

March 2011 GreenMeet
Location: WorldBeat Cultural Center
03.16.2011 / 5-9PM

GREENING THE BEAT- BEATS, BEERS, & EBOM FUNDRAISER



MAKEDA "DREAD" CHEATOM - WBC



VANDITA MUGDAL – SUSTAINABLE SITES



Sustainable Sites

Team:

Cendra Ramirez - Landscape Architect, LEED AP BD+C

David Lyons – General Contractor, LEED GA

Vandita Mudgal - Landscape Designer, Architect, LEED AP BD+C

SS Intents and Responsibility

SS C1: LEED Certified Design and Construction – **Not Applicable**

SS C2: Building Exterior and Hardscape Mgmt Plan – **Cendra and Vandita**

SS C3: Integrated Pest Mgmt, Erosion Control, and Landscape Mgmt Plan – **Cendra**

SS C4: Alternative Commuting Transportation – **David + 11**

SS C5: Site Development – Protect or Restore Open Habitat – **Vandita + 1 and +1 Exemplary Performance**

SS C6: Stormwater Quality Control – **Not Attempting**

SS C7.1: Heat Island Reduction Non- Roof– **Future (requires funding, discussed in later slides) 1 in Future**

SS C7.2: Heat Island Reduction Roof – **Future (requires funding, discussed in later slides) 1 Future**

SS C8: Light Pollution Reduction – **David 1 Maybe**



SS Credit 2 & 3 :

These two credits focus on the general maintenance and day to day work on the site related to landscape maintenance, slopes, rodent and pest control and hardscape management. The task was to write a manual of green products, usage and maintenance activities that should be followed by this small organization to be sustainable.



SS Credit 4:

According to WBC more than 50% of the staff follows eco-friendly ways of commuting: bike rides, car pool and public transportation. A one week survey was carried out to confirm the numbers.



SS Credit 5:

WBC is an unique site in terms of the proportion of open space to built area. The circular building has coverage of 9619 sq ft, which is just 10% of the total site. The rest of the site comprises of the large Kumeyaay garden and a native garden.

+1 Exemplary performance!!!

SS Credit 8:

The WBC building has minimum exterior lighting around the building façade. The main requirements to achieve this credit are:

- 1) All the exterior lighting should be partially or completely shielded like the image below - **Donation needed: \$ 400 (for 8 lighting fixtures)**
- 2) All non-emergency built-in luminaires with a direct line of sight to any opening in the envelope must be automatically controlled to turn-off during all after hour period - **Donation needed \$ 220 for the device and \$ 390 for installation**



World Beat Center Facts

Children's Garden :

The Native garden is a unique organic herb, fruit, and vegetable garden that honors the memory of George Washington Carver, and is dedicated to teaching young people about the role of plants in society. It is also called "Children's Ethnobotany Garden". Ethnobotany is the study of how people of a particular culture and region make use of indigenous plants.

Plants in the garden:

Some interesting native Indian uses of the plants in the garden:

Rosemary: Leaves used to make tea

Canna: Plant used to make rattle pellets

Salvia: Seeds have medicinal use

French Lavender: decoction of plant used as a bath for rheumatic pains.

Acacia: beans formerly used for food. Seeds used as "Salvation food"



World Beat Center Building:

Originally an auxiliary water tank constructed during World War II for the Naval Hospital, the World Beat Center like the adjacent Centro Cultural de la Raza, has been reconfigured in order to present visual and performing arts programs.



Commuting Habits:

WBC can accommodate up to 495 people for a single event and nearly all will arrive using alternative transportation and on a daily basis over 50% of WBC staff commute to work using alternative transportation



World Beat Center Centennial Goals

• **Kumeyaay Garden** representing a rich native vegetation of San Diego area. In addition to the Children’s native garden, Kumeyaay garden becoming another venue for outdoor classes to teach the future generation about environment.



• **Credit 7.1 Heat Island Reduction – Non Roof** : There is a proposal for installing a shade structure in parking area to cover the asphalt drive way area. This will help in reducing the heat island effect.






• **Credit 7.2 Heat Island Reduction – Roof** : There is a proposal for painting the roof of WBC with a high SRI value light color paint.

Require 1 gallon per 100 sq ft WBC Roof is approx 8,450 sq ft i.e. 17 five gallon pails
 Total cost \$ 3,784.00
 Overhead and shipping \$ 4,750.00



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Shopping List

Item	Credit	Price*	Image
Lighting Shade (8 no.)	SS Credit 8	\$ 400	
Automatic Lighting Controller	SS Credit 8	\$ 220 Equipment \$ 390 Installation	
Native plants	SS Credit 5	Varies Grant Application: CA Native plant Society	
Roof Paint	SS Credit 7.2	Total cost \$ 3,784.00 Overhead and shipping \$ 4,750.00	
Shade Structure	SS Credit 7.1	\$ 35,000 approx	

* Prices shown are approximate. All the materials purchased should follow the guidelines of material purchasing by MR team



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ROBERT THIELE – WATER EFFICIENCY



Water Efficiency

Team:

Robert Thiele - Architect, LEED AP
Ari Hoffman – USGBC-SD Member
Jeff Marshal – Project Manager LEED AP BD+C
Sandra Miranda - USGBC-SD Member
Barbara Fanning - USGBC-SD Member



Team Description

WE Intent and Responsibility

WE Credit 1 – Measure potable water use

This credit focus is on measuring potable water use. The WBC currently does not have a water meter. In order to verify water reduction for future water efficient measures meters must be installed.

Robert Thiele

WE Prereq. 1 / Credit 2 – Reduce potable water use

The WBC has a wide range of transient uses ranging from 10 people to hundreds and even thousands of people on regular occasions.

Jeffrey Marshall / Sandra Miranda

WE Credit 3 – Reuse water in a low water/ no water landscape

With irrigation water metering in place the Kumeyaay Garden as envisioned by the World Beat Center Will demonstrate and educate children and visitors on the native plants that served the native culture of San Diego.

Barbara Fanning

IO Credit 1.2 – Alternative Means Water Closet

Through the use of Spanky's Portable Toilets at Indoor/Outdoor events at the World Beat Center, potable water demand for waste is tremendously reduced. For only 4 gallons of fresh water, 426 toilet uses can be accommodated, compared with the UPC 2006 baseline of 1.6 gallons per flush.

Ari Hoffman



Small Goal – Achievable reduce water use 30%

LEED Credit 2- Additional Indoor Plumbing Fixture Efficiency

Installation of 3 Dual Flush
Water Savings Handles



Installation of 4 sets of Low Flow Valves
Under the lavatories in each restroom



1 Half Flush Water Savings Handle for
existing Urinal



Easily convert most commercial toilets into high efficiency fixtures and reduce water usage by 30% or more. Promotes eco-friendly image and earns facility LEED points. No costly professional installation required; each package contains an easy-to-use tool and instructions. Includes self adhesive wall signs to demonstrate use of the handle and show that your facility is doing its part to preserve the environment. Push handle down for reduced flush (liquid waste) and pull handle up for full flush (solid waste).



Larger Goal

Measure and Reduce the use of potable water by 40% or more.

WE Credit 1.0 – Water Performance Measurement

Install water meters on the whole building and for the landscape irrigation



WE Credit 2.0 – Additional Indoor Plumbing Fixture Efficiency

Install waterless urinal and Dual flush toilets



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WBC Centennial Goal

WE Credit 3.0 – Water Efficient Landscaping

Although we are not pursuing this credit category during the initial certification process we are currently developing a strategy for a water efficient garden

Collaborating with various groups to develop landscape plan and secure donations

Collaborators include:
WBC Staff
Project volunteers
Local non-profits
Educational institutions



By Stephane D'Alu [CC-BY-SA]









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Shopping List

Item	Credit	Price	Image
Whole Building Water Meter Installation w/ regulator and shut-off	WE Credit 1	\$580 <u>\$280</u> \$860	
Landscape Water Meter Installation	WE Credit 3	\$280 <u>\$280</u> \$560	
3 Dual Flush Water Saving Handles for Toilets	WE Credit 2	\$95 each	
4 sets Flow Control Valves	WE Credit 2	\$26.20 / pr	
Installation of 1 Waterless Urinal OR 1 Half Flush Water Saving Handle for Urinal	WE Credit 2	\$460	
3 Dual Flush Toilets Installation	WE Credit 2	\$236 <u>\$385</u> \$621 each	



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**LISA RUDER –
ENERGY &
ATMOSPHERE**



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Energy and Atmosphere:

Team:

Aleksei Naumov LEED-AP, BPI
Danielle Caestecker
Denise Jenkins
Evan Heryet
Jeffery Parker
Jim Clayton

Luis Zavala
Lisa Ruder LEED-AP
Michael Fortin
Nate Eppley EIT, LEED-AP
Shahab Salehi PE, LEED- AP



Team Description:

Credits:

EA Credit 1 – Optimize Energy Efficiency Performance
This credit focus is increasing levels of operating energy performance.

Aleskei Naumov

EA Credit 2.1 – Existing Building Commissioning
This credit focus is increasing levels of operating energy performance.

Nate Eppley and Shahab Salehi

EA Credit 4 – On-site and Off-site Renewable Energy
This credit focus is increasing levels of operating energy performance.

Lisa Ruder

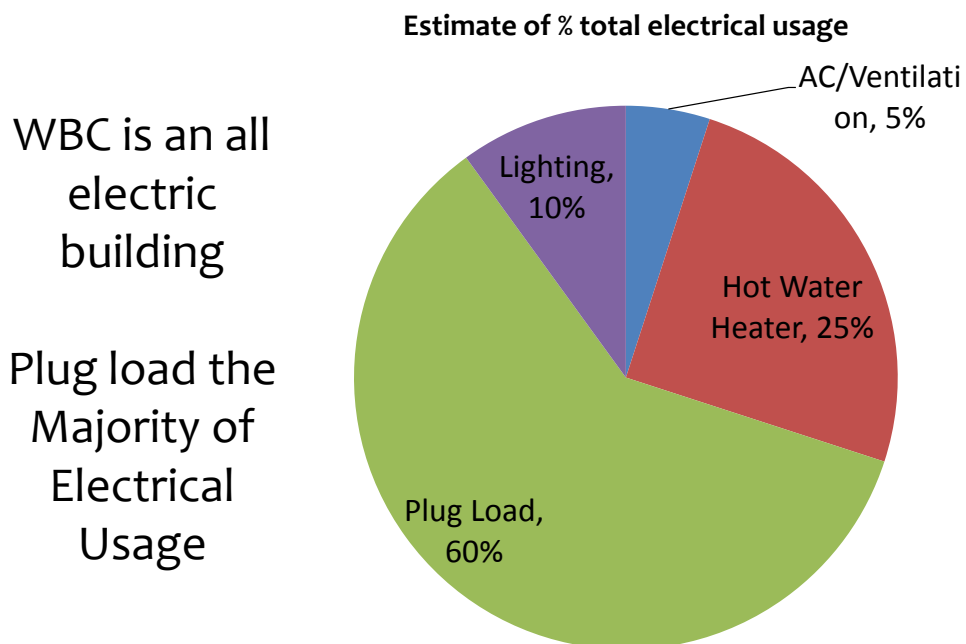


Short-term Goal to decrease Plug Load

- The WBC uses **79% less energy** than similar buildings throughout the US.
- Source Intensity for WBC is 55 kBtu/sf versus National Average of 265 kBtu/sf
- Site Energy Intensity for WBC is 15 kBtu/sf or 4.4 kWh/sq ft/year
- Using the Adjusted Benchmark Score for this type building expect 17 points

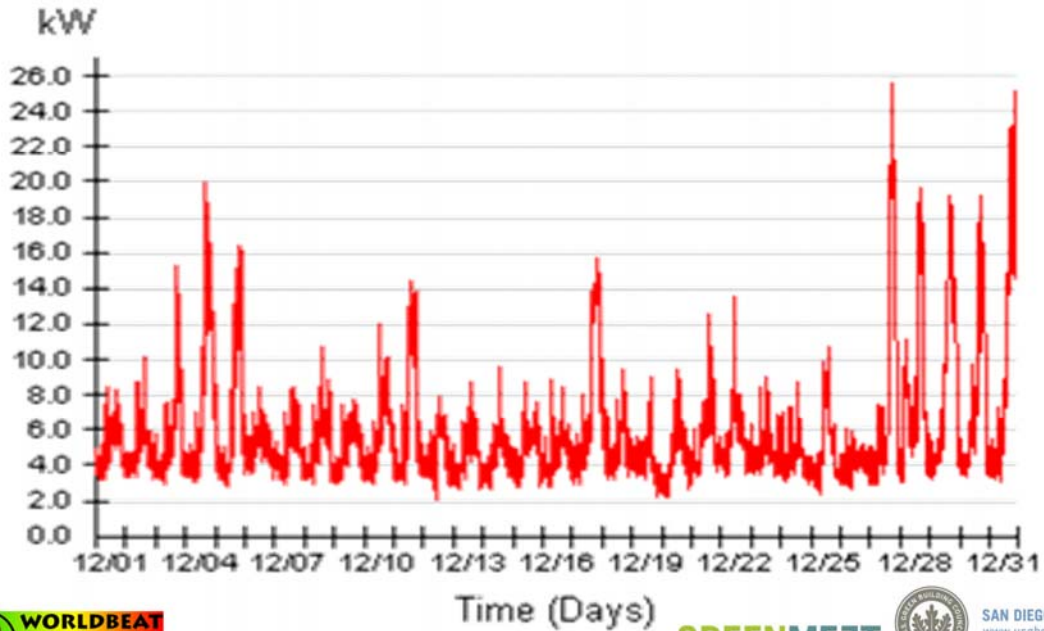


Short-term Goal to decrease Plug Load



Energy Usage of WBC

Profile for Selected Accounts for the Month of December



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Larger Goal

Increase the energy efficiency and atmosphere of the WBC by the addition of highly efficient LED lighting and Solatubes

Project to be installed this Spring using EECBG (Energy Efficiency Community Block Grant funds that were part of ARRA)



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Centennial Goal

Photovoltaics Account for just over 3% of the energy at the World Beat center (1 point in Credit 4-Renewables)

Buying RECs or increasing the amount of Photovoltaics would allow the base level of energy usage to be provided by renewables



Shopping List

Item	Credit	Image
EnergyStar Appliances	EA Credit 1	
Tune-up of existing Photovoltaic system	EA Credit 4	
Renewable Energy Credits	EA Credit 4	
Additional Photovoltaics and Installation	EA Credit 4	



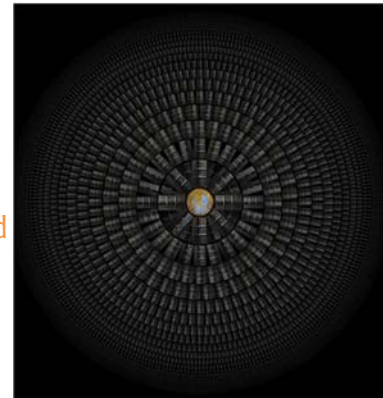
TANYA GOYETTE – MATERIALS & RESOURCES



Materials & Resources

MR Intent

Buildings and operations generate a large amount of waste every day. Extraction, processing, transportation, use and disposal can have negative health and environmental consequences. **By being aware of the materials brought into the building and the disposal of waste leaving the building, the environmental impact can be significantly reduced.**



Chris Jordan Oil Barrels, 2008

MR Team:

Bill Brenza, LEED Green Associate
Susan Eubank
Aaron Good
Tanya Goyette

Monica Lopez
Bridget O'Meara
Trunnell Price, LEED Green Associate
Deevinda Tosten, LEED AP



Materials & Resources

MR Intent and Responsibility – Credits

- MR C1: Sustainable Purchasing Ongoing Consumables (Lopez, Price) +1*
- MR C2.1: Sustainable Purchasing Durable Goods-Electric-Powered Equipment (Brenza, Good)
- MR C2.2: Sustainable Purchasing Durable Furniture (O'Meara, Lopez)
- MR C3: Sustainable Purchasing Facility Alterations and Additions (Tosten, Price)
- MR C4: Sustainable Purchasing Reduced Mercury in Lamps (Brenza, Eubank) +1*
- MR C5: Sustainable Purchasing Food (Tosten, O'Meara) +1*
- MR C6: Solid Waste Management-Waste Steam Audit (Goyette, Good) +1
- MR C7: Solid Waste Management-Ongoing Consumables (O'Meara, Eubank) +1* **
- MR C8: Solid Waste Management-Durable Goods (Lopez, Good) +1*
- MR C9: Solid Waste Management-Facility Alterations and Additions (Eubank, Goyette)



10 Points Possible - 6 Points Attempted

*Exemplary Credit

**Regional Priority Credit



Materials & Resources

MR Intent and Responsibility – Achievable Goals

MR Credit 1: Sustainable Purchasing –Ongoing Consumables

1 POINT

(Exemplary with 95% or more sustainable purchases during the performance period)

To reduce the environmental and air quality impacts of the materials acquired for use in the operations and maintenance of buildings.



Forest Stewardship Council

MR Credit 5: Sustainable Purchasing – Food



Food Alliance distributors

1 POINT

(Exemplary with 50% or more total combined food and beverage purchases during the performance period)

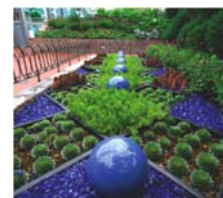
To reduce the environmental and transportation impacts associated with food production and distribution.

MR Credit 7: Sustainable Waste-Ongoing Consumables

1 POINT

(Exemplary with 95% and a Regional Priority Credit)

To facilitate the reduction of waste and toxins generated from the use of ongoing consumable products by building occupants and building operations that are hauled to and disposed of in landfills.



Enviroglass, recycled glass



Materials & Resources

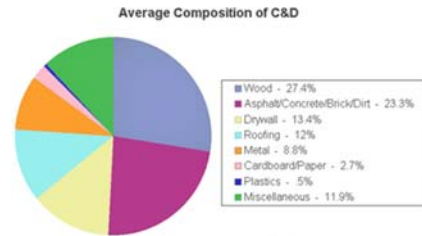
MR Intent and Responsibility – Future Goals

MR Credit 3: Sustainable Purchasing –Facility Alterations and Additions

1 POINT

(Exemplary with 95% or more sustainable purchases during the performance period)

To reduce the environmental and air quality impacts of the materials acquired for use in the upgrade of buildings.



MR Credit 9: Solid Waste Management –Facility Alterations and Additions

1 POINT

(Exemplary by diverting 95% or waste generated by facility alterations and additions from disposal to landfills and incineration facilities)

To divert construction and demolition debris from disposal to landfills and incineration facilities. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.



Materials & Resources

WorldBeat Center Centennial Goals

Closed Loop Garden

Kumeyaay Garden will act as a closed loop garden that strives to:

- Teach yard and kitchen waste compost techniques
- Practice environmentally sound pest control
- Demonstrate water-wise gardening





Community Education: Recycling

The WorldBeat Center will be a community icon as well as an educational center for recycling, reusing, and repurposing materials.



Materials & Resources

WorldBeat Center Shopping List

Item	Credit	Price*	Image
1 Platform Scale \$85	MRC6		
4 Recycling Bins	MRC7	1/\$699 3/\$679 6+/\$649	

* Prices shown are approximate. All the materials purchased should follow the guidelines of material purchasing by MR team



KEITH SCHNERINGER— INDOOR ENVIRONMENTAL QUALITY



Indoor Environmental Quality

Team:

Bing Guerin – Project Manager, LEED AP BD+C (IAQ Credits)

Tyrone Hunter – Consulting Engineer, LEED GA (Occupant Comfort Credits)

Saied Montevasselani - Architect, LEED GA (Occupant Comfort Credits)

Nicola Hedge – Climate Initiative Manager (Green Cleaning Credits)

Keith Schneringer – Marketing Manager, LEED AP O+M (Green Cleaning Credits)



15% - Indoor Environmental Quality



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Indoor Environmental Quality

EQ Intent and Responsibility

EQ C1.1: IAQ Management Program – **Bing + 1**

EQ C1.5: IAQ Management for Facility Alterations and Additions – **Bing + 1**

EQ C2.1: Occupant Comfort Survey – **Tyrone and Saied + 1**

EQ C2.2: Controllability of Systems – Lighting – **Tyrone and Saied + 1**

EQ C2.4: Daylight & Views – **Tyrone and Saied + 1**

EQ C3.1: High Performance Cleaning Program – **Nicola and Keith + 1**

EQ C3.2: Custodial Effectiveness Assessment – **Nicola and Keith + 1**

EQ C3.3: Sustainable Cleaning Products & Materials – **Nicola and Keith + 1**

EQ C3.4: Sustainable Cleaning Equipment – **Nicola and Keith + 1**

EQ C3.5: Indoor Chemical & Pollutant Source Control – **Nicola and Keith + 1**

EQ C3.6: Indoor Integrated Pest Management – **Nicola and Keith + 1**

15 Points Possible - 11 Points Attempted



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Indoor Environmental Quality

EQ Intent and Responsibility – Achievable Goal

EQ C3.3: Sustainable Cleaning Products & Materials – Nicola and Keith + 1

Baseline

Supplies purchased at store
Products with green claims
LEED requirements not met
0% green spend



Proposed

90% green spend
20% savings
Supplies purchased at sanitary supply company
Proposed alternate supplies have reduced impact on human health and the environment



Indoor Environmental Quality

EQ Intent and Responsibility – Future Goal

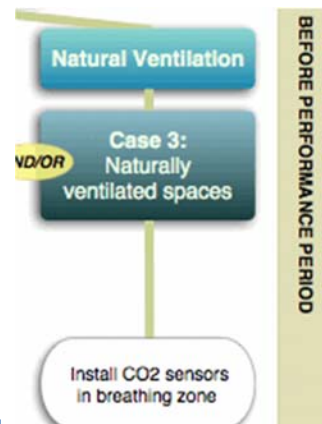
EQ C1.2: IAQ Best Management Practices – Outdoor Air
Delivery Monitoring (option 3) – Bing
(potential + 1)

Baseline

Naturally ventilated space

Proposed

Permanent, continuous monitoring system
Alert building operators if airflow drops below
15% of desired level
Proposed monitors improve
indoor air quality and human health



WorldBeat Center Centennial Goal

Ethnobotanical Garden - Sustainability

Biobased cleaning products
Solar-powered trash compactors



Community Health – Building Visitor Health and Comfort

IAQ Monitoring
Occupant Comfort
Green Cleaning





Ecology and Commerce in Mexico

Sanitary paper products sourced from recycled paper in southwest and manufactured in Mexico



Shopping List

Item	Credit		Price*
CO2 Monitor	EQ Credit 1.2		\$ 249 / ea (7 total) \$ 1743 / for all
Vacuum Cleaner	EQ Credit 3.4		\$ 400

* Prices shown are approximate.

All the materials purchased should follow the guidelines of material purchasing by MR team.



THANKS!

WILL YOU PARTICIPATE?

