ELEMENT SUSTAINABILITY

BLOCK D, FIRST STREET, MANCHESTER

CIRCULAR ECONOMY

MONITORING FRAMEWORK VERIFICATION

NOVEMBER 2025

REF: 2019.163



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1. INTRODUCTION

Element Sustainability has been commissioned by Downing Living (Manchester) Limited Partnership Incorporated to review the to review the development's performance relative to the Circular Economy Monitoring Framework (report reference: First Street Monitoring Framework FINAL) submitted to the local planning authority in support of the planning application for this scheme at First Street South, Manchester.

This Post-Completion Monitoring Report is intended to assist with the discharge of the following planning condition applied within the Decision Notice for this site (ref. Decision Notice: 125573/FO/2019):

Planning Condition: 7B – *Within 6 months of the completion of development a Monitoring Report to assess the performance of the Strategy, lessons learnt, constraints and any proposed mitigating measures for improving performance on futures phases and overcoming constraints shall be submitted to the City Council.*

The purpose of this report is to assess the performance of the strategy and review its implementation at the First Street Block D development against the principles and targets within the Circular Economy Monitoring Framework. Recommendations to improve and any lessons learnt will also be advised.

2. DEVELOPMENT SITE

2.1 Development Site Description

The site is located on First Street South and First Street, within the First Street Estate in Manchester city centre. It is bound by Hulme Street to the north, Wilmott Street to the east, Chester Street to the south with the Ring Road beyond that and Medlock Street to the west. Newcastle Street also runs through the centre of the site.

The pre-development was a brownfield site comprising hardstanding areas.

Figure 2.1 – Pre-development Site



2.2 Development Proposals

The approved scheme will deliver a total of four, residentially led, mixed-use buildings up to thirty-four storeys in height (Blocks A, B, C and D). This report discusses the single block that has finished construction, Block D providing seven hundred and fifteen new apartments. Blocks A, B and C will be reviewed separately. The scheme has also provided a number of amenities and services, including a gym, co-working spaces, a cinema room, private dining area, as well as green landscaped areas.

The site, which is located to the south of Manchester city centre in the First Street Estate will offer residents easy access to a range of retail, office, leisure, residential and transport infrastructure associated with the city.

The final construction issue general arrangement drawings and elevations are presented in Figures 2.2 to 2.5.

Figure 2.2 – Block D Ground Floor Podium Layout



Figure 2.3 – Block D First Floor Podium Layout



Figure 2.4 – Typical Floor Level Block D

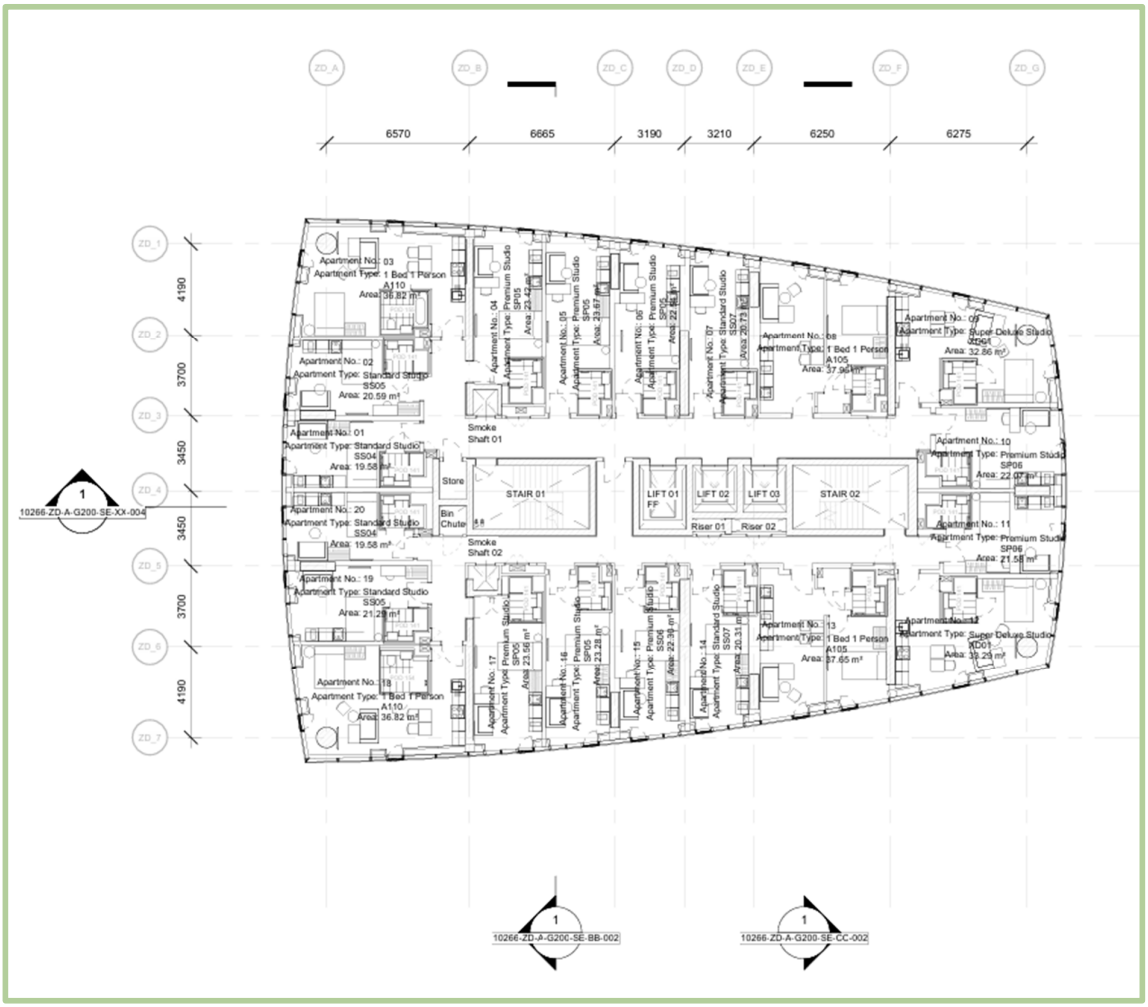
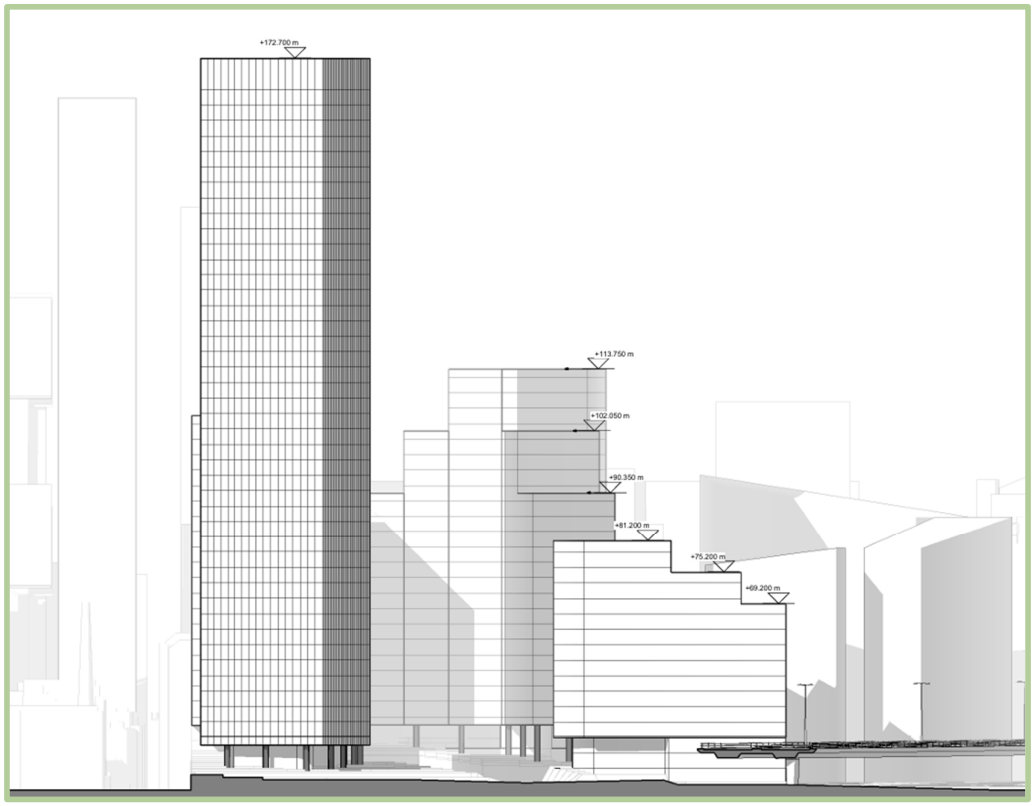


Figure 2.5 – West Elevation of Block D (Far left building)



3. CIRCULAR ECONOMY MONITORING FRAMEWORK VERIFICATION

This section provides an appraisal of the Circular Economy principles and details the specific strategy, challenges, design, and specifications within this development that have contributed to reducing the environmental impact of this scheme in line with Manchester City Council's adopted planning policies. A review has been undertaken on Block D against the targets and the 'Strategy for Monitoring' provided in the original Circular Economy Monitoring Framework submitted for the planning application for this scheme. It provides commentary on how the following principles have been considered:

- Principle 1 – Conserve Resources, Increase Efficiency and Source Sustainably;
- Principle 2 – Design to Eliminate Waste; and,
- Principle 3 – Manage Waste Sustainably and at the Highest Value.

It also details lessons learnt and any proposed mitigating measures for improving performance on future phases.

The approach used to compile the data in this report involved communications and correspondence with various stakeholders. To proceed with the Verification Report, we liaised with the contractor (Downing Construction Limited) to arrange a site visit that took place on the 18st of June, 2025. Photographic evidence was acquired during the site visit to confirm that some targets within the Circular Economy Monitoring Framework had been met. This site visit also supported the documentary evidence that was supplied to Element Sustainability by the design and construction team. Evidence from the design and construction team to support this report is in the form of:

- Written confirmation;
- Third party reports and documentation;
- Design and specification details; and,
- As-built drawings.

The evidence and data gathered in this appraisal responds to the Council's aforementioned planning condition. The following summary, presented in Table 3.1, confirms the design attributes and build specifications that ensure this scheme contributes to sustainable development. Additionally, lessons learnt from the process are noted for incorporation within future construction projects.

Table 3.1 – Block D Circular Economy Monitoring Framework Verification

Principle 1 – Conserve Resources, Increase Efficiency and Source Sustainably				
Objective	Strategy for Monitoring	Target	Challenges	Post Construction Comments
Reduce Demand for Materials and Minimise Quantities Used	A Post-Completion Monitoring Report (Planning Condition 7) will be prepared to show evidence of the project's commitment to reduce building's footprint as well as the embodied carbon of the building across its life cycle. Life Cycle Analysis (Stage 4) will be conducted to provide a more detailed assessment of the environmental impacts of the project, including operational energy and water usage of the Scheme. Bill of Materials will be used to benchmark quantity of recycled content and re-used building materials.	Aim to use modular elements where possible	The UK modular supply chain can fluctuate. Early engagement will be required to avoid any delays.	This Post-Completion Monitoring Report confirms that a design for disassembly and functional adaptability report was provided at RIBA stage 4. The purpose of this is to avoid unnecessary materials use, cost, and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy. This has allowed consideration and reduction of the embodied carbon of the building across its life cycle. A Life Cycle Analysis (LCA) was undertaken at RIBA Stage 2 for the project but not recalculated at RIBA Stage 4. There has been no sight of a bill of materials used to benchmark quantity of recycled content and re-used building materials. On future projects, both a RIBA Stage 2 and RIBA Stage 4 LCA and final Stage 6 review should be undertaken as this provides a comprehensive view of a product's environmental impact throughout its entire lifecycle. By completing a RIBA Stage 2 and RIBA Stage 4 LCA, this allows for more informed decision-making regarding the product design, operations, and waste management. This leads to reduced environmental impact, promotes circular economy principles, and a benefit of cost savings.
Reduce the Quantity of Other Resources (energy and water for example)	Site Visit and ESS Verification (Planning Condition 14) to record progress of the sustainability measures proposed. Results of energy calculations will be submitted to show the percentage improvement in reducing carbon emissions at the operational stage of the development.	Limit the use of potable water to 105 litres / day / person. Residential elements to achieve 9% reduction in dwelling emission rate over Part L 2013. Non-domestic units to achieve 6% reduction in dwelling emissions rate over Part L 2013.	PV systems have additional costs throughout their lifespan, including but not limited to: - Cleaning of the arrays - Replacement of the DC/AC inverter units. ASHP units are outdoor and can generate high levels of noise and vibration. Acoustic attenuation may be necessary.	A site visit was undertaken on the 18th of June 2025 and ESS Verification has been prepared (document reference: 2019.163 - First Street Block D - Environmental Standards Statement Verification Report 0.0). This records implementation of the sustainability measures proposed pre-planning. <u>Energy</u> Early on in the development cycle, a Low and Zero Carbon Feasibility Study was undertaken to determine the appropriate low and zero carbon technologies appropriate for the site. Solar Photovoltaics (PV) and Air Source Heat Pumps (ASHP) were found to be the most suitable technologies and implemented on site. The Building Regulations UK Part L compliance reports (BRUKLS) show that there has been a 6.36% reduction in building emissions rates over Building Regulations Part L2A (2013). The scheme has not been classed as residential but as non-domestic so the residential target is not applicable for the scheme. <u>Water</u> A BREEAM water consumption calculation has been undertaken and the component level achieved 2.41 which is 25% improvement over the BREEAM baseline. Abacus have completed Building Regulations Part G calculations confirming that the total water consumption is 96.4 litres/person/day it is bettering the 105 litres/person/day targeted. On future projects the specification of sanitaryware items to be considered early on in the design stage with a view of the final water consumption in mind.

				The Low and Zero Carbon Feasibility Study was very beneficial for the project as it weighed up the pros and cons of each technology and would therefore advise to continue undertaking these on future projects.
Source Materials Responsibly and Sustainably	As per the developer's purchasing policy, suppliers will need to ensure materials such as timber are sourced from FSC-certified suppliers. They will also be required to show evidence of the distance travelled (and mode of transport used) to determine the origin of the construction materials. Environmental Product Declarations (EPD) will be used to show the sustainability performance of the materials and systems specified. Evidence of the purchase of A-rated white goods will be used to ensure the most energy efficient appliances are installed.	Procure materials with increased recycled content, low levels of embodied carbon and ones which are certified. Where possible, locally procure materials	Lead times and availability of materials may cause delays. Additional information may need to be shared with the design team.	The sustainable procurement plan 'REP-2324336-5A-TPS-20220117-Sustainable Procurement Plan-Rev01' was implemented and ensured that all timber used on site (temporary and permanent) has FSC / PEFC certification. Delivery Notes / Purchase Orders have also been provided to confirm this. The distance travelled to determine the origin of the construction materials was not recorded on site. To avoid this on future projects, a person is to be appointed in the early stages to take responsibility for capturing the relevant information throughout the construction stage. Specifying construction products with Environmental Product Declarations (EPDs) were prioritised. Such EPDs contain a metric for embodied carbon, amongst other impacts, and also consider end of life of the materials. In the BREEAM methodology Mat 02 - Environmental impacts from construction products – Environmental Product Declarations, was targeted and achieved by the team. The white goods that have been installed are not A-rated. The dishwasher and fridge freezers are E-rated and the washer-dryer has no rating. To overcome this in future, early on in the specification the requirement of A-rating equipment needs to be included.

Principle 2 – Design to Eliminate Waste				
Objective	Strategy for Monitoring	Target	Challenges	Post Construction Comments
Design for Adaptability, Flexibility and Longevity	Suppliers with established environmental management systems will be preferred to ensure the use of high quality and durable materials and practices are utilised and maintained. The detailed LCA proposed for Stage 4 will help the design team to identify materials that require less maintenance and the need for replacement, thus subsequently reducing the embodied carbon across the lifecycle of the Scheme. These options will be fully analysed during RIBA stage 4 in an option appraisal study, especially when considering the fitout and finishing elements of the building design.	Material decisions will be made using a sustainability procurement strategy.	Designs may need to be altered to further reduce waste.	A number of suppliers with environmental management systems certified to ISO 14001 have been used. Valid certificates have been provided showing this. To improve this on future projects, this requirement should be included within the sustainable procurement plan and procurement policies. A Life Cycle Analysis (LCA) was undertaken at RIBA Stage 2 for the project but not recalculated at RIBA Stage 4. For future projects, both a RIBA Stage 2 and RIBA Stage 4 LCA and final Stage 6 review should be undertaken, as this provides a comprehensive view of a product's environmental impact throughout its entire lifecycle. By completing a RIBA Stage 2 and RIBA Stage 4 LCA, this allows for more informed decision-making regarding the product design, operations, and waste management. This leads to reduced environmental impact, promotes circular economy principles, and a benefit of cost savings. In the BREEAM methodology Wst 06 – Design for disassembly and adaptability was targeted and achieved by the team. A design for Disassembly and Functional Adaptability

				Report was provided at RIBA stage 4. The purpose of this is to avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy. This has allowed consideration and reduction for the embodied carbon of the building across its life cycle. The Design for Disassembly and Functional Adaptability Report and building Adaptability and Disassembly Guide details the ease of disassembly. In the event of a future fit-out it describes how the building has also been designed to accommodate changes in use internally, with the frame design allowing for changes to the arrangement of any internal walls within the tenant zone. External curtain walling framing system have been constructed, allowing for full refurbishment to easily be achieved. A Circular Economy Statement was prepared in December 2021 and best practice measures for the project, which included the design for adaptability, flexibility and longevity and how this aligns with key circular economy principles.

Principle 3 – Manage Waste Sustainably and at the Highest Value				
Objective	Strategy for Monitoring	Target	Challenges	Post Construction Comments
Reduce the Amount of Construction and Excavation Waste	Part of the scope of the ESS Verification (Planning Condition 14) will include site visits and environmental audits to verify the construction management practices on site. Post-Completion Monitoring Report (Planning Condition 7) will be used to track targets for diversion of construction waste. As part of the Construction Management Plan (CEMP), capacity building workshops will be delivered to the site staff to train them on reducing waste and / or salvaging materials for repurposing, handling of hazardous substances and the periodic reporting against targets set for waste diversion. Regular reports from demolition contractors stating progress against targets.	Divert 80% of waste from landfill	Deconstructing materials takes more time and space.	A site visit was undertaken on the 18th of June 2025 and ESS Verification has been prepared (document reference: 2019.163 - First Street Block D - Environmental Standards Statement Verification Report 0.0) this records implementation of the sustainability measures proposed pre-planning and to verify the construction management practices on site. A site waste management plan was used to make commitments on waste targets and to minimise waste while on site. Waste taken from the site was recorded including weight, type of waste and the destination. The construction waste generated was monitored and as follows for Block D: • 1,215.876 tonnes of waste was generated, and, • 99.67% of waste was diverted from landfill. Within the project's Construction Management Plan (CEMP) it covers the appropriate recycling/disposing of waste and their processes on site. Evidence of a toolbox talk has been provided showing that the staff have been trained on waste reduction, strategies, handling of hazardous substances and reporting waste against the targets. Downing Construction Limited have confirmed that demolition works carried out prior to their occupation of site so no records for demolition waste were made. On future projects a pre-demolition audit should be undertaken, quantifying the key materials and their feasibility for reuse, recycling or diversion from landfill to maximise the recovery of materials. The demolition contractor can then show progress against the targets within the pre-demolition audit.
Reduce the Amount of Operational Waste		40% of municipal waste will be recycled at the material	Getting everyone involved with segregating waste.	A dedicated bin store has been provided for Block D. An internal bin chute has been installed providing access to segregating various waste streams including general waste,

	The residents will be provided with waste storage facilities that are intended to minimise general waste and encourage the recycling of paper/carboard, metal and glass. Waste collection timings / frequency will be provided to all residents / tenants as part of their welcome packs, and they will be responsible for transferring their waste and recyclables to the dedicated waste storage rooms. The Property Management Company will ensure that waste from communal spaces is collected, managed and stored according to the Council's requirements.	recycling facility (based on waste generation calculations provided by the Council).	Recycling may be compromised by cross contamination.	cardboard, plastic, glass and recyclable waste. Internal bins within the co-living areas and studios have also been provided. Waste management information has been provided to residents; this delivers helpful information on waste segregation and encourages good practice. A waste strategy report has been provided for the scheme outlining the provision and frequency that is necessary. Manchester City Council have confirmed in their latest 'Waste, Recycling and Street Cleansing' Update report (containing 2023 / 2024 waste data) that their latest recycling rate is 39.6%. Based on this we can assume around 40% of municipal waste will be recycled at the material recycling facility.

4. LIMITATIONS

There were some limitations in collating all of the appropriate information to fulfil the 'Strategy for Monitoring' from the Circular Economy Monitoring Framework. As a result, there are several items of evidence that are yet to be resolved, and a summary of future improvements are also detailed as follows:

Reduce Demand for Materials and Minimise Quantities Used

- There was a commitment to undertake a RIBA Stage 4 Life Cycle Analysis (LCA) and have a bill of materials. An LCA at RIBA Stage 2 for the project but not at RIBA Stage 4. A bill of materials has not been provided to benchmark the quantity of recycled content and re-used building materials. On future projects both a RIBA Stage 2 and RIBA Stage 4 LCA should be undertaken as this provides a comprehensive view of a product's environmental impact throughout its entire lifecycle.

Reduce the Quantity of Other Resources

- There is a target that residential elements to achieve 9% reduction in dwelling emission rate over Building Regulations Part L 2013. The scheme has not been classed as residential but as non-domestic so the residential target is not applicable for the scheme, so compliance cannot be shown.

Source Materials Responsibly and Sustainably

- There was a requirement to show evidence of the distance travelled (and mode of transport used) to determine the origin of the construction materials. This was not recorded on site. To avoid this on future projects, a person is to be appointed in the early stages to take responsibility of capturing the relevant information throughout the construction stage.

- A target to locally procure materials, where possible was included in the strategy. On future schemes this target should also be included within the sustainable procurement plan and be disseminated to all personnel who are responsible for sourcing materials.

- A commitment was in place to provide evidence of the purchase of A-rated white goods to ensure the most energy efficient appliances are installed. The white goods that have been installed are not A-rated. The dishwasher and fridge freezers are E-rated, and the washer-dryer has no rating. To overcome this in the future, early on in the specification, the requirement of A-rating equipment needs to be included.

Design for Adaptability, Flexibility and Longevity

- There was a commitment to undertake a RIBA Stage 4 Life Cycle Analysis (LCA) and have a bill of materials. An LCA at RIBA Stage 2 for the project but not at RIBA Stage 4. There was also no sight of a bill of materials used to benchmark the quantity of recycled content and re-used building materials. On future projects, both a RIBA Stage 2 and RIBA Stage 4 LCA should be undertaken as this provides a comprehensive view of a product's environmental impact throughout its entire lifecycle.

Reduce the Amount of Construction and Excavation Waste

- There was a commitment to provide regular reports from demolition contractors stating progress against targets. Downing Construction Limited have confirmed that demolition works carried out prior to their occupation of the site, so no records for demolition waste are

available. For future projects, a pre-demolition audit should be undertaken, quantifying the key materials and their feasibility for reuse, recycling or diversion from landfill to maximise the recovery of materials. Actual waste arising should also be recorded.

5. CONCLUSION

This Post-Completion Monitoring Report has been prepared to assist with the discharge of the following planning condition applied within the Decision Notice for this site (ref. Decision Notice: 125573/FO/2019):

Planning Condition: 7B – *Within 6 months of the completion of development a Monitoring Report to assess the performance of the Strategy, lessons learnt, constraints and any proposed mitigating measures for improving performance on futures phases and overcoming constraints shall be submitted to the City Council.*

This Post-Completion Monitoring Report responds to the targets and monitoring strategy within the Circular Economy Monitoring Framework for the First Street development for Block D in Manchester. This report has reviewed the commitments and strategy from the pre-construction stage and assesses the performance, challenges and indicates any recommendations to improve for the future.

The site visit and subsequent information received from the developer/ contractor demonstrate that the strategy has been implemented on the scheme (with the exception of those outlined in Section 4) in order to achieve the targets and circular economy principles. Where the strategy was not completely fulfilled lessons learnt and improvements have been recommended for future phases. The targets achieved are as follows:

Principle 1 – Conserve Resources, Increase Efficiency and Source Sustainably

Reduce Demand for Materials and Minimise Quantities Used

- Aim to use modular elements where possible.

Reduce the Quantity of Other Resources

- Limit the use of potable water to 105 litres / day / person, and,
- Non-domestic units to achieve 6% reduction in dwelling emissions rate over Building Regulations Part L 2013.

Source Materials Responsibly and Sustainably

- Procure materials with increased recycled content, low levels of embodied carbon and ones which are certified.

Principle 2 – Design to Eliminate Waste

Design for Adaptability, Flexibility and Longevity

- Material decisions will be made using a sustainability procurement strategy.

Principle 3 – Manage Waste Sustainably and at the Highest Value

Reduce the Amount of Construction and Excavation Waste

- Divert 80% of waste from landfill

Reduce the Amount of Operational Waste

- 40% of municipal waste will be recycled at the material recycling facility (based on waste generation calculations provided by the Council).

In conclusion, the target and strategy reviewed within this Post-Completion Monitoring Report for the scheme at First Street Block D, Manchester have been met with satisfaction with the exception of a few points (outlined in Section 4). Downing Living (Manchester) Limited Partnership Incorporated have sought to deliver a development that responds positively to the guidance provided Circular Economy Monitoring Framework.