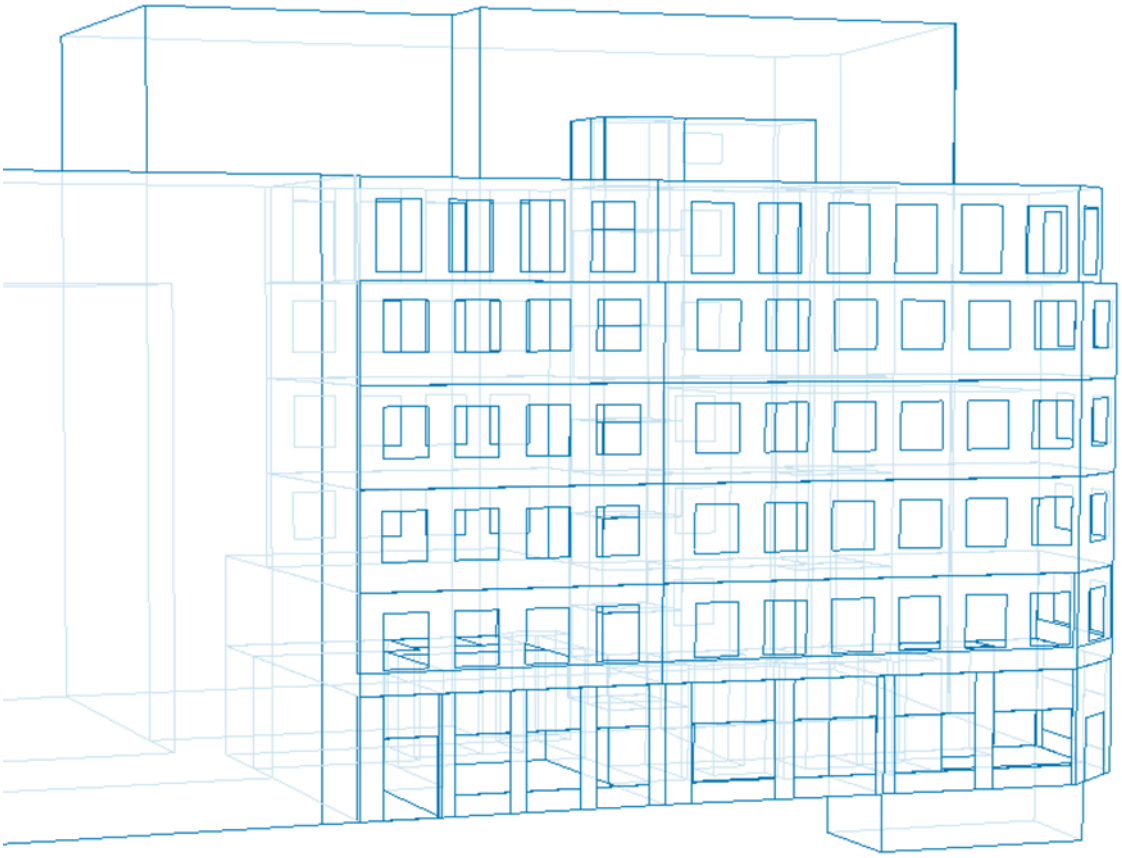


B0992 Drury Works Offices, London

# B0992 BREEAM Pre-Assessment

*Version: 1.0*

*Current Version Publish Date:* 04/05/2023

Building Performance Prediction Ltd.
Caldwell Group
Unit 6 Forestgrove Business Park
Belfast
BT8 6AW
028 9069 9720

# Contents



| Version | Date | Reason for issue | Prepared By |
|---|---|---|---|
| 1.0 | May 2023 | Planning application | Amanda Dalzell |
| | | | |
| | | | |
| | | | |

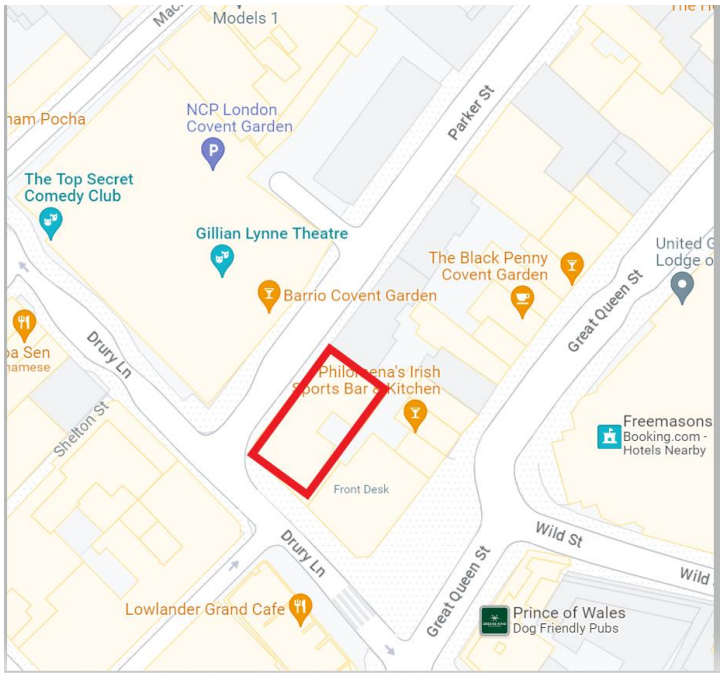
# 1 Executive summary

This BREEAM Scoring Statement has been prepared by Building Performance Predictions on behalf of McAleer & Rushe Contracts UK Ltd (the applicant) to support a proposed an office extension with other refurbishment works located between 161 Drury Lane, London.

The identified credits, if achieved, indicate that the proposed development could achieve a targeted credit score of 71.93%.

The site location is highlighted in the below image:-

*Figure 1 Site Location*



# 2 Introduction to BREEAM

This document is a commentary on BREEAM in relation to this scheme to illustrate the issues involved and the scoring values.

## *2.1 What is BREEAM*

BREEAM (Building Research Establishment's Environmental Assessment Method) is marketed as the world's leading and most widely used environmental assessment method for buildings. At the time of writing, BREEAM state they have certified over 200,000 buildings since first launch in 1990.

## *2.2 Aims of BREEAM*

- To mitigate the life cycle impacts of buildings on the environment
- To enable buildings to be recognised according to their environmental benefits
- To provide a credible, environmental label for buildings
- To stimulate demand for sustainable buildings

## *2.3 Objectives of BREEAM*

- To provide market recognition of buildings with a low environmental impact
- To ensure best environmental practice is incorporated in building planning, design, construction and operation.
- To define a robust, cost-effective performance standard surpassing that required by regulations.
- To challenge the market to provide innovative, cost effective solutions that minimise the environmental impact of buildings.
- To raise the awareness amongst owners, occupants, designers and operators of the benefits of buildings with a reduced life cycle impact on the environment.
- To allow organisations to demonstrate progress towards corporate environmental objectives.

**BREEAM has been developed to meet the following underlying principles:**

- Ensure environmental quality through an accessible, holistic and balanced measure of environmental impacts.
- Use quantified measures for determining environmental quality.

- Adopt a flexible approach, avoiding prescriptive specification and design solutions.
- Use best available science and best practice as the basis for quantifying and calibrating a cost effective performance standard for defining environmental quality.
- Reflect the social and economic benefits of meeting the environmental objectives covered.
- Provide a common framework of assessment that is tailored to meet the 'local' context including regulation, climate and sector.
- Integrate construction professionals in the development and operational processes to ensure wide understanding and accessibility.
- Adopts third party certification to ensure independence, credibility and consistency of the label.
- Adopts existing industry tools, practices and other standards wherever possible to support developments in policy and technology, build on existing skills and understanding and minimise costs.
- Stakeholder consultation to inform ongoing development in accordance with the underlying principles and the pace of change in performance standards (accounting for policy, regulation and market capability).

## *2.4 Stages of BREEAM assessment*

**Design Stage (DS)**

The DS assessment and interim BREEAM rating is optional and can be used to demonstrate the proposed new building's performance at the design stage of the life cycle. It is strongly recommended that assessment and certification should occur prior to the beginning of operations on site. The BREEAM rating at this stage is labelled as 'interim' because it does not represent the building's final, new construction BREEAM performance.

To complete an assessment at this stage the design must be advanced to a point where the relevant design information is available to enable the BREEAM Assessor to evaluate and verify the building's performance against the criteria defined in this Scheme Document. The interim DS assessment will therefore be completed and certified at the scheme design or detailed design stages.

**Post-construction Stage (PCS)**

The PCS assessment and BREEAM rating is a mandatory certification stage that can be used to demonstrate the final 'as-built' performance of the building at the new construction stage of the life cycle. A final PCS assessment is completed and certified after practical completion of the building works.

There are two approaches to assessment at the PCS:

1. A post-construction review (PCR) based on a completed interim design stage assessment

2. A standalone post-construction assessment (PCA)

A PCR serves to confirm the assessment of a the building's 'as-built' performance and rating and where appropriate that it is in accordance with the assessment certified at the interim design stage. Where an interim DS assessment has not been carried out and a BREEAM assessment and rating is required, a full post-construction stage assessment can be conducted.

Two accreditation BREEAM Good Certificates will be required the first for the Interim - Design Stage (DS) and the second for the final - Post Construction Stage (PCS). The contractor should be aware that this places greater emphasis on the items claimed for the BREEAM credits as the post construction stage requires verification that these elements have been carried out or installed.

## 2.5 *BREEAM rating benchmarks*

There are a number of elements that determine the overall performance of a new construction project assessed using BREEAM. They are:

1. The BREEAM rating level benchmarks

2. The minimum BREEAM standards

3. The environmental section weightings

4. The BREEAM assessment issues and credits

The next sections summarise how these elements combine to produce a BREEAM rating for a new building and are followed by a description and example calculation of a rating.

BREEAM rating benchmarks for projects assessed using the 2014 version of BREEAM UK Refurbishment & Fit-Out are:

Table 2.3 BREEAM rating benchmarks

| BREEAM Rating | % score |
|---|---|
| Outstanding | ≥ 85 |
| Excellent | ≥ 70 |
| Very good | ≥ 55 |
| Good | ≥ 45 |
| Pass | ≥ 30 |
| Unclassified | < 30 |

A BREEAM 2014 pre-assessment for the development was carried out to show an Excellent award level of 71.93% for the proposed office accommodation.

To achieve a BREEAM rating, the minimum percentage score must be achieved (as outlined above) and the minimum standards (i.e. number of credits achieved) applicable to that rating level (below) complied with.

## 2.6 *Minimum BREEAM standards BREEAM issue*

To ensure performance against fundamental environmental issues is not overlooked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas, e.g. energy, water, waste etc. The majority of BREEAM credits can, however, be traded, so non-compliance in one area can be offset through compliance in another to achieve the target BREEAM rating. The minimum acceptable levels of performance for each rating are summaries in Table 2.5 below. To achieve a particular BREEAM rating, the minimum overall percentage score must be achieved as well as the minimum standards detailed in Table 5 below.

Table 5 Minimum BREEAM standards by rating level

| | Minimum standards by BREEAM rating level | | | | |
|---|---|---|---|---|---|
| BREEAM issue | Pass | Good | Very Good | Excellent | Outstanding |
| Man 03: Responsible construction practices | None | None | None | One credit (Considerate construction) | Two credits (Considerate construction) |
| Man 04: Commissioning and handover | None | None | None | Criterion 9 (Building User Guide) | Criterion 9 (Building User Guide) |
| Man 05: Aftercare | None | None | None | Parts 2 and 3 only: One credit (Seasonal commissioning) | Parts 2 and 3 only: One credit (Seasonal commissioning) |
| Ene 01: Reduction of energy use and carbon emissions | None | None | None | Parts 1, 2, 3 and 4 (full assessments): Six credits, varies for other assessment types | Parts 1, 2, 3 and 4 (full assessments): Ten credits, varies for other assessment types |
| Ene 02: Energy monitoring | None | None | Parts 2, 3 and 4: One credit (First sub-metering credit) | Parts 2, 3 and 4: One credit (First sub-metering credit) | Parts 2, 3 and 4: One credit (First sub-metering credit) |
| Wat 01: Water consumption | None | One credit (where applicable) | One credit (where applicable) | One credit (where applicable) | Two credits (where applicable) |
| Wat 02: Water monitoring | None | Part 2: Criterion 1 only | Part 2: Criterion 1 only | Part 2: Criterion 1 only | Part 2: Criterion 1 only |
| Mat 03: Responsible sourcing of materials | Criterion 1 only | Criterion 1 only | Criterion 1 only | Criterion 1 only | Criterion 1 only |

| | Minimum standards by BREEAM rating level | | | | |
|---|---|---|---|---|---|
| BREEAM issue | Pass | Good | Very Good | Excellent | Outstanding |
| Wst 01: Project waste management | None | None | None | None | One credit |
| Wst 03: Operational waste | None | None | None | One credit | One credit |

A BREEAM Assessment shall be undertaken by Licenced BREEAM assessors from Building Performance Predictions (BPP) and submitted to the Building Research Establishment (BRE) for independent verification and certification at design stage and following practical completion for Post construction stage.

A targeted credit score summary showing an Excellent rating of 71.93% has been completed as scheduled below.

# 3 BREEAM scoring report

| Management | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Man 01: Project brief and design > 1. Stakeholder consultation | 2 | 1.3% | 2 | 1.3% | 0 | 0% |
| Man 01: Project brief and design > 2. Sustainability Champion | 2 | 1.3% | 2 | 1.3% | 0 | 0% |
| Man 02: Life cycle cost and service life planning | 4 | 2.6% | 4 | 2.6% | 0 | 0% |
| Man 03: Responsible construction practices > 1. Environmental management | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 03: Responsible construction practices > 2. Sustainability Champion | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 03: Responsible construction practices > 3. Considerate construction | 2 | 1.3% | 2 | 1.3% | 0 | 0% |
| Man 03: Responsible construction practices > 4. Monitoring of construction site impacts | 2 | 1.3% | 2 | 1.3% | 0 | 0% |
| Man 04: Commissioning and handover > 1. Commissioning and testing schedule and responsibilities | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 04: Commissioning and handover > 2. Commissioning building services | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 04: Commissioning and handover > 3. Testing and inspecting building fabric | 1 | 0.65% | 0 | 0% | 0 | 0% |
| Man 04: Commissioning and handover > 4. Handover | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 05: Aftercare > 1. Aftercare support | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 05: Aftercare > 2. Seasonal commissioning | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Man 05: Aftercare > 3. Post occupancy evaluation | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| **Management Totals** | **21** | **13.65%** | **20** | **13.00%** | **0** | **0.00%** |

| Health and Wellbeing | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Hea 01: Visual comfort > 1. Glare control | 1 | 0.78% | 1 | 0.78% | 0 | 0% |
| Hea 01: Visual comfort > 2. Daylighting | 3 | 2.33% | 0 | 0% | 0 | 0% |
| Hea 01: Visual comfort > 3. View out | 2 | 1.55% | 0 | 0% | 0 | 0% |
| Hea 01: Visual comfort > 4. Internal and external lighting, Zoning and control | 1 | 0.78% | 1 | 0.78% | 0 | 0% |
| Hea 02: Indoor air quality > 1. Minimising sources of air pollution | 4 | 3.1% | 2 | 1.55% | 0 | 0% |
| Hea 02: Indoor air quality > 2. Adaptability - potential for natural ventilation | 1 | 0.78% | 0 | 0% | 0 | 0% |
| Hea 04: Thermal comfort | 3 | 2.33% | 3 | 2.33% | 0 | 0% |
| Hea 05: Acoustic performance > 1. Education, Healthcare, Office and Law Courts building types | 3 | 2.33% | 3 | 2.33% | 0 | 0% |
| Hea 06: Safety and security | 1 | 0.78% | 1 | 0.78% | 0 | 0% |
| **Health and Wellbeing Totals** | **19** | **14.73%** | **11** | **8.53%** | **0** | **0.00%** |

| Energy | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Ene 01: Reduction of energy use and carbon emissions - Option 1 > 1. Whole building energy model | 15 | 9.82% | 10 | 6.55% | 0 | 0% |
| Ene 02: Energy monitoring | 2 | 1.31% | 2 | 1.31% | 0 | 0% |
| Ene 03: External lighting | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Ene 04: Low carbon design > 1. Passive design | 2 | 1.31% | 0 | 0% | 0 | 0% |
| Ene 04: Low carbon design > 2. Low and zero carbon technologies | 1 | 0.65% | 1 | 0.65% | 0 | 0% |
| Ene 06: Energy efficient transportation systems | 3 | 1.96% | 3 | 1.96% | 0 | 0% |
| Ene 08: Energy efficient equipment | 2 | 1.31% | 0 | 0% | 0 | 0% |
| **Energy Totals** | **26** | **17.03%** | **17** | **11.13%** | **0** | **0.00%** |

| Transport | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Tra 01: Sustainable transport solutions > 1. Accessibility Index | 5 | 3.79% | 5 | 3.79% | 0 | 0% |
| Tra 02: Proximity to amenities | 1 | 0.76% | 1 | 0.76% | 0 | 0% |
| Tra 03: Cyclist facilities | 2 | 1.52% | 2 | 1.52% | 0 | 0% |
| Tra 05: Travel plan | 1 | 0.76% | 1 | 0.76% | 0 | 0% |
| **Transport Totals** | **9** | **6.82%** | **9** | **6.82%** | **0** | **0.00%** |

| Water | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Wat 01: Water consumption | 5 | 3.79% | 2 | 1.52% | 0 | 0% |
| Wat 02: Water monitoring | 1 | 0.76% | 1 | 0.76% | 0 | 0% |
| Wat 03: Water leak detection | 2 | 1.52% | 2 | 1.52% | 0 | 0% |
| Wat 04: Water efficient equipment | 1 | 0.76% | 1 | 0.76% | 0 | 0% |
| **Water Totals** | **9** | **6.82%** | **6** | **4.55%** | **0** | **0.00%** |

| Materials | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Mat 01: Environmental impact of materials - Option 2 > 2. Elemental assessment of environmental performance information | 6 | 6.56% | 3 | 3.28% | 0 | 0% |
| Mat 03: Responsible sourcing of materials | 4 | 4.37% | 3 | 3.28% | 0 | 0% |
| Mat 04: Insulation | 1 | 1.09% | 1 | 1.09% | 0 | 0% |
| Mat 05: Designing for durability and resilience | 1 | 1.09% | 1 | 1.09% | 0 | 0% |
| Mat 06: Material efficiency | 1 | 1.09% | 1 | 1.09% | 0 | 0% |
| **Materials Totals** | **13** | **14.22%** | **9** | **9.84%** | **0** | **0.00%** |

| Waste | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Wst 01: Project waste management > 1. Pre-refurbishment audit | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| Wst 01: Project waste management > 2. Reuse and direct recycling of materials | 2 | 1.42% | 0 | 0% | 0 | 0% |
| Wst 01: Project waste management > 3. Resource efficiency | 3 | 2.13% | 1 | 0.71% | 0 | 0% |
| Wst 01: Project waste management > 4. Diversion of resources from landfill | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| Wst 02: Recycled aggregates | 1 | 0.71% | 0 | 0% | 0 | 0% |
| Wst 03: Operational waste | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| Wst 04: Speculative floor and ceiling finishes | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| Wst 05: Adaptation to climate change | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| Wst 06: Functional adaptability | 1 | 0.71% | 1 | 0.71% | 0 | 0% |
| **Waste Totals** | **12** | **8.53%** | **7** | **4.98%** | **0** | **0.00%** |

| Land Use and Ecology | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| LE 04: Enhancing site ecology | 1 | 2.27% | 1 | 2.27% | 0 | 0% |
| LE 05: Long term impact on biodiversity | 2 | 4.55% | 2 | 4.55% | 0 | 0% |
| **Land Use and Ecology Totals** | **3** | **6.82%** | **3** | **6.82%** | **0** | **0.00%** |

| Pollution | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Pol 01: Impact of refrigerants | 3 | 2.62% | 1 | 0.87% | 0 | 0% |
| Pol 02: NOx emissions | 3 | 2.62% | 0 | 0% | 0 | 0% |
| Pol 03: Flood risk management and reducing surface water run-off > 1. Flood risk management | 2 | 1.75% | 2 | 1.75% | 0 | 0% |
| Pol 03: Flood risk management and reducing surface water run-off > 2. Surface water run-off | 2 | 1.75% | 1 | 0.87% | 0 | 0% |
| Pol 03: Flood risk management and reducing surface water run-off > 3. Minimising water course pollution | 1 | 0.87% | 0 | 0% | 0 | 0% |
| Pol 04: Reduction of night time light pollution | 1 | 0.87% | 1 | 0.87% | 0 | 0% |
| Pol 05: Reduction of noise pollution | 1 | 0.87% | 1 | 0.87% | 0 | 0% |
| **Pollution Totals** | **13** | **11.37%** | **6** | **5.25%** | **0** | **0.00%** |

| Innovation | Available | | Targeted | | Potential | |
|---|---|---|---|---|---|---|
| | Credits | Percent | Credits | Percent | Credits | Percent |
| Inn 01: Innovation | 10 | 10% | 0 | 0% | 0 | 0% |
| Man 03: Responsible construction practices | 1 | 1% | 1 | 1% | 0 | 0% |
| Man 05: Aftercare | 1 | 1% | 0 | 0% | 0 | 0% |
| Hea 01: Visual comfort | 1 | 1% | 0 | 0% | 0 | 0% |
| Hea 02: Indoor air quality | 2 | 2% | 0 | 0% | 0 | 0% |
| Ene 01: Reduction of energy use and carbon emissions | 5 | 5% | 0 | 0% | 0 | 0% |
| Wat 01: Water consumption | 1 | 1% | 0 | 0% | 0 | 0% |
| Mat 01: Life cycle impacts | 1 | 1% | 0 | 0% | 0 | 0% |
| Mat 03: Responsible sourcing of materials | 1 | 1% | 0 | 0% | 0 | 0% |
| Wst 01: Construction site waste management | 1 | 1% | 0 | 0% | 0 | 0% |
| Wst 02: Recycled aggregates | 1 | 1% | 0 | 0% | 0 | 0% |
| Wst 05: Adaptation to climate change | 1 | 1% | 0 | 0% | 0 | 0% |
| Pol 03: Flood risk management and reducing surface water run-off | 1 | 1% | 0 | 0% | 0 | 0% |
| **Innovation Totals (Up to a maximum of 10 credits)** | **10** | **10.00%** | **1** | **1.00%** | **0** | **0.00%** |
| | | | | | | |
| **Overall Totals** | **135** | **110.00%** | **89** | **71.93%** | **0** | **0.00%** |