O’Donnell Park
Enhancing Downtown Milwaukee’s Economic, Environmental and Social Networks through Sustainable Design
Why Should We Care...The Future
Futures generations need us!

We must ask the question: How might a sustainable ecosystem facilitate a community?

Current trends won’t last.

So, let’s find a solution!
Potential Solutions

Case Study Development

The Dragon Fly Building
Location: New York City  
Designer: Vincent Callebaut

Città Della Scienza
Location: Rome, Italy  
Designer: Vincent Callebaut

The Mobius Project
Location: London, England  
Designer: Michael Pawlyn
What is Sustainability Development?
Where Do We Start? Site Introduction
O’Donnell Park, Milwaukee Wisconsin

State Location

Project Location

Milwaukee County

O’Donnell Park
7 Acres

Milwaukee Art Museum
Site History and Development

- 1984 Project constructed
- 1986-2010 Repairs neglected by the city causing building to be under code
- 2010 16 year old Jared Kellmer dies in collapse of entry Structure
- 2010-now repairs are commenced and redesign is proposed
- 2016 Park bought by Milwaukee Art Museum Redesign has one goal to accommodate park users
Areas of Development

- Ground Level
- Parking Area
- Park 1st Level
- Park 2nd Level
- Betty Brinn Children's Museum Level

Legend:
- Undisturbed Area
- Partially Undisturbed Area
- Complete Redesign
Who Needs this Redesign

Number of workers in a square mile-workers who eat out +10% flex

Number of tourist, in a square mile-people who don’t eat at location- go other place- stay on site +10% flex

Average 900 workers site should provide for
Downtown Area= 4.5 Miles
Walkable distance to food = .Miles
4.5/.25=18 Units
18 Units / 80,000 Worker = 60% of people don’t eat out.
900 People

Average 1,333 tourist would use site
Art museum visors 400,000
10% Eat while touring
5% Pack lunch
3 Dine There
1 Go outside of range.
1% Provide for +4000
1/3 Provide for = 1333
1333 People

Average 270 residents per block
(City of Milwaukee)

Site size 7 acres
2.5 Blocks

= 2933 People
Site Vision Ideas

### Vegetable Production
- 66,000 lbs of food
- in 536 sq ft

### Sustainable Compost
- Keyhole gardens
- compost walls
- std compost piles
- Rating Factor: Size and output ratio

### Interrogated Production
- Briggs Aquaponics System
- Tray Aquaponics
- Standard Aquaponics
- Rating Factor: Efficacy vs size and crop flexibility ratio

### Animal Production
- Worm Farms
- Chicken Farms
- Beef Farms
- Rating Factor: Efficacy vs size

### Imported Food Production
- Food Trucks
- Private Vendors
- Restaurants
- Rating Factor: Efficacy and sustainability

### Water Vision
- Water needs of the site are not to only provide 2 liters of water for each person while providing water for the city plants and series as well. This is my goal for the site to see it or see it relate to its maximum potential. Additionally, using the water for the lake if needed or a sustainable way as well.

### Water Importing-Production
- Sheen Filters
- Biochar Filters
- Standard Filters
- Rating Factor: Size vs gallon ratio

### Aquaponics Production
- Briggs Aquaponics System
- Tray Aquaponics
- Standard Aquaponics
- Rating Factor: Size vs gallon ratio and fish yield

### Water Collection
- Green Cisterns
- Rain Gardens
- Standard Cisterns
- Rating Factor: Size vs gallon ratio

### Water Retention
- Green Roof
- Porous Pavement
- Standard Pavement
- Rating Factor: Sustainability

### Art
- Solar Arts
- Green Art
- Standard Art
- Rating Factor: Sustainability

### Power Vision
- Power on site should be completed by the site and made in sustainable ways. Planting energy the all basic functions of the site for growing crops to basic lighting needs.

### Solar Power
- Solar Ipy
- Biochar
- Standard Solar
- Rating Factor: Size vs Sustainability

### Wind Power
- Solar Wind Power
- Whales Wind
- Standard Wind Power
- Rating Factor: Size vs Sustainability

### Multiple Functions
- Sustainable
- Multi-Resource
- High Efficacy

### Mass Seating
- Bio Amphitheaters
- Stadium
- Standard Stadium
- Rating Factor: Sustainability

### Social Vision
- If a site is not well liked by the public than it will not be used and there will not be sustainability. Thus it is my goal to create a site that people want to be in. A site that feels like it is part of the community.

### Appeal
- Educational
- Valuable
- Popular
- Utterly Wanted

### Markets
- Farmers Markets
- Fire Markets
- Standard Market
- Rating Factor: Sustainability
2933 People

Clean Air

3.3 Acres

Power

2 Acres

Food

1.5 Acres

Waste mg.

.7 Acres

Water

1 Acres

Pathways

Income/Sustainability

Public Appeal

Green Thinking

Green Infrastructure

Recycling and Reusing

Food for 2933 People

Produce 223 Kwt of Power

On Site Production

Smart Planting

On Site Production

Lake Water

Drinking Water

Gray Water

Rain Water

Usable Space Number

Outcomes

Pathways
Area of Use

Study Area

Site
Social Analysis

This main space is wide and open and flexible for many social aspects such as meeting areas to farmers markets.

Art could be stationed on the roof as well to draw in users in as well.

This area is the main walkway and focal point which is great for art and social activities. Area should have a nice entrance accent to draw people to the site.
Economic Analysis

Site Income Program
- Farmers markets
- Food production
- Water filtering
- Solar power
- Site event ticketing

This main space is wide and open and flexible for many social aspects such as meeting areas to farmers markets to bring in profit.

This area is an large open space with plenty of sun ideal for a orchard.

This area is perfect for mechanical needs due to accessibility to the road, and lack of appeal.

Parking garage walls could provide space for vegetation, or solar power due to sun studies.
Environmental Analysis

Power Vision
Power on-site should be completely made on the site and made in sustainable ways, providing energy for all the basic functions of the site from growing crops to basic lighting needs.

Water Vision
Water needs of the site is not to only provide two liters of water for each user, but also to provide water for the sites plants and animals as well. Thus, it is my goal for the site to use on-site water to its maximum potential, while additionally bringing in water for the lake if needed in a sustainable way as well.

Food Vision
The site must be able to produce enough food for over 2933 people for a solid year. This number is massive for a site to impost and provide for. Thus, the following goals are made to accomplish this number is less than 3.5 acres.
The north end of the site will include a chicken coop and Aerticrop area that will provide the site with sustainable food, along with being the primary educational area.

The Orchard will be utilized in this sunny area to grow environmentally productive fruit as planned in the program elements section.

The roof of the site will be implemented with solar panels. These panels can provide clean power as well as rain water for local plants.

These underutilized planting beds around the site will be Agriscaping gardens or flower gardens that can provide food for the user of the site while also being visually appealing.

This main space is wide and open and flexible for many social aspects, such as anything from meeting areas to farmers markets.

This area is the most structurally sound and has the most sunlight. Thus, it is perfect for a greenhouse.
Isometric Plan

Social Areas
A  “Think Green” Educational Garden
B  Community Flex Space (Farmers Market, Seating, Dining, Art)
C  The Calling community Art Preservation
D  (A new way) Amphitheater and Food Vendors

Green Production
E  Will Allen Green House
   • Hydroponics
   • Aquaponics
   • VrtiCrop
F  Keep it Local Production House
   • Cage Free Chicken Coop
   • Crop Testing
   • Water Purification Area

Green Infrastructure
G  Herb Gardens
H  Agriscaping Gardens
I  Green Roofs Gardens
J  Flower Gardens
K  Public Gardens

Master Plan
Mimicking Nature

The Dragonfly building Mimicking the structure of a dragonfly wing

The Mobius building Designed after the mobius strip

My Inspiration

An Onion
Amphitheater Section
Hardscaping Analysis

Why Pavers and Pedestals?

A. Square Bison Pavers
B. Recycled Wood Pavers
C. Reused Site Pavers
D. Existing Pavers

Damage Prevention
- Heaved Paver
- Out-wash
- Drainage

New solution
Educational Garden Master Plan
Educational Garden Perspective
Project Summary

- We have a environmental problem that needs to be fixed to ensure a future for mankind.
- We can change the world through sustainable design.
- Any society can be sustainable as established through three main goals:
  - Environmental
  - Economical
  - Social
Let’s Take a Walk
Questions ?
Sources

Movies


Pictures


Informational Sources


Manske, S. B. (2015). Continuous effort needed to make O'Donnell park the lakefront Destination it was envisioned to be. Https://milwaukee county.legistar.com/MeetingDetail.aspx?id=368874&GUID=778A3A4C-E4C3-4DB0-B575-553C36DAC371&Search=