Canary Wharf
Case Study
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Architecture 504 England
Spring 2006
1. Project Basics
   Location: Canary Wharf, London, England
   Latitude: 54°30' N, 0°1' W
   HDD, CDD, annual precipitation: 3422, 213, >24”
   Building Type: High-Rise Office, Retail, and two Rail Stations
   Square Footage; Stories: 15,700,000 sq. ft.; 12–50 stories
   Completion Date: 1986–present
      Currently 25 buildings are completed.
   Client: Many Worldwide Financial Companies

2. Background and Context
   The London docks were once one of the largest and most important ports in the world, employing hundreds of thousands of workers. During the 1960s shipping companies moved to larger, more efficient ports, and by 1981, 8.5 square miles was unused. An unsuccessful attempt at economic revitalization was made during the late 1980s. Then in 1995, the Canary Wharf Group was formed with the goal of creating first-class office space in London.
      Canary Wharf Group focused on design, construction, leasing, and management of Grade A office space, and high-quality retail and leisure (CWG Environmental & Social Report 2003–2004). Among the top priorities of this group was to make an environmental impact through the use of systems within their building and site and procedures for all their incoming tenants.
      At this time there are 25 buildings in Canary Wharf proper spread over 86 acres; this does not include the Canary Wharf Riverside Phases. In
Site in London (www.googleearth.com)
Cabot Square, N&S Colonnades

1 Cabot Square - Pei Cobb Freed & Partners. (wwwpcfandp.com)

5 The North Colonade/10 Cabot Square
Skidmore Owings & Merrill. (www.canarywharf.com)

25 Cabot Square Skidmore
Owings & Merrill. (www.canarywharf.com)

20 Cabot Square Kohn Pedersen Fox (www.canarywharf.com)

25 The North Colonade - Troughton
McAslan. (www.canarywharf.com)

Cabot Place - Various
Architects (www.canarywharf.com)

30 The South Colonade - Kohn
Pedersen Fox (www.canarywharf.com)
Canada Square
Bank & Upper Bank

20 Bank Street - Skidmore, Owings & Merrill (www.canarywharf.com)


West Wintergarden - Cesar Pelli & Associates (www.canarywharf.com)

40 Bank Street - Cesar Pelli & Associates (www.canarywharf.com)

50 Bank Street - Cesar Pelli & Associates (www.canarywharf.com)

East Wintergarden - Cesar Pelli & Associates (www.canarywharf.com)

10 Upper Bank Street - Kohn Pedersen Fox (www.canarywharf.com)
Churchill Place, Parks and Rail

1 Churchill Place - HOK International (www.hok.com)

Canada Square - (www.canarywharf.com)

Canary Wharf Docklands Light Rail Station - (www.ucl.ac.uk)

Canary Wharf Jubilee Line Station - Will Alsop (www.trainweb.org)
addition to buildings, the site houses the DLR station, the Jubilee Line Station, and multiple parks. Most buildings are high-rise offices ranging from 12–50 stories in height. Of these, the dominant Canada One tower, designed by Cesar Pelli and Associates at 50 stories, towers over the city of London. These buildings form the core of a new financial district that now houses many of the world’s largest financial companies.

The site is home to buildings from some of the world’s best-known design firms. Many have green building features, but the bulk is typical urban high-rise buildings, with steel skeletons and curtain wall glazing. The impact that Canary Wharf has had on the green building movement is in their master site design and in their on-going environmental management. The attention to transportation, views, green spaces, and civic connections has made this a favorite place for many of the 70,000 people who work on this little island.

What separates this development from many others around the world is the ethical standpoint of the designers. It is a primary objective of the CWG to inform the tenants, shareholders, and community at-large about their goals, performance, and compliance with environmental policies. These policies reflect their commitment to environmental and social issues. Their compliance with these policies has placed them at the head of their sector, and earned them the City of London’s “Livable City 2003” award.

The CWG has permitted and constructed over 15.7 million square feet of office and retail space at Canary Wharf. The construction of sleek glass high-rise buildings was intended to move and consolidate the city’s financial district into one high-tech zone. This has been a very successful venture for CWG even though the economic hurdle of such a massive development has yet to be cleared. The London Office Database places occupancy at approximately 90% and economic viability as still at-risk (EGI/2004). Key tenants, like Credit Suisse, will be leaving soon, giving CWG even more space to lease.

3. Design Intent and Validation

The Canary Wharf Group intended to resurrect a defunct brownfield on the Isle of Dogs in London. These 8.5 square miles of abandoned docklands posed a huge
financial risk for the investors, but as many of the properties were under reorganization (a British version of bankruptcy), certain risks were mitigated. However, the need for a new centralized financial district with adequate office space drove the creation of this new development and its surrounding infrastructure. The development of traditional high-rise structures was coupled with intense facility management technology and a pronounced desire to create a sustainable urban space. The guiding theme for this environmental approach was “planning, creating, sustaining” (Environmental and Social Report 2003-2004). To this end CWG worked with engineers, architects, facility managers, and consultants from around the globe to create the perfect blend of green, high tech, and Wall Street.

4. Key Design Strategies

Building Design and Construction
Using specific design and construction management techniques, CWG made great efforts to minimize both short- and long-term environmental impacts from the construction of these buildings. Their goal was to achieve a BREEAM “Very Good” or “Excellent” with tenant assistance. In particular, the architects relied on water-reduction strategies, renewable energy resources, passive solar, green roofs, and high-tech lighting management programs, which save energy by dimming the lights within the buildings on the estate as the sun enters into specific regions inside. This also cuts down on heat production of the light fixtures themselves, saving energy both in light production and building cooling.

Estate Management
This is by far the most aggressive environmental aspect of Canary Wharf. CWG leases space to tenants and offers their service to provide environmental training and reporting. Nearly half the tenants use this feature, giving great control and influence to CWG. This control is levied at three main estate management areas each with specific goals and agendas.

Construction Activities
During new construction and tenant build outs, CWG manages...
Noise: nuisance
Waste: waste transport, land use, methane pollution, quantity
Building Design: energy consumption, water consumption, wastewater quantity, material use, and aesthetics
Spillages and Discharges: dock pollution, land, and drains; wildlife
health and safety
Material Procurement: resources and effects from manufacture
Material Transport: CO2 emissions.
Use of Energy: efficient use of energy by construction staff. In particular CWG has a Key Performance benchmark that is helping other developers determine what energy performance can be expected from high-rise office space.
Use of Water: Purification energy, and chemical use.
Extraction of Water: Effect on aquifer.

Office Activities:
Similar to construction activities with the addition of Staff Commuting Monitoring.

Estate Activities:
Purchases of materials and services: effective environmental supply chain. Biodiversity of the Estate: influence and impact through enhancement of environmental specifications and design.
Pollution of dock, drains and surrounding land: preventing pollution Response to environmental incident: Energy Consumption in infrastructure and building services: Infrastructure and Retail Waste: waste
creation and transportation
Water consumption in infrastructure and building services: efficient use of water and purification chemicals.
Tenants & Shoppers commuting: integrating environmental and social issues into the business strategy.

Transportation
CWG is continually monitoring the use of personal vehicles or public transportation of its own staff, the tenants, and retail users. The development includes multiple redundant public transportation methods, and a minimum of parking to encourage users to commute in a sustainable fashion.

Community
CWG has a firm commitment to the neighboring communities. There are multiple strategies to link this area with the surroundings. Of note, a joint community based employment initiative, research and education funding, community involvement such as Green Canary Day, and finally encouraging its staff to participate in public and private groups focusing on social and economic issues.

Biodiversity
CWG’s Business Biodiversity Action Plan integrates a nearby hamlets’ Action Plan into the fabric of Canary Wharf. By linking existing tree, shrub and plant species, larger wildlife habitats are developing. Also increased education of specific species habitats within the green roof space has yielded very useful biodiversity data. Setting specific benchmarks and reporting on CWG’s performance to the community keeps communication about biodiversity and wildlife transparent. The Phones for Trees recycling plan is one unusual way to encourage employees on Canary Wharf to...
Environmental and Social report. In addition to verification, Casella Stanger also observes and advises CWG in regard to compliance and performance. CWG plc studies and reports on transportation related issues for staff and employees of the companies who utilize their management.


Canary Wharf Management Limited studies and reports on waste management and recycling issues.

6. Further Information
www.canarywharf.com

2004 – 2005 OBJECTIVES AND TARGETS

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLICIES AND MANAGEMENT SYSTEM</td>
<td></td>
</tr>
<tr>
<td>To develop environmental management practices for CWG in line with internationally recognised standards.</td>
<td>1. Carry out regular environmental inspections to cover all areas and activities in CWG. 2. Achieve and maintain external certification against ISO14001 (carried over from last year).</td>
</tr>
<tr>
<td>COMMUNITY</td>
<td></td>
</tr>
<tr>
<td>To increase the environmental and social awareness of tenants and visitors to Canary Wharf.</td>
<td>3. Hold an expanded third Green Canary Day, using new parts of the Estate, by the end of 2004. 4. Hold a fourth, transport-themed, Green Canary Day, in conjunction with external organisations, by the end of 2005. 5. Invite feedback from Interested Parties on CWG’s management of Significant Environmental Aspects (carried over from last year) 6. Complete the development of the CWG Environmental web site.</td>
</tr>
<tr>
<td>EMPLOYEES</td>
<td></td>
</tr>
<tr>
<td>Increase environmental awareness for all staff, and appropriate tenants.</td>
<td>7. Develop environmental training courses for targeted groups where a need has been identified</td>
</tr>
</tbody>
</table>

5. Performance Studies
Casella Stanger a UK based environmental consulting company verifies all data submitted within the properly dispose of their old cell phones.

Verification

 Observation 1 - The target wording for some of the targets was general in nature and some aspects of performance could not be quantified.
 Observation 2 - The range of local community initiatives in areas such as Tower Hamlets, planning issues; and CWG’s approach to minimising environmental impact where possible through design and commitment to achieving ‘Very Good’ or ‘Excellent’ BREEAM ratings.
 Observation 3 - CWG should improve target setting processes to ensure that all targets are SMART (Specific, Measurable, Achievable, Realistic and Time-Bound) and reassurance to CWG’s stakeholders that performance against these targets, as presented in this Environmental and Social report, is accurately monitored and measured. Casella Stanger has been involved in developing CWG’s Sustainability Strategy and developing this report but has not been involved in setting specific targets. Recommendations from last year’s verification process.

Recommendation 4 - The target wording for some of the targets was general in nature and some aspects of performance could not be quantified. The target wording for some of the targets was general in nature and some aspects of performance could not be quantified.

Recommendation 5 - CWG should improve target setting processes to ensure that all targets are SMART (Specific, Measurable, Achievable, Realistic and Time-Bound) and reassurance to CWG’s stakeholders that performance against these targets, as presented in this Environmental and Social report, is accurately monitored and measured. Casella Stanger has been involved in developing CWG’s Sustainability Strategy and developing this report but has not been involved in setting specific targets.

Recommendation 6 - CWG should develop processes to ensure that succession plans are in place to deliver fully all aspects of target achievement and that these are fully and effectively implemented. The scope of some of the targets changed throughout the target year and it is not clear if on-going performance is tracked.

There is no formalised process to implement recommendations from last year’s verification process.

METHODOLOGY

There is no formalised process to implement recommendations from last year’s verification process.

appropriate. This information was used by the verifier to determine the level of target achievement using the following categories for evaluation:

- Substantially achieved (75–100%),
- Partially achieved (<75%), or
- Not achieved (0%).

In addition to this verification statement, an internal audit report was produced for CWG. This provides further details of progress against specific targets and a number of recommendations and actions, which are summarised in the internal audit report. Where the recommendation also applied in 2002/03 it is indicated in italics.

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There is no formalised process to implement recommendations from last year’s verification process.
7. References
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Velazquez, Linda S ASLA. “Sky Gardens: Travels in Landscape Architecture” Greenroofs.com – the greenroof industry resource portal January – April 2004  

## Getting There and Back Again

### Journey Planner

#### 3. Route details

**Journey summary**

**Departing:** Tuesday 30 May 2006 at 10:00  
**From:** Great Portland Street  
**To:** Tower Hamlets (London), Canary Wharf (E14 5AB)

**Restrictions:**

**Route 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Details</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:02</td>
<td><strong>Great Portland Street</strong></td>
<td>start</td>
</tr>
<tr>
<td>10:04</td>
<td>Take the Hammersmith &amp; City Line towards Hammersmith (H&amp;C Line) or Circle Line towards Baker Street</td>
<td>end map</td>
</tr>
<tr>
<td></td>
<td><strong>Baker Street</strong></td>
<td>Area map</td>
</tr>
<tr>
<td>10:07</td>
<td>Take the Jubilee Line towards Stratford or Jubilee Line towards West Ham</td>
<td>Av journey time: 20 mins</td>
</tr>
<tr>
<td>10:27</td>
<td><strong>Canary Wharf</strong></td>
<td>Zone(s): 1, 2</td>
</tr>
<tr>
<td></td>
<td>Walk to Canary Wharf (E14 5AB)</td>
<td>Area map</td>
</tr>
<tr>
<td>10:34</td>
<td><strong>Canary Wharf (E14 5AB)</strong></td>
<td>end map</td>
</tr>
</tbody>
</table>

**Maximum journey time:** 00:32  
**Interchanges:** 1  

Not what you expected? Click here for information on planned service disruptions