Metropolitan Washington Council of Governments

Design for Healthy Behaviors is ranked **#1** as both most transformative and fastest-moving sub-trend of the Health and Well-Being macro-trend.

- ASID Industry Outlook, 2015

2015 ASID Industry Outlook, p. 11.

90%

of employees admitted that their attitude about work is adversely affected by the quality of their workplace environment.

The Gensler Design + Performance Index, The U.S. Workplace Survey (2006)

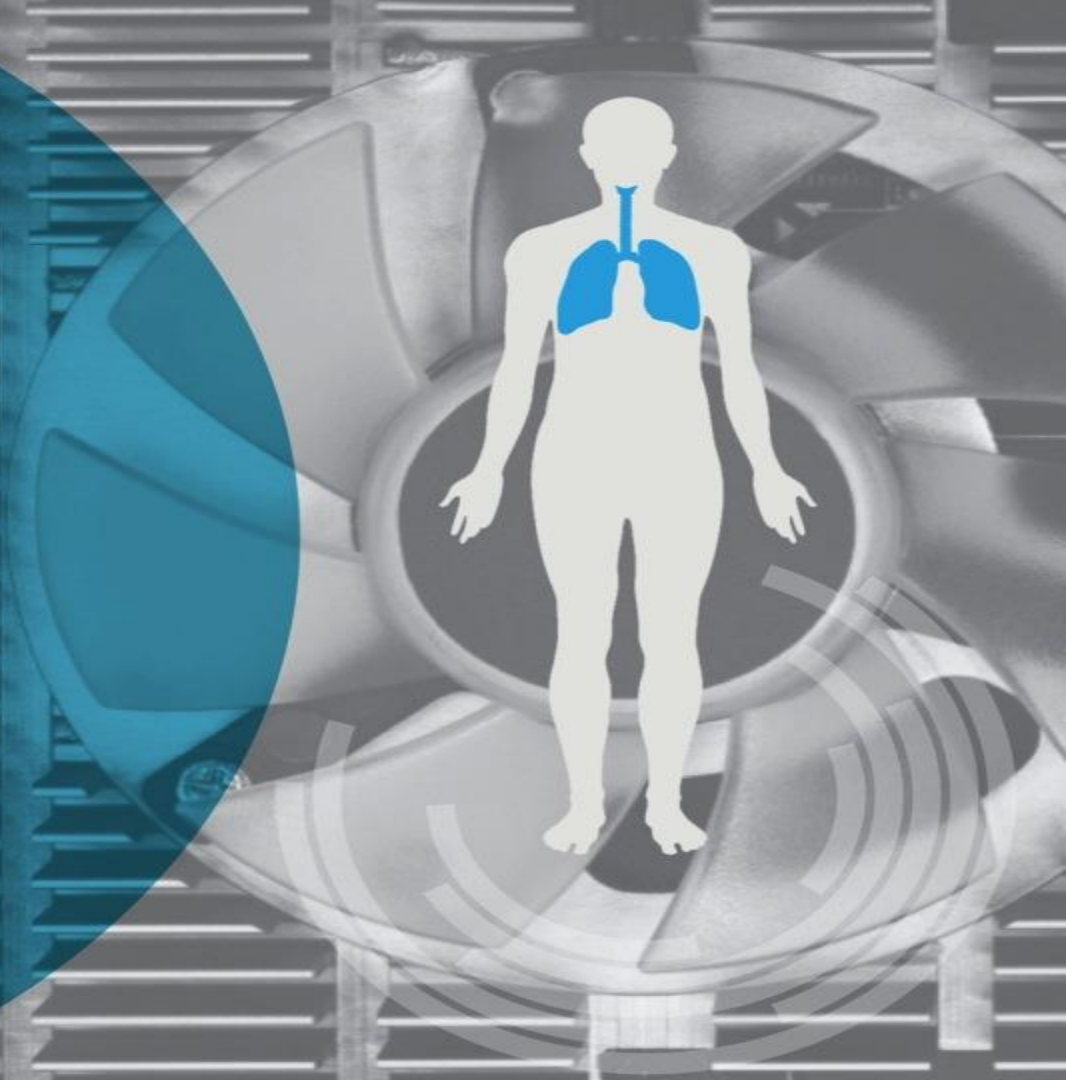
WELL Certification Process

The Seven Concepts of the WELL Building Standard

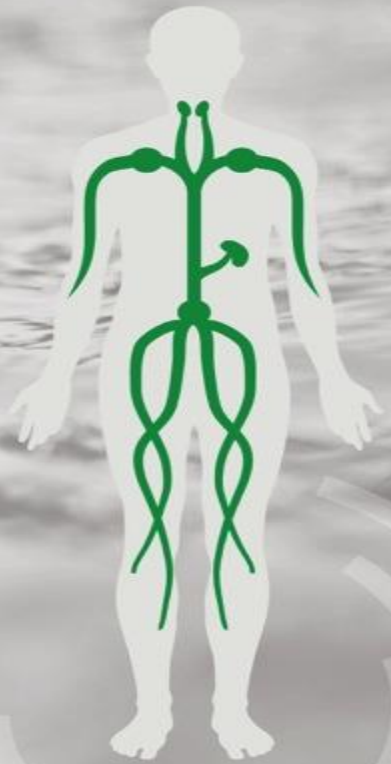
AIR FEATURES

01 Air Quality Standards
02 Smoking Ban
03 Ventilation Effectiveness
04 VOC Reduction
05 Air Filtration
06 Microbe and Mold Control
07 Construction Pollution Management
08 Healthy Entrance
09 Cleaning Protocol
10 Pesticide Management
11 Fundamental Material Safety
12 Moisture Management
13 Air Flush
14 Air Infiltration Management
15 Increased Ventilation
16 Humidity Control

AIR FEATURES



WATER FEATURES



NOURISHMENT FEATURES

38 Fruits And Vegetables
39 Processed Foods
40 Food Allergies
41 Hand Washing
42 Food Contamination
43 Artificial Ingredients
44 Nutritional Information
45 Food Advertising
46 Safe Food Preparation Materials
47 Serving Sizes
48 Special Diets
49 Responsible Food Production
50 Food Storage
51 Food Production
52 Mindful Eating

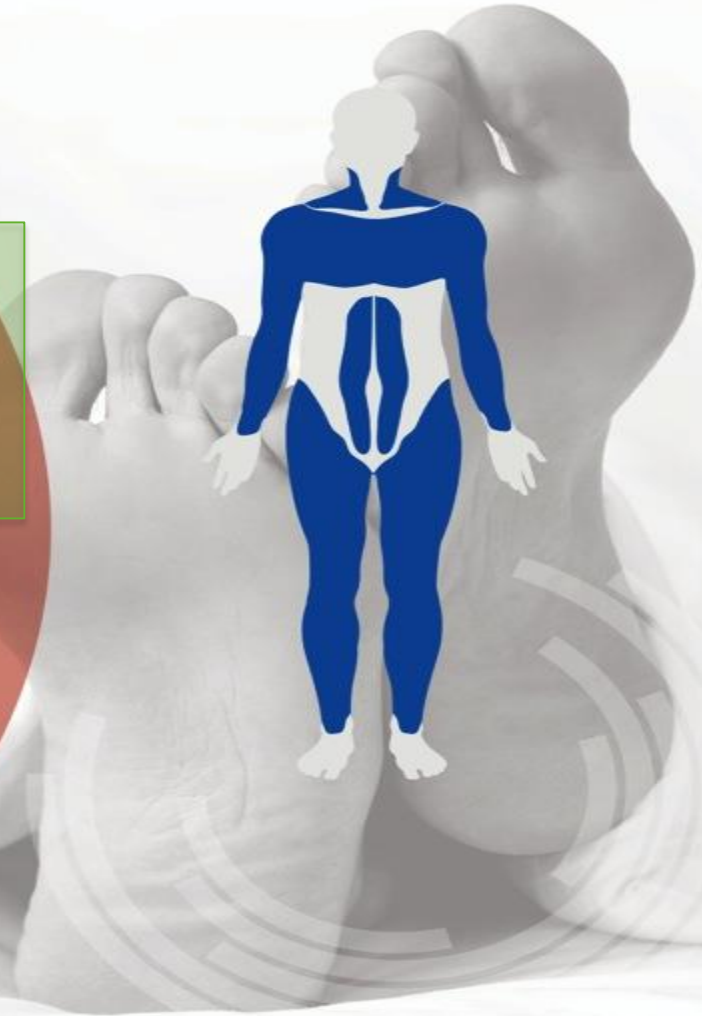
LIGHT FEATURES

53 Visual Lighting Design
54 Circadian Lighting Design
55 Electric Light Glare Control
56 Solar Glare Control
57 Low-Glare Workstation Design
58 Color Quality
59 Surface Design
60 Automated Shading And Dimming Controls
61 Right To Light
62 Daylight Modeling
63 Daylighting Fenestration

FITNESS FEATURES

COMFORT FEATURES

72 ADA Accessible Design Standards
73 Ergonomics: Visual and Physical
74 Exterior Noise Intrusion
75 Internally Generated Noise
76 Thermal Comfort
77 Olfactory Comfort
78 Reverberation Time
79 Sound Masking
80 Sound Reducing Surfaces
81 Sound Barriers
82 Individual Thermal Control
83 Radiant Thermal Comfort



MIND FEATURES

84 Health and Wellness Awareness
85 Integrative Design
86 Post-Occupancy Surveys
87 Beauty and Design I
88 Biophilia I - Qualitative
89 Adaptable Spaces
90 Healthy Sleep Policy
91 Business Travel
92 Workplace Health Policy
93 Workplace Family Support
94 Self-Monitoring
95 Stress and Addiction Treatment
96 Altruism
97 Material Transparency
98 Just Organization

MIND FEATURES

99 Beauty and Design II
100 Biophilia II - Quantitative
101 Innovation Feature I
102 Innovation Feature II

THE WELL DIFFERENTIATOR

Data Driven Environmental Assessments Through Onsite

PERFORMANCE VERIFICATION

WELL Building Standard v1: New and Existing Interiors

Certification Matrix

Project:
Location:
Updated By:
Date:

INTERNATIONAL WELL BUILDING INSTITUTE™

AIR

Y	?	N			
▼			P	01	Air Quality Standards*
			P	02	Smoking Ban*
			P	03	Ventilation Effectiveness
			P	04	VOC Reduction
			P	05	Air Filtration*
			P	06	Microbe And Mold Control*
			P	07	Construction Pollution Management
			o	08	Healthy Entrance*
			P	09	Cleaning Protocol
			n/a	10	Pesticide Management
			P	11	Fundamental Material Safety
			n/a	12	Moisture Management
			o	13	Air Flush
			o	14	Air Infiltration Management
			o	15	Increased Ventilation
			o	16	Humidity Control*
			o	17	Direct Source Ventilation*
			o	18	Air Quality Monitoring And Feedback*
			o	19	Operable Windows*
			o	20	Outdoor Air Systems
			o	21	Displacement Ventilation
			o	22	Pest Control*
			o	23	Advanced Air Purification*
			o	24	Combustion Minimization*

NOURISHMENT

Y	?	N			
			P	38	Fruits And Vegetables*
			P	39	Processed Foods*
			P	40	Food Allergies*
			P	41	Hand Washing*
			P	42	Food Contamination*
			P	43	Artificial Ingredients*
▼			P	44	Nutritional Information*
▼			P	45	Food Advertising*
			o	46	Safe Food Preparation Materials*
			o	47	Serving Sizes*
			o	48	Special Diets
			o	49	Responsible Food Production
			o	50	Food Storage*
			o	51	Food Production*
			o	52	Mindful Eating
2	•	•	TOTAL		

LIGHT

Y	?	N			
			P	53	Visual Lighting Design*
			P	54	Circadian Lighting Design*
			P	55	Electric Light Glare Control
			P	56	Solar Glare Control*
			o	57	Low-Glare Workstation Design*

COMFORT

Y	?	N			
			P	72	ADA Accessible Design Standards
			P	73	Ergonomics: Visual And Physical*
			o	74	Exterior Noise Intrusion*
			P	75	Internally Generated Noise*
			P	76	Thermal Comfort*
			o	77	Olfactory Comfort*
			o	78	Reverberation Time*
			o	79	Sound Masking*
			o	80	Sound Reducing Surfaces
			o	81	Sound Barriers
			o	82	Individual Thermal Control*
			o	83	Radiant Thermal Comfort
•	•	•	TOTAL		

MIND

Y	?	N			
▼			P	84	Health And Wellness Awareness*
			P	85	Integrative Design
			P	86	Post-Occupancy Surveys
			P	87	Beauty And Design I*
			P	88	Biophilia I - Qualitative*
			o	89	Adaptable Spaces*
			o	90	Healthy Sleep Policy
			o	91	Business Travel

Achieving WELL Certification

Achieving WELL Certification involves two processes:

1. Documentation Review – where building design is verified
2. Performance Verification – site visit to ensure the building is preforming as it was designed to

Performance Verification entails a site visit during where a WELL Assessor completes performance tests and visual assessments to evaluate compliance with the requirements established in the WELL Building Standard.

The Performance Verification site visit is where the is data collected for each applicable Feature, and will determine whether that Feature is achieved for the project.

Healthy Buildings

Performance Verification

Performance Verification consists of three primary verification types:

1. Performance Tests: physical measurements of various air quality, water quality, lighting, acoustics, and thermal parameters against the WELL requirement thresholds

2. Visual Certification: visual verification of design and operational requirements

3. Spot Checks: visual verification of a representative sample of design and operational requirements

20 Features require on-site verification testing

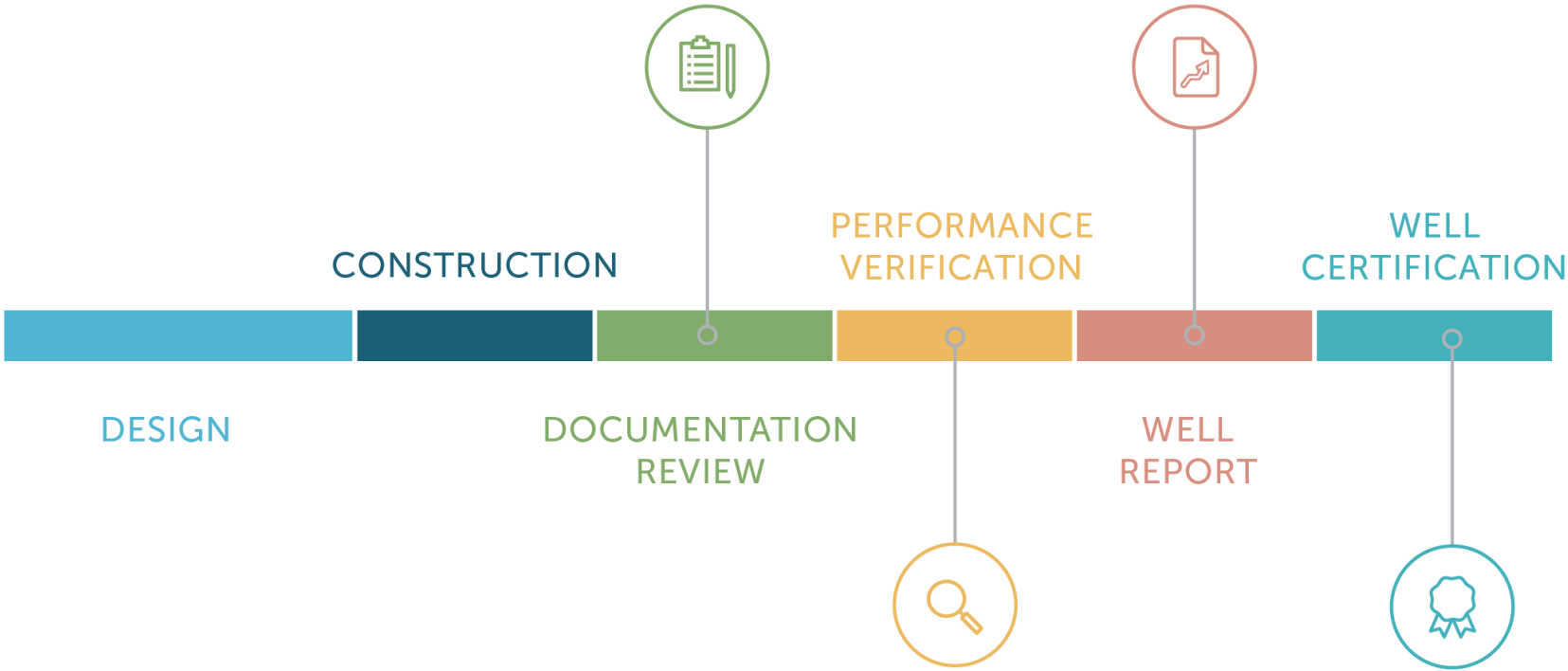
Outdoor Air Quality Measurements
Feature 1: Air Quality Standards, Part 1 Standards for Volatile Subtances
Feature 1: Air Quality Standards, Part 2 Standards for Particulate Matter and Inorganic Gases
Feature 1: Air Quality Standards, Part 3 Radon
Feature 30: Fundamental Water Quality, Part 1 Sediment
Feature 30: Fundamental Water Quality, Part 2 Microorganisms
Feature 31: Inorganic Contaminants, Part 1 Dissolved Metals
Feature 32: Organic Contaminants, Part 1 Organic Pollutants
Feature 33: Agricultural Contaminants, Part 1 Herbicides and Pesticides, Part 2 Fertilizers
Feature 34: Public Water Additives, Part 2 Disinfectant Byproducts, Part 3 Fluoride
Feature 37: Drinking Water Promotion, Part 1 Drinking Water Taste Properties
Feature 34: Public Water Additives, Part 1 Disinfectants
Feature 53: Visual Lighting Design, Part 1 Visual Acuity For Focus
Feature 54: Circadian Lighting Design, Part 1a Melanopic Light Intensity for Work Areas
250 equivalent melanopic lux with daylight (spot measurement)
Feature 54: Circadian Lighting Design, Part 1b Melanopic Light Intensity for Work Areas
IES-ANSI RP-1-12 method with electric lights only (spot measurement)
Feature 74: Exterior Noise Intrusion, Part 1 Sound Pressure Level
Feature 75: Internally Generated Noise, Part 2 Mechanical Equipment Sound Levels
Feature 16: Humidity Control, Part 1 Relative Humidity (spot measurement)
Feature 76: Thermal Comfort, Part 1 Ventilated Thermal Environment, and
Part 2 Natural Thermal Adaption (spot measurement)
Feature 78: Reverberation Time, Part 1 Reverberation Time
Feature 79: Sound Masking, Part 2 Sound Masking Limits

Healthy Buildings

Visual Verification and Spot Checks

- **42 Features** – most of them are in the following categories:
  - Nourishment
  - Fitness
  - Comfort
  - Mind

- **BE AWARE:** all Features are still subject to on-site checks, even it was approved in Documentation Review


CONSTRUCTION
PERFORMANCE VERIFICATION
WELL CERTIFICATION
DESIGN
DOCUMENTATION REVIEW
WELL REPORT

WELL SCORECARD

Metropolitan Washington Council of Governments - WELL Charrette

METROPOLITAN WASHINGTON
Council of Governments

FOX ARCHITECTS

Healthy Buildings
Since 1980
we make buildings more valuable®
Indoor Environmental Quality | Sustainability | Energy | Water

GHT LIMITED
CONSULTING ENGINEERS

Healthy Buildings


Building
Synergies
Pre-conditions
Consultants
Optimizations
LEED
Silver
Wellness
Concepts
Redesign
Base
Feasibility
WELL
MEP
Existing
Study
Architect
Practices

WELL Building Standard v1: New and Existing Interiors

Certification Matrix

Project:	WCOG
Location:	777 North Capital Street NE, DC
Updated By:	Bharati Bhosale, Healthy Buildings
Date:	11/22/16

INTERNATIONAL WELL BUILDING INSTITUTE™

AIR

Y	?	N			
Y			P	01	Air Quality Standards*
Y			P	02	Smoking Ban*
Y			P	03	Ventilation Effectiveness
Y			P	04	VOC Reduction
	?		P	05	Air Filtration*
Y			P	06	Microbe And Mold Control*
Y			P	07	Construction Pollution Management
		N	O	08	Healthy Entrance*
Y			P	09	Cleaning Protocol
			n/a	10	Pesticide Management
Y			P	11	Fundamental Material Safety
			n/a	12	Moisture Management
	?		O	13	Air Flush
	?		O	14	Air Infiltration Management
		N	O	15	Increased Ventilation
	?		O	16	Humidity Control*
Y			O	17	Direct Source Ventilation*
Y			O	18	Air Quality Monitoring And Feedback*
		N	O	19	Operable Windows*
		N	O	20	Outdoor Air Systems
		N	O	21	Displacement Ventilation
Y			O	22	Pest Control*
	?		O	23	Advanced Air Purification*
Y			O	24	Combustion Minimization*
		N	O	25	Toxic Material Reduction
Y			O	26	Enhanced Material Safety
	?		O	27	Antimicrobial Activity for Surfaces
Y			O	28	Cleanable Environment*
Y			O	29	Cleaning Equipment*
15	6	6	TOTAL		

WATER

Y	?	N			
Y			P	30	Fundamental Water Quality*
Y			P	31	Inorganic Contaminants*
Y			P	32	Organic Contaminants*
Y			P	33	Agricultural Contaminants*
Y			P	34	Public Water Additives*
	?		O	35	Periodic Water Quality Testing
		N	O	36	Water Treatment*
Y			O	37	Drinking Water Promotion*
6	1	1	TOTAL		

NOURISHMENT

Y	?	N			
Y			P	38	Fruits And Vegetables*
Y			P	39	Processed Foods*
Y			P	40	Food Allergies*
	?		P	41	Hand Washing*
Y			P	42	Food Contamination*
Y			P	43	Artificial Ingredients*
Y			P	44	Nutritional Information*
Y			P	45	Food Advertising*
			O	46	Safe Food Preparation Materials*
			O	47	Serving Sizes*
Y			O	48	Special Diets
	?		O	49	Responsible Food Production
Y			O	50	Food Storage*
		N	O	51	Food Production*
Y			O	52	Mindful Eating
10	2	1	TOTAL		

LIGHT

Y	?	N			
Y			P	53	Visual Lighting Design*
Y			P	54	Circadian Lighting Design*
Y			P	55	Electric Light Glare Control
Y			P	56	Solar Glare Control*
		N	O	57	Low-Glare Workstation Design*
	?		O	58	Color Quality
	?		O	59	Surface Design
		N	O	60	Automated Shading And Dimming Contro
	?		O	61	Right To Light*
		N	O	62	Daylight Modeling
	?		O	63	Daylighting Fenestration*
4	4	3	TOTAL		

FITNESS

Y	?	N			
	?		O	64	Interior Fitness Circulation*
Y			P	65	Activity Incentive Programs
Y			O	66	Structured Fitness Opportunities
Y			O	67	Exterior Active Design*
Y			O	68	Physical Activity Spaces
Y			O	69	Active Transportation Support*
Y			O	70	Fitness Equipment*
		N	O	71	Active Furnishings*
6	1	1	TOTAL		

COMFORT

Y	?	N			
Y			P	72	ADA Accessible Design Standards
Y			P	73	Ergonomics: Visual And Physical*
	?		O	74	Exterior Noise Intrusion*
Y			P	75	Internally Generated Noise*
Y			P	76	Thermal Comfort*
	?		O	77	Olfactory Comfort*
	?		O	78	Reverberation Time*
Y			O	79	Sound Masking*
Y			O	80	Sound Reducing Surfaces
	?		O	81	Sound Barriers
		N	O	82	Individual Thermal Control*
		N	O	83	Radiant Thermal Comfort
6	4	2	TOTAL		

MIND

Y	?	N			
Y			P	84	Health And Wellness Awareness*
Y			P	85	Integrative Design
Y			P	86	Post-Occupancy Surveys
Y			P	87	Beauty And Design I*
Y			P	88	Biophilia I - Qualitative*
Y			O	89	Adaptable Spaces*
	?		O	90	Healthy Sleep Policy
	?		O	91	Business Travel
Y			O	92	Building Health Policy
		N	O	93	Workplace Family Support
		N	O	94	Self-Monitoring
	?		O	95	Stress And Addiction Treatment
		N	O	96	Altruism
Y			O	97	Material Transparency*
Y			O	98	Organizational Transparency*
	?		O	99	Beauty And Design II*
		N	O	100	Biophilia II - Quantitative*
			O	101	Innovation Feature I
			O	102	Innovation Feature II
9	4	4	TOTAL		

SUMMARY

Y	?	N	
34	2	0	Preconditions (36 possible)
22	20	18	Optimizations (64 possible)

	Requirements	Results
Preconditions	Must meet all preconditions.	**2 preconditions not yet met.**
Optimizations	0 needed for Silver, 26 for gold,52 for platinum	**Current status: Silver (pending preconditions)**

* Pending onsite post-occupancy Performance Verification testing.

Healthy Buildings

WELL Certification Analysis

AIR

- 9 Preconditions
- Onsite testing of air quality standards
- Testing and balancing of HVAC equipment, demand controlled ventilation
- VOC reduction
- Air filtration, microbe and mold control

Design Impacts

- Rack space and fan capacity for carbon filters, MERV 13 filters
- Material selection to meet cleanable environment requirements

Cost Considerations

- Testing, additional filtration and material selection

Healthy Buildings

WELL Certification Analysis

WATER

- 5 Preconditions
- Water quality testing for sediments, microorganisms, organic, inorganic and agricultural contaminants
- Water treatment
- Drinking water promotion

Design Impacts

- Drinking water access

Cost Considerations

- Costs for testing, additional filtration (if required)

WELL Certification Analysis

NOURISHMENT

- 8 Preconditions
- Food and beverage selection
- Nutrition labeling and handling
- Food preparation, storage and space to facility mindful eating

Design Impacts

- Adequate space has been provided for eating/break areas for employees

Cost Considerations

- Modification of vending machine & catering options

WELL Certification Analysis

LIGHT

- 4 Preconditions
- Lighting design
- Ambient and workstation lighting
- Circadian rhythm and glare control
- Daylighting, shading, dimming controls and surface design

Design Impacts

- Design with lighting as a key component

Cost Considerations

- Light fixtures and finishes, and a lighting consultant

Healthy Buildings

WELL Certification Analysis

FITNESS

- 1 Precondition
- Activity incentive programs for employees
- Facilitating activity through design
- Fitness programs and support

Design Impacts

- Fitness/physical activity infrastructure (interior and exterior)

Cost Considerations

- Costs for fitness related memberships/subsidy

WELL Certification Analysis

COMFORT

- 4 Preconditions
- Ergonomics
- Acoustics
- Thermal comfort

Design Impacts

- Ergonomic furniture
- Acoustic planning
- Sound masking

Cost Considerations

- Ergonomic furniture costs, acoustics costs and consultants

WELL Certification Analysis

MIND

- 5 Preconditions
- Health and wellness awareness
- Integrative design
- Beauty and biophilia
- Business policies & transparency

Design Impacts

- Elements contributing to nature/biophilia & adaptable space requirements

Cost Considerations

- Design and business policy change

Well Certification & LEED

Synergies

WELL Certification Preconditions	LEED Synergy
AIR	
Feature 1: Air Quality Standards	None
Feature 2: Smoking Ban Favorable	Favorable
Feature 3: Ventilation Effectiveness Partial	Partial
Feature 4: VOC Reduction	Favorable
Feature 5: Air Filtration	Partial
Feature 6: Microbe and mold control	None
Feature 7: Construction Pollution Management	Favorable
Feature 9: Cleaning protocol	None
Feature 11: Fundamental Material Safety	None
Water	
Feature 30: Fundamental water quality	None
Feature 31: Inorganic Contaminants	None
Feature 32: Organic contaminants	None
Feature 33: Agricultural contaminants	None
Feature 34: Part Public Water Additives	None
Feature 37: Drinking Water Promotion	None

Healthy Buildings

WELL Certification & LEED

Synergies

Nourishment	
Feature 38: Fruits and Vegetables	None
Feature 39: Processed foods	None
Feature 40: Food allergies	None
Feature 41: Hand washing	None
Feature 42: Food contamination	None
Feature 43: Artificial ingredients	None
Feature 44: Nutritional information	None
Feature 45: Food Advertising	None
Light	
Feature 53: Visual Lighting Design	Favorable
Feature 54: Circadian lighting design	None
Feature 55: Electric light glare control	None
Feature 56: Solar Glare Control	None
Fitness	
Feature 65: Activity Incentive Programs	None

Healthy Buildings

WELL Certification & LEED

Synergies

Comfort	
Feature 72: ADA accessible design standards	None
Feature 73: Ergonomics: visual and physical	None
Feature 75: Internally Generated Noise	None
Feature 76: Thermal comfort	Favorable
Mind	
Feature 84: Health and wellness awareness	None
Feature 85: Integrative Design	Partial
Feature 86: Post-occupancy surveys	None
Feature 87: Beauty and design I	None
Feature 88: Biophilia I - qualitative	None

Healthy Buildings


Lessons
Learned