

ZAP

ZERO
AVOIDABLE
PACKAGING
waste
in construction

Toolkit





The Ecosurety Exploration Fund

May 2023



Certified



This company meets the
highest standards of social
and environmental impact

Corporation

Ecosurety Exploration Fund



Investing £1m in innovation & research to reduce the impact of packaging, batteries and EEE



Open call for projects requiring up to £150,000



Winning projects selected by independent experts & Ecosurety members

8

pioneering projects fully funded

£1m

invested between 2020 & 2022

2020 funded projects



Fit for reuse

Creating comprehensive, up-to-date guidance for reuse organisations, producers and government, to increase electricals repair.



CellMine

Closing the loop on lithium-ion batteries using a novel, environmentally friendly solvent to selectively recover rare earth metals.



Maximising recycling from purpose-built flats

Trialling new interventions and recycling infrastructure to increase capture and reduce contamination, with the results shared widely.



BOSS 2D

Accelerating flexible plastic film recycling by efficiently and accurately sorting mixed film types into clean, material specific waste streams.

2022 funded projects



ZAP

Working towards zero avoidable packaging waste in construction.



RE:Solve

Decontaminating Anaerobic Digestion feedstock to recover waste plastic packaging and food waste.



Somerset Repair Bus

Empowering and connecting rural communities through reuse and repair to prevent EEE becoming WEEE.



Bristol Refill Cup Scheme

A pilot that will prevent 250,000 single-use hot drink cups from entering the waste stream every day.

Zero Avoidable Packaging waste in construction Project

What is the problem?

There is little recent, substantive data and a lack of holistic understanding of the various packaging types that are used for the array of products that enter a construction site and its management both on and offsite. Construction as a sector is the second-highest consumer of plastics.

What is the solution?

The ZAP Project has been researching and developing scalable solutions to help combat the prevalence of avoidable packaging plastic waste in construction, much of which is not recycled.

Working with project partners, the funded project will link with construction projects to build case studies and develop training and guidance that will demonstrate the positive actions the whole supply chain and sector can do, helping many organisations reach zero avoidable waste.

Packaging in the construction industry

- It is seen as functional, but valueless once used
- There is a use of problematic materials
- There is a prevalence of single use packaging
 - Pallets
 - Stretch wrap
 - Bands
 - Protectors
 - Boxes
 - Tubs

Materials are often plastic, but also paper based, metal, and wood

Plastic waste coming from construction per year (UK, 2021)

50,000 tonnes

A 45% Increase 2019-2021

35,000 tonnes of this is likely packaging *(for scale, that's approximately the same weight at 184 Boeing 747's)

There is no specific data for what happens to plastic packaging in construction – only overarching figures. These suggest:

44% is sent for recycling

42% for energy recovery

14% remainder to landfill

Key tasks

Task 1: Data collection on key products and packaging, waste management routes, barriers and enablers and current best practice

Literature review, data collection and interviews

Task 2: Assess the opportunities for improvement and the associated benefits

identify opportunities and solutions (5) with supply chain and undertake a feasibility assessment

Task 3: Evaluation of the opportunities identified

Environmental and cost assessment. What works when and key factors for success

Task 4: Dissemination

Creation of guidance and related case studies and development of checklists (site, client and designer) based on above tasks findings

Opportunities

Design and procurement

- Use of packaging reduction, reuse and recycling targets and clauses in procurement and specifications
- Assessing the opportunities for increasing recycled content in plastic-based construction products (using recyclate from construction plastic packaging)

Manufacture

- Continued reduction of packaging through film thickness, length etc
- Increasing the recycled content, especially in LDPE products
- More take back of packaging from manufacturers/merchants (learning from other take back schemes)
- Use of bulking to reduce packaging use for approximate materials
- Consistent and appropriate labelling

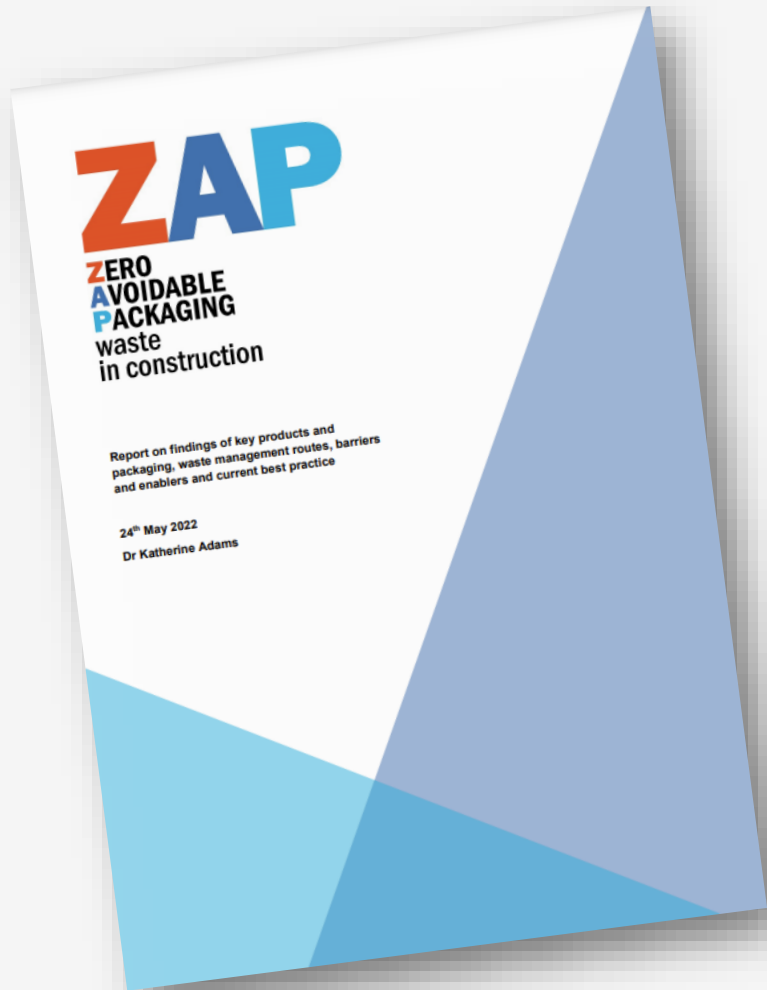
Construction

- Increasing segregation of plastics on construction sites
- Looking at how plastic packaging could also be treated with other plastics from construction sites (increasing the volume)
- Use of balers on site at appropriate points in the construction programme

Resource management

- How plastic packaging could also be treated with other plastics from construction sites
- Bulking up of plastics
- Specification for recycling
- Agree reporting

First report published May 2022



- Very few initiatives to reduce packaging in construction sector.
- Publicly declared commitments appear to be limited
- Construction sites are difficult environments to segregate plastic packaging materials
- Variety of plastic types in packaging can make recycling problematic
- Lack of substitute materials – specifically for shrink wrap and straps
- [ZAP Project - The Alliance for Sustainable Building Products \(asbp.org.uk\)](https://www.asbp.org.uk)

Case studies

Best Practice

Velux – replaced all packaging with paper based materials (up to point of logistics)

Bereco – replaced most packaging with paper based materials (up to point of logistics)

Mueller Europe – audited packaging and removed all unnecessary packaging

Pilot Schemes

Mace – Use of Protec baler on site for plastic packaging recycling scheme

Morgan Sindall – One Bin pilot

Innovation

Cullinan Studio/Bost – Marlborough Sports Garden, high standard and new prelims for packaging reduction

Protec – Plastic reprocessing

Marlborough Sports Garden



BANKSIDE
OPEN SPACES
TRUST

CULLINAN
STUDIO

turkington martin

ENGENUITI

CUNDALL

treatnor consulting

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southwark.gov.uk

BANKSIDE OPEN SPACES TRUST

Bankside Open Spaces Trust (BOST) is an environmental and volunteering charity working to provide outstanding green spaces and outdoor activities that enhance the health and wellbeing of urban communities.

We care for open spaces and share our love of gardening and the environment. We support local people gardening on their estates, run horticultural training and host a range of youth and sports activities throughout the year.



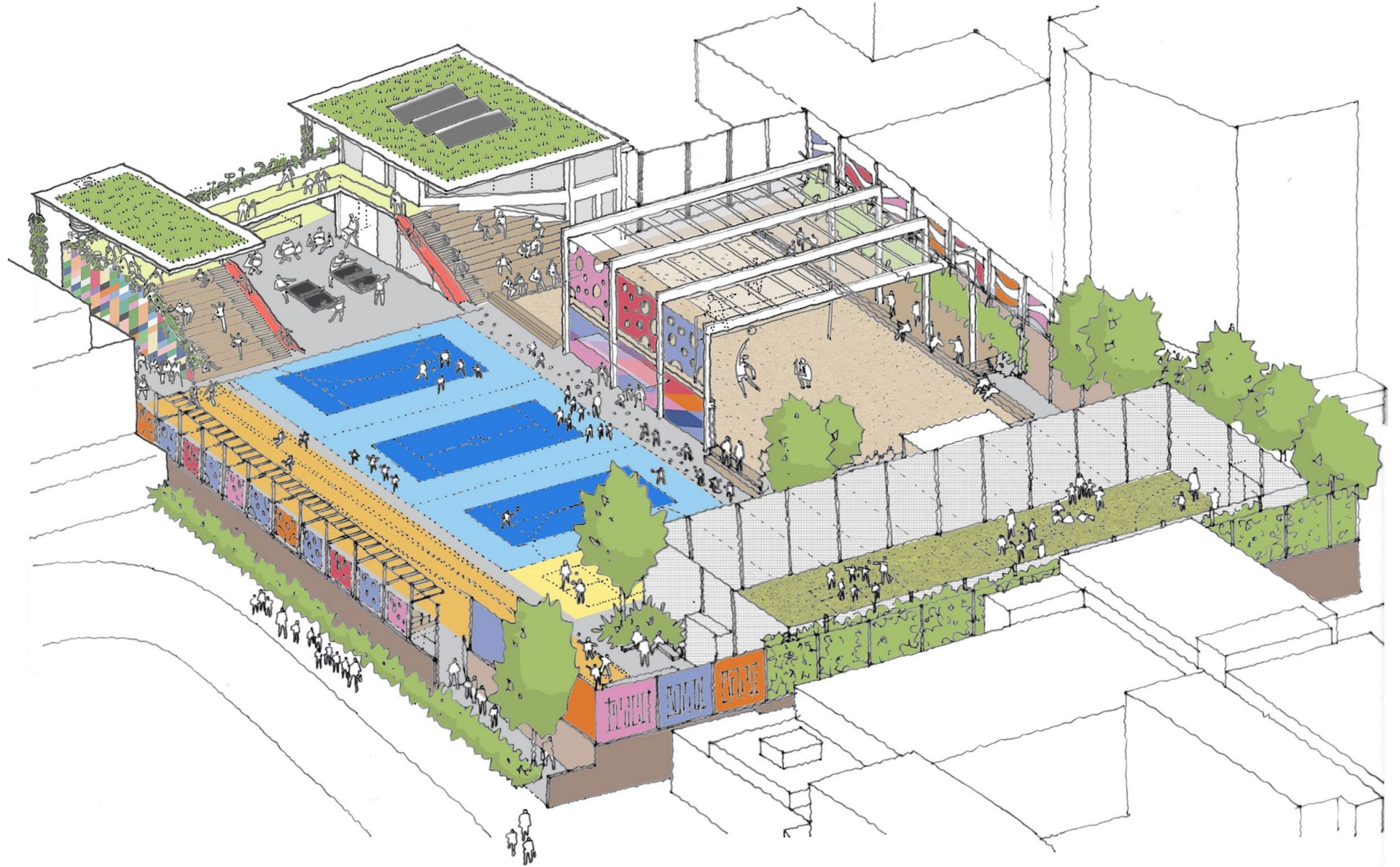
**CONNECTION
TO NATURE**

**POWERFUL
COMMUNITIES**

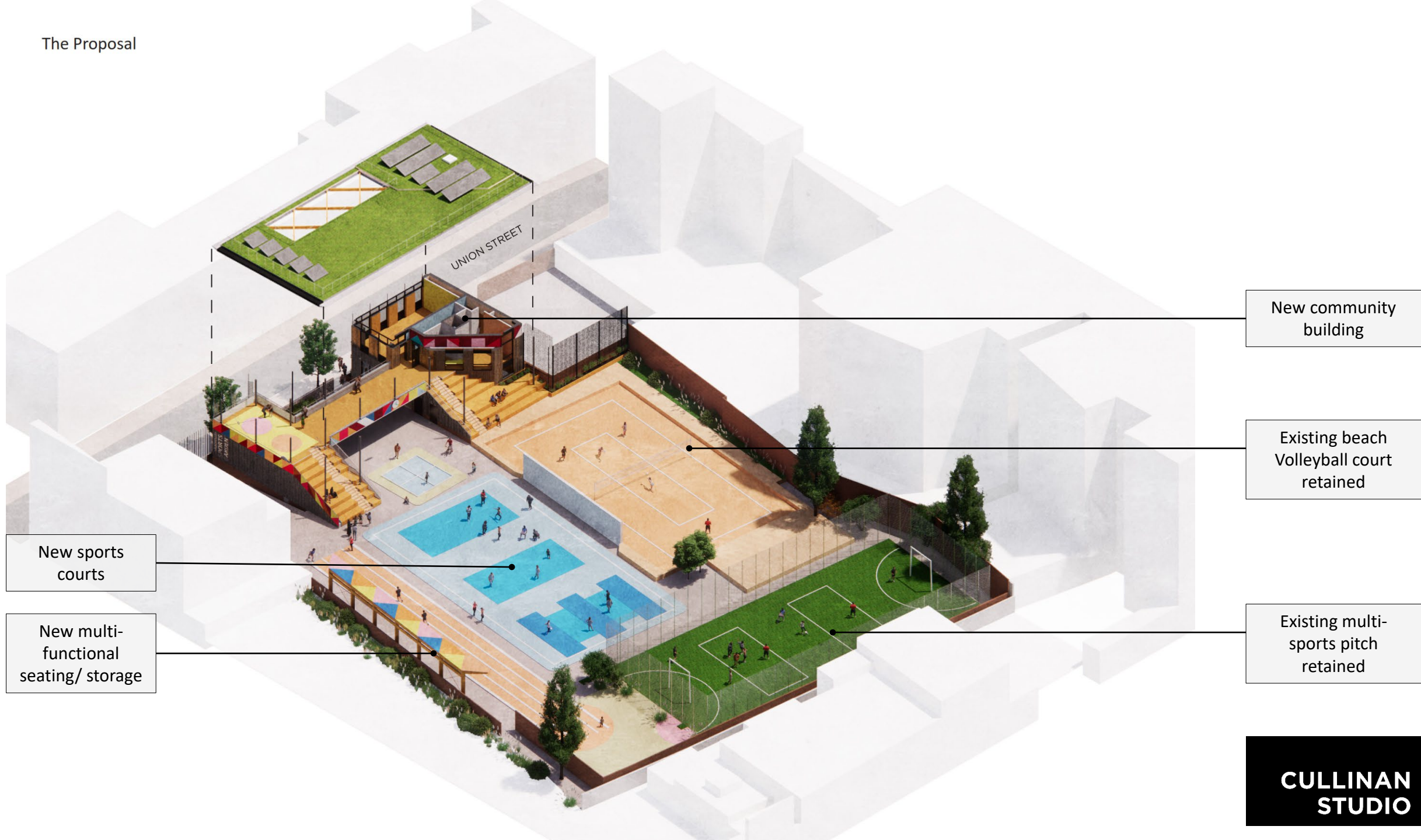
**HEALTHY
BUILDINGS**

**CIRCULAR
ECONOMY**

**FUTURE
STREETS**



The Proposal



New community building

Existing beach Volleyball court retained

New sports courts

New multi-functional seating/ storage

Existing multi-sports pitch retained

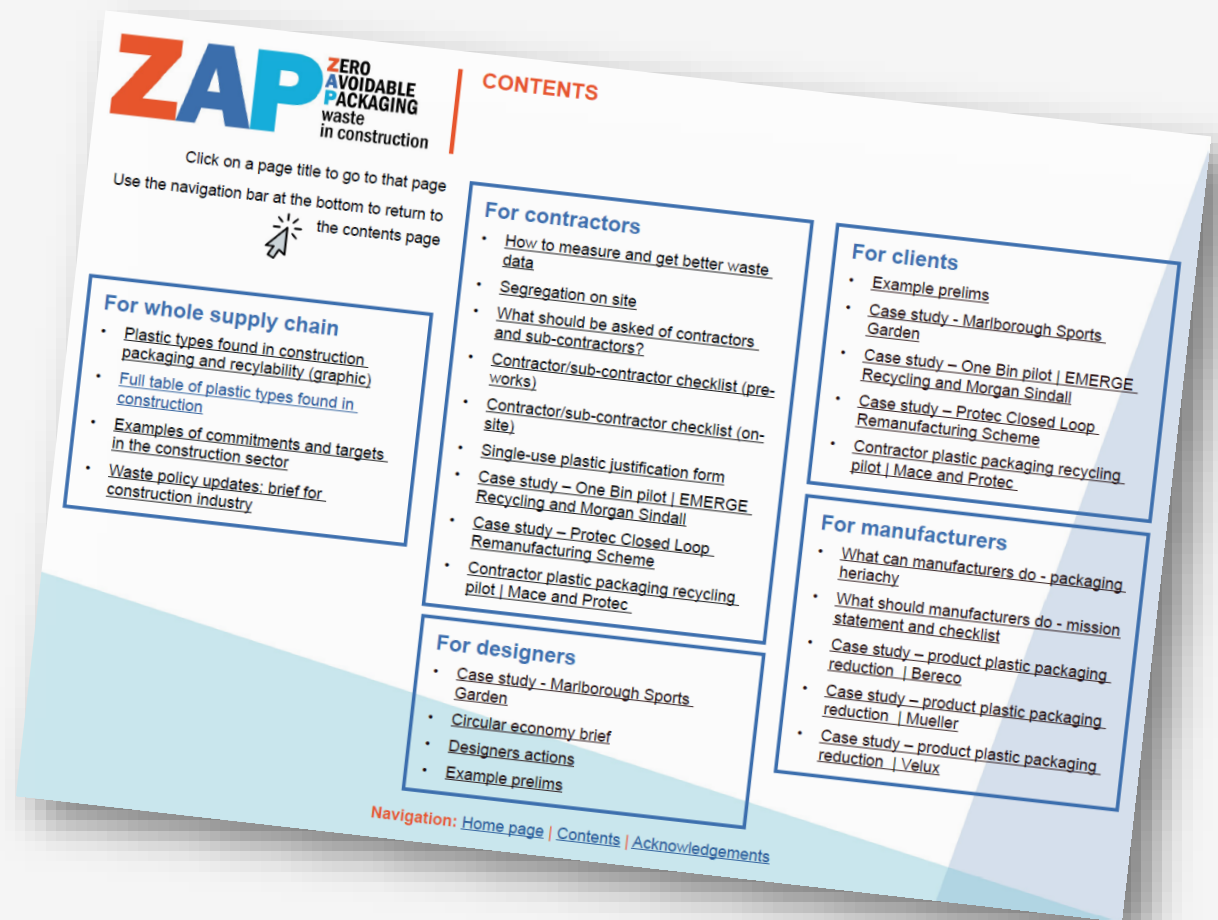
**CULLINAN
STUDIO**

Why a toolkit?

- Identified key areas of industry where packaging was an issue but could be reduced
- Mapped the key stakeholders
- Identified key areas of change and stakeholder crossover
- Project team workshop on outputs. Needed to be:
 - Easily digestible
 - Simple and easy to use
 - Short sections or pages that can be used as stand alone, with users able to use relevant sections only
 - Downloadable and interactive, as well as print friendly

What is the toolkit?

- A set of easy to use digestible sections for cross industry stakeholders
- It includes:
 - Information on packaging in construction in the UK
 - Policy notes
 - Guidance
 - Case studies
 - Checklists
 - Top tips and how to's
 - Example prelims



Lets have a look!



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For whole supply chain

- [Plastic types found in construction packaging and recyclability \(graphic\)](#)
- [Full table of plastic types found in construction](#)
- [Examples of commitments and targets in the construction sector](#)
- [Waste policy updates: brief for construction industry](#)

[Click here to read our initial report on findings of key products and packaging, waste management routes, barriers and enablers and current best practice](#)

For contractors

- [How to measure and get better waste data](#)
- [Segregation on site](#)
- [What should be asked of contractors and sub-contractors?](#)
- [Contractor/sub-contractor checklist \(pre-works\)](#)
- [Contractor/sub-contractor checklist \(on-site\)](#)
- [Single-use plastic justification form](#)
- [Case study – One Bin pilot | EMERGE Recycling and Morgan Sindall](#)
- [Case study – Protec Closed Loop Remanufacturing Scheme](#)
- [Contractor plastic packaging recycling pilot | Mace and Protec](#)

For designers

- [Case study - Marlborough Sports Garden](#)
- [Circular economy brief](#)
- [Designers actions](#)
- [Example prelims](#)

For clients

- [Example prelims](#)
- [Case study - Marlborough Sports Garden](#)
- [Case study – One Bin pilot | EMERGE Recycling and Morgan Sindall](#)
- [Case study – Protec Closed Loop Remanufacturing Scheme](#)
- [Contractor plastic packaging recycling pilot | Mace and Protec](#)

For manufacturers

- [What can manufacturers do - packaging hierarchy](#)
- [What should manufacturers do - mission statement and checklist](#)
- [Case study – product plastic packaging reduction | Bereco](#)
- [Case study – product plastic packaging reduction | Mueller](#)
- [Case study – product plastic packaging reduction | Velux](#)

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Thank you

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