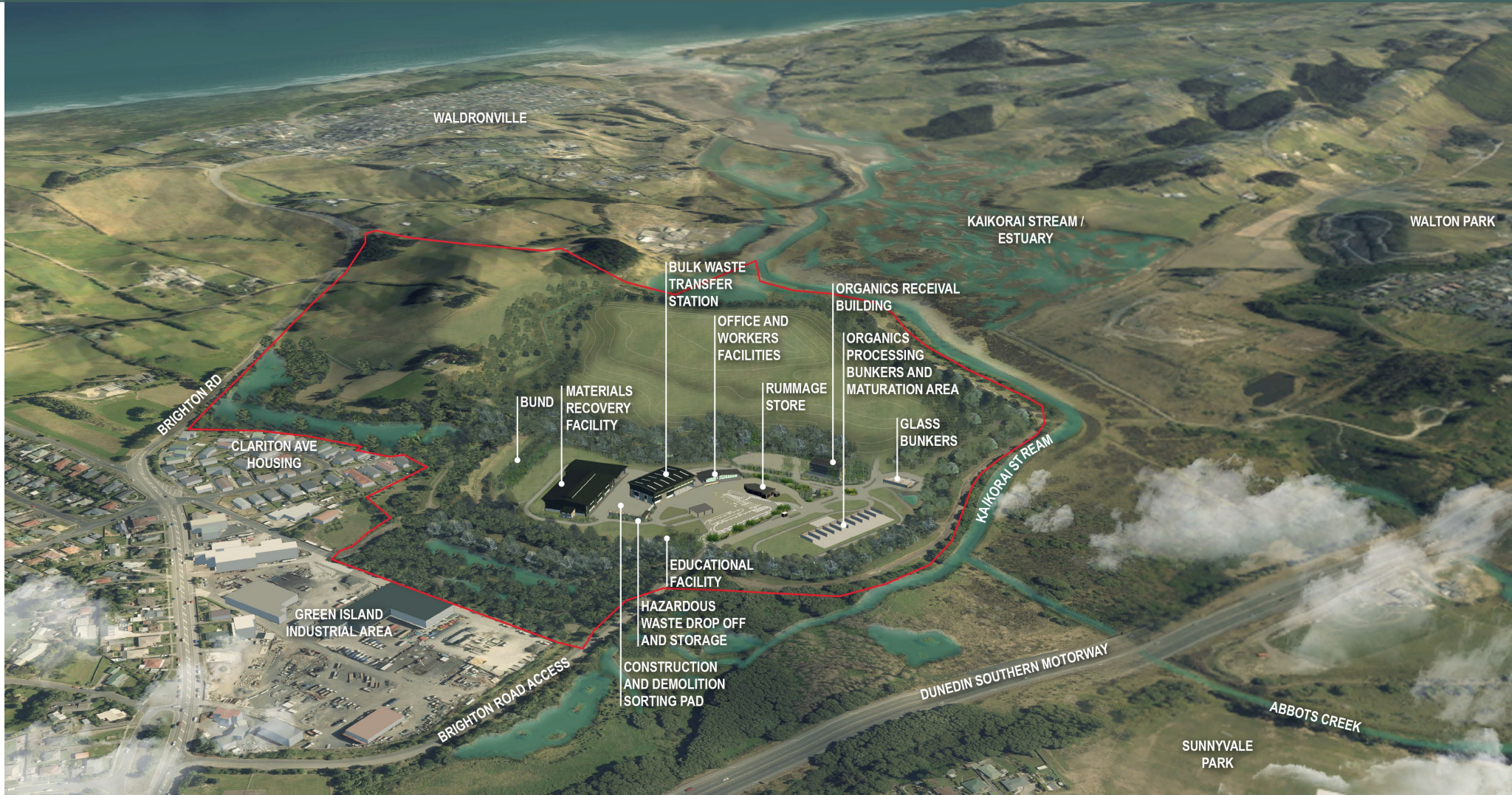


Appendix 17: Aukaha and Te Runaka o Ōtākou – Presentation/Briefing

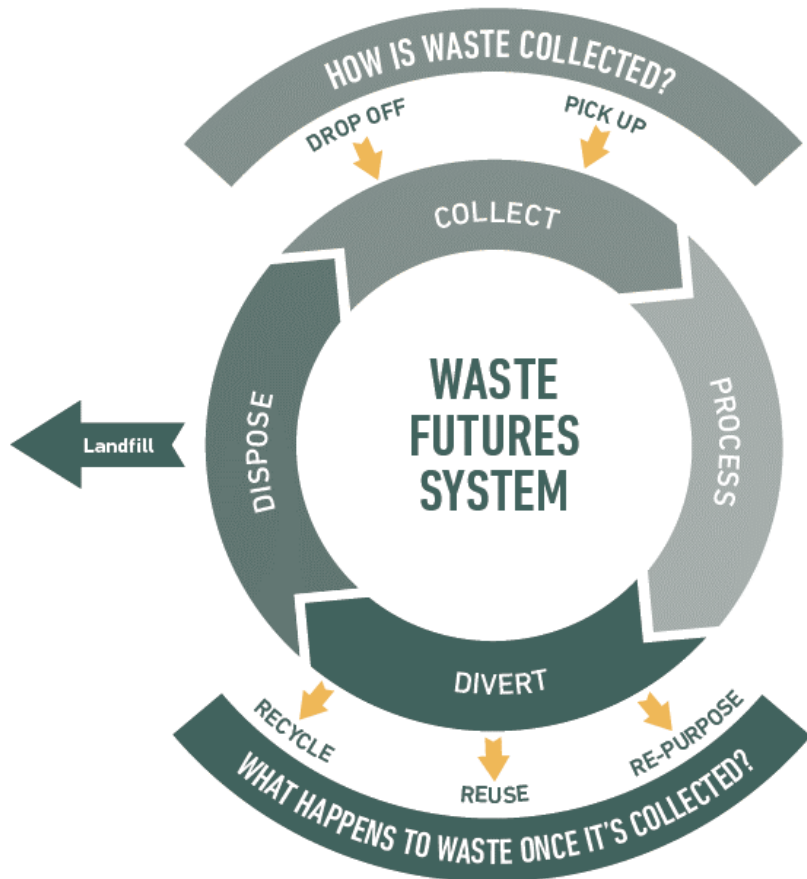
ESTABLISHING A NEW RESOURCE RECOVERY PARK AT GREEN ISLAND LANDFILL SITE

Briefing Presentation by Dunedin City Council to Te Rūnaka o Ōtākou: 22 February 2024



DUNEDIN CITY COUNCIL WASTE FUTURES PROGRAMME

ESTABLISHING A NEW WASTE FUTURES SYSTEM FOR DUNEDIN - FOCUS ON REDUCING WASTE AND LOWERING CARBON EMISSIONS



WASTE FUTURES PROJECTS

<p>ENHANCED KERBSIDE COLLECTION SERVICE</p>	<ul style="list-style-type: none"> • Improvements to the kerbside collection service by 1 July 2024 • Glass, general rubbish, recycling, food waste and garden waste
<p>RESOURCE RECOVERY PARK PRECINCT (RRPP)</p>	<ul style="list-style-type: none"> • Develop a new resource recovery recycling system and waste diversion facilities at Green Island landfill site
<p>NEW LANDFILL FACILITY</p>	<ul style="list-style-type: none"> • Planning for the closure of Green Island landfill around 2029/2030 • New Class 1 landfill facility (proposed for Smooth Hill)



GREEN ISLAND RESOURCE RECOVERY PARK SITE CONTEXT



WHY DEVELOP A NEW RESOURCE RECOVERY PARK PRECINCT?

The new RRPP is needed to support the new kerbside food scraps and garden waste service, and improved rubbish collection for Dunedin

- From mid-2024, DCC will introduce kerbside food scraps and garden waste collection along with wheelie bin collection services for rubbish, replacing the current prepaid plastic rubbish bags.
- To support the implementation of the new kerbside collection service, DCC is planning to make changes to the use of Green Island landfill site.
- These changes include planning for the closure of the Green Island landfill itself and developing an improved Resource Recovery Park.

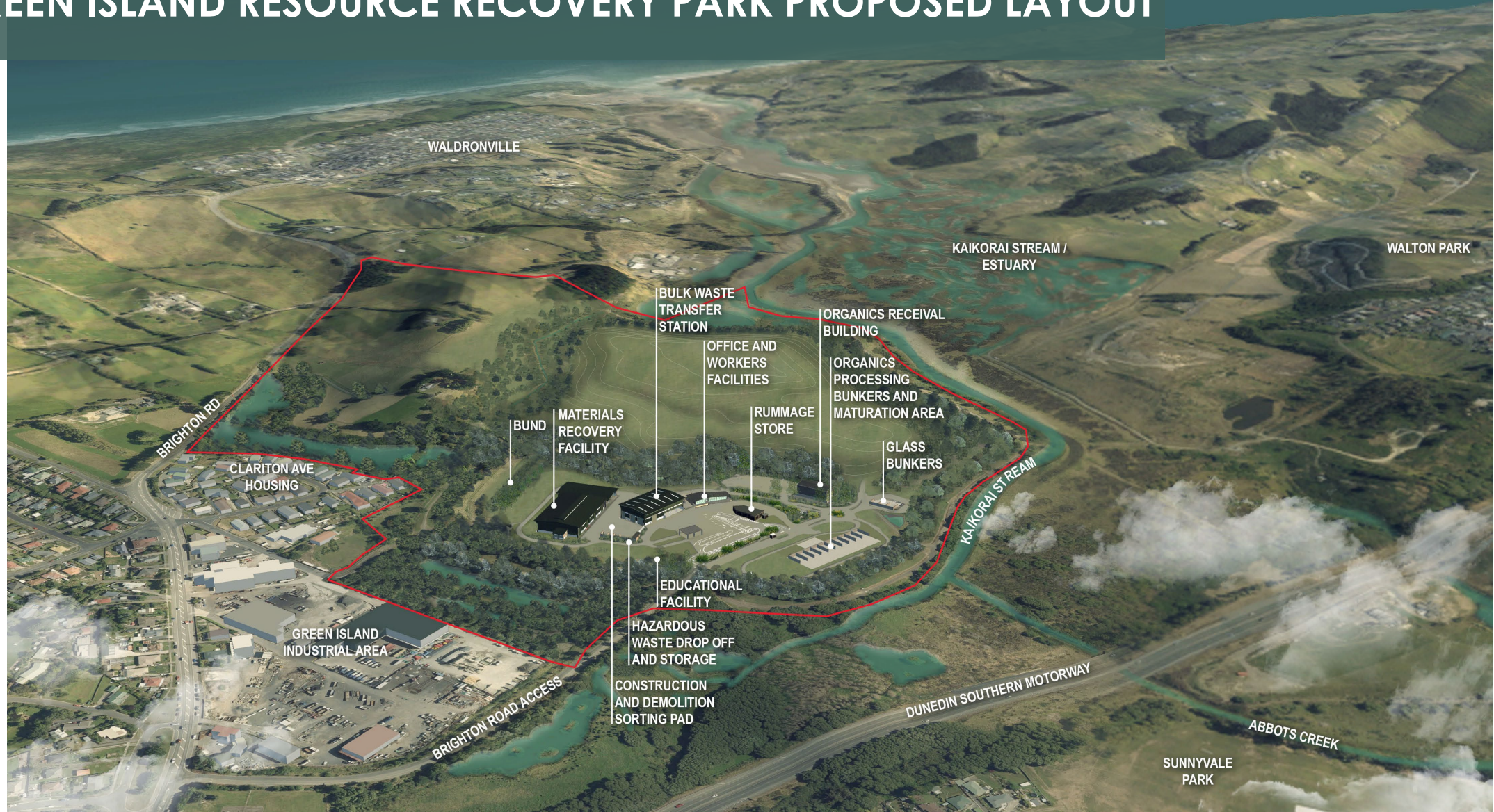


WHAT'S PLANNED AND WHEN?

- Proposed new facilities include:
 - **organic receivals building and processing facilities (composting)** to support the organic (food and garden) waste kerbside collection
 - **materials recovery facility** to sort and bale items collected from kerbside mixed recycling bins
 - **bulk waste transfer station** to facilitate the compaction and trucking of waste to landfill
- Additional facilities include new glass bunkers, staff offices and breakrooms, parking and truck parking areas, and associated access roads .
- Existing facilities to be retained include the Rummage shop, public drop-off areas and the education centre.
- The new composting operation for organic (food and garden waste) will be established during 2024/25
- Aiming for the other facilities, including waste transfer station and mixed recycling facility to be operational by 2025/26



GREEN ISLAND RESOURCE RECOVERY PARK PROPOSED LAYOUT



COMMUNITY ENGAGEMENT FROM FEB 2023 AND ONGOING



RESOURCE CONSENT REQUIREMENTS

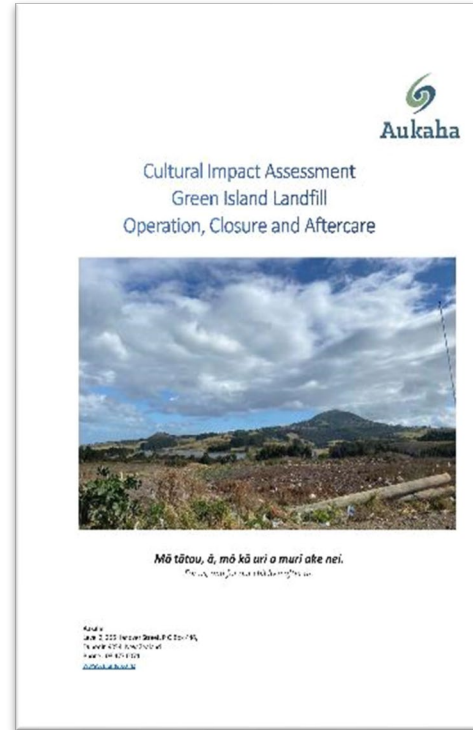
Resource consents required from Otago Regional Council and Dunedin City Council:

- The RRPP requires resource consents from the Otago Regional Council (ORC) for the:
 - disturbance of contaminated soils for construction
 - discharges to air (including dust and odour) from site activities e.g composting
 - discharge of stormwater from retention ponds/constructed wetlands to Kaikorai Stream
- In addition, resource consent is required for the disturbance of contaminated soils under the National Environmental Standard for Assessing Contaminants in Soil 2011 and an outline plan of works (OPW) approval is required from the Dunedin City Council (DCC).



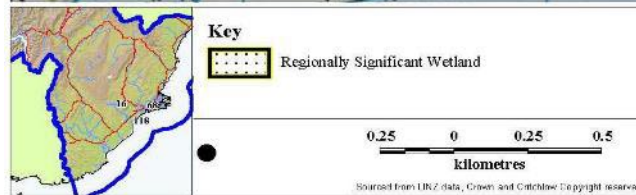
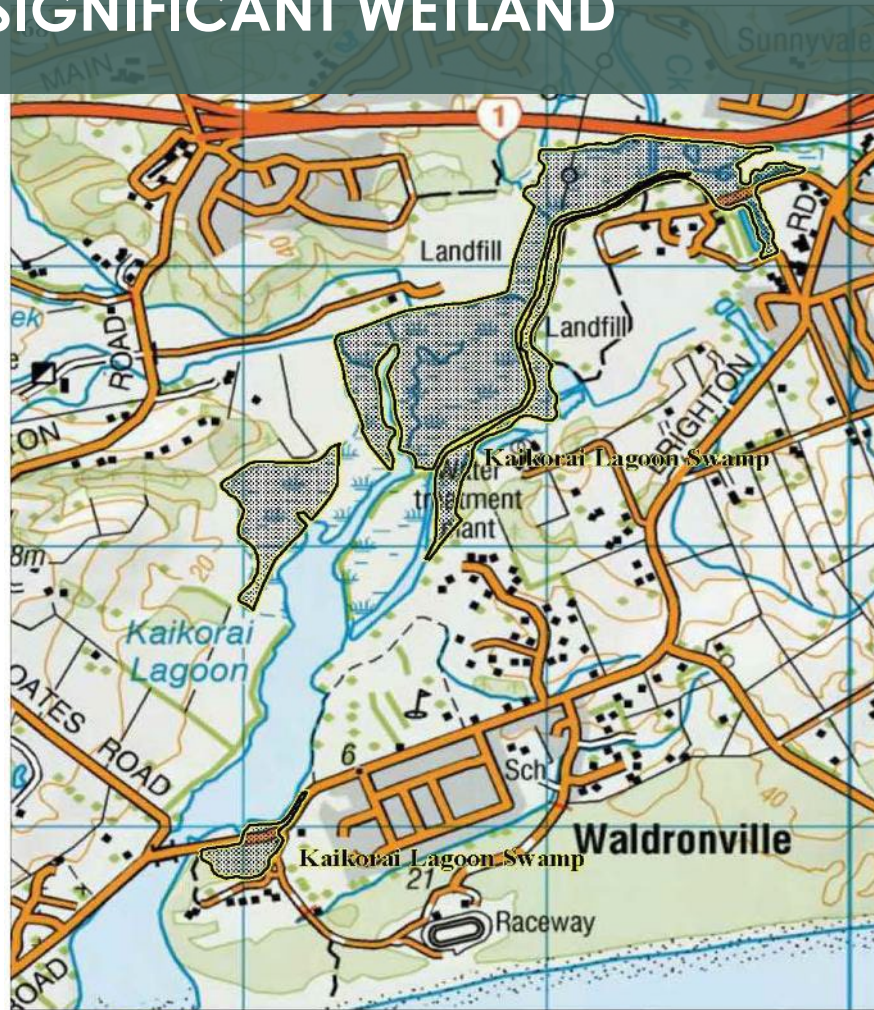
CULTURAL CONSIDERATIONS

- We have met with the Aukaha team regularly since 2019 to provide regular updates on the Waste Futures programme, including the RRPP facilities and to seek input and guidance into the development of the plans for the long-term use of the site.
- **Incorporation of recommendations from the Green Island Landfill Cultural Impact Assessment including:**
 - Wai Māori
 - Mahika Kai and Biodiversity Values
 - Wāhi Tūpuna
 - Incorporation of Mana Whenua values through design



Kaikarae Estuary and Pukemakamaka 1951

REGIONALLY SIGNIFICANT WETLAND



Regionally Significant Wetlands
Map F57

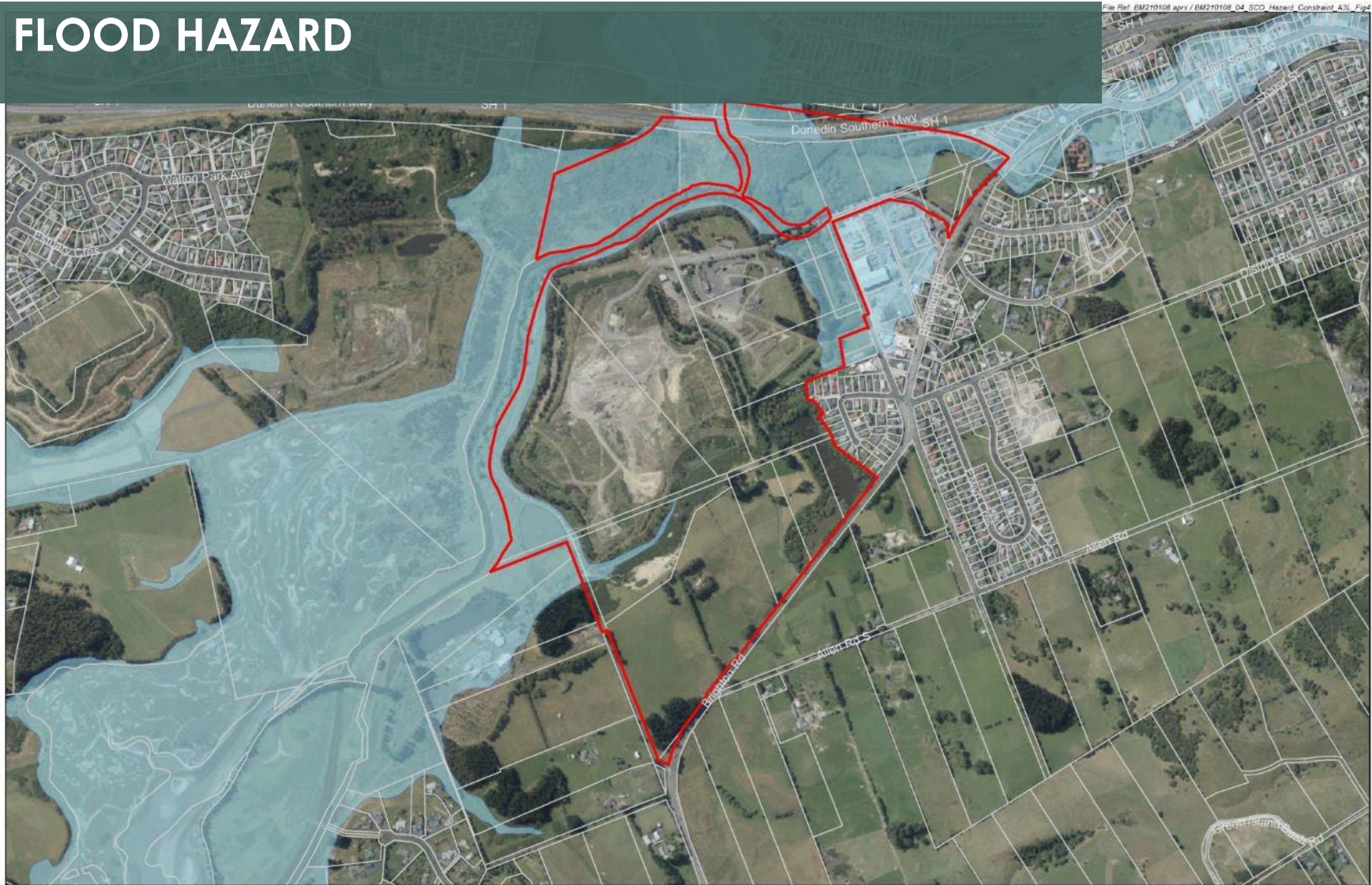
Source: Land Information New Zealand Topo Maps
1 October 2013



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WAI MĀORI - FLOOD HAZARD



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0 160 m
1:7,500 @ A3
Data Sources: Sourced from the LINZ Data Service and licensed for re-use under the Creative Commons Attribution 4.0 New Zealand licence.
Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND
■ Hazard 2 (flood)
■ Green Island Landfill Designation
■ Cadastre

GREEN ISLAND LANDFILL EXTENSION, CLOSURE AND RRRP

Date: 17 June 2021 | Revision: 0
 Plan prepared for Dunedin City Council by Boffa Miskell Limited
 Project Manager: rachael.eaton@boffamiskell.co.nz | Drawn: BMc | Checked: MDs

Figure 4

BIODIVERSITY VALUES



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0 160 m
1:7,500 @ A3
Projection NZGD 2000 New Zealand Transverse Mercator

LEGEND
■ Areas of Significant Biodiversity Value
■ Urban Biodiversity
 Green Island Landfill Designation
 Cadastre

GREEN ISLAND LANDFILL EXTENSION, CLOSURE AND RRRP
 Biodiversity Constraint
 Date: 17 June 2021 | Revision: 0
 Plan prepared for Dunedin City Council by Boffa Miskell Limited
 Project Manager: rachel.eaton@boffamiskell.co.nz | Drawn: BMs | Checked: MDe

Figure 6

WĀHI TŪPUNA



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0 160 m
1:7,500 @ A3
Data Source: Sourced from the LINZ Data Service and licensed for re-use under the Creative Commons Attribution 4.0 New Zealand licence
Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND
 Wāhi Tupuna and Archaeological Alert
 Green Island Landfill Designation
 Cadastre

GREEN ISLAND LANDFILL EXTENSION. CLOSURE AND RRRP

Date: 17 June 2021 | Revision: 0
 Plan prepared for Dunedin City Council by Boffa Miskell Limited
 Project Manager: rachael.eaton@boffamiskell.co.nz | Drawn: BMo | Checked: MDa

Figure 5

RESOURCE RECOVERY PARK PROPOSED LAYOUT

file: RFS_BM210975_GI_Neighbourhood_set_ACTM.rvt



- 1 Proposed Materials Recovery Facility (MRF)
- 2 Proposed Bulk Waste Transfer Station (BWTS)
- 3 Proposed Site Office and Workers Facilities
- 4 Transport Compound
- 5 Organics Reveal Building (ORB)*
- 6 Proposed Glass Bunkers
- 7 Existing Leachate Pond
- 8 Proposed Organics Processing Bunkers
- 9 Proposed Organics Maturation Area
- 10 Existing Green Waste Drop Off Pad
- 11 Proposed Hazardous Drop Off (Public)
- 12 Proposed Hazardous Waste Storage
- 13 Proposed Construction and Demolition Sorting Pad
- 14 Proposed Office Parking & Existing Educational Facility
- A Existing Rummage Store
- B Existing Wheel Wash
- C Existing Domestic Waste Transfer Station

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0 75m
1:2500 @ A3
1:1250 @ A1

GREEN ISLAND RESOURCE RECOVERY PARK PRECINCT PLAN

General Arrangement Plan

Date: 10 October 2023 Revision: C

Plan prepared by Boffa Miskell Limited

Project Manager: Rachael.Eaton@boffamiskell.co.nz | Drawn: SYO | Checked: REA

DUNEDIN CITY COUNCIL | kaunihera a-rohe o ōtepoti



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BUILDING DESIGN

- The RRPP comprises several key buildings, structures and access roads, which will be integrated with the existing structures on site.
- Material recovery building, bulk waste transfer station and organics receival building are four to five stories high with a large footprint
- Maximum envelope shown for consenting purposes
- Neutral colour (e.g karaka green) and orientation used to help mitigate impact on the site and neighbours
- Opportunity through OPW and consent conditions for mana whenua input into the facade treatment of public facing buildings e.g. office buildings, artwork/interpretation around the education building



PLANTING AND VISUAL AMENITY – ENHANCED PLANTING

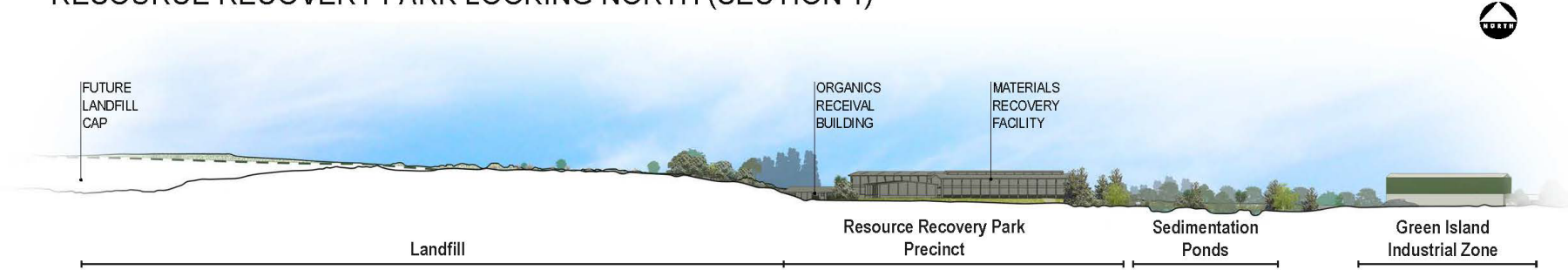
Ref: BN210575_GI_Neighbourhood_set_ACTIVE.indd



RESOURCE RECOVERY PARK RELATIONSHIP TO NEIGHBOURS

0210895_GI_Neighbourhood_set_ACTIVE.rvt

RESOURCE RECOVERY PARK LOOKING NORTH (SECTION 1)



RESOURCE RECOVERY PARK WITH CLARITON AVENUE NEIGHBORHOOD LOOKING WEST (SECTION 2)



Note: Section for illustrative purposes only



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KEY
 — Existing landfill cap
 - - - Proposed landfill cap

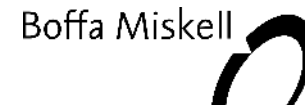


GREEN ISLAND RESOURCE RECOVERY PARK PRECINCT PLAN
 Resource Recovery Park Precinct Illustrative Cross Sections

Date: 13 February 2024 Revision: E

Plan prepared by Boffa Miskell Limited

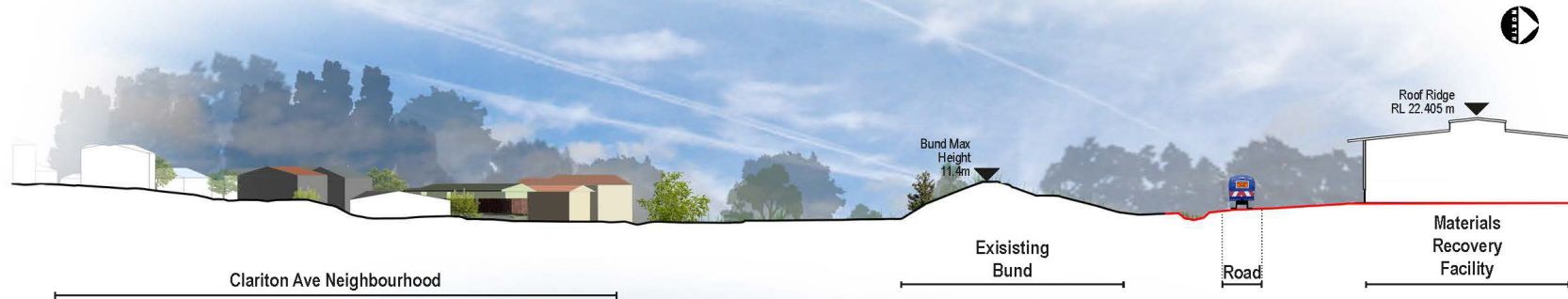
Project Manager: Rachael.Eaton@boffamiskell.co.nz | Drawn: SYO | Checked: REA



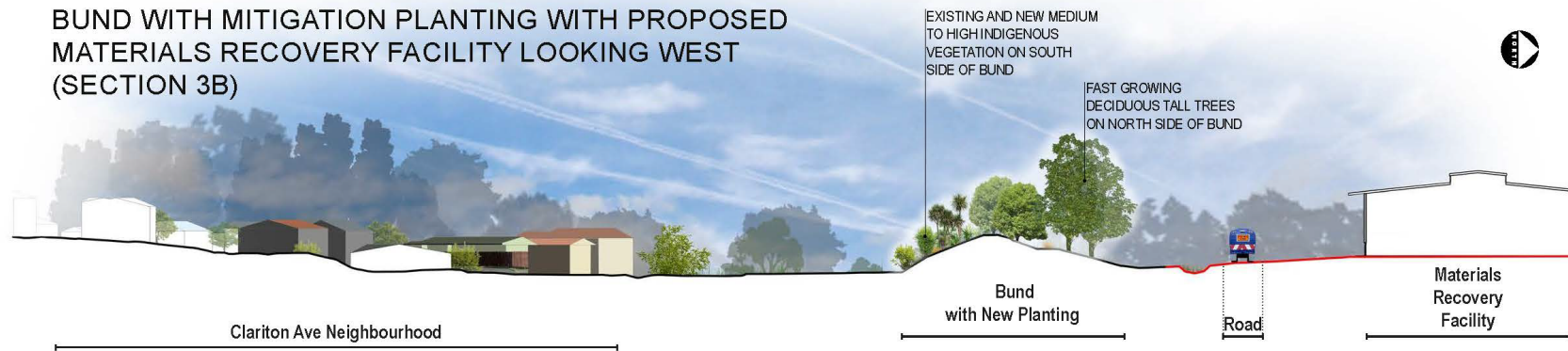
RESOURCE RECOVERY PARK LANDSCAPE MITIGATION

Resource Recovery Park Precinct Illustrative Cross Sections

EXISTING BUND WITH PROPOSED MATERIALS RECOVERY FACILITY LOOKING WEST (SECTION 3A)



BUND WITH MITIGATION PLANTING WITH PROPOSED MATERIALS RECOVERY FACILITY LOOKING WEST (SECTION 3B)



Note: Section for illustrative purposes only



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KEY
 Existing Topography
 Proposed Topography

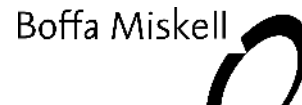


GREEN ISLAND RESOURCE RECOVERY PARK PRECINCT PLAN
 Resource Recovery Park Precinct Illustrative Cross Sections

Date: 13 February 2024 Revision: E

Plan prepared by Boffa Miskell Limited

Project Manager: Rachael Eaton@boffamiskell.co.nz | Drawn: SYO | Checked: REA



RESOURCE RECOVERY PARK RELATIONSHIP TO NEIGHBOURS – no planting



Existing view from Clariton Ave



— Existing Top of Bund Outline
— Existing Landfill Cap Outline
— Proposed Materials Recovery Facility Roofline Outline

Proposed view from Clariton Ave with no mitigation planting

RESOURCE RECOVERY PARK RELATIONSHIP TO NEIGHBOURS – planting at 5yrs



Existing view from Clariton Ave



- Existing Top of Bund Outline
- Existing Landfill Cap Outline
- Proposed Materials Recovery Facility Roofline Outline

Proposed view from Clariton Ave with mitigation planting

RESOURCE RECOVERY PARK RELATIONSHIP TO NEIGHBOURS – planting at 10 yrs



Existing view from Clariton Ave



— Existing Top of Bund Outline
— Existing Landfill Cap Outline

— Proposed Materials Recovery Facility Roofline Outline

Proposed view from Clariton Ave with mitigation planting



MANAGEMENT OF LEACHATE

- Six catchments across the RRPP site have been identified that may generate leachate due to risk of runoff/water coming into contact with waste, including green waste.
- All locations are on concrete slab/hardfill to ensure that leachate generated from the RRPP facilities won't seep to underlying groundwater
- All leachate will be collected and contained through a new system of underground drains and pipes.
- The collected leachate will be piped to one of three existing pump stations for direct pumping to the Green Island Waste Water Treatment Plant.
- No leachate generated by the RRPP will discharge to the existing leachate collection trench.



MANAGEMENT OF STORM WATER

- The RRPP stormwater is the rainwater runoff from the site, that doesn't come into contact with waste. It includes runoff from areas of asphalt and buildings.
- Any stormwater contaminants are as expected for low use carpark and roads as proposed for the RRPP
- The stormwater will be collected through a system of sumps, filters (Enviropods) underground pipes and open grass swales.
- The filters will remove sediment and capture any oil/fuel from vehicles.
- Once collected stormwater will then be piped to either the existing landfill Northern Sediment Pond or Eastern Sediment Pond for further retention and removal of sediments.
- During larger rainfall events these sediment ponds will overflow to the Kaikorai Stream, including via the Eastern Wetland.



EFFECTS OF STORMWATER MANAGEMENT

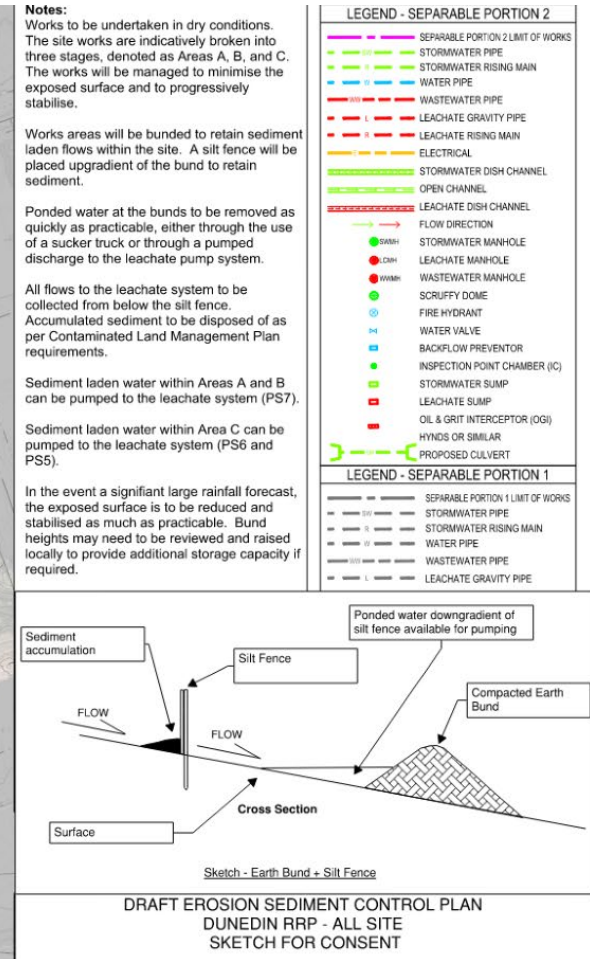
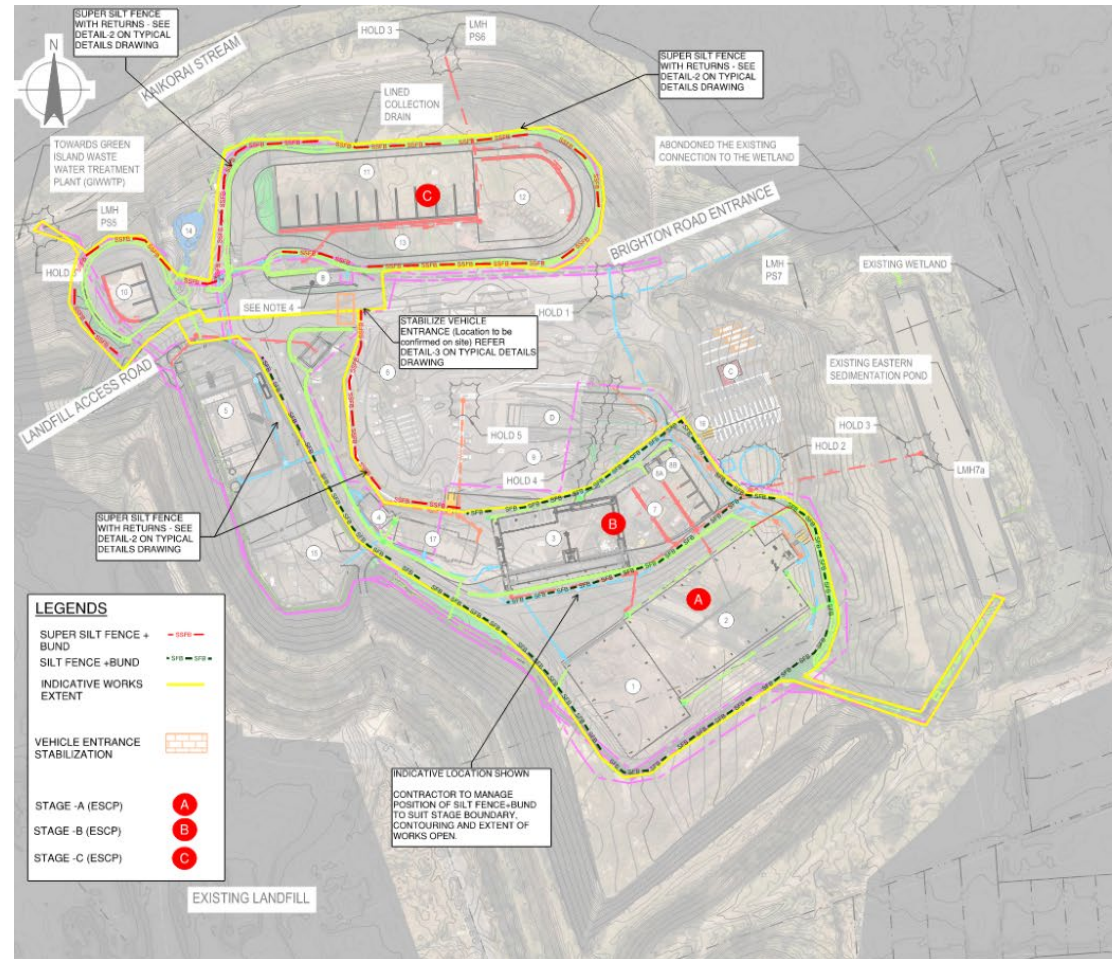
- With the new areas of impermeable surfaces, improved stormwater management on the buildings and the additional treatment systems across the RRPP site the:
 - quality of the stormwater runoff is expected to improve for the RRPP area
 - the amount of existing seepage of water into the underlying waste will decrease
 - Reduction of water that comes into contact with waste and that needs to be managed by the existing leachate collection trench and pumped to Green Island Water Treatment plant is reduced
- No additional ecological effects are anticipated or require management if the proposed leachate and stormwater management systems are in place.



CONTAMINATED LAND MANAGEMENT DURING CONSTRUCTION

The RRPP is to be located on an area of capped landfill and will require excavation that ranges in depth up to 2.5m for the building foundations and pipes.

- All soil is considered contaminated and must be removed and disposed of to landfill during construction.
- All runoff from construction activities to be disposed of to existing leachate management system.
- Contaminated soil on the construction site will be subject to a management plan to mitigate effects (Contaminated Land Management Plan)



RESOURCE RECOVERY PARK AND LANDFILL 2029/2030



FUTURE ENHANCEMENT OPPORTUNITIES AROUND THE SITE POST LANDFILL CLOSURE



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GHD **DUNEDIN** | kaunihera
CITY COUNCIL | a-rohe o
ōtepoti

GREEN ISLAND RESOURCE RECOVERY PARK PRECINCT PLAN

Proposed Resource Recovery Park Precinct

Date: 20 November 2023 Revision: D

Plan prepared by Boffa Miskell Limited

Project Manager: Rachael.Eaton@boffamiskell.co.nz | Drawn: SYo | Checked: REa

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FUTURE ENHANCEMENT OPPORTUNITIES AROUND THE SITE POST LANDFILL CLOSURE

ENVIRONMENT



- Enhance the environment to improve the sites flora and fauna and improve the ecological values of the Wāhi Tūpuna - Kaikarae (Kaikorai Estuary)

WALKING AND CYCLING



- Connect local communities through new public paths and tracks around the edge of the landfill site, to the Kaikorai Estuary and the coast

EDUCATION AND INTERPRETATION



- Interpretation and activities to tell people more about the history of the site and the wider landscape and environment, its use as a landfill and recycling facility, and how it has changed over time

RECREATION



- Providing more opportunities for recreation around the site, enhancing access to the water and surrounding parks and open spaces

THANK YOU!

