

# WHITE COLLAR FACTORY



Cover: The original White  
Collar Factory, the  
Johnson Wax Building  
Racine, Wisconsin  
Architect: Frank Lloyd Wright  
This page: Van Nelle Factory,  
Rotterdam  
Architect: Johannes Brinkman



# THE OFFICE BUILDING OF THE FUTURE WHITE COLLAR FACTORY

The well-built, adaptable, industrial buildings of the past convert into good, modern offices: at Derwent London, we made our name doing just this. Now we have applied that experience to a new breed of office buildings we call White Collar Factories.

If you have high ceilings, good daylight and natural ventilation, then you don't need full air-conditioning and all the lights on constantly. So building and fit-out costs are lower, rents and running costs are less - and your working environment is healthier. Our project team of construction experts has successfully applied the best attributes of the old conversions to best practice in new-build. The result is beautifully usable and adaptable no-frills B1 workspace.

We do it by intelligently arranging the key elements. You get solid, internally exposed thermal-mass construction, a generous 3.5m floor to ceiling height, and well-insulated facades that are tailored to deal with orientation and sun exposure. With opening windows, there is reduced mechanical air ventilation. Cooling in summer and heating in winter is provided by water pipes set in exposed concrete slabs. Power and data comes via a 150mm raised floor. A simple, elegant, suspended lighting system also comes as standard.

All this gives you your 'ready-to-go' basic workspace. If you want additional refinement as your business changes, it's easily done: adaptability is key. You get good honest offices that look and feel great. It's the new kind of sustainable, cost-conscious office building that learns from the past.

The White Collar Factory is built according to five key principles. Since much of the running cost of a typical office building is mechanical climate control, the WCF is optimised to reduce artificial heating, cooling and lighting. This is how it does it:

**1**

**TALL  
CEILINGS**

**2**

**SMART  
SERVICING**

**3**

**SIMPLE  
PASSIVE  
FACADE**

**4**

**FLEXIBLE  
FLOOR-  
PLATES**

**5**

**THERMAL-  
MASS  
STRUCTURE**



Early designs  
for a typical  
WCF space

# 1

## TALL CEILINGS

Increased flexibility of use:  
volume provides for  
retro-fitting

Increased natural daylight  
and ventilation penetration

Improved temperature  
comfort levels

Efficient & even distribution  
of artificial lighting

# 2

## SMART SERVICING

Minimal provision i.e.  
no excessive 'kit'

Maximum use of passive  
systems including natural  
daylighting & ventilation

Concrete Core Cooling:  
chilled water piped  
through the slab thermally  
activates the structure to  
become a radiant source  
for cooling



Early designs  
for a typical  
WCF space



Early designs  
for a typical  
WCF space

# 3

## SIMPLE PASSIVE FACADE

Shading where necessary  
i.e. to south/east & west  
elevations depending on  
context

Openable windows  
controlled by users

% of glazing varies to suit  
orientation i.e. more to the  
north, less to the south

Potential for optional voids  
between floors to connect  
tenancies

Potential for 2-way  
split tenancy per floor

# 4

## FLEXIBLE FLOOR- PLATES

Exposed concrete  
for thermal mass and  
night-time cooling

Minimise carbon footprint  
through use of GGBS  
(Ground Granulated Blast  
Furnace Slag) concrete.  
Reduced use of building  
materials with exposed  
concrete walls and  
soffits – no need to  
install a ceiling system  
or wall finishes. Robust,  
self-finishing structure.

# 5

## THERMAL- MASS STRUCTURE



# CITY ROAD ESTATE

## WHITE COLLAR FACTORY

Sited on City Road EC1, at the heart of the “silicon roundabout” technology quarter close to the financial district, this is a mixed-use area with workspace, residential and retail. Designed by award-winning architects AHMM, it involves a landmark 16-storey office tower and refurbished existing buildings to the rear, including a new public square. It will provide a civilised oasis on this key London intersection, plugged directly into the public transport network.

The City Road tower applies WCF thinking to a taller building with 267,270 square feet of highly adaptable workspace. Accordingly the facade details vary somewhat from lower-rise WCF variants, with inboard columns and an openable high-performance curtain wall system. Perimeter trench heating skirts the curtain wall interior. Otherwise, all WCF principles remain the same: openable windows, high exposed concrete slab ceilings containing heating/cooling pipes, deep plan, minimal mechanical ventilation, accessible plant zoned floor by floor. Like the multi-level converted old factory and warehouse buildings that inspired the concept, it is simple, generous in volume, effective and flexible.

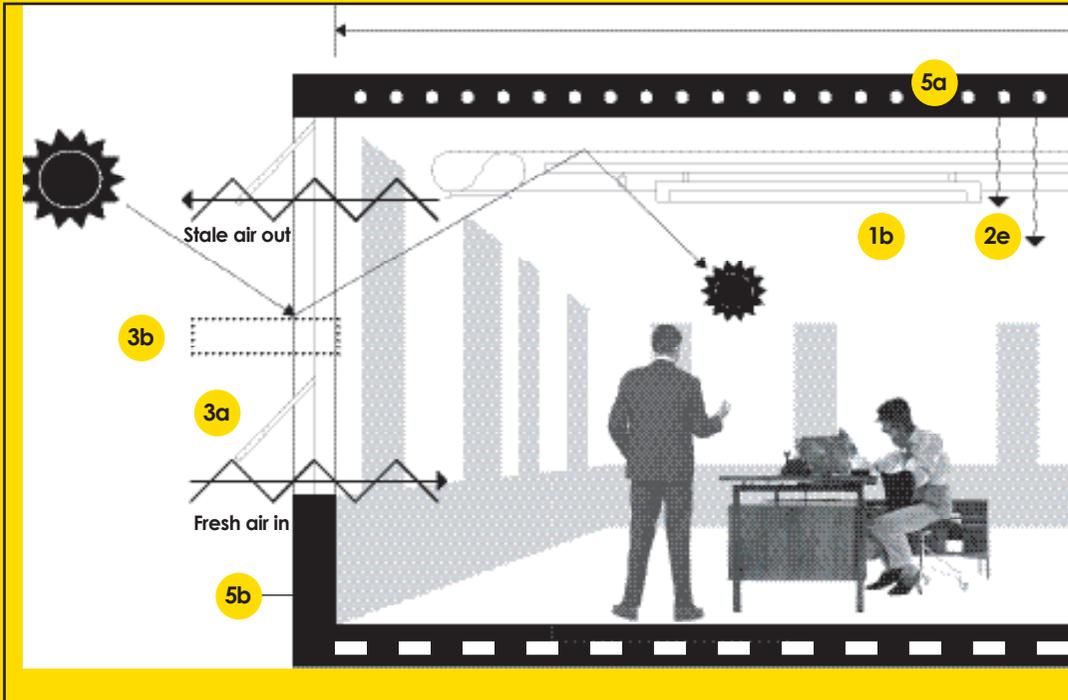
The site of the building is significant: close to an earlier highly successful Derwent London project, Oliver’s Yard, it reinforces the increasing importance of this location to specialist, often technology-based, tenants. Its precedents, however, lie in older conversion projects such as the mixed-use Tea Building in Shoreditch, originally a set of warehouses. The high-volume deep-plan nature of such buildings has proved very adaptable, with companies able to upgrade as they grow. City Road takes that idea into a new dimension.

## 1 TALL CEILINGS

- 1a 3500mm floor to ceiling heights
- 1b Exposed services – easy to maintain and adapt for particular uses

## 2 SMART SERVICING

- 2a Minimum fresh air mechanical vent with extract from bulkhead
- 2b Option for on floor plant
- 2c Light fittings included as basic product
- 2d Power and data in shallow raised access floor
- 2e Radiant slab for cooling & heating



### 3 PASSIVE LOW TECH FACADE

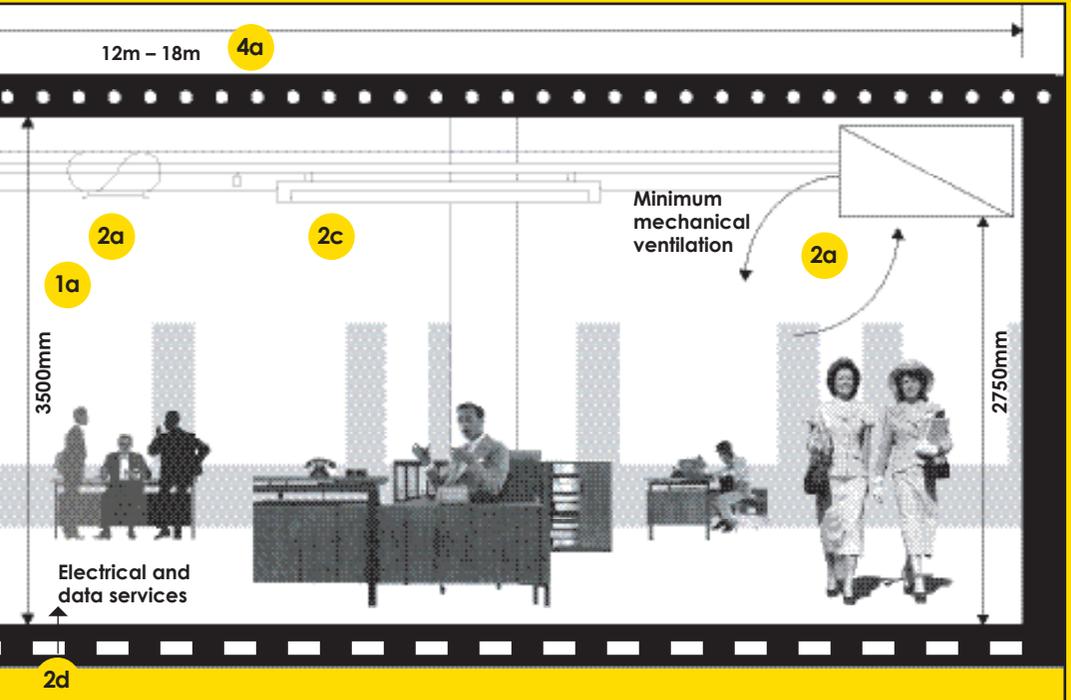
- 3a Opening windows
- 3b Windows adapt to suit solar conditions i.e small openings to south, larger to the north

### 4 FLEXIBLE FLOORPLATES

- 4a Generous scale provides maximum flexibility to suit a wide range of users

### 5 CONCRETE STRUCTURE

- 5a Exposed concrete soffit
- 5b Concrete perimeter upstand increases structural spans and eliminates perimeter columns
- 5c Robust self finished, activated for heating & cooling



# DERWENT LONDON

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