



Planning Design Research



Planning Design Research (PDR) has specialized in the design and delivery of innovative workplace solutions since 1977. Working globally with Fortune 100 companies, PDR creates high-performance work environments for organizations that recognize the workplace as a key strategic asset in promoting the effective integration of talent, process, and technology.

Working Healthy: Transforming People by Transforming Spaces

This office design seeks to implement PDR's deep understanding of workplace and sustainability to create a balanced healthy environment—planet health, human health and corporate health. The 13,000 sf office showcases a diverse number of work settings, collaborative and individual, surrounded by superior indoor air quality, spectacular views, enormous daylight, effective and energy-efficient lighting strategy, and ergonomic desktops.

The building, 2 Houston Center, is an existing 40-story high-rise in downtown Houston, Texas that has earned LEED EB Gold certification. Selecting a LEED certified building ensures a solid sustainability foundation and supports PDR's environmental

philosophy. PDR selected the project site for several reasons including its convenient downtown location with easy access to public transportation including a light rail station half a block away, inside a dense existing development with numerous nearby services and amenities, and the tall perimeter windows and ceilings. PDR signed a 10+ year lease demonstrating our commitment to this location and resources invested in the build-out.

A. Reception Area

Perhaps the most striking features when first entering the space are the white floor, tall ceilings, natural light and amazing views.

The typical hard flooring is a durable rolled-on white epoxy. Along with carpet and rugs, the flooring systems are all low-emitting materials. Additional low-emitting products used on the project include adhesives and sealants, paints and coatings, composite woods and systems furniture contributing to a healthier indoor environment. The epoxy floor can be cleaned simply by dry mopping daily and occasional wet mopping with mild detergent supporting PDR's green cleaning policy.

The continuous perimeter windows are ten feet tall allowing daylight to flood deep into the space. 94% of the regularly occupied spaces are daylit.

The ceiling throughout the space is mostly exposed to the structure above. Where ceilings are installed, a sense of place is established. The increased volume and strategically placed floating panels provides an acoustically appropriate work environment while reducing the total ceiling used on the project.

B. Large Conference and Living Room Library

The existing leasehold had asbestos containing materials which required the complete removal of all existing construction to facilitate the abatement. Through construction waste management, 78% of all material removed was diverted from landfills and the resulting project area is asbestos-free.

More than 52% of the furniture and furnishings was refurbished and relocated with the move conserving natural resources and reducing project expenses. Examples include the custom woodwork cabinets, reception desk, laminate bookcases, conference tables, credenza and chairs.

An effort was made to source furniture and furnishings, and construction materials within 500 miles of the project site to reduce the environmental impacts associated with transportation. 48% of all materials used on the project were extracted regionally; 56% was manufactured regionally.



GREEN BUILDING TOURS

June 1, 2012



C. Coffee Bar

All new millwork, such as the coffee bar, does not contain added urea-formaldehyde. The coffee bar counter appears simple with clean lines but it contains a central recycling center with several large drawers for the collection of paper, cardboard, glass, metal and plastic. Additionally, PDR participates in a coffee packet recycling program by collecting and shipping used packets to the manufacturer for recycling.

Of all equipment and appliances within the office, over 80% are Energy Star rated including refrigerators, computers, monitors, and copiers.

D. Studio

The use and control of daylight was an important factor in the design of the studio area. PDR located the studio at the end of the building so the main workplace is surrounded by windows on three sides providing lots of natural light and views. All seated spaces receive a minimum of 25 fc from daylight alone on an average sunny day.

Over 92% of the regularly occupied seats have a direct view to the outside.

To control glare, 4" thick Venetian blinds are installed around the floor. The blinds are motorized and utilize a central computer and solar sensor to automatically adjust the blinds based on longitude and latitude, time of day and current sunlight conditions. The upper third of the slats are inverted to reflect sunlight up onto the ceiling and effectively pushing the light deeper into the office. This system ensures the workplace receives the maximum amount of daylight while controlling for glare.

The overhead indirect electric lighting within this area was designed to provide low-level ambient lighting contributing the reduced overall



lighting load. The project achieved a lighting power density of 0.74 watts per sf—26% below the allowable by code. For cloudy days and evenings, all seats are equipped with LED task lights with occupancy sensors.

One of the primary factors used in the selection and layout of the studio furniture was ergonomics. All workstation components have a range of adjustability to adapt to each individual user's needs, including the work-surface height, monitor arms and task chairs there by complying with BIFMA G1 standards. Additionally, work settings within the adjacent collaborative area have adjustable height tables that allow standing and sitting configurations.

E. Resource Library, Project and Huddle Rooms

Shared collaboration areas are designed for flexibility and efficiency. They are all technology enhanced and offer an enclosed and semi-enclosed environments.

The rotating panels for fabric samples were refinished and relocated with the move.

Lighting controls were an important consideration in the design of the office. 99% of the individual spaces have individually controlled task lights on an occupancy sensor while 100% of shared multi-occupant spaces are provided with multi-level and, or dimming lighting controls. Occupancy sensors have been installed at all enclosed spaces.

F. Toilet Rooms

The restrooms were completely renovated as part of the build-out so water-efficiency and hygiene strategies were easier to implement.

Hands-free operation is one strategy to improve hygiene. Within the restrooms, all fixtures allow hands-free operation and the doors swing outward so they can be opened with a forearm or shoulder. Hands-free hand dryers have been provided in lieu of paper towel dispensers thereby eliminating paper towel waste.

Low flow fixtures were installed at lavatories, water closets and urinals contributing to a 35% reduction in overall water use.



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June 1, 2012



Planning Design Research

Houston, Texas

94% Daylighting

92% Views to Outdoor Environment

78% Construction Waste Diverted

56% Materials Manufactured Regionally

48% Materials Extracted Regionally

LEED® Facts

Planning Design Research
Houston, Texas

LEED for Interior Design + Construction v2009
Certification awarded 02/14/12

Platinum 80*

Sustainable Sites	17/21
Water Efficiency	8/11
Energy & Atmosphere	25/37
Material & Resources	8/14
Indoor Environment Quality	13/17
Innovation in Design	5/6
Regional Priority	4/4

*Out of a Possible 110 Points



GREEN BUILDING TOURS

June 1, 2012



Planning Design Research

Houston, Texas

Project Background Planning Design Research (PDR) has specialized in the design and delivery of innovative workplace solutions since 1977. Working globally with Fortune 100 companies, PDR creates high-performance work environments for organizations that recognize the workplace as a key strategic asset in promoting the effective integration of talent, process, and technology.

This office design seeks to implement PDR's deep understanding of workplace and sustainability to create a balanced healthy environment—planet health, human health and corporate health. The 13,000 sf office showcases a diverse number of work settings, collaborative and individual, surrounded by superior indoor air quality, spectacular views, enormous daylight, effective and energy-efficient lighting strategy, and ergonomic desktops.

Sustainable Sites | 17/21 The building, 2 Houston Center, is an existing 40-story high-rise which has earned LEED EB Gold certification. Selecting a LEED certified building ensures a solid sustainability foundation and supports PDR's environmental philosophy. PDR selected the project site for several additional reasons: it's convenient downtown location inside a dense existing development, numerous nearby services and amenities, easy access to public transportation (several bus lines and a light rail station half a block away).

Water Efficiency | 8/11 The restrooms were completely renovated as part of the build-out so water-efficiency and hygiene strategies were easier to implement. Low flow fixtures were installed at lavatories, water closets and urinals contributing to a 35% reduction in overall water use. Hands-free operation is one strategy to improve hygiene. Within the restrooms, all fixtures allow hands-free operation and the doors swing outward so they can be opened with a forearm or shoulder. Hands-free hand dryers have been provided in lieu of paper towel dispensers thereby eliminating paper towel waste.

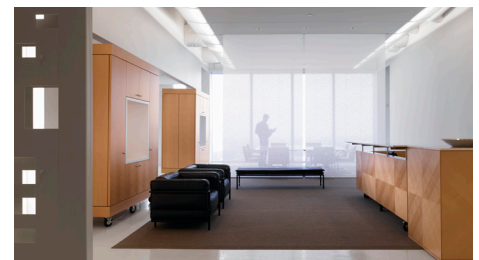
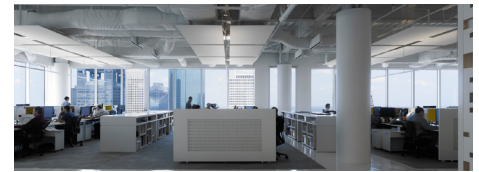
Energy and Atmosphere | 25/37 An independent agent performed the Enhanced Commissioning activities. The overhead indirect electric lighting within this area was designed to provide low-level ambient lighting contributing the reduced overall lighting load. The project achieved a lighting power density of 0.74 watts per sf—26% below the allowable by code. Of all equipment and appliances within the office, over 80% are Energy Star rated including refrigerators, computers, monitors, and copiers. Thermal comfort was achieved through zoning and controls. A measurement and verification plan is in place allowing us to monitor system performance.

Materials and Resources | 8/14 The existing leasehold had asbestos containing materials which required the complete removal of all existing construction to facilitate the abatement. Through construction waste management, 78% of all material removed was diverted from landfills and the resulting project area is asbestos-free. An effort was made to source materials within 500 miles of the project site resulting 48% of all materials used were extracted regionally; 56% were manufactured regionally. More than 52% of the furniture and furnishings was refurbished and relocated. All new millwork, such as the coffee bar, does not contain added urea-formaldehyde. The coffee bar counter appears simple with clean lines but it contains a central recycling center with several large drawers for the collection of paper, cardboard, glass, metal and plastic. PDR signed a 10+ year lease demonstrating our commitment to this location and resources invested in the build-out.

Indoor Environmental Quality | 13/17 Low-emitting materials were used throughout the project including adhesives and sealants, paints and coatings, flooring systems, composite wood and agrifiber products, and systems furniture and seating. The continuous perimeter windows are ten feet tall allowing daylight to flood deep into the space. 94% of the regularly occupied spaces are day lit. Over 92% of the regularly occupied seats have a direct view to the outside. 99% of the individual spaces have individually controlled task lights on an occupancy sensor while 100% of shared multi-occupant spaces are provided with multi-level and, or dimming lighting controls.

Innovation in Design | 5/6 One of the primary factors used in the selection and layout of the studio furniture was ergonomics. All workstation components have a range of adjustability to adapt to each individual user's needs, including the work-surface height, monitor arms and task chairs there by complying with BIFMA G1 standards. Additional Innovation in Design points were awarded for exemplary performance in SSC3.1 Public Transportation Access and MRC5 Regional Materials.

"A healthy workplace is a competitive workplace—one that attracts the kinds of people you need to build a competitive advantage."



Project Team

Owner: PDR

Architect: PDR

MEP Engineer: IA Naman + Associates

Contractor: SpawMaxwell, A Balfour Beatty Company

LEED Consultant: PDR

Fundamental Commissioning: IA Naman + Associates

Enhanced Commissioning: Green Building Services

Technology Consultant: TechKnowledge



The LEED® green building certification program is the nationally accepted benchmark for the design, construction, and operation of green buildings. The 'LEED® Certification Mark' is a registered trademark owned by the U.S. Green Building Council® and is used with permission.