

University of Wales Trinity Saint David

Management of the Integrated
Working Environment

“Selection of a Working Environment”

MSc Property & Facilities Management

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1.0 Introduction

1.1 Background

Pobl Group Ltd have a Nominations Agreement in place with Swansea University to provide a Hard Facilities Management (FM) service on the student accommodation blocks on Singleton Campus.

Within this agreement, the University may request 'Change Proposals' to the Stock which sit outside of the Hard FM obligations. 'Change Proposals' are typically project works to carry out alterations or upgrades that will be financed and project managed by Pobl, and recharged back to the University.

1.2 Problem Statement

Swansea University have a large multi-use work space on the ground floor of Preseli Block, which is not currently meeting the operational needs of the Residential Services team who operate from it.

Currently, the ground floor consists of the following areas:-

- A number of self-contained offices for the Residential Services department.
- Reception desk serving students, contractors, visitors and mail deliveries.
- Mail box collection point for all student accommodation blocks
- Porters rest room
- Kitchen
- WC
- Plant Room
- En-Suite Bedrooms

There are seven members of staff including management permanently based in this area, and also approximately fifteen domestic staff who use the area to clock in, before working in other areas of the site.

2.0 Aim & Objectives

2.1 Aim

The aim is to provide a more functional working space for employees which meet the operational needs, and enhance the reception area to meet the business objectives of the department. In addition, the project should strive to meet the Universities overarching Visions & Values.

2.2.1 Departmental Objectives

- To review the current layout of the ground floor area, identify and address issues with current layout configuration.
- Carry out consultation from users of these areas on potential alterations
- Set up Project Team to design, co-ordinate and deliver the refurbishment.

2.2.2 University Visions & Values linked to Project

- Be open minded to new ideas and proposals to deliver and create innovative solutions.
- Deliver innovative, effective, efficient services and solutions of excellent quality.
- Take pride in working in a proactive, collaborative environment of equality, trust, respect, co-operation and challenge to deliver services that strive to exceed the needs and expectations of customers.
- Take responsibility for listening, understanding and responding flexibly to our students, colleagues, external partners and the public so that every contact they have with us is a personalised and positive experience.

3.0 Scope & Constraints

3.1 Scope

Pobl Group Ltd will carry out a detailed exercise in assessing what the University requirements are for this space.

Consultation with staff will provide a starting base to develop further within the Project Team. At each stage of the project, consultation and updates will continue with staff

The new layout will provide a modern reception area, whilst providing more innovative office and work space for staff.

3.2 Project Constraints

Consideration and consultation will need to be made with the Local Authority Building Control, and Fire Risk Consultant before any changes are expedited. Escape routes link into these areas so consultation with the Fire Risk Assessor will be essential to conform with the Regulatory Reform (Fire Safety) Order 2005.

There may be budgetary constraints from initial design specifications and “value engineering” may need to take place following tender submissions. Time will also be a constraint in delivering during a short vacation period.

4.0 Stages of Implementation

There are many variables to delivering a project of this type. Using The Royal Institute of British Architects (RIBA) Plan of Work 2013 as a framework would be good practice.

RICS (Royal Institution of Chartered Surveyors) run the SKA rating which is an environmental assessment tool for sustainable fit-outs.

As the ground floor area functions as both work space and accommodation, works will need to be delivered during the University Summer vacation period to reduce inconvenience to occupants and disruption to service delivery activities.

This will allow approximately ten weeks for construction works to be completed.

The un-occupancy will assist the Principal Designer and successful tenderer when conforming with the Construction (Design and Management) Regulations 2015.

Once identification of the requirement is determined and any feasibility studies carried out, then a business case can be put forward.

The project manager should carry out an assessment of the current staffing, IT strategy and spatial requirements.

Other considerations would be looking at occupancy trends or patterns for the new design.

Once a brief has been put together a workplace design can be drafted, with further consultation taking place with staff.

The implementation of the works should be overseen by the project team, and post completion, a survey or post occupancy review should be undertaken.

5.0 Organisational, Cultural, Building and Technology Considerations

The Universities vision and ambition is to become a UK top 30-ranked University by 2019. The reception area is an important hub for students, so it is imperative that the reception area functions to a high standard and optimises the 'Student Experience'

Organisations can encourage a working environment that supports the 'knowledge worker', which will help create a culture that encourages and supports informal discussions and sharing of knowledge at all levels. Drucker (1999) believes this will support continuous innovation, learning, quality and ensure the worker is valued as an asset rather than a cost.

The existing layout to the rear of the reception area compromises of enclosed offices. This allows staff to work quietly away from the noisy reception area. However when the reception is not manned, it makes it difficult for staff in the back offices to be aware that any student or visitor is waiting to be seen.

There is research further on in the report to highlight the benefits of enclosed offices to prevent distractions, but this 'Cell' type configuration does reduce the opportunity of informal interaction between staff members. In an often fast paced environment, this type of interaction is often necessary.

The type of work carried out in these offices does not require a high degree of concentration, so there is no great need for enclosed offices.

Students being brought in for welfare or disciplinary issues are interviewed within these offices. This is not particularly professional due to Data Protection or meetings being disrupted by telephone calls or other staff members.

The mail boxes for the accommodation blocks are situated opposite the main reception desk. Due to space constraint's the boxes are limited in numbers which means students can spend quite some time locating mail items. This can cause crowding of the reception area and noise disturbance to staff.

University Porters have a storage and tool area, but is limited in its functionality with no racking or shelving. The area is cluttered and poses a H&S risk.

Current welfare facilities are poor with a small dilapidated kitchen area and no means of preparing or re-warming food.

The current reception desk area does not comply with Approved Document M, as there are no communication aids or drop down section on the high desk for wheelchair users.

Space for staff is not an issue, and is above the minimum recommended standards detailed by the HSE and the British Council for Offices (BCO).

The existing lighting system in these areas is poorly designed with spot lighting recessed into suspended ceiling grids. Lux testing over desk areas has revealed the lighting is not wholly compliant within the range of 300-500 lux without supplementary desk lamps. Aesthetically it is also not pleasing for a modern reception area. Lighting controls are also limited with one switch operating all lights in the rear offices.

6.0 Critical Analysis of Success and Failure

There has been a change in culture evolving from cellular offices to areas which are conducive to collaborative and integrated workplaces (Chilton & Baldry, 1997)

Atkin and Brooks (2000) describe how the office environment is not only to facilitate the completion of work tasks, but can have the potential to improve the working and environment conditions for staff which can increase productivity.

The type of work the University staff undertake in the department may be difficult to measure in terms of productivity. Self assessment forms and student feedback may assist in providing some answers.

There is a need to determine the requirements of both individuals and the business, to design the workplace for accommodating these requirements and maintaining throughout the lifecycle of the workplace (Muir, 2003).

This planning should relate to the specific requirements of the business objectives and staff (McGregor and Then, 2001). There would be no point in adopting a successful blueprint from a Case Study if it does not fit the objectives or needs of your own organisation.

Leaman and Bordass (2010) looked at research carried out by Building Use Studies surveys that indicated an increase in perceived productivity when occupants were in comfort. 'Overall Comfort' is described as occupant's perceptions relating to heating, cooling, ventilation lighting and noise.

Whilst lighting is possibly the easiest area to rectify from a cost and time perspective, it also has the least effect on improving areas or staff comfort. Noise, and a user's ability to control their environment are the biggest issues, and these are difficult to control in a modern open plan office environment.

Roelofsen (2002) provides evidence of a link between a good working environment and a drop in sickness or absenteeism.

Laing *et al.* have established four main types of office layout which are Hive; den; cell; and club. These layouts offer different benefits dependant on the work processes.

Work patterns and work styles need to be more clearly defined, where evaluations of different work environments and settings can be undertaken (Haynes, 2008).

Research carried out by Buffalo Organization for Social and Technological Innovation (BOSTI) to analyse the primary costs of carrying out work in the United States showed that costs

associated with staff equated to around 82%. In comparison costs of the physical workplace and the operations was only 8%.

Brill *et al.* (2001) identified from this research that the top two workplace qualities with strongest effect on performance in the office environment were:-

- Ability to do distraction free solo work; and
- Support for impromptu interactions (both in ones workspace and elsewhere)

Both of these priorities can directly affect each other, so the design of office space must be innovative enough to allow for both without compromising each other.

Analysing this means careful investments in the physical attributes and controls of an office environment can have a beneficial impact on the largest cost element, being the staff themselves (Olson, 2002). His conclusion suggests that enclosed workspaces offer greater benefits to staff, and prevent noise and distraction issues which may hinder performance or concentration.

The conclusion does not offer any proposals or ideas towards balancing this against the need for informal interactions between staff which may benefit the team or organisation (Haynes, 2007).

A distributed workplace is where work is carried out in a physical and virtual work environment with the advent of remote, secure work networks to log onto (Harrison, 2002). The model was created by DEGW and is the SANE space environment model. Working remotely can allow for a more intensified and efficient use of office space which will ultimately save on rental costs.

Haynes and Price (2004) identify the need for modern work spaces to accommodate different forms of work space, for informal and formal meetings or projects. This goes hand in hand with the necessity that the University sees for the Residential Services office space.

Van der Voordt (2004) describes that there is a high expectation of the benefits when designing or delivering workplace innovation.

Advanced IT systems, ergonomic furniture and digital archiving is expected to provide more efficient use of space, and in turn save money for the organisation and increase employee's productivity.

Aligned with this is the image it may create of the company being modern and forward thinking, which may attract new staff, retain, and increase employee satisfaction.

Ilozor *et al.* (2002) carried out research which concluded that an innovative work place is associated with effective space management, increased productivity and an increase in staff acceptance of desk sharing practices.

Desk sharing can be difficult for staff to embrace who believe they need a permanent base for their possessions and comfort.

Orwel *et al.* (2006) have carried out research which identifies certain plants can remove harmful VOC's from the office environment. Incredibly, these studies have shown in case studies that plants provided in the workplace can reduce sickness or absenteeism by up to 60%.

Baker (2010) provides data from the research to state that a small 20cm plant can remove these toxins created by synthetic materials and office equipment such as photocopiers.

Allen *et al.* (2015) provided data that showed a "Green" office environment improves office workers cognitive function scores considerably. This may lead to an increased productivity and energy usage.

Post occupancy questionnaires or surveys are vital to gather feedback and measure the effect of any building alterations (Schwede, Davies and Purdey, 2008).

Similarly, following the 'Soft Landings Framework' which is an initiative between Building Services Research and Information Association (BSRIA) and the Usable Buildings Trust (UBT) will aid post occupancy. The framework is generally used for New Builds but most of the principles can be adopted for refurbishment.

The 'Hawthorne Effect' has been attributed to a change in people's satisfaction levels with environmental enhancements (Adair, 1984).

Hassanain (2010) considers space planning as:-

"a discipline concerned with translating the space needs of an organization onto the floor plates of the building and producing a workplace environment suitable for the organization to gain a return on its investment".

The ambition of any Facility Manager should be to ensure that there the plate efficiency is positive between net internal area to gross internal area (NIA:GIA) to increase the amount of usable space.

7.0 Metrics used for measurement of your proposed plan to determine the degree of success or failure

The University own the block, and are not realistically able to look at alternatives from a rental cost perspective. However, optimising the efficiency of the occupancy will reduce operational costs, and the ratio of property costs against this.

Staff supporting the business objectives, goals and values will assist with staff retention and well being. This can be achieved by providing a comfortable and healthy work environment.

The work carried out is often ad-hoc and not process driven so it is difficult to measure productivity. Self-Assessment forms for staff should offer some idea of the success or failure.

A look at trends in respect of staff retention, and absenteeism should also provide some detail to the success of an organisational change in the office.

In organisations where premises are rented then a reduction in costs and business overheads may also be considered a metric for success.

8.0 Conclusions & Recommendations

Change can often be met with resistance, which is why it is important to communicate and involve staff in any proposals. (Bell, 2000)

All aspects in a workplace redesign should be considered, ensuring the new layout is suitable for the work processes carried out. Space management is also key to get the optimum usage out of an area. Technological and innovative methods should be looked at within a feasibility study, and not just used as part of a tick box exercise or vanity project as could end up a costly waste of resources.

Following a survey and study of the existing area there are a number of proposals that have been identified to increase the comfort to occupants and efficiencies of the work streams involved in this space.

The front reception desk should be removed, and replaced with a new redesigned desk that is not only more modern, but complies with Approved Document M. The University provides accommodation for students with disabilities and as the main reception desk for enquiries for students this must cater for these needs.

Mailboxes in the area directly in front of the reception desk should be removed. A newly created partitioned office should be erected in this area to serve as an Interview Room for staff to use with students, or for times when quiet work periods are required for an individual. The screening should allow for integral privacy blinds.

The offices behind the reception desk partition wall should be taken down to create a new open plan office area. The existing doorway directly behind the reception desk will be closed up, with a new doorway created further along the wall. This is to prevent disruption to staff with people using a doorway directly behind a desk area.

“Pigeon hole” type shelving for parcels or mail items will be erected on a wall in the new open plan office area for mail items or bulky parcels requiring a signature. This will prevent clutter in the corridor and floor areas from parcels, and increase the efficiencies of locating items.

Redundant store room to back of building to have the existing doorway in staff area closed up, and a new entrance door created on student side of corridor. New bespoke floor standing mailboxes are to be installed in this room, with access control on students existing fobs.

The existing front entrance doors, and then secondary double door sets leading to the lift lobby and stairwell is currently the only access to bedrooms for students residing in Preseli

Block. This creates a large volume of footfall in what is essentially a working area as acts as a thoroughfare.

The existing rear double doors currently utilised as a means of fire escape are to have ironmongery changed, with Salto access control installed to enable students to use the rear doors as their main entrance into the accommodation and new mail room.

The existing internal double doors from lift lobby to reception are to have a mag-lock installed to prevent normal access, and will only operate during a fire alarm activation. This will prevent unnecessary footfall through the reception area, and improve sound quality and distractions for staff.

A new glass canopy and enclosure will be erected to the front elevation with level access and automatic doors to provide a wind break and second set of doors. This will reduce the draughts into reception area and reduce noise levels in what is quite a busy and exposed external area.

Reconfigure lighting control arrangements to provide individual controls via switch or PIR within reception and open plan office area. This will provide more usability to occupants and reduce energy costs.

Consider use of an electronic reception/welcome display board to provide information to students and visitors.

An upgrade of the small provision of seating in reception area would be welcome and help to improve the look of the area.

Given the abundance of natural light that enters the main office areas, provision of plants should be considered for health benefits and air quality.

The accommodation block is heated by four Hamworthy Wessex Modular boilers that are nearing the end of their lifecycle. Consideration should be given to replacing these boilers in the short to medium term which should increase efficiencies. Another option would be to connect the block up to the campus CHP following a feasibility study being undertaken.

9.0 References

- Adair, J., 1984. The Hawthorne Effect: A Reconsideration of the Methodological Artifact. *Journal of Applied Psychology*, 69(2), p.334.
- Allen, J.G. et al., 2015. Associations of Cognitive Function Scores with Carbon Dioxide, Ventilation, and Volatile Organic Compound Exposures in Office Workers: A Controlled Exposure Study of Green and Conventional Office Environments. *Environmental Health Perspectives*, 124(6), pp.805–12.
- Atkin, Brooks & Brooks, Adrian, 2009. *Total facilities management* 3rd ed., Chichester: Wiley-Blackwell.
- Baker, G., 2010. Plant power. *NZ Business*, 24(4), pp.48–49.
- Bell, A. & Institute of Personnel Development, 2000. *Transforming your workplace*, London: Institute of Personnel and Development.
- Brill, M., Weidemann, S. and BOSTI Associates. 2001. *Disproving Widespread Myths about Workplace Design*, Kimball International, Jasper
- Chilton, J. & Baldry, D., 1997. The effects of integrated workplace strategies on commercial office space. *Facilities*, 15(7/8), p.187.
- Drucker, P., 1999. Knowledge-worker productivity: The biggest challenge. *California Management Review*, 41(2), pp.79–94.
- Harrison, A., Wheeler, P. & Whitehead, C., 2004. *The distributed workplace : sustainable work environments*, London: Routledge.
- Harrison, Andrew, 2002. Accommodating the new economy: The SANE space environment model. *Journal of Corporate Real Estate*, 4(3), pp.248–266.
- Hassanain, M., 2010. Analysis of factors influencing office workplace planning and design in corporate facilities. *Journal of Building Appraisal*, 6(2), pp.183–197.
- Haynes, B.P., 2007. The impact of the behavioural environment on office productivity. *Journal of Facilities Management*, 5(3), pp. 158-171.
- Haynes, B., 2008. The impact of office layout on productivity. *Journal of Facilities Management*, 6(3), pp.189–201.
- Haynes, B.P and Price, I. 2004. Quantifying the complex adaptive workplace. *Facilities*, Vol. 22 Issue: 1/2, pp.8-18
- Ilozor, B.D, Love, P.E.D. and Treloar, G., 2002. The impact of work settings on organisational performance measures in built facilities. *Facilities*, 20(1), pp. 61-67.

Laing, A. et al., 1998. *New environments for working : the re-design of offices and environmental systems for new ways of working*, London: E & FN Spon in association with Construction Research Communications.

Leaman, A. and Bordass, W. (2005), "Productivity in buildings: the 'killer' variables", in Clements-Croome, D. (Ed.), *Creating the Productive Workplace*, 2nd ed., E and FN Spon, London, pp. 153-80.

McGregor, W. and Then, D.S.S. 2001. *Facilities Management and the Business of Space*. Oxford. Butterworth-Heinemann

Muir, A. 2003. Space Management. In: R.Best, C. Langston and G. De Valence (eds.) *Workplace Strategies and Facilities Management: Building in Value*, Chapter 6. pp 81-103. Oxford. Butterworth-Heinemann.

Olson, J., 2002. Research about office workplace activities important to US businesses--and how to support them. *Journal of Facilities Management*, 1(1), pp. 31-47.

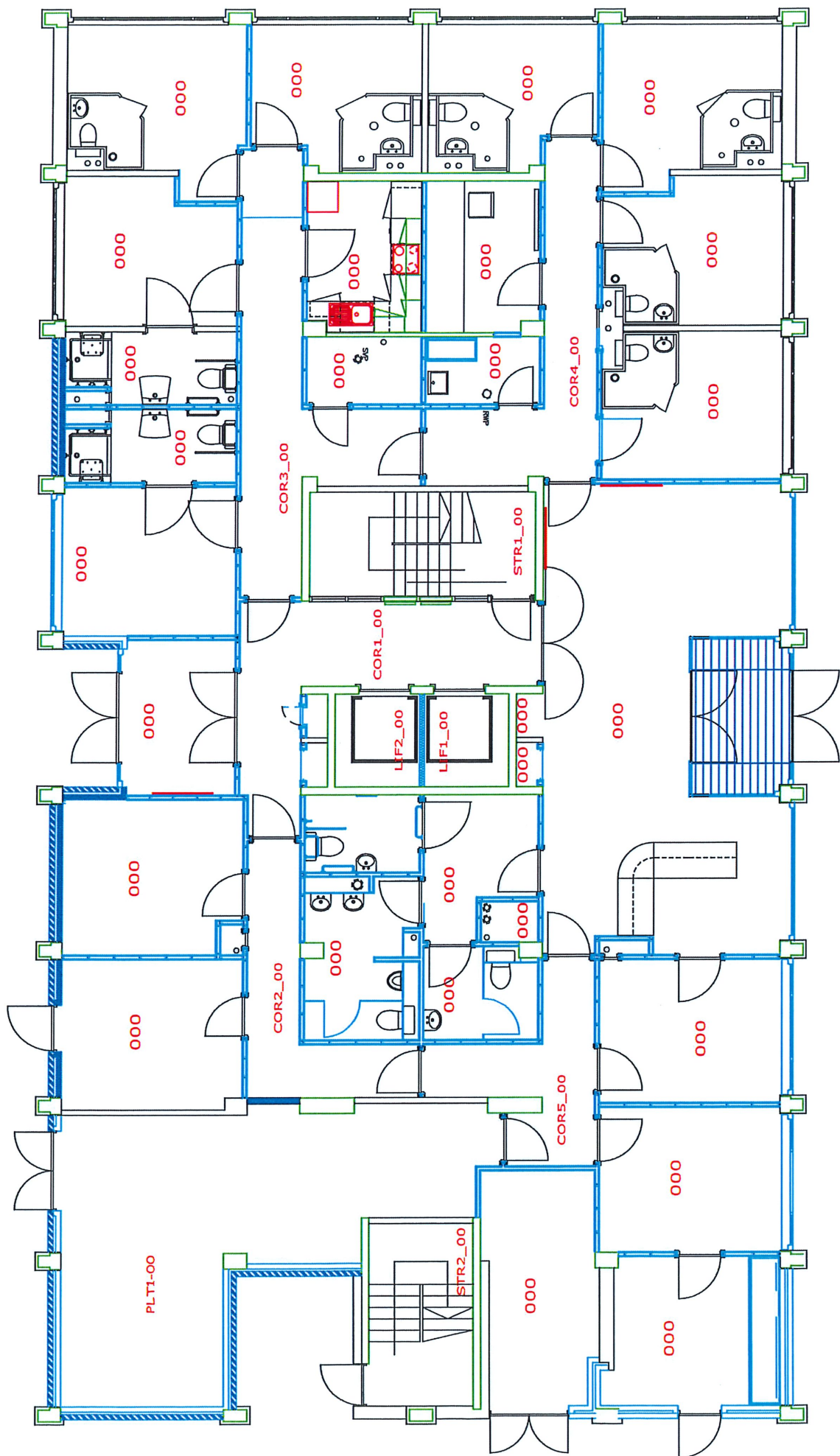
Orwell, R. et al., 2006. The Potted-Plant Microcosm Substantially Reduces Indoor Air VOC Pollution: II. Laboratory Study. *Water, Air, and Soil Pollution*, 177(1), pp.59–80.

Roelofsen, P., 2002. The impact of office environments on employee performance: The design of the workplace as a strategy for productivity enhancement. *Journal of Facilities Management*, 1(3), pp.247–264.

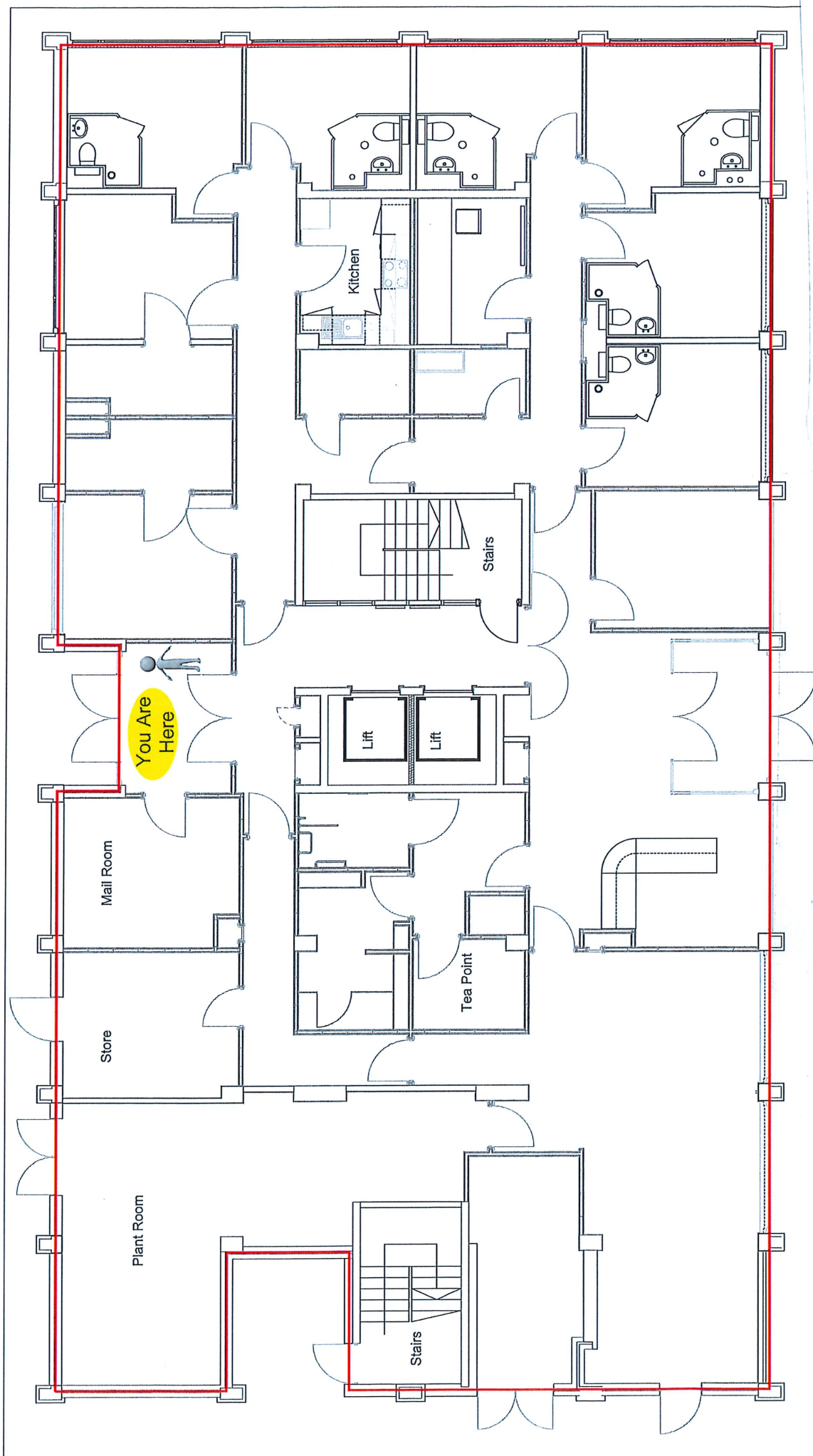
Schwede, D., Davies, H. & Purdey, B., 2008. Occupant satisfaction with workplace design in new and old environments. *Facilities*, 26(7/8), pp.273–288

Theo J M van Der Voordt, 2004. Productivity and employee satisfaction in flexible workplaces. *Journal of Corporate Real Estate*, 6(2), pp.133–148.

Appendix A



EXISTING LAYOUT - PRESET



PROPOSED LAYOUT - PRESEL