

NET ZERO WATER NOT A DRY TOPIC

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Berkshire
Design
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LEARNING OBJECTIVES

Introduce design strategies that explore a philosophy towards water usage and how our relationship with this precious resource is changing.

Identify specific net zero water technologies and systems for rain water catchment and filtration.

Explore onsite ground water management, grey water treatment, and human waste composting without connecting to the local sewer/storm water.

Discuss how active engagement with local and state regulatory agencies can create pathways towards water conservation and impact the future of building codes and DEP guidelines.



INTRODUCTION TO THE LIVING BUILDING CHALLENGESM 3.0

A Visionary Path to a
Regenerative Future



INTERNATIONAL
LIVING FUTURE
INSTITUTE™

PETALS

PLACE

WATER

ENERGY

**HEALTH &
HAPPINESS**


MATERIALS

EQUITY

BEAUTY



IMPERATIVES




LIMITS TO GROWTH


**URBAN
AGRICULTURE**

**HABITAT
EXCHANGE**

**HUMAN POWERED
LIVING**



**NET POSITIVE
WATER**



**NET POSITIVE
ENERGY**



**CIVILIZED
ENVIRONMENT**

**HEALTHY INTERIOR
ENVIRONMENT**

**BIOPHILIC
ENVIRONMENT**



**RED LIST
EMBODIED
CARBON
FOOTPRINT**

**RESPONSIBLE
INDUSTRY**

**LIVING ECONOMY
SOURCING**

**NET POSITIVE
WASTE**



**HUMAN SCALE +
HUMANE PLACES**

**UNIVERSAL
ACCESS TO
NATURE + PLACE**

**EQUITABLE
INVESTMENT**

**JUST
ORGANIZATIONS**

BEAUTY + SPIRIT

**INSPIRATION +
EDUCATION**

	LIVING BUILDING CHALLENGE			3.0 SUMMARY MATRIX
	BUILDINGS	RENOVATIONS	LANDSCAPE + INFRASTRUCTURE	
PLACE				01. LIMITS TO GROWTH
	SCALE JUMPING		SCALE JUMPING	02. URBAN AGRICULTURE
			SCALE JUMPING	03. HABITAT EXCHANGE
				04. HUMAN POWERED LIVING
WATER			SCALE JUMPING	05. NET POSITIVE WATER
ENERGY			SCALE JUMPING	06. NET POSITIVE ENERGY
HEALTH & HAPPINESS				07. CIVILIZED ENVIRONMENT
				08. HEALTHY INTERIOR ENVIRONMENT
				09. BIOPHILIC ENVIRONMENT
MATERIALS				10. RED LIST
			SCALE JUMPING	11. EMBODIED CARBON FOOTPRINT
				12. RESPONSIBLE INDUSTRY
				13. LIVING ECONOMY SOURCING
				14. NET POSITIVE WASTE
EQUITY				15. HUMAN SCALE + HUMANE PLACES
				16. UNIVERSAL ACCESS TO NATURE & PLACE
			SCALE JUMPING	17. EQUITABLE INVESTMENT
				18. JUST ORGANIZATIONS
BEAUTY				19. BEAUTY + SPIRIT
				20. INSPIRATION + EDUCATION

WATER AND LANDSCAPE

Bruner/Cott
architects and planners



ROBERT CROWN
CENTER

BUS
STOP

RAIN
GARDEN

RAIN
GARDEN

DROP OFF
AREA

CAMPUS
ROAD

RAIN
GARDEN

ORCHARD

SUCCESSION
MEADOW

WET MEADOW

CONSTRUCTED
WETLAND

CISTERN

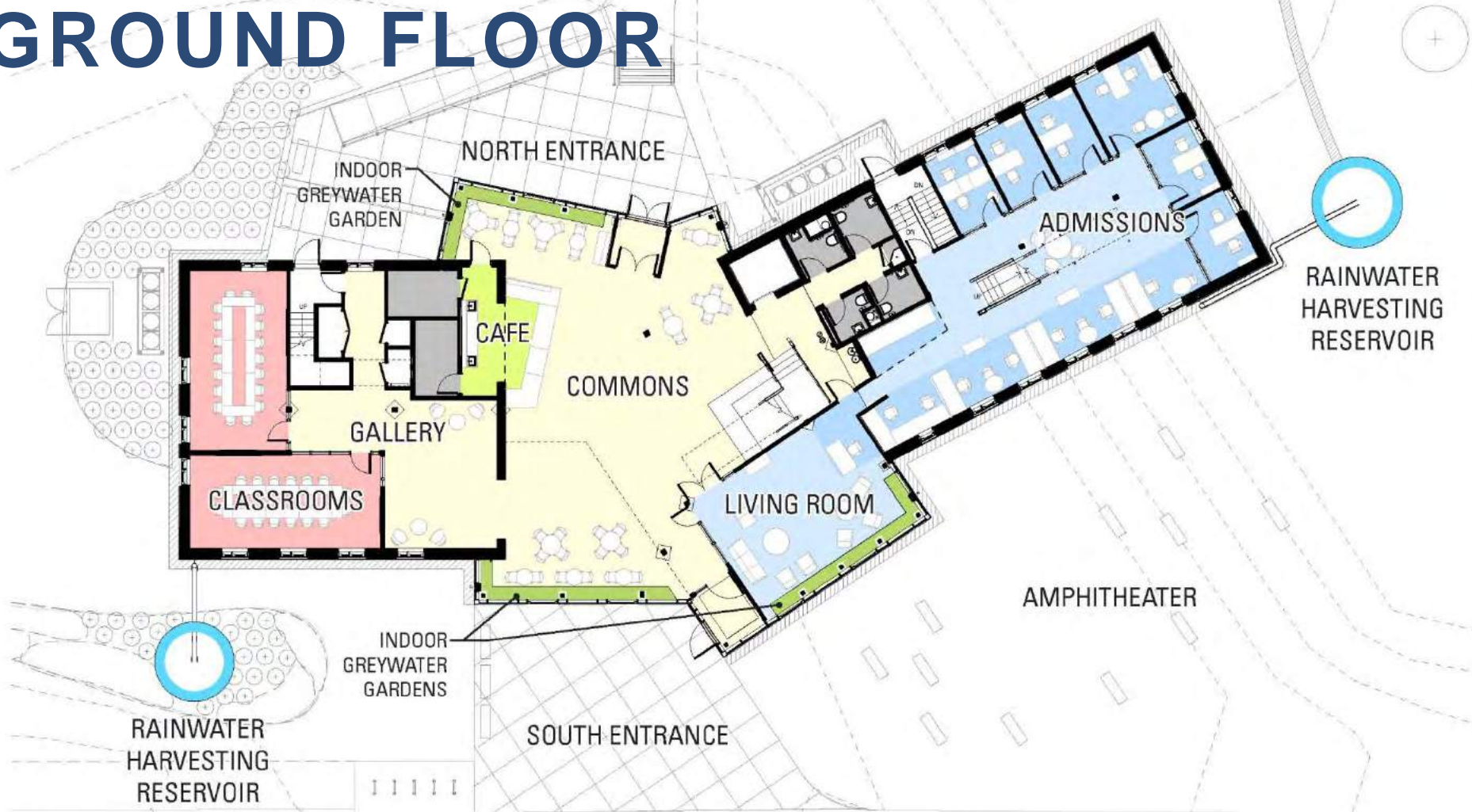
SWALE

AMPHITHEATER

CISTERN

N

GROUND FLOOR



SECOND FLOOR



WATER CYCLE

DOMESTIC
WATER

DRINKING WATER
IRRIGATION

GREYWATER

SINKS
DISHWASHING

STORMWATER

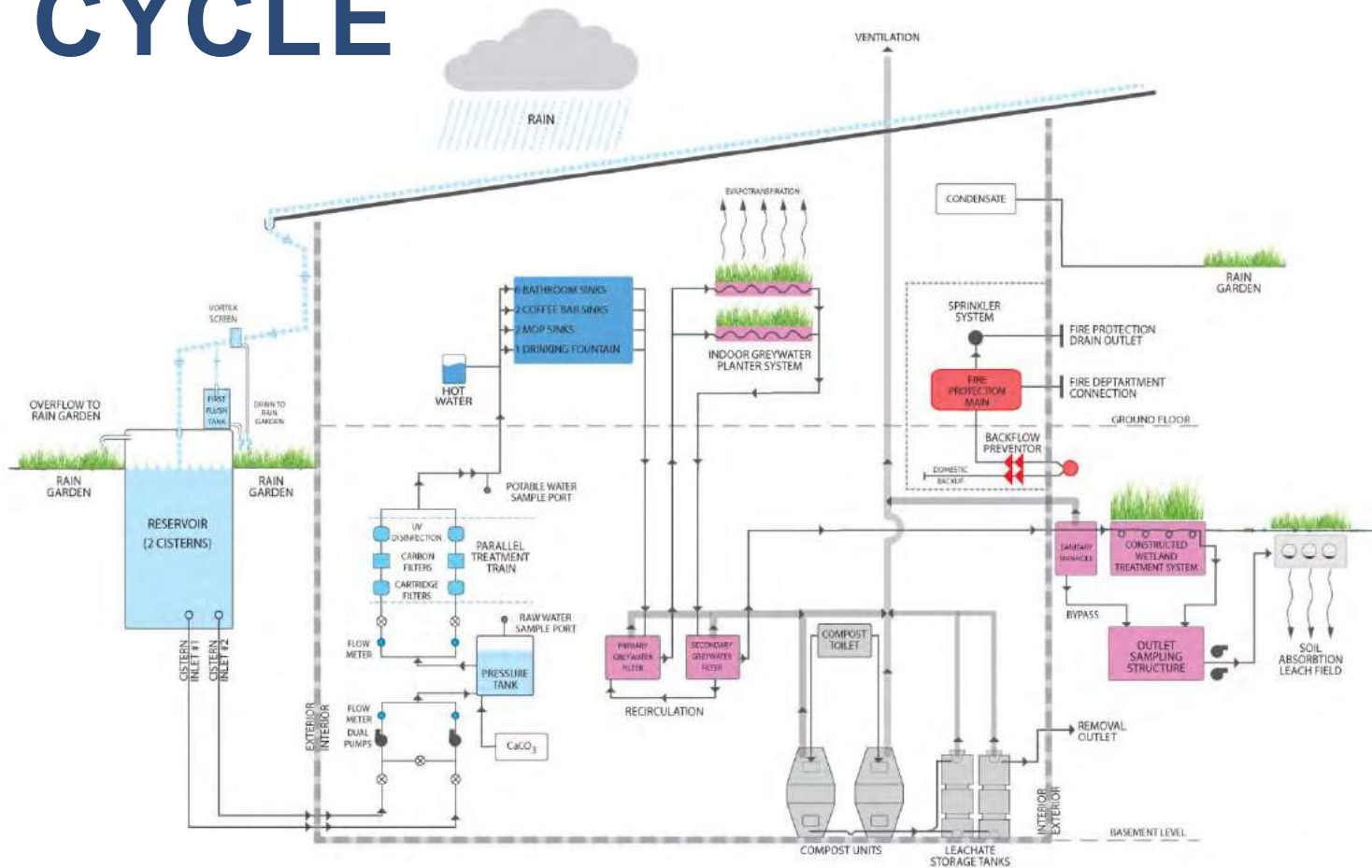
PRECIPITATION
RUN ON & OFF

BLACKWATER
& WASTE

TOILETS

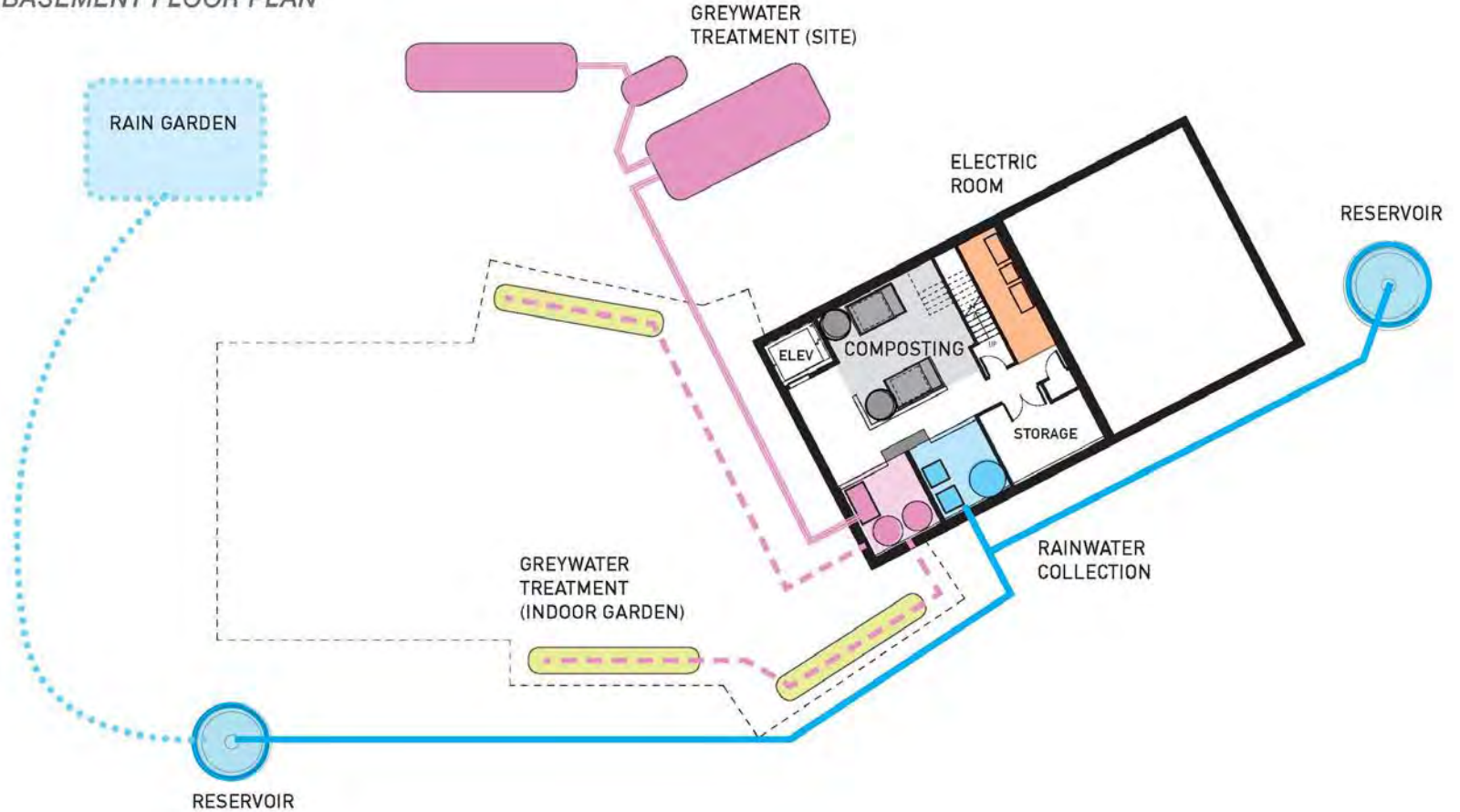
FIRE
SUPPRESSION

SPRINKLERS



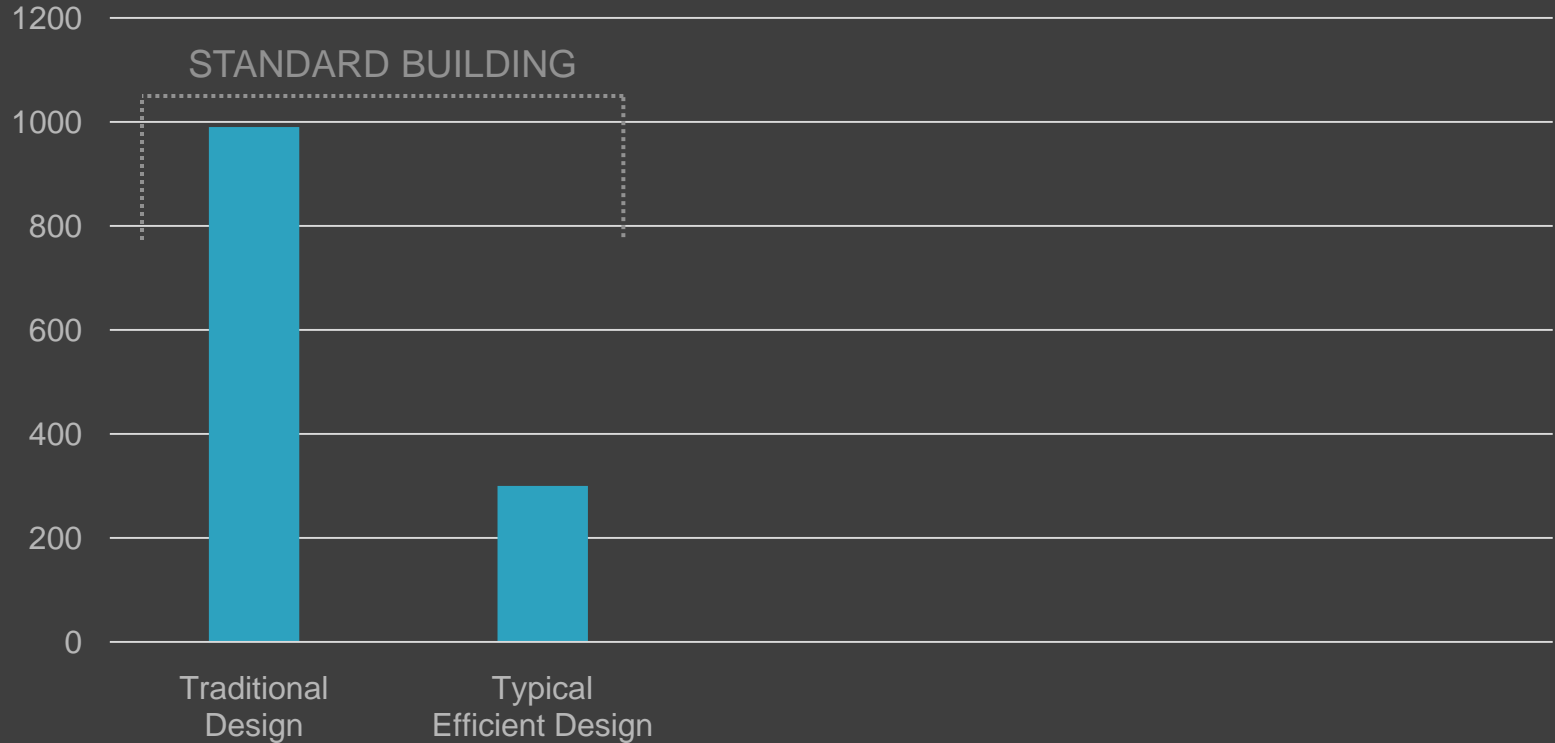
WATER CYCLE

BASEMENT FLOOR PLAN



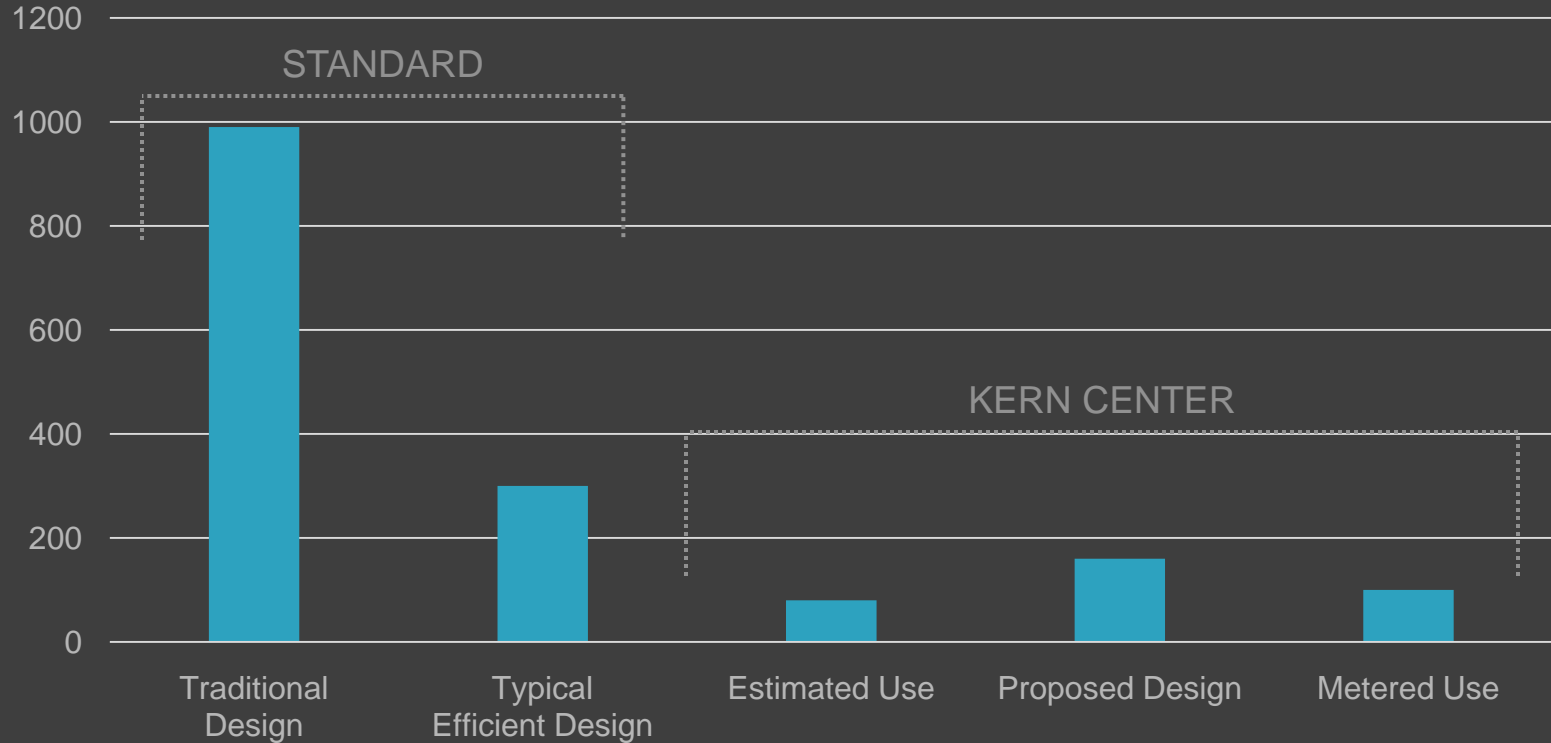
WATER BUDGET

DAILY WATER USE (GALLONS)



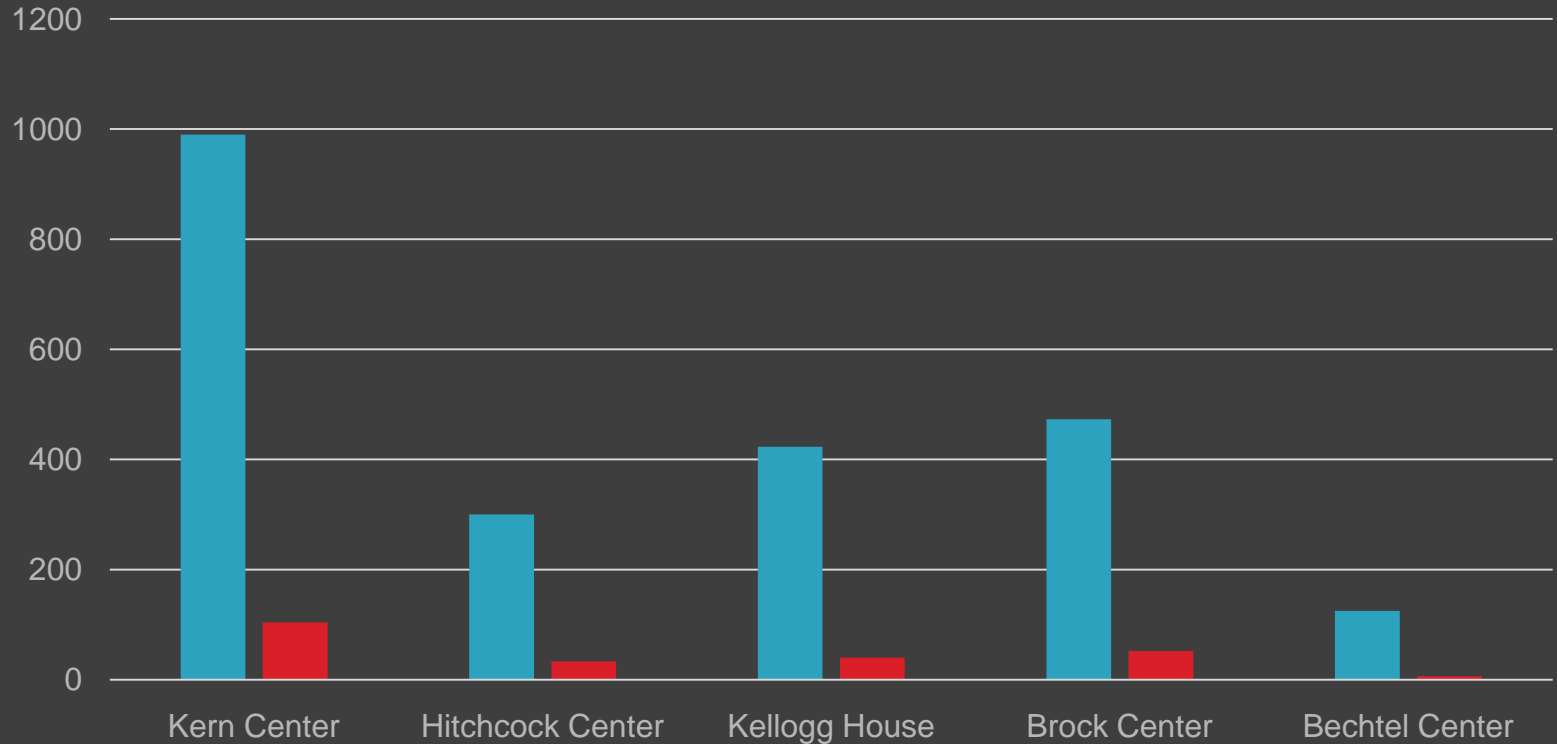
WATER BUDGET

DAILY WATER USE (GALLONS)



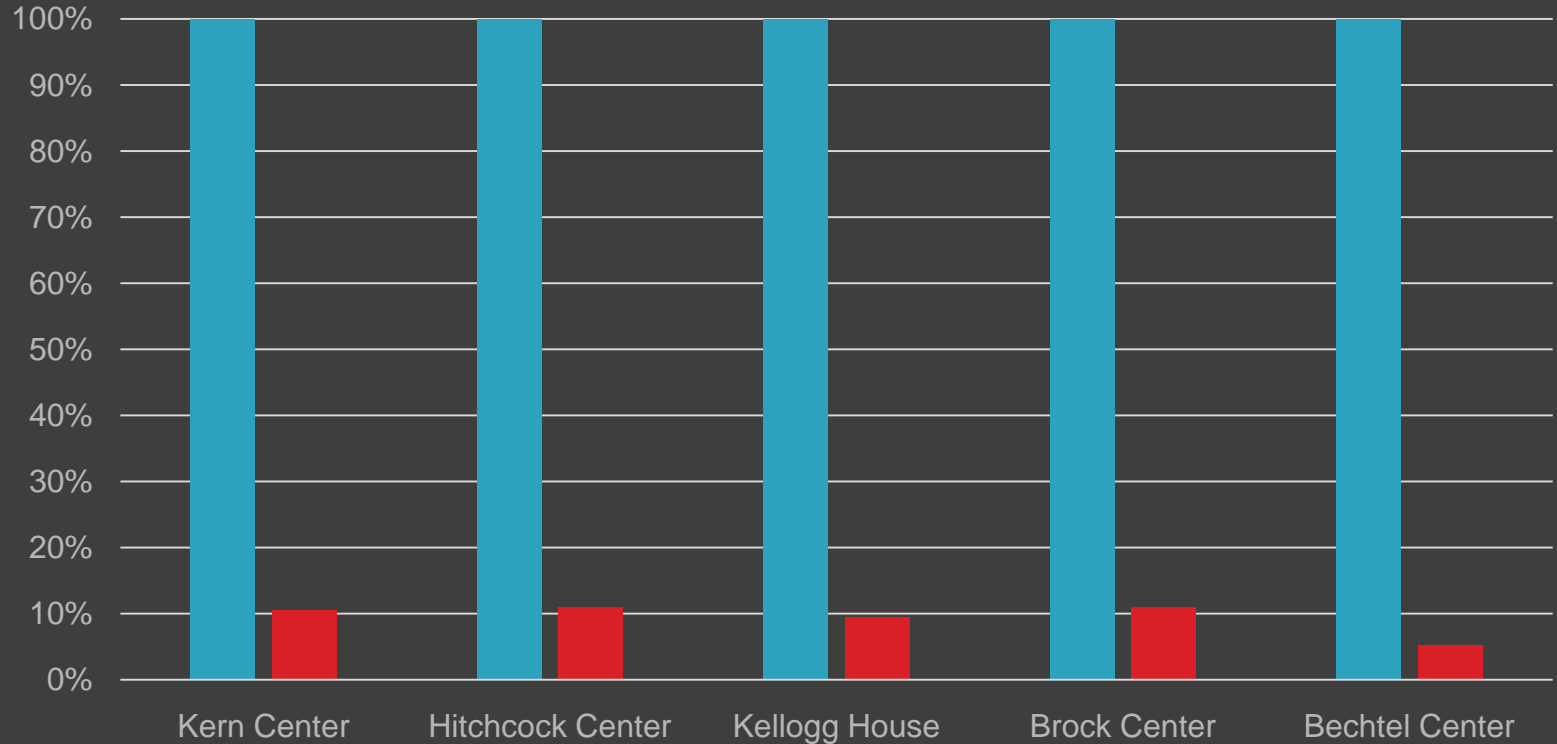
WATER BUDGET – LBC PROJECT

TYPICAL DESIGN VS ACTUAL USE (GPD)

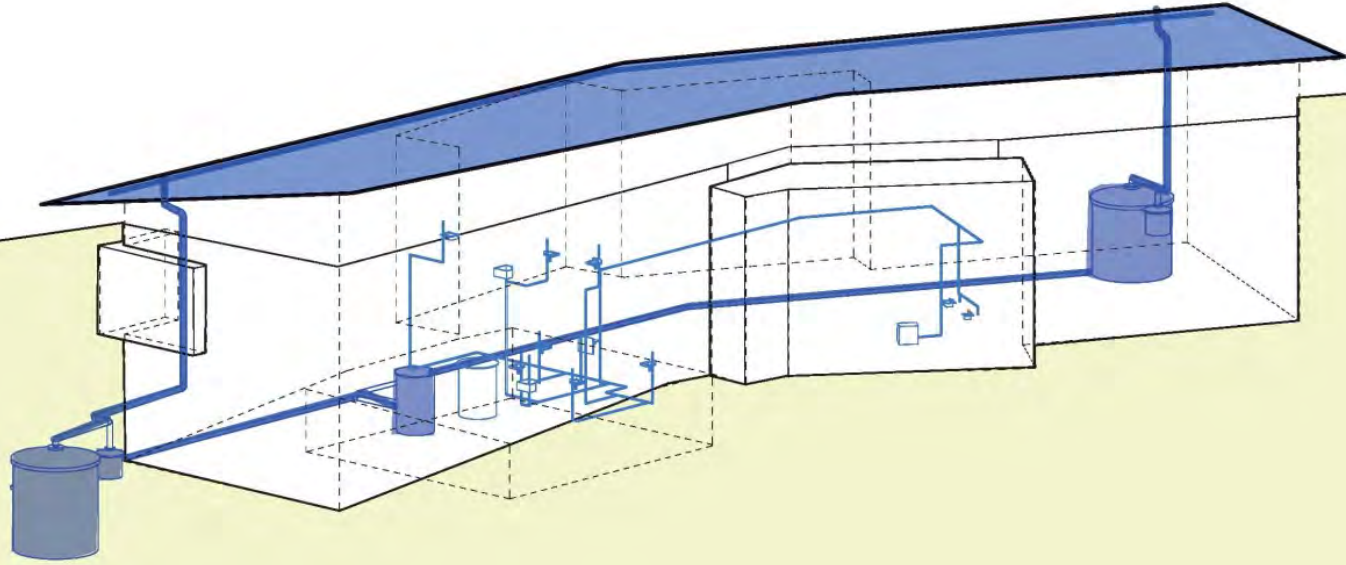


WATER BUDGET – LBC PROJECT

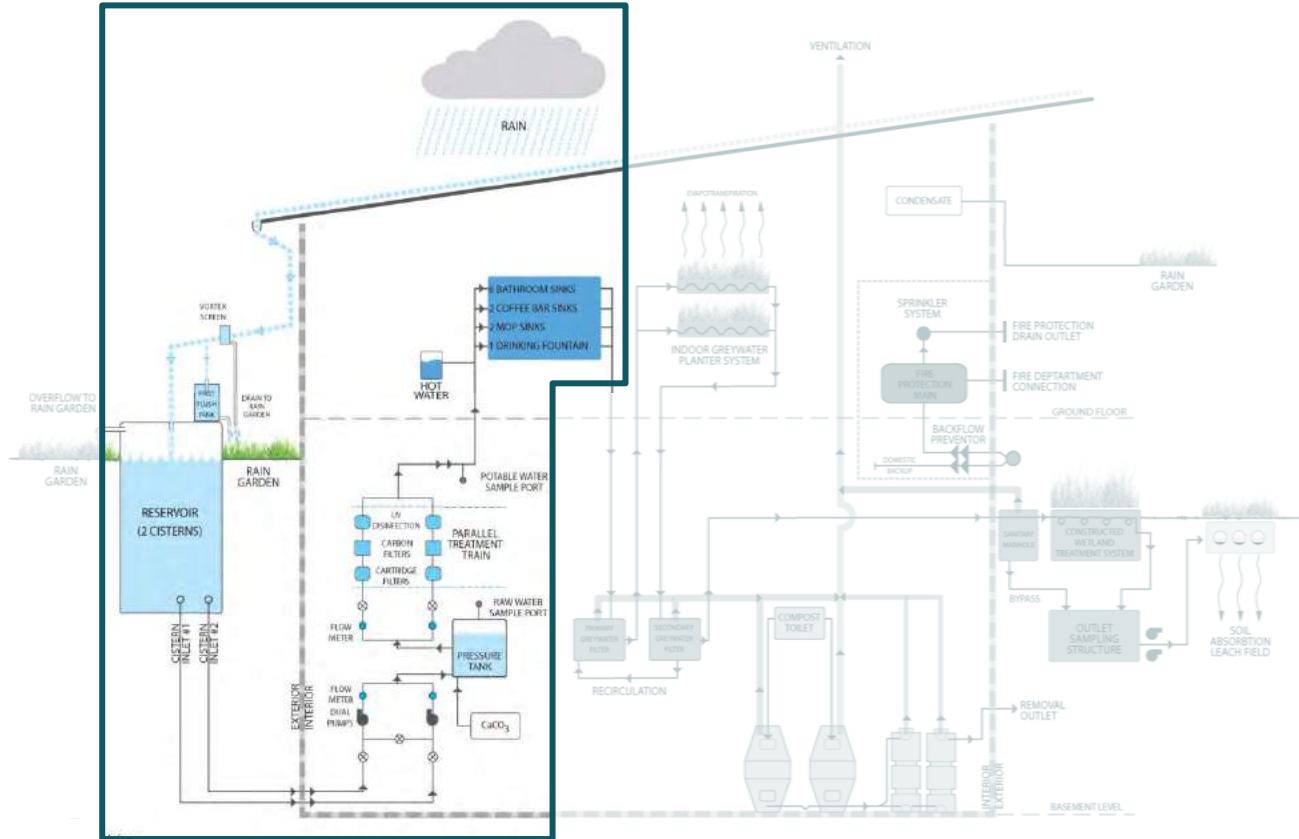
ACTUAL USE AS % OF STANDARD DESIGN



RAINWATER HARVEST

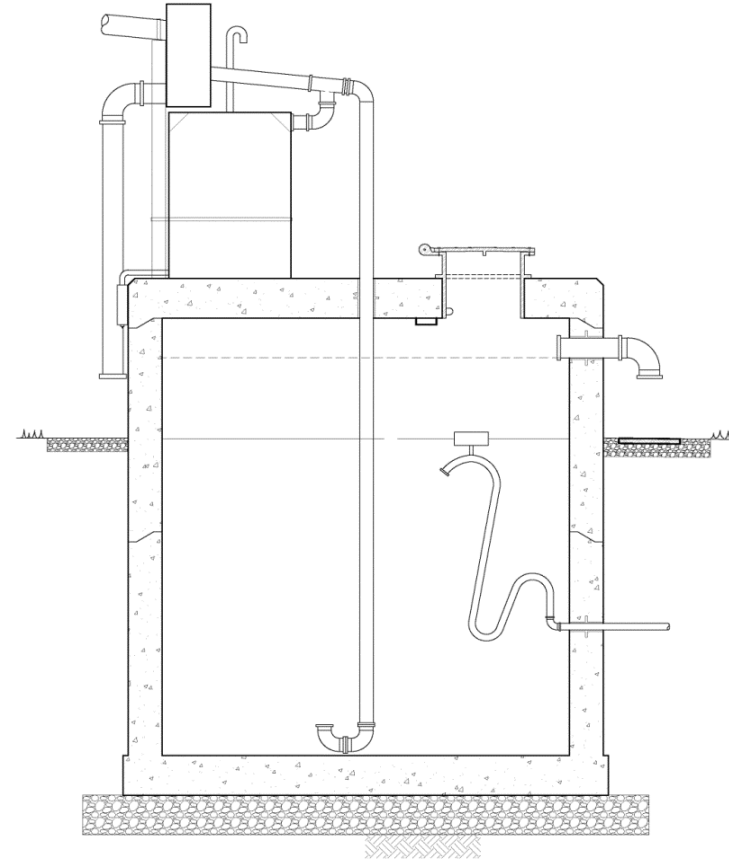


RAINWATER HARVEST



RAINWATER CAPTURE

- ROOF (WATERSHED AREA)
- DOWNSPOUTS
- DEBRIS SCREEN
- FIRST FLUSH



RAINWATER TREATMENT



LESSONS LEARNED

RAINWATER HARVESTING

BY PREDECESSORS

- REGULATORY PATH BLAZED BY OTHERS
- BORROWED CONCEPTUAL DESIGN
- SEEING COMPONENTS IN REAL LIFE
- AVOIDED REJECTION OF UV REACTOR



LESSONS LEARNED

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REGULATORY COMPLIANCE

- DRINKING WATER REGS – A HIERARCHY
- OVERSIZED UV REACTOR



LESSONS LEARNED

RAINWATER HAR

BY PREDECESSORS

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REGULATORY COMPLIANCE

- DRINKING WATER REGS – A HIERARCHY
- OVERSIZED UV REACTOR
- TURBIDITY MONITOR REJECTED
 - HIGHER PERFORMING UNIT
 - DRINKING WATER CERTIFIED ... IN EUROPE

