Tuakau Bollard Road Resource Recovery Centre

Waikato District Council
Te Kaunihera aa Takiwaa o Waikato

Overview

Introductions – Jacob Quinn

Project Overview - Jacob Quinn

Strategic Context – Rowan Latham

Design Approach – Rowan Latham

Progress to date – Bryan Duncan

Design Options – Rowan Latham

Questions

Stakeholder Engagement – Jacob Quinn

Next steps – Bryan Duncan

Key Dates

Dates	Milestone
12 April 2023	*10% Concept Designs (Draft Options Report)*
19 April 2023	Council Workshop
4 May 2023 (AM)	Mana whenua Design hui
4 May 2023 (PM)	Stakeholder Workshop
16 June 2023	Finalised design/reporting and Rough order Physical works estimate

Design Context

- Transfer Station and Resource Recovery Centre
- 128 Bollard road, Tuakau
- 4.3 hectare site

- Rapidly growing population
- Need for safe and accessible facilities
- Increasing drivers for diversion from landfill
- Focus on Circular Economy, including local opportunities
- Funding for capital infrastructure
- Future Ready

Strategic Context

Drivers	
WDC Waste Management and Minimisation Plan (2018)	10% reduction in Waste per capita (i.e. <675kg/person/annum)
Waste Minimisation (information requirements) Regulations (2021)	Requires reporting of all tonnages including diverted materials
NZ Emissions Reduction Plan (2022)	Support the development of a Circular Economy Achieve a 40% reduction in Biogenic methane by 2035
NZ Waste Strategy (March 2023)	Minimum targets for diversion from landfill Standardised collection of recycling including Glass and Food Waste by 2027
WDC Audit of Kerbside Rubbish in Waikato District (March 2023)	58.8% of Tuakau's Kerbside waste (refuse) potentially recoverable
Waikato and Bay of Plenty Region Waste and Recycling Stocktake (2021)	38.6% of General Waste (refuse) dropped off at landfill potentially recoverable

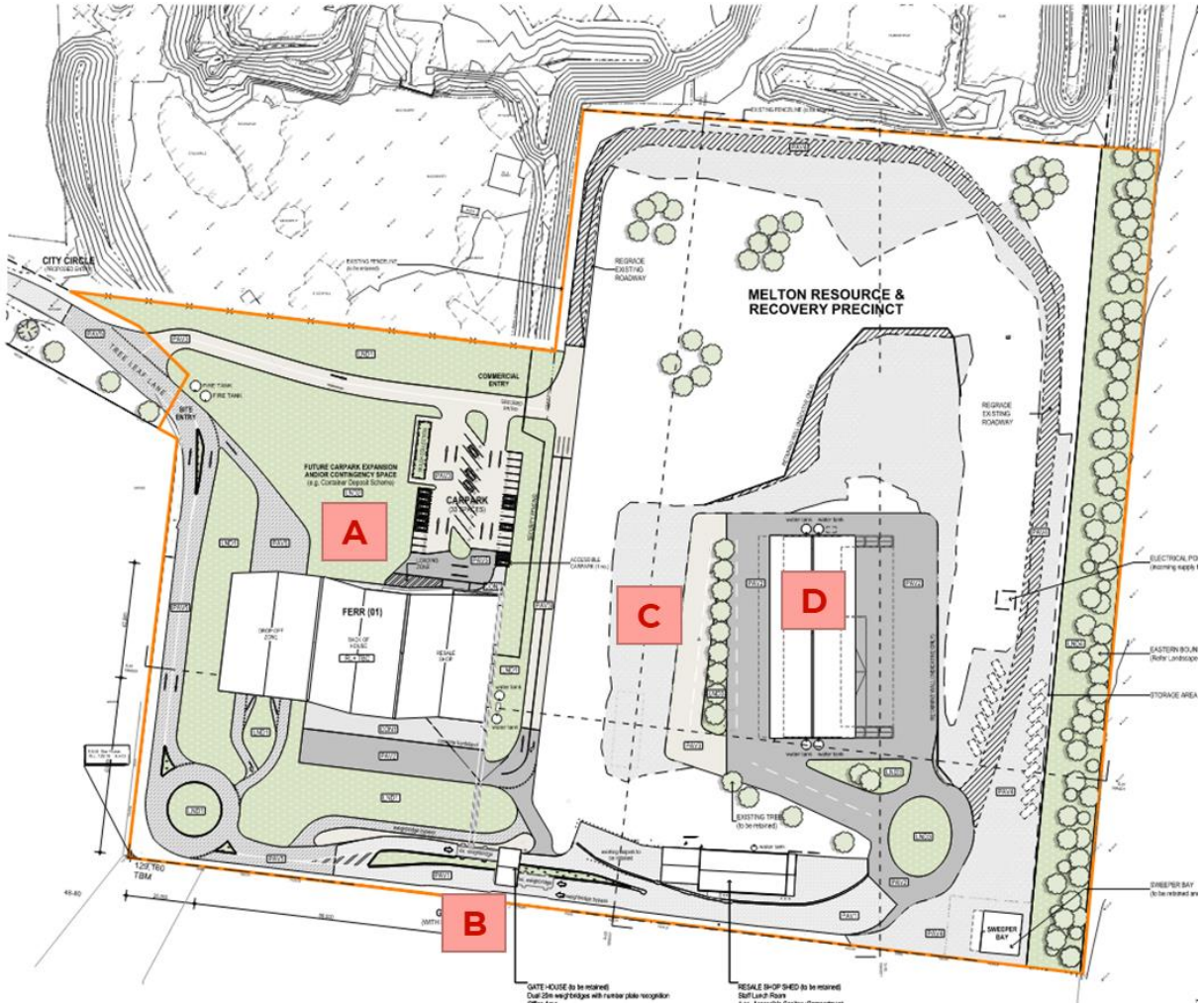
Key objectives

Best Practice:

1. Maximise diversion from landfill and the value of recovered materials.
2. Meets community expectations and is easy to use.
3. Maintain continuous drive-in/drive-out approach with recycling drop-off before landfill.
4. Ensure recoverable materials have end markets (support circular economy).
5. Comply with local, state and federal regulations, legislation, guidelines and infrastructure plans.
6. Optimize traffic flow to separate drop-off vehicles from collection vehicles.
7. Environmentally and operationally safe.
8. Economically sustainable (energy and water efficient).
9. Utilise technology, equipment and advanced systems to improve operational efficiency of the site.
10. Future ready – capacity to grow over time and adapt to changes in industry

Best Practice Design

Resource Recovery Centres



A Front End **Free** drop off

- Drive through drop off
- Safe and dry storage of materials
- Resale shop connected to Front End

B **Weighbridge**

- Dual lane weighbridge
- Number plate recognition
- By pass lane

C C&D / Green Waste **Paid** drop off

- Stockpile pens for concrete, soil, rubble,
- Garden waste storage and shredding

D Residual Waste – **Paid** drop off

- Flat floor push pit
- Commercial collection separate form domestic drop off

Site Constraints

Site access

Location of electrical transformer has informed the proposed site entrance location. Note that option 3 includes an access design which relies on shifting this transformer. The costs of moving the transformer will be considered in the recommendations section.

Gas line

The site is crossed by an underground gas line, with an easement and building restrictions associated with this critical infrastructure. The design brief allows for the construction of a road(s) across the gas line, however, all site structures have been set-back from the defined exclusion zone.

Animal Shelter

A separate project to develop an animal management area and shelter have been included at the rear of the site. In Option 3 an alternative location for the facility has been included.

Hazardous activities setbacks

Consideration of neighbouring facilities and any setbacks required.

Design Overview

Design Elements

Resource Recovery Centre (Front End, **Free** drop off)

- Free drop-off area to be established prior to paid drop-off (post weighbridge).
- Hardstand for recycling containers.
- Covered unloading area (optional).
- Covered drop-off for reusable materials.
- Vehicle movement and staff loading operations area.
- Operational access including loadout.
- Provision of suitable parking and public drop-off facilities, including allowance for new materials as required.

Transfer Station (Post Weighbridge, **paid** drop off)

- Public weighbridge and kiosk.
- Separate operational access and weighbridge (optional).
- Recoverable materials drop-off (garden organics, C&D).
- Bulky recycling and Hazardous substance management.
- Refuse Transfer Station building.
- Staff and truck parking.
- Operational storage and processing spaces.
- Stormwater management area.

Design Elements (cont.)

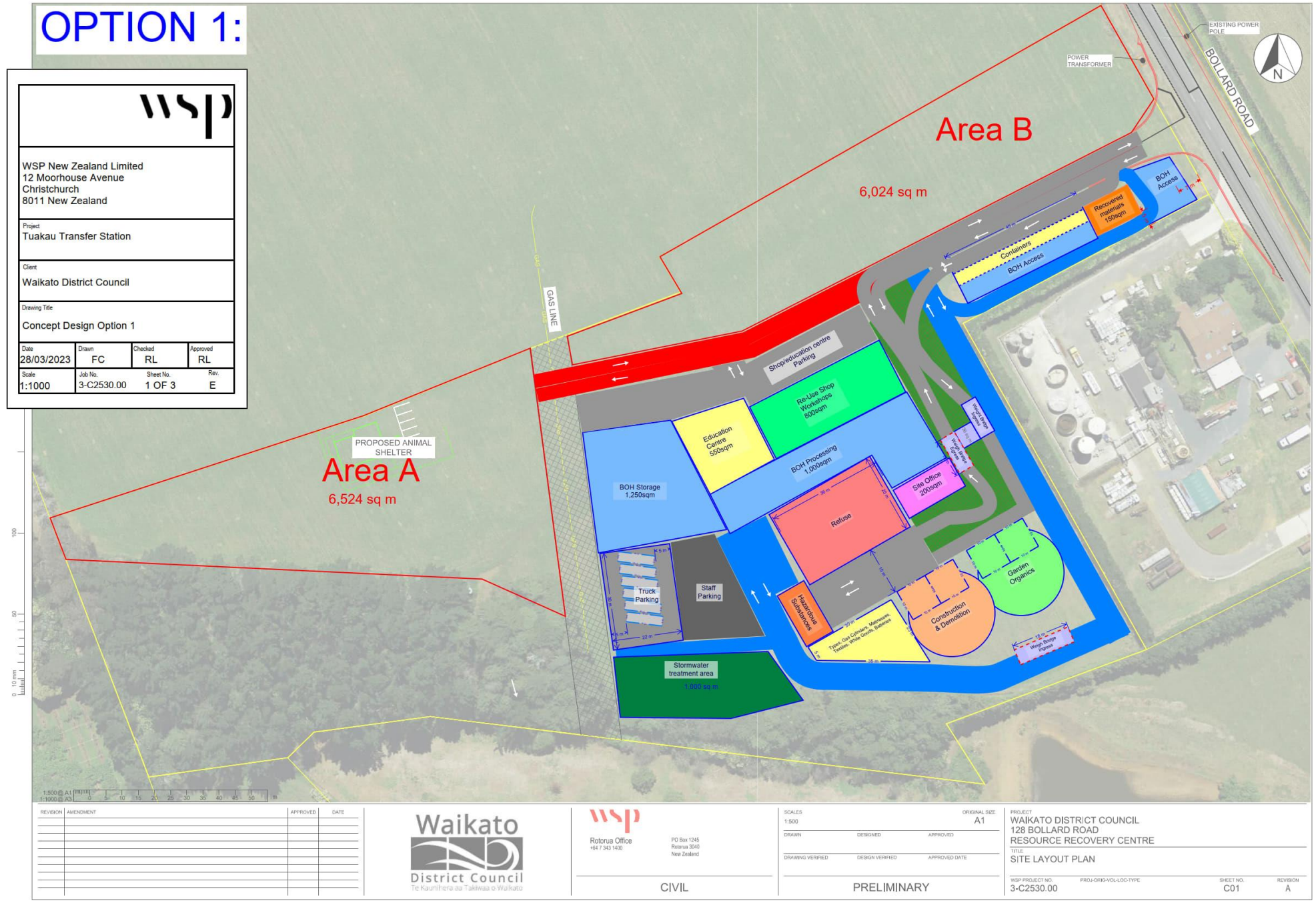
Resource Recovery Hub

- Reuse shop.
- Education Centre.
- Makers space (salvage workshop).
- Dedicated car park for the Resource Recovery Hub/Education Centre.
- Landscaping including a possible garden demonstration site (vegetable garden, fruit trees, worm farms etc.).
- Fenced operational area (linked to operational area).
- Allows for future development as required (future proofing the site).

Traffic Circulation

- One way separated traffic circulation for public drop-off facilities.
- Separation of public and commercial/operational flows to minimise risk to users.
- Public drop-off areas throughout site to meet all user vehicle types (car, car and trailer, vans, light commercial vehicles).
- Commercial and operational drop-off areas to accommodate commercial waste collection vehicles (Skip and Gantry trucks, Hook lift trucks, Front load trucks, Kerbside collection vehicles, flat deck and light commercial vehicles).
- Early exit/change of mind points, and bypass lanes to be considered at appropriate locations throughout the facility.
- Potential to include separate weighbridge for Operations access.

OPTION 1:


WSP New Zealand Limited
12 Moorhouse Avenue
Christchurch
8011 New Zealand
Project
Tuakau Transfer Station
Client
Waikato District Council
Drawing Title
Concept Design Option 1
Date 28/03/2023
Drawn FC
Checked RL
Approved RL
Scale 1:1000
Job No. 3-C2530.00
Sheet No. 1 OF 3
Rev. E
Area A
6,524 sq m
Area B
6,024 sq m
PROPOSED ANIMAL SHELTER
GAS LINE
EXISTING POWER POLE
POWER TRANSFORMER
BOLLARD ROAD
N
BOH Access
Recovered materials 150sqm
Containers
BOH Access
Shop/education centre Parking
Re-Use Shop Workshops 800sqm
Education Centre 550sqm
BOH Processing 1,000sqm
BOH Storage 1,250sqm
Site Office 200sqm
Refuse
Truck Parking
Staff Parking
Hazardous Substances
Garden Organics
Construction & Demolition
Stormwater treatment area
1,000 sq m
Waikato District Council
Te Kaunihera aa Takiwaa o Waikato
Rotorua Office
+64 7 343 1400
PO Box 1245
Rotorua 3040
New Zealand
CIVIL
SCALES 1:500
ORIGINAL SIZE A1
DRAWN
DESIGNED
APPROVED
DRAWING VERIFIED
DESIGN VERIFIED
APPROVED DATE
PRELIMINARY
PROJECT
WAIKATO DISTRICT COUNCIL
128 BOLLARD ROAD
RESOURCE RECOVERY CENTRE
TITLE
SITE LAYOUT PLAN
WSP PROJECT NO. 3-C2530.00
PROJ-ORIG-VOL-LOC-TYPE
SHEET NO. C01
REVISION A
Original sheet size A1 (841x594) Plot Date 2023-03-10 at 7:53:51 AM
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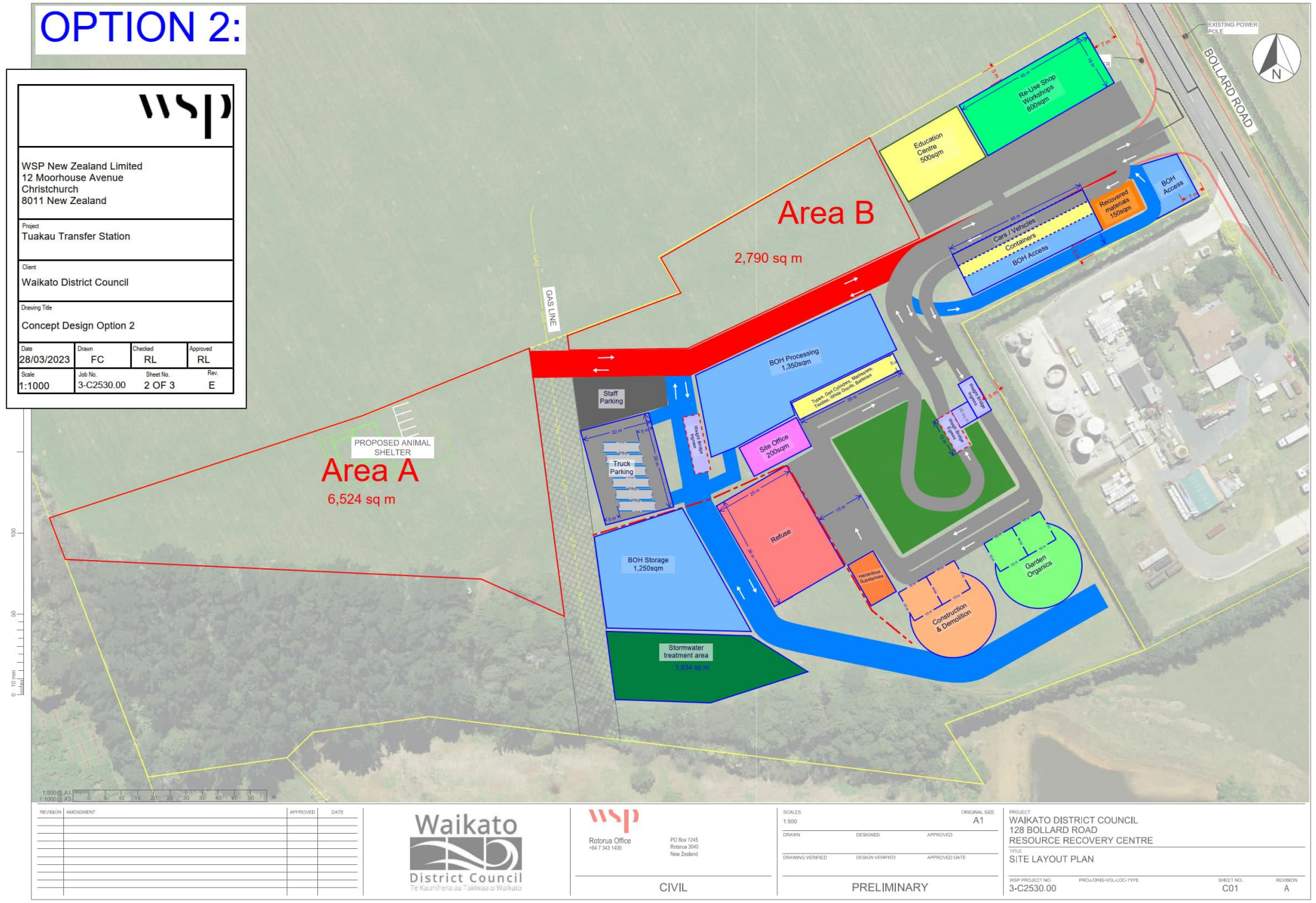
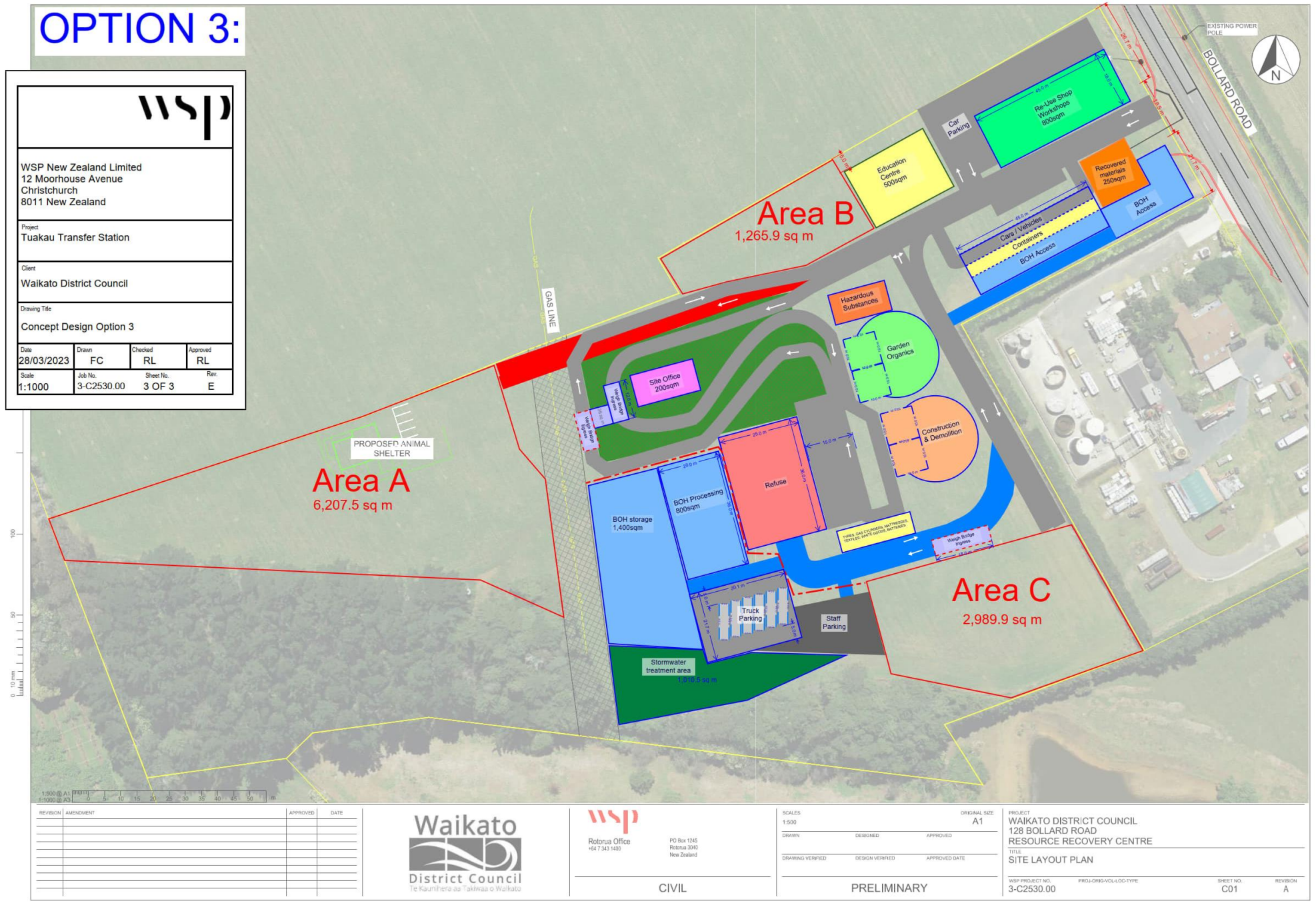
OPTION 2:



Original sheet size A1 (841x594) Plot Date 2023-03-10 at 7:53:51 AM U:\ProjectsNZ\3c\3-C2530.00 WDC Recource Recovery Centre Concept\Home\04_CADD\01_WIP\6100_CE\01_CAD\3-C2530-00 draft layout BCD Austroads entrance.dwg C01

OPTION 3:


WSP New Zealand Limited
12 Moorhouse Avenue
Christchurch
8011 New Zealand
Project
Tuakau Transfer Station
Client
Waikato District Council
Drawing Title
Concept Design Option 3
Date 28/03/2023
Drawn FC
Checked RL
Approved RL
Scale 1:1000
Job No. 3-C2530.00
Sheet No. 3 OF 3
Rev. E
Area A
6,207.5 sq m
Area B
1,265.9 sq m
Area C
2,989.9 sq m
PROPOSED ANIMAL SHELTER
GAS LINE
EXISTING POWER POLE
BOLLARD ROAD
Education Centre 500sqm
Car Parking
Re-Use Shop Workshops 800sqm
Recovered materials 250sqm
BOH Access
Cars / Vehicles
Containers
Hazardous Substances
Garden Organics
Site Office 200sqm
Weigh Bridge Ingress
Weigh Bridge Egress
Construction & Demolition
Refuse
BOH Processing 800sqm
BOH storage 1,400sqm
Truck Parking
Staff Parking
Stormwater treatment area
1,016.6 sq m
Waikato District Council
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SCALES 1:500
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SHEET NO. C01
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Original sheet size A1 (841x594) Plot Date 2023-03-10 at 7:53:51 AM
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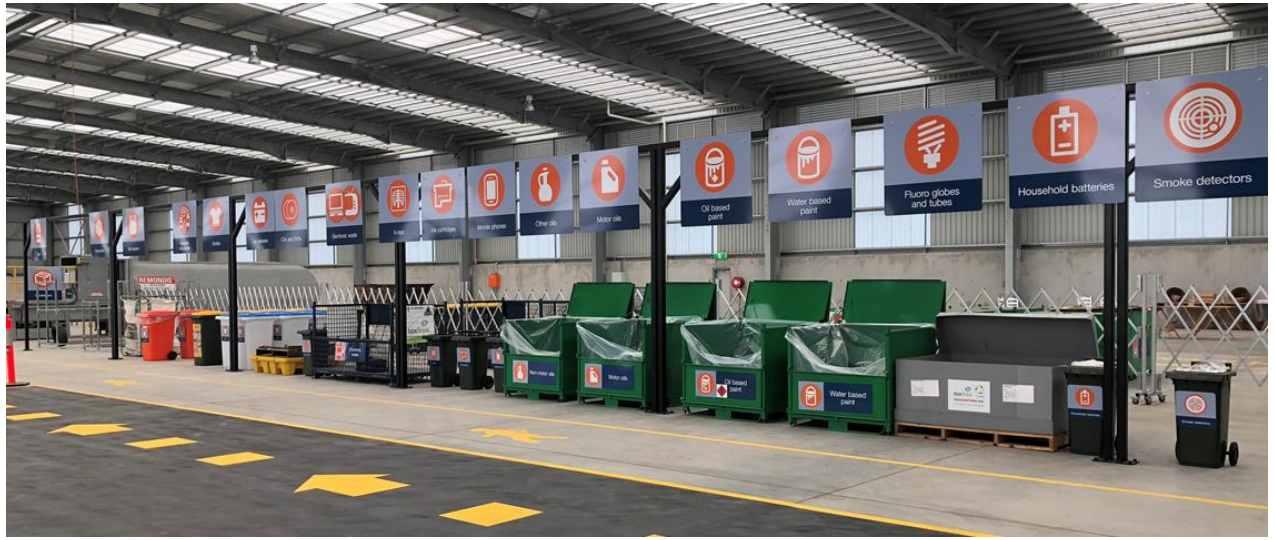
Facility Examples

Resource Recovery Centre

Drive through facilities:

- One way traffic flow
- Highly visible signage and pedestrian areas
- Dedicated drop-off for free recyclables
- Parking bays for cars with trailers
- Covered parking and unloading areas



Facility Examples

Transfer Stations

Flat Floor facilities
- Separate Commercial/ Operational and Public Traffic
- Improved Health and Safety outcomes
- Increased opportunities to recover materials

Split Level facilities
- Separate Commercial/ Operational and Public Traffic
- Utilise site topography
- Operational/handling efficiencies

Facility Examples

Resource Recovery

Re-use Shop

Repair Cafe

Micro industries

Employment and Training

Tool Library

Speciality Recycling

Any Questions?

Stakeholder Engagement

Design Hui with mana whenua	Stakeholder workshop
4 May - morning	4 May - afternoon
Stakeholder inputs are determined to be of high value to the project outcomes. Engagement (during this phase of the project) includes today's Council discussion, followed by two external workshops; a Design Hui with Mana whenua and an External Stakeholder Workshop, both held in Tuakau, where site configuration options will be presented, discussed and feedback recorded.	

Any Questions?

Bryan Duncan

Team Leader Transport

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