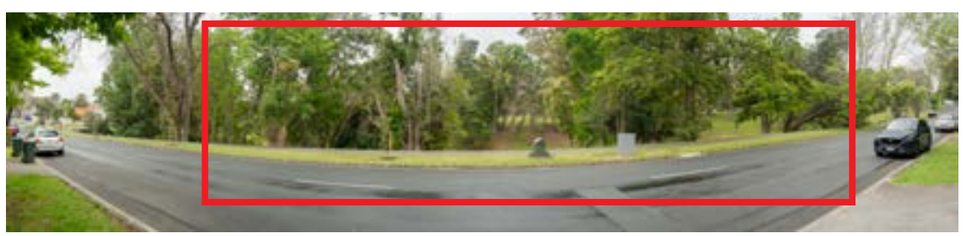
Viewpoint 4

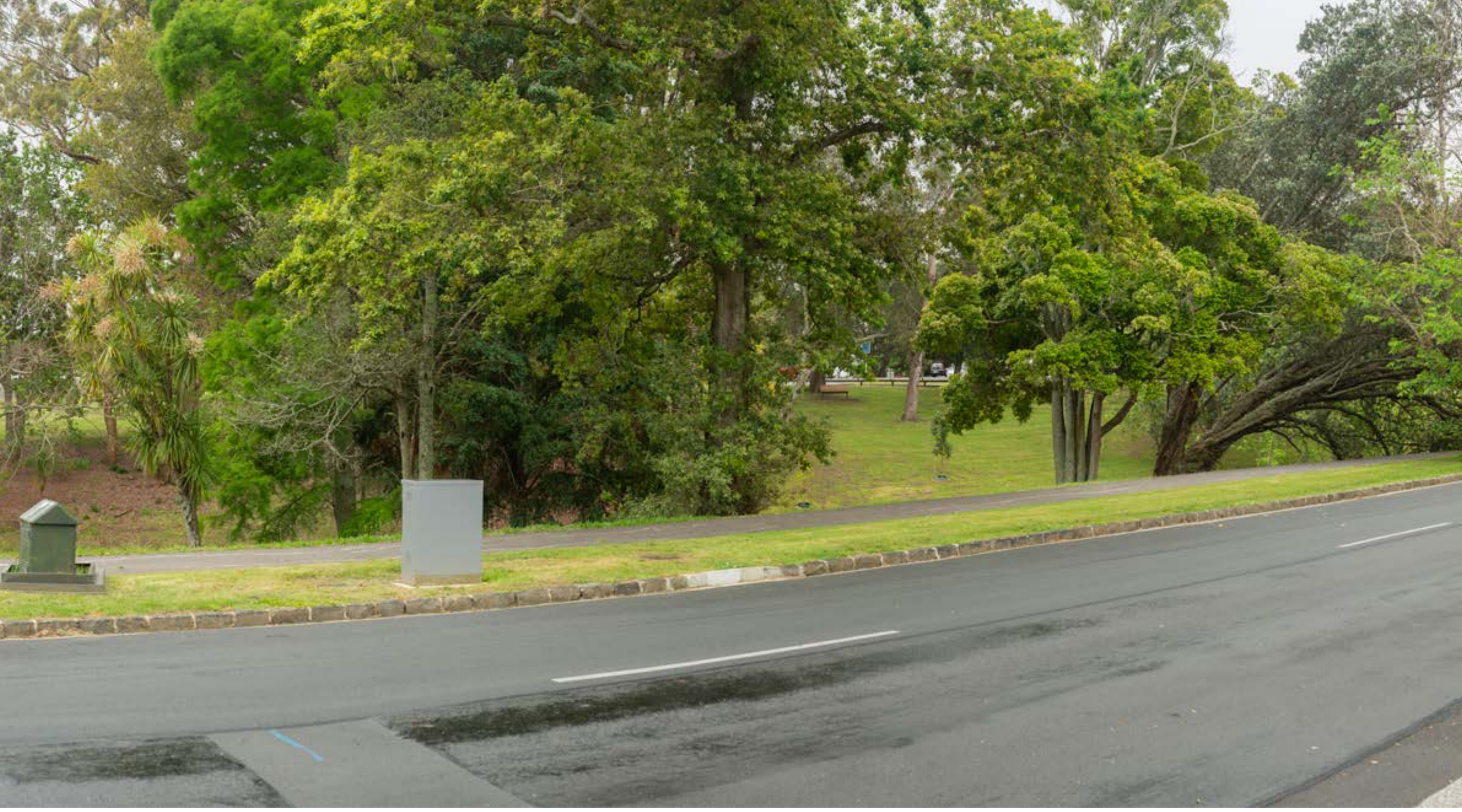
View from Curran Street.

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 12:46pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

Viewpoint 5

View from Sarsfield Street.





Original Photo Simon Button | 50mm | DSLR Nikon D800 | 1:09pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

Viewpoint 6

View from the intertidal reef at Masefield Beach Reserve.

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 12:59pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

Viewpoint 7

View from Shelly Beach Road.

Original Photo Simon Button | 50mm | DSLR Nikon D800 | 1:12pm 10 November 2022
Reading distance for correct scale: 400mm
Field of View Approximately 110˚ horizontal (across 2 x A3 pages) & 34˚ vertical

CV-A - View from park footpath

Context Viewpoints A - E

CV-B - View from park footpath

CV-C - View of Point Erin Pools

CV-D - View from park open space

CV-E - View from park open space

Photosimulation Methodology Statement

- Photos were taken with a fixed lens on DSLR camera. Locations were fixed using a handheld GPS unit with accuracy of 5m. Reference points in the landscape were also located to assist referencing of photo to digital terrain model.
- A sequence of photos was taken from each viewpoint and stitched to form panoramas. Photos were overlapped by approximately 30% and edges cropped prior to stitching to eliminate edge distortion.
- A digital model was created incorporating 3D models of the proposed development. Computer images were generated within the digital model from the same locations as the photos. The image was overlaid and aligned with the photo using reference points and visual matching. (Photos were imported in RAW format to avoid degradation of the image, requiring resizing to match the computer image).
- The wire-frame was then switched off leaving the proposed development in its correct location and scale relative to the photo. Lower parts of the proposed development were erased using Photoshop software where they would be behind foreground topography or vegetation.
- The time and weather when the photo was taken was entered to the programme in order to replicate lighting conditions.
- The completed photomontage is presented over two pages:
    - The photos are produced to replicate correct scale at the nominated reading distance (in this case 400mm).
    - Each photomontage is printed across two facing pages to illustrate a field of view of approximately 110° at a reading distance of 400mm. This approximates the field of human binocular vision. (But not peripheral vision which extends to approximately 200°)

Notes on use of Photosimulations:

- The Photosimulations are a useful tool but they cannot precisely reproduce real life for the following reasons:
    - 2D Photography flattens an image compared to binocular vision.
    - Photography is static, whereas the human vision can scan and remember information.
    - Photographs are passive, whereas the eye seeks out detail.
    - The human eye can see more contrast than can be reproduced through photography.
    - Physical resolution of photography and printing is less than that of the human eye.

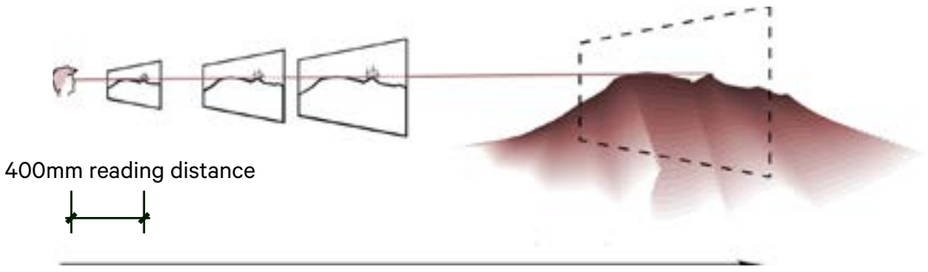


Figure 01: The relationship between reading distance and real life scale.

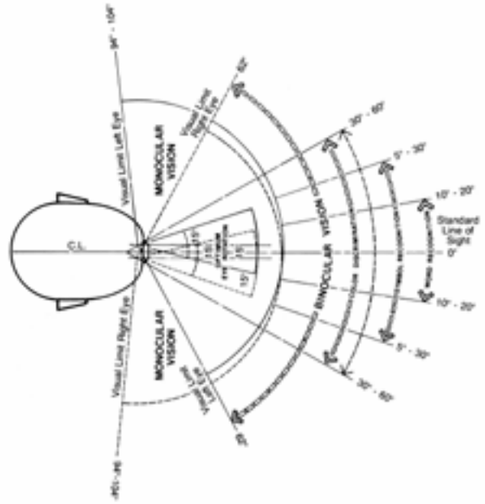


Figure 02: Binocular vision is approximately 124°. Field of view is approximately 110° across 2 x A3 pages at correct scale image for 400mm reading distance (vertical field of view is approximately 33°)

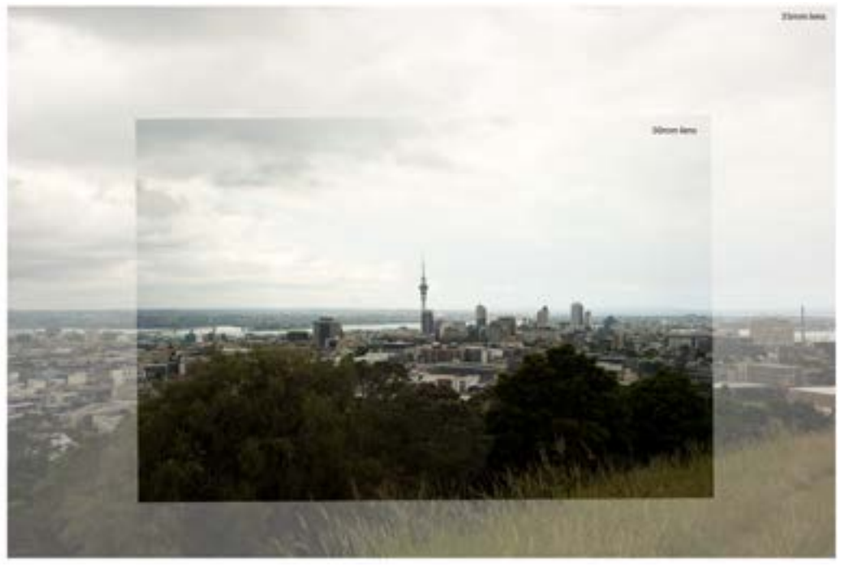


Figure 03: Comparison of 35mm lens and 50mm lens

Two images from the same location. With 35mm and 50mm lenses perspective is influenced by field of view, not by lens focal length. The overlaid portion is identical.