

statement to their own clients or visitors in turn. There is little disagreement about the standard necessary in general terms for toilet facilities.

However, in multi-tenanted buildings, design stage discussion still revolves around the necessity for male and female toilet accommodation at each floor level.

Institutional occupiers are prepared to pay for the main features of general entrance areas and well-

equipped toilets, but low-specification city-centre offices are failing to attract tenants unless there is a deep discount in rent, and even this is not acceptable to prestige tenants.

The funds' institutional standards seem, more than ever, to be the order of the day — generally bringing about a national city-centre standard.

This is, no doubt, influenced by high-profile financial sector occupier requirements.

While it may be expected that London, as the traditional location for corporate headquarters and the region that commands the highest rental levels per sq ft, sets the standard for office design, other regional centres, if they are to compete and encourage companies to relocate, will not only have to offer lower rents but the same, if not better, facilities.

To conclude, although it may be argued that there are regional varia-

tions in office design, and that perhaps London and the South East will have to continue to set the trend in order to justify their high rental levels, it is probable that all city-centre locations throughout the UK will follow innovations as they arise and that, once through the doors, the only way to distinguish an office block in Manchester from one in Bristol will be by the view through the window.

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## And now the healthy building syndrome

by Roger Moss

Nisses, who usually retain their developments as long-term investments, see their business as building a product that will interest their tenants not only when they first sign up their lease but also throughout the period of their occupation of the building. For Nisses, a tenant is a customer who must be kept satisfied, whether the lease is short or long.

This attitude stems from their experience in the office market in Sweden, where occupiers expect very high standards and landlords are lucky to find tenants who will sign leases for periods of more than three years. Property companies there must therefore build offices that make occupiers want to renew their leases at the end of their tenancies.

In a wider context, Nisses consider office space as a business asset that has to be capable of being actively managed and assume that any normal tenant company seeks value from its offices in much the same way as it would from a supplier of goods or services, or from an employee. Nisses believe that functional design has to be at the heart of every project. Their specifications aim to create attractive and healthy working environments for staff and space that are capable of accommodating the very latest information technology, as well as being genuinely flexible so that facilities managers can accommodate changing departmental requirements for space very quickly and cheaply.

A major feature of the London office market today is the emergence of foreign developers whose managers often have a fundamentally different approach to property development and investment than their British counterparts.

The project at Four Millbank, London SW1, opposite the Houses of Parliament and overlooking the River Thames, is being refurbished by Nisses Millbank, a subsidiary of Anders Nisses AB, one of Sweden's largest property development and investment companies, and is a good example of this.



Four Millbank, London SW1, is an Edwardian building on the corner of Millbank and Great Peter Street.

C-G Pettersson, the project director at Four Millbank, believes that offices should be designed from the inside out. His figures show that building services such as heating, ventilation and air-conditioning, lighting, cabling and other elements that make up the working environment constitute 40% of the cost of the building, whereas the superstructure accounts for only a little over 20%.

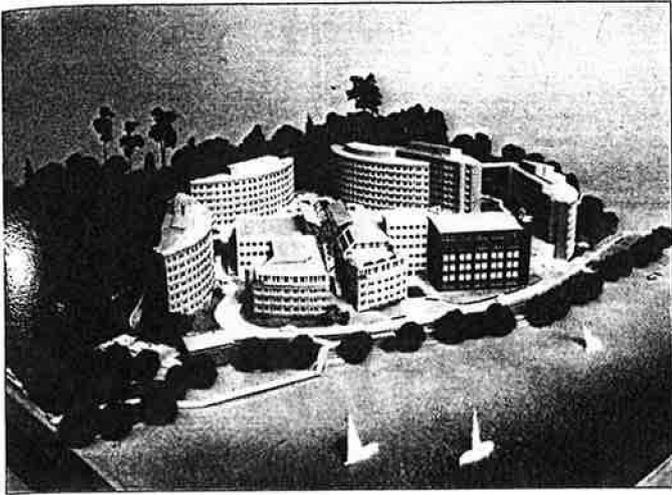
"In investment terms it makes much more sense to concentrate on the 40% figure first and to work out how that money can best be spent to build space that really works for the ultimate occupier. Conventional wisdom in Britain seems to be to choose an architect who will design something that will look good. From the financial and marketing points of view, this means focusing too much on an element that makes up only 20% of the whole," says C-G Pettersson.

The refurbishment at Millbank is Nisses' first project outside Sweden and will be the first opportunity for British property professionals to see for themselves how C-G Pettersson's theory translates into reality.

The site is the former Crown Agents offices, a fine Edwardian building on the corner of Millbank and Great Peter Street. When the refurbishment is completed in November 1990, Four Millbank will operate as a 24-hour-a-day business complex and will comprise 125,000 sq ft of air-conditioned offices, a health club with a swimming pool and a gymnasium, a first-class restaurant and a business services centre, as well as parking and 14 flats — close proximity to Waterloo will also provide a company

Roger Moss is managing partner of Moss & Partners, who are sole letting agents for the project.

## FOCUS ON OFFICE DESIGN



*Four Millbank will have an excellent indoor climate and a healthy indoor climate and a healthy working environment, which Nisses see as an opportunity for tenants to get better results from their staff.*

A survey comparing Alviks Strand with another, similar, Stockholm office that has a traditional ventilation system has proved that better ventilation in office buildings dramatically reduces absenteeism. Of the people working in the office with the traditional system, 20% experienced headaches and fatigue as a result of the office environment, whereas at Alvik fewer than 5% complained of these symptoms.

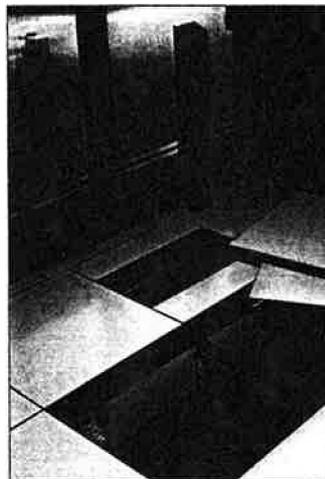
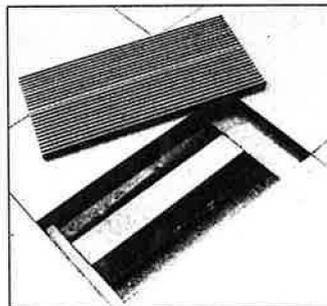
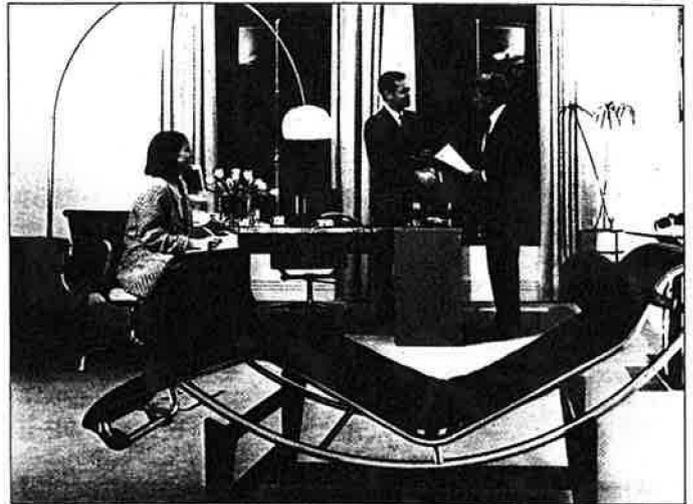
C-G Pettersson stresses that the healthy working environment is all part of the commercial proposition.



*Nisses have sought to ensure that the design for Four Millbank retains the original entrance hall and the grand staircase. The offices will be relatively column-free and will surround an atrium, giving a feeling of space, light and air.*

*When completed in November 1990, the refurbishment will provide air-conditioned offices, a health club with swimming pool and gymnasium, a restaurant and business services centre, 14 flats and parking facilities.*

*A raised floor made up of removable and interchangeable tiles will enable occupiers to run cables and electric and telecom wires out of sight under the floor. These floor tiles can be easily removed to vacuum the air channels, enabling the clean air to be kept free of bacteria, fungi, dust and dirt.*



"We calculate that a typical 17,500-sq ft floor at Millbank will accommodate about 115 people. If the overall average salary per employee is £17,500, the payroll total will amount to just over £2m. Potential tenants will therefore get approximately £20,000 better value from their staff for every percentage point by which the building reduces their absenteeism rate."

Satisfied tenants at Alviks Strand consider it sound business sense to provide the very best working environment for their staff. One of them, the Japanese electronics giant Toshiba, selected Alvik from a shortlist of 143 locations!

As competition for both profits and employees is becoming more and more intense, "healthy" buildings will help to provide both increased profitability from improved productivity and the ability of companies both to attract and retain the best employees by being able to offer them the best working environment and range of amenities — the time is fast approaching when employees will be "interviewing" the building in which their working life will be spent, as well as the company, and a healthy building will become one of the key determinants of their decision. **EF**

competing in Europe's new single market with eventual access direct to central Paris and Brussels in under three hours.

Although Four Millbank is not listed, Nisses have sought to ensure that the design retains the original entrance hall and the grand staircase and the offices will be relatively column free and will surround an atrium that has been incorporated; despite loss of potential net office area, in order to enhance the feeling of space, light and air. There will be no fluorescent lighting, in line with Nisses' strict healthy building requirements.

A minimum 11in raised floor made up of removable and interchangeable tiles, air-conditioning inlet and outlet tiles and links to an underfloor multipoint power system will enable occupiers to run cables and electric and Telecom wires out of sight under the floor. It will be extremely easy to re-organise office layouts because there will be no limitations or obstacles to flexibility other than the physical space available.

Four Millbank will have an excellent indoor climate and a healthy working environment, which Nisses see as an opportunity for tenants to get better results from their staff.

"The most important question for employers and employees is whether the building allows everyone to get on and concentrate on their work. For that you need good lighting and the right temperature and humidity and comfortable seating. The increased productivity will show through on the bottom line," says C-G Pettersson.

This was highlighted by the recent national Harris Poll, commissioned by Nisses and Moss & Partners, which revealed not only that 71% of Londoners say that an unhealthy working environment is affecting their productivity but also that over two-thirds of the working population in London, including senior management, believe their productivity could improve in a working environment with cleaner and fresher air — which is exactly what Nisses will be providing at Four Millbank.

Indoor air quality and better ventilation will be the key to this healthy environment, which will be achieved by good air replacement with fresh air from outside, a powerful air filtration plant and an air-conditioning system that is capable of being kept clean. Internal building materials will be selected so as to avoid those that give off noxious particles.



The Hiross Flexible Space Air-conditioning System, which has never previously been fully incorporated in a building in Britain, is one of the key elements in this.

The system does away with ducting by driving conditioned air through the plenum beneath a raised tiled floor.

Unlike ceiling mounted ducts, the underfloor channels can be very easily cleaned — all that is necessary is to lift out some of the floor tiles and to vacuum the air channels.

This enables the clean air to avoid being repolluted by all the bacteria, fungi, dust and dirt that are known usually to inhabit ordinary air-conditioning ducts.

Air flow channels are separated by baffles and the air enters and leaves the offices via supply and return air grilles in the floor that are interchangeable with the floor tiles. Each floor is split into air circuits of about 2,000 sq ft to 2,500 sq ft and the air is powered through the channels and around the offices by the force of two centrifugal fans contained in units that both filter the air and exchange some of it with air from the central filtration plant

that has been brought into the building from outside.

In which ever way the offices are set out, each office needs only an air supply unit (Fantile) and a return air grille in order to link into the system and receive conditioned air. Each Fantile incorporates a thermostat enabling the people working in the offices to control their own temperature.

Nisses have worked with sick building syndrome experts for several years to design out all the internal sources of staff illness and absenteeism. They have succeeded by ensuring that both the air-conditioning system and the air in it are always very clean and have also substituted uplighting and task lighting for fluorescent lighting. In addition, they have appointed a healthy building consultant, the first time such an appointment has been made in the UK, who will audit Four Millbank on completion and at regular intervals thereafter.

But it is no experiment; Alviks Strand, comprising some 400,000 sq ft of net office area and the company's flagship development in Stockholm, has already been acclaimed by international experts and the Swedish white collar trade union as a "healthy" building and a prototype working environment for the future.

