

A decorative border featuring a dense arrangement of tropical plants and flowers. In the top right and bottom right corners, there are bright red hibiscus flowers. To the left of these, there are large, light pink or peach-colored flowers with prominent yellow stamens. The background is filled with various green leaves, including long, slender palm fronds and broad, dark green leaves with characteristic holes, resembling Monstera foliage. The entire border is set against a dark, almost black background, creating a high-contrast, vibrant look.

AAJ16: Green Corrections: The Next Big Thing is Wellness!

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Course Description

Over the last 15 years, the green movement in corrections has focused on resource conservation and green maintenance. Federal, state and local agencies have continued to raise the bar on how to reduce the impact of the building on the environment.

The Next Big Thing in green corrections is a paradigm shift to addressing: "How do you enhance the wellness of the occupants?" Delos Living founded the International Well Buildings Institute which has metrics for assessing wellness. Environmental factors that improve wellness include supporting the diurnal cycle for sleep, access to natural light, views to nature, air quality, thermal comfort, acoustic quality, and the ability to walk around.

This workshop will introduce the Well Building concepts, explore strategies for creating wellness in correctional environments and the opportunity to improve outcomes such as lowering recidivism by creating environments that support the rehabilitative process.

Learning Objectives

1. Understand the **Green movement** and its **influence in corrections**
2. Learn the **concepts and intention behind the WELL standards** by Delos Foundation, administered by the International Well Buildings Institute (IWBI).
3. Review **research-based correctional environment studies**
4. Connect to a **real-life challenge - the County of Los Angeles'** experience with mental and medical health issues within its detention environment
5. Identify practical applications of **Well Building opportunities in correctional environments.**

Green Corrections: The Next Big Thing is Wellness

Academy of Architecture for Justice
2016 Fall Conference, Honolulu, HI

November 4, 2016

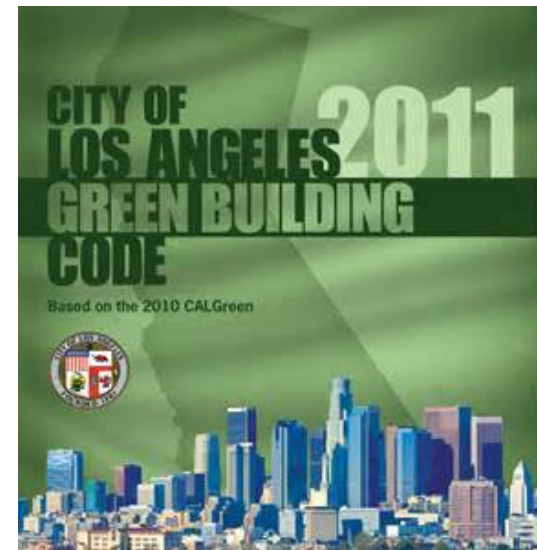
A Brief History of the Green Movement

- Sustainability and LEED (16 years ago)
- Innovations in materials and systems
- Energy efficiency and codes
- Mandates and goals

LEED v4 – BD+C			POPLAR
Water Efficiency	Possible Points		51
Prereq 1 Outdoor Water Use Reduction		Required	
Prereq 2 Indoor Water Use Reduction		Required	
Prereq 3 Building Level Water Metering		Required	
Credit 1 Outdoor Water Use Reduction		2	
Credit 2 Indoor Water Use Reduction		6	
Credit 3 Cooling Tower Water Use		2	
Credit 4 Water Metering		1	

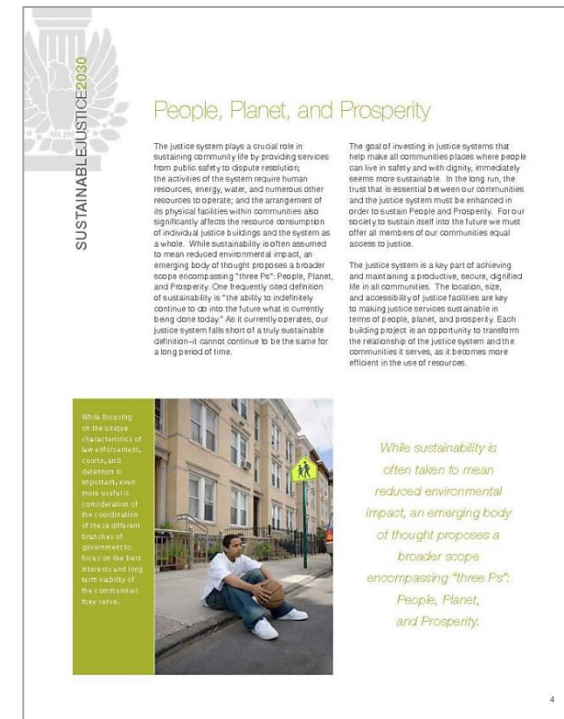
Green Globes – NC			
Water Efficiency	Possible Points		110
3.3.1 Water Consumption		42	
3.3.2 Cooling Towers		9	
3.3.3 Boilers and Water Heaters		4	
3.3.4 Water Intensive Applications		18	
3.3.5 Water Treatment		3	
3.3.6 Alternate Sources of Water		5	
3.3.7 Metering		11	
3.3.8 Irrigation		18	

Living Building Challenge			
Water Peral			
07 Net Zero Water			
06 Ecological Water Flow			



Green is not just about the building

- Expanded definition of sustainability
- Green operations, green jobs training
- AIA Sustainable Justice and “Green Guide for Justice”
 - Societal Scale: Emphasize positive outcomes
 - Community Scale: Engage community
 - Building Scale: Minimize resource usage
 - Human Scale: Reduce stress, promote productive engagement



Disruptive Influences in Corrections

- Great Recession – Wake-Up Call
 - We can't build (or operate) our way out of the problem
- Politics – We Can Agree on This
 - Both sides of the aisle concerned about criminal justice reform
- Mentally Ill, Aging, Special Needs
 - Straining facilities and operations that were not designed for it
- Technology - Individualization
 - Solutions beyond building and staffing



Van Jones, Pat Nolan, Donna Brazile, and Newt Gingrich

What is the Next Generation of Green?

– Paradigm shift

- How do you enhance the wellness of the occupants?
- How can we support wellness in a detention or corrections environment?

– Metrics

- Can wellness reduce sick days?
- Can wellness improve health?

– Dividends in Corrections

- Can wellness increase rehabilitation?
- Can wellness decrease recidivism?

Agenda

The Concept: The WELL Building Standard

The Research: Correctional Environment Applications

The Challenge: Los Angeles County Experience

The Application: Wellness in Corrections

The Opportunity: The Role of a Leader

Dialogue

Presenters

Zoe Reich Margarites, Vice President
Delos Living

Erin Persky, Justice Facility Planner
Jay Farbstein and Associates, Inc.

David L. Fender, Chief, Custody Services Division
Los Angeles County Sheriff's Department

Beverly Prior, FAIA, LEED AP, Vice President
AECOM

WELL Building Standard The Concept

Zoe Reich Margarites, Vice President
Delos Living

A blurred, blue-tinted photograph of a group of people walking up a set of stairs. The image is out of focus, emphasizing movement and a sense of a busy, active environment.

The WELL Building Standard


LEADERSHIP IN HEALTHY ENVIRONMENTS

Zoe Reich Margarites, Vice President, Delos Solutions

DELOS[®]
INNOVATE WELL

A person with short blonde hair, wearing a red sweater, is seen from behind, looking out a large window. The window has multiple panes and a white frame. The background outside the window is bright and slightly blurred, showing some greenery and a building. A blue circular logo is overlaid on the image, containing the text "WELL" in large white letters and "IS FOR PEOPLE" in smaller white letters below it.

WELL
IS FOR PEOPLE

A cityscape with a large glass-roofed building in the foreground and a semi-transparent circle containing text.

Health is a state of
complete physical,
mental, and social
wellbeing, and not
merely the absence of
disease or infirmity.

- *The World Health
Organization*



We spend over **90%** of our time indoors.

THIS HAS A PROFOUND IMPACT ON OUR HEALTH, HAPPINESS, PRODUCTIVITY + WELL-BEING.

Impact of Design on Human Well-Being

Fewer Negatives, More Positives

[+] PHYSICAL HEALTH

HEALTHCARE COSTS [-]

[-] SOCIETAL COSTS

MENTAL HEALTH [+]



WELL is an internationally recognized mark of excellence for buildings, communities, and professionals that are transforming the building industry.

Mission is to **improve human health and well-being** through the built environment by administering the **WELL Building Standard**.

Pioneers the model of altruistic capitalism and, as a public benefit corporation, the IWBI donates 51% of profits into health and wellness projects, either within highly impacted/stressed communities, or reinvested within the communities where WELL projects are built.

- Provides a model for design and construction to integrate human health features in the built environment
- Is a performance-based system to measure impact of built environment on human health



Levels of WELL Certification



IWBI + GBCI



GREEN BUSINESS®
CERTIFICATION INC.

Ensuring that certification for **WELL** and **LEED** works seamlessly.

THE WELL BUILDING STANDARD

A Seven Year Process With Continuing New Developments

Company Founded
Research Begins

2008

Office Pilot
Standard Released

2012

Offices, Multi-Family
K-12, Kitchen, Cities

2015

Research
Pilot Programs
Peer Review

10 Scientific
10 Medical
17 Practitioner

AIR

WATER

NOURISHMENT

LIGHT

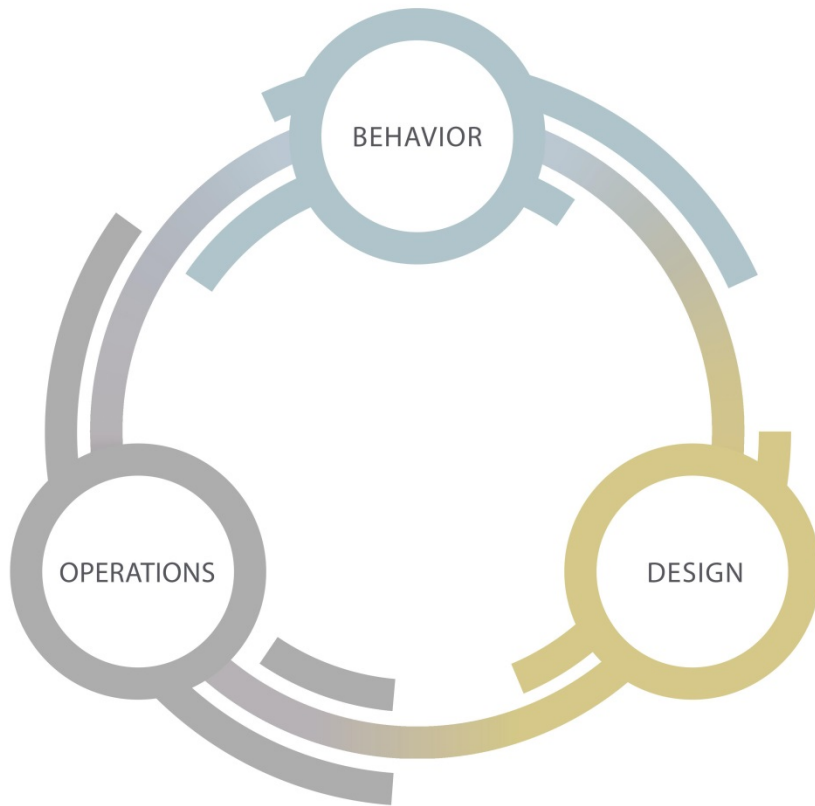
FITNESS

COMFORT

MIND

Seven Concepts

WELL sets performance requirements in seven concepts, relevant to occupant health and well-being in the built environment



COMPREHENSIVE APPROACH TO HEALTHY ENVIRONMENTS

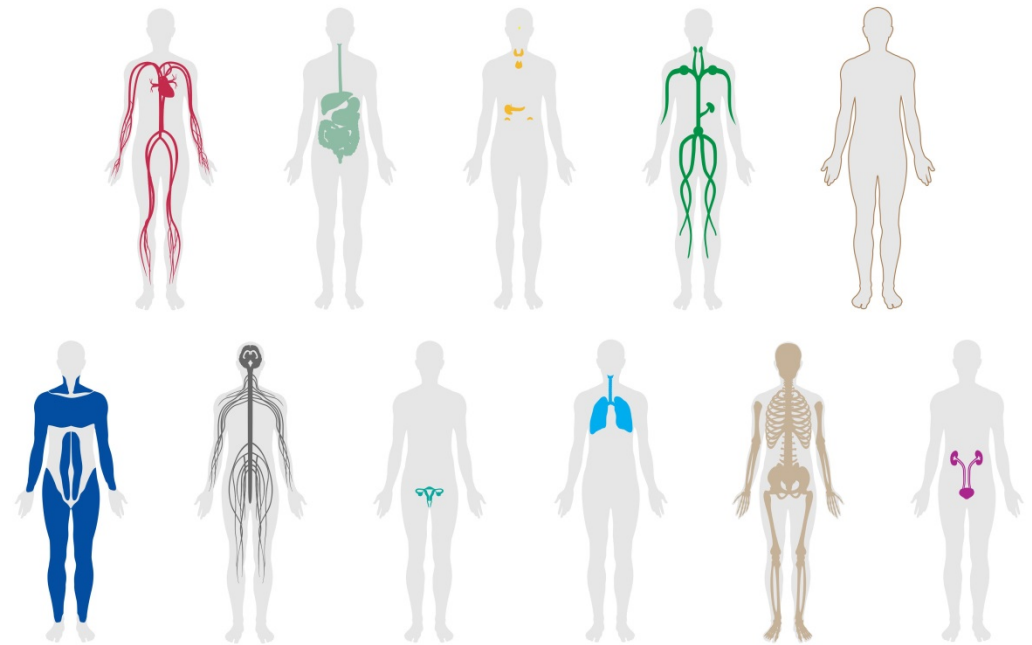
WELL is a comprehensive approach to human health while addressing the elements of the built environment through the **seven concepts** of the WELL Building Standard and through features focused on: **Behavior, Design and Operations.**

WELLNESS AND BODY SYSTEMS

The components of the WELL Building Standard are ascribed to body systems to obtain a comprehensive set of strategies that help classify the benefits of WELL Building Certification.

The WELL Building Standard analyzes the body through the following categories:

Cardiovascular
Digestive
Endocrine
Immune
Integumentary
Muscular
Nervous
Reproductive
Respiratory
Skeletal
Urinary



AIR FEATURES SUMMARY

Performance

Material Selection

Ventilation

Filtration

Moisture Control

Construction Processes

Source of Concern Protection

Maintenance + Operations

WATER FEATURES SUMMARY

Performance Testing

Treatment

Maintenance + Operations

Hydration Promotion

LIGHT FEATURES SUMMARY

Visual Acuity

Circadian Design

Daylighting

Glare Control

Color Quality

Daylight Responsiveness

The background of the slide is a photograph of a grocery store aisle, showing various food items on shelves. Overlaid on this image are several horizontal green bars of varying lengths. On the left, a large green shape contains the title text. On the right, a series of green bars of decreasing length from top to bottom contain a list of features.

NOURISHMENT FEATURES SUMMARY

Access to Healthy Foods

Environmental cues

Healthy Portions

Allergies and Alternatives

Transparency

Food Production

Food Preparation

Mindful eating

COMFORT FEATURES SUMMARY

Thermal

Acoustics

Ergonomic

Olfactory

Accessibility

FITNESS FEATURE SUMMARY

Interior Active Design

Awareness And Habits

Physical Activity Programs

Exterior Active Design

Physical Activity Spaces

Activity Based Working

MIND FEATURE SUMMARY

Wellness Awareness & protocols

Connection to Nature

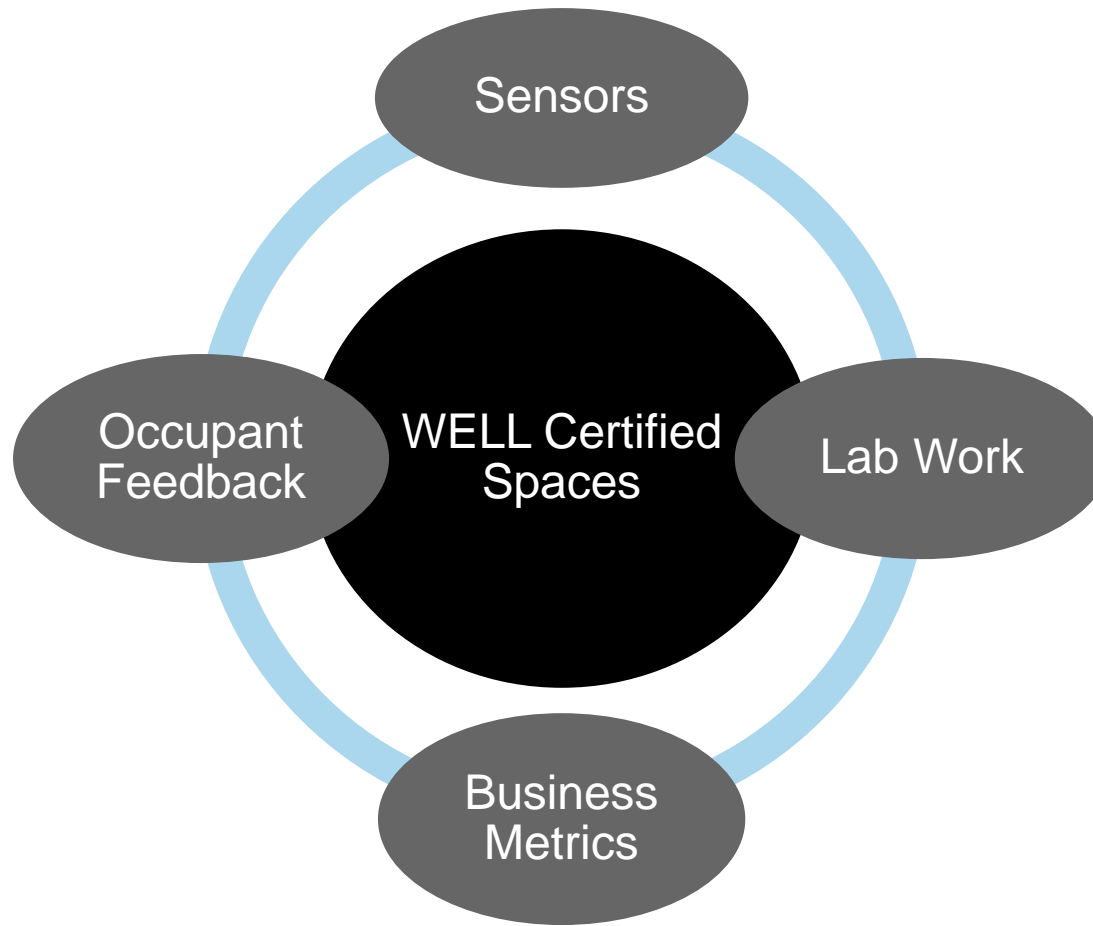
Adaptable Spaces

Aesthetics and Innovation

Stakeholder Engagement

Altruism

Transparency



Hardening the Data

WELL LIVING LAB

WIRED

Why the Mayo Clinic Modeled Its New Lab on a Stuffy Office

SHARE

f SHARE
908

t TWEET
498

p PIN

c COMMENT
2

e EMAIL

WHY THE MAYO CLINIC MODELED ITS NEW LAB ON A STUFFY OFFICE



This looks like a normal office building. But it's actually filled with hidden sensors.  WELL
LIVING LAB

+ What is the Well Living Lab?



THE FIRST RESEARCH CENTER DESIGNED TO:

Validate the real-world impact of indoor environments on human health and well-being

Generate evidence-based information that can be used in practical ways to create healthier indoor spaces



+ Location, location, location



A photograph of a modern building's rooftop terrace. Two people are sitting in white, modern chairs, facing each other and looking out at a city. The terrace has a glass railing and a white ceiling. In the background, a large stadium with a yellow roof is visible, along with a city skyline and a tall tower. The text "We shape our buildings. Thereafter, they shape us." is overlaid on the left side of the image.

**“We shape our buildings.
Thereafter, *they shape us.*”**

Winston Churchill

Applications to the Correctional Environment The Research

Erin Persky, Justice Facility Planner

Jay Farbstein and Associates, Inc.

Applications to the Correctional Environment



Applications to the Correctional Environment

- Emerging area of exploration: we are at the frontier of the application of evidence-based planning and design strategies to corrections and detention.
- Much of the research we look to for “evidence” was conducted in healthcare facilities and office spaces, etc.
- Creating wellness environments begins at the conception of the project! If wellness is left for the design process, it is already too late.

TOTAL INSTITUTIONS

"A basic social arrangement in modern society is that the individual tends to sleep, play, and work **in different places**, with different co-participants, under different authorities, and without an overall rational plan. **The central feature of total institutions can be described as a breakdown of the barriers ordinarily separating these three spheres of life.**"

TOTAL INSTITUTIONS

"Whether a particular total institution acts as a good or bad force in civil society, **force it will have...**The total institution is a social hybrid, part residential community, part formal organization...**In our society, they are the forcing houses for changing persons; each is a natural experiment on what can be done to the self.**"

Magnified effects of a *total institution* environment.

TOTAL INSTITUTIONS

- Housing
- Healthcare
- Health and Fitness
- Education/
Vocational Training
- Religious
- Food Services
- Laundry
- Housekeeping
Services
- Maintenance Areas
- Workshops
- Warehousing/
Storage
- Office Spaces
- Courts
- Security Functions
- Meeting Spaces
- Visiting and Social
Spaces
- Training Spaces
- Vehicle
Maintenance
- Information
Technology
- Armories
- Transportation
Services
- Booking
- Courier Services
- Storage
- Infrastructure

Applications to the Correctional Environment

"Does this decision promote the creation of a
wellness environment?"

Applications to the Correctional Environment

Inmates

- Reduced fear and stress
- Better health
 - Reduction in stress-related disease
 - Less disruption of circadian cycle
 - Faster recovery/shorter stays in infirmary
- Better behavior
 - Less vandalism
 - Less violence
- Better program participation

Institution

- Lower cost of construction and repairs
- Improved control
- Fewer/less serious incidents
- Reduction in health care costs

Staff

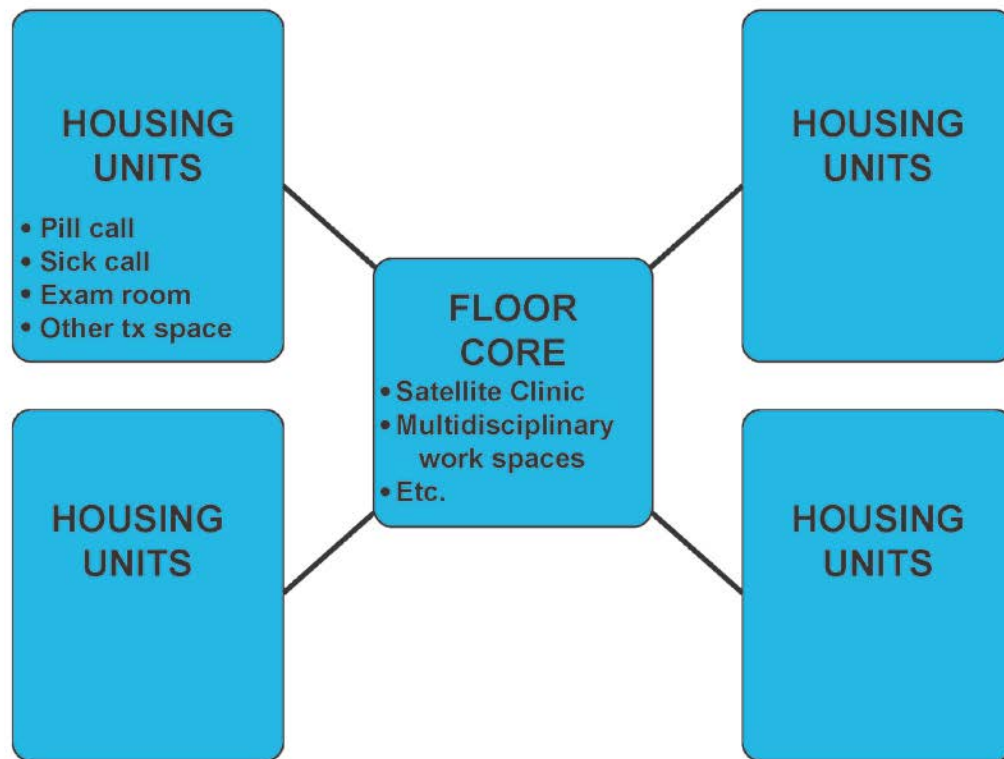
- Greater job satisfaction
- Less stress and fatigue
- Fewer errors
- Better health
 - Reduction in stress-related diseases
 - Fewer sick days
- Greater sense of control
- Fewer/less serious injuries

Ergonomics

- Reduction in falls and injury
- from scuffles
- Less fatigue and more effective work at staff and control stations
- Less wasted movement
- Better visibility
- Fewer work-related injuries

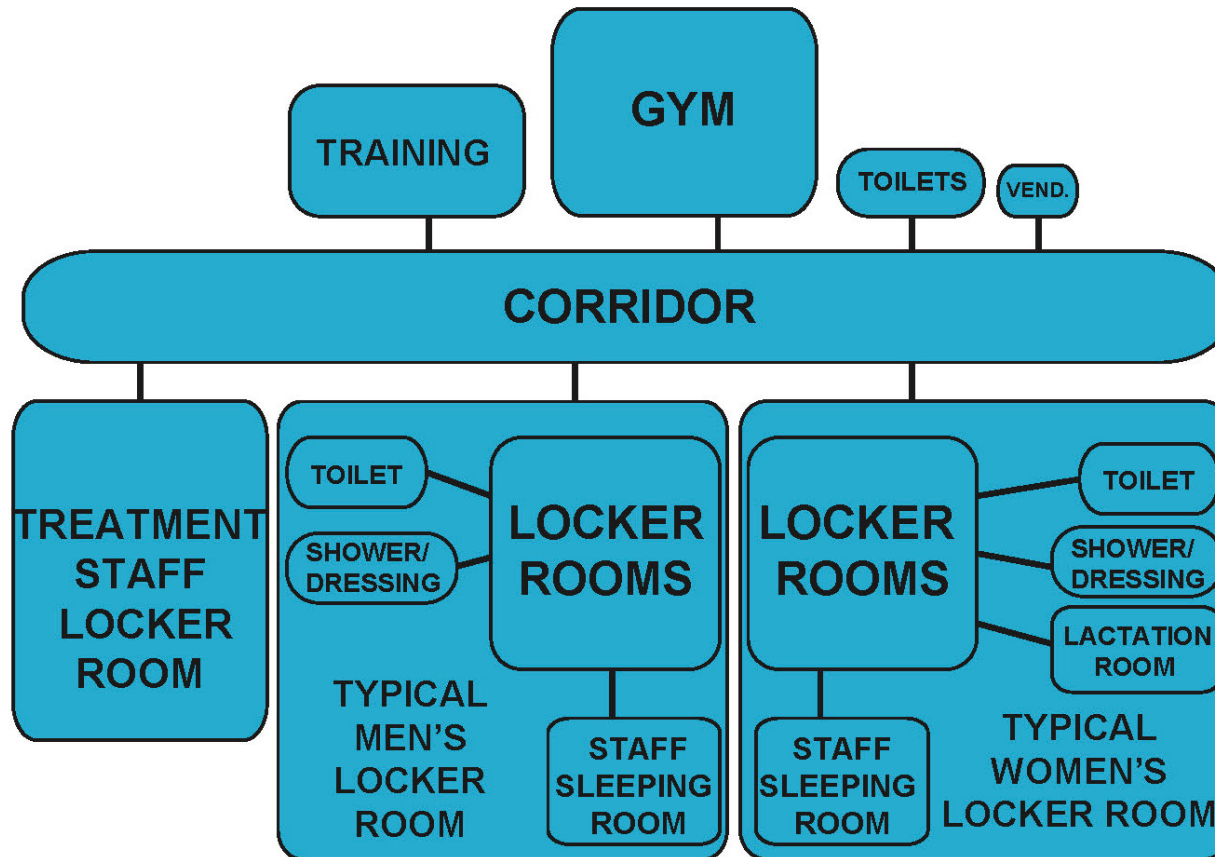
Applications to the Correctional Environment

Inmates

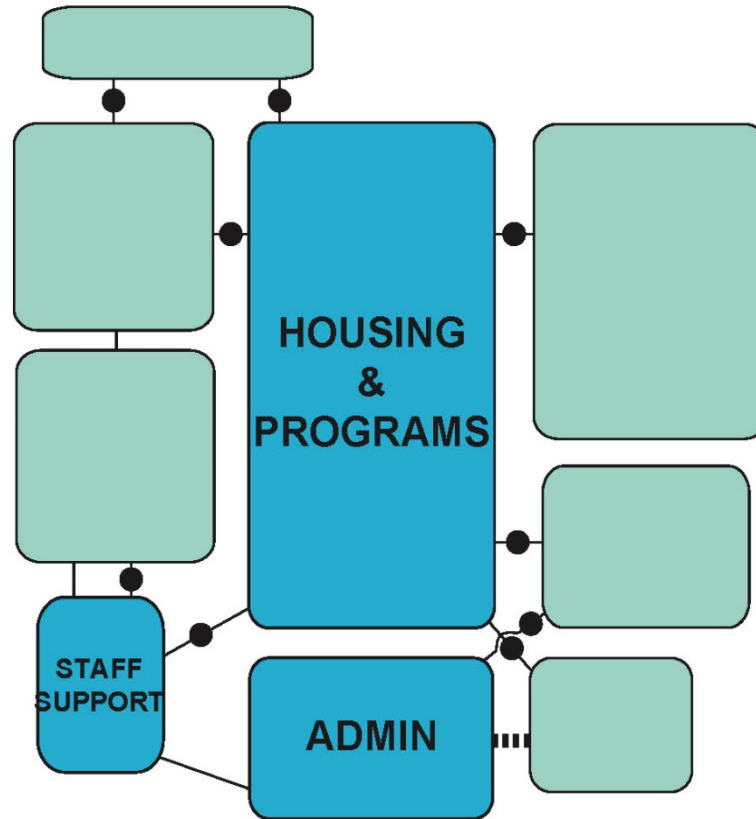


Applications to the Correctional Environment

Staff



Institution

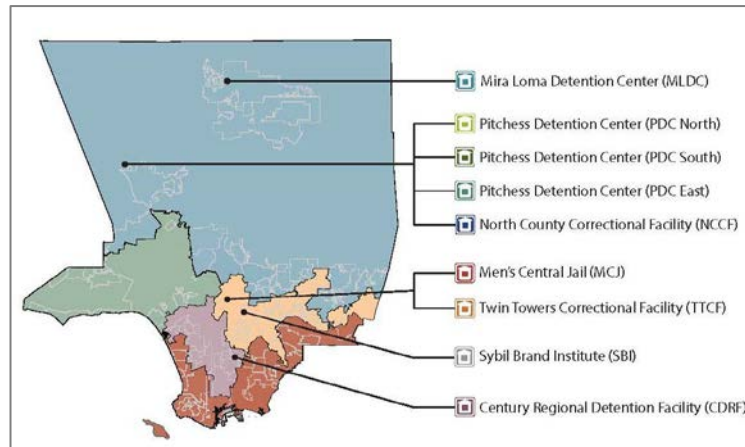


Los Angeles County Experience The Challenge

David L. Fender, Chief, Custody Services Division
Los Angeles County Sheriff's Department



Los Angeles County



Wellness in Corrections Strategies and Solutions

Beverly Prior, FAIA, LEED AP, Vice-President
AECOM

Wellness in Corrections

- Levels of Sustainability in Justice

- Societal

- Community


- Building

- Individual

**Wellness in Corrections
+ Operations**

Environment: Impact on the Inmate

- Negative effects are magnified in correctional facilities.
- **Key problem** areas:
 - inmates' **lack of control** over daily needs, activities
 - the **simultaneous** experience of **crowding and isolation**
 - absence of **natural elements**.
- Each create an **impediment to inmate health and rehabilitation**



An individual's perception of being helpless to change their future can affect their motivation to change their behaviors.

Wellness Challenge

- In correctional environments, it is hardly possible to attain the level of **man-nature interaction** due to
 - Building Codes
 - Security
 - Safety
- Our challenge: Creating correctional environments that meet requirements for
 - **security** and **safety**;
 - *and* address **the human need to connect with nature.**

Wellness in Corrections

- **Light**
Daylight and Views
- **Nourishment**
Inmate nutrition
- **Comfort**
Controllability of environment



Light: Circadian Cycles

Access to Daylight

- People **benefit positively** from contact with **sunlight**.
- Increased access **can reduce pain, anxiety and depression**
- **Too little exposure to sunlight can have detrimental effects.**
- Sunlight guides hormone regulation and the circadian system.
- **Inmates and staff typically have insufficient access to daylight**



Light: Circadian Cycles

- Not all daylight is created equal
- **Windows** are considered as **prescriptive requirements** rather than **opportunities to enhance** the quality of the **environment**.
- Consider glare, uniformity, contrast
- Used correctly, daylight can be your friend
 - Enhance passive security / safety
 - **Improve the quality of space for inmates and staff**

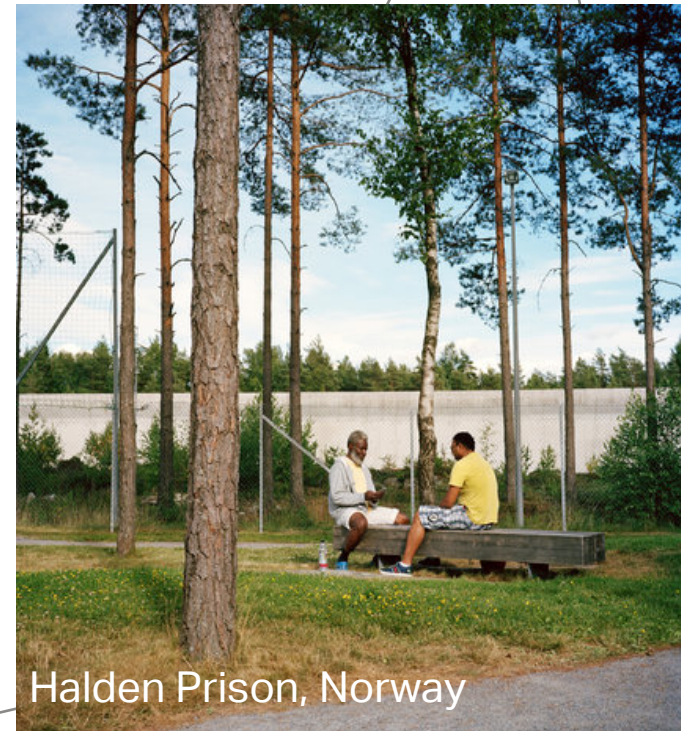


High Security prison, Norrtäje, Sweden

Light: Escapism

Views of Nature

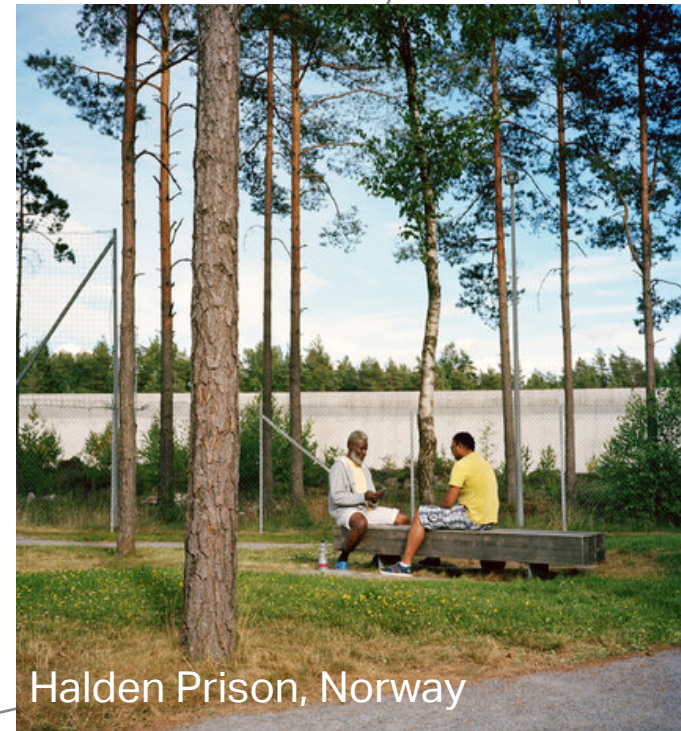
- Our bodies need more than just access to daylight
- Psychological benefits attributed to exposure to views of nature.
- **Natural environments can reduce physiological and psychological stress**
- A view **allows an individual to “turn off” his brain and refresh his mind.**



Halden Prison, Norway

Light: Escapism

- Exposure to and **interaction with nature** provides **wide-ranging personal benefits**
- Access to nature is linked with
 - **Increases** in serenity, **optimism**, energy, and general **happiness**
 - **Decreases** in **stress**, **aggressive behavior**, and feelings of depression, idleness, and boredom...all **common challenges** in **Corrections facilities**



Halden Prison, Norway

Light: Escapism

- Quality of views
 - A view of the **sky and clouds is not a high quality view**
 - Guidelines of view of horizon aren't always practical
- Rec yard openings are driven by:
 - **Security** requirements
 - **Ventilation** requirements
- Result is sense of **diurnal swing**, change in light temperature but **no meaningful connection** to outside world and nature.



Nourishment: Inmate Nutrition

Obesity is a growing issue

- The majority of justice-involved individuals are overweight, obese, or morbidly obese.
 - In prison settings: 74%
 - In jail settings: 62%.
- ~2X the rate in the U.S. general population
- The cause: common Inmate Diets
 - Often very few food choices available
 - **High in fat, salt, and complex carbs.**
 - **Sodium** intake is over **twice the recommended level** for men and women

***Fat and
sugar
taste
too
good!***

Nourishment: A societal issue

- Population is increasingly obese.
- Nutrition of school meals is increasingly questioned.
- Jamie Oliver demonstrated to Los Angeles Unified Schools that they could produce healthy lunches within the existing budget of **\$.77 per child**.
- Corrections challenge: average cost per meal is **\$1.30 per inmate** (30% greater than Jamie Oliver's budget!)



Nourishment: A glimpse of the future?

San Francisco Jail

- Menu planned 6 weeks in advance.
- Approved by certified nutritionist
- 20+ options, including:
 - Gluten-free
 - Vegetarian
 - Kosher
- Trends towards lower resultant medical costs per inmate.



Comfort: Controllability

- Direct Supervision has increased the level of trust and respect between the inmate and officer.
- Often falls short of providing inmates direct control over their environment
- **Control of your environment can give psychological and physiological benefits**
 - Thermal comfort
 - Visual comfort
 - Acoustic comfort



Comfort: Visual

- **The quality and brightness of light can affect behavior, attitude, morale.**
- Improvement of healthy sleep patterns, as well as the proven effect that light can have on the human body and psyche, can reduce the psychological stress posed by incarceration.
- Adaptable Kelvin-changing LED lighting for correctional facilities can
 - save on energy costs;
 - while also **improving inmate behaviors**, morale and attitudes



Comfort: Acoustic

- Noise pollution is a chronic problem in correctional facilities.
- Seeking "TV dominance" in the dayroom
 - Individual head sets can reduce tension in dayrooms and reduce noise pollution.
- Night-time noise can disrupt sleep patterns.
 - Bedphones can control background noise and reduce stress.

bedphones™



Comfort: Thermal

- Crowd source technology can now create opportunities to **enhance inmate control of thermal comfort** thru basic button technology.
- Uses weighted average to control temperature in cell block based upon inmate and staff feedback.



Environment: Impact on the Staff

- Environmental stressors not just an inmate issue
- Relationship between correctional environments and health of corrections staff
 - Obesity
 - Cardiovascular issues
 - Stress
 - Lack of exercise
- **PTSD is prevalent** within the correctional officer occupation



Value of Wellness

- Wellness should **not** be seen as **discretionary**
- Embracing wellness features is a **fundamental obligation** to support **basic human health**
- It is also a huge opportunity to innovate Corrections environments.

Tell somebody they cannot get better, they won't.

Tell somebody they can, and they might just have a chance

- So what if we believed in the value of wellness in making people better.....

Value of Wellness

USA

- Average annual cost of US inmate - \$31,000
- Typical medical cost per US inmate - \$ 6,000
- Incarcerated Population - circa 2.4 Million
- Total annual cost - circa \$74.4 Billion

Impact of Enhancing Inmate Wellness

A modest 1% reduction in re-incarceration of those typically caught in the cycle would **save \$750 million a year.**

A 10% reduction in the medical care of the general population (excluding mental health) as a result of enhanced wellness would **save a further \$1.3 billion a year.**

Reduced recidivism allows repurposing of public funds

Wellness: Step Change in Design



- Ideas presented have **achievable evolutionary progress**.
- We **need to take a step change** in design approach:
 - How can we **extend** high quality **daylight penetration** beyond the rec yard and into the dayroom and cells?
 - How can we introduce a **calming material and color palette** into the environment?
 - How can we **attenuate unwanted background noise**?
 - How can we enhance **occupant controllability**?
 - How can occupants better **connect with nature**?

The Role of a Leader

The Opportunity

David L. Fender, Chief, Custody Services Division
Los Angeles County Sheriff's Department

The background is a solid blue color. On the right side, there are several thin, white, intersecting lines that form a series of triangles and other geometric shapes, creating a modern, abstract pattern.

Dialogue Strategies and Solutions

**What could you do to
fix that broken
wellness window?**

Dialogue

To create a more well environment:

- What small moves could you do?
- What large moves could you do?
- What are your biggest opportunities?
- What are your biggest barriers?

The background is a solid blue color. In the upper right quadrant, there is a series of thin, white, intersecting lines that form a complex geometric pattern, resembling a stylized star or a network of paths. The lines vary in orientation, creating a sense of dynamic movement.

Thank you!