# Revitalization and Life Center

BILLY VENIA | ARCH 593 | DIRK DENISON | SPRING 2012

# tableof**CONTENTS**

### STATEMENT+DRIVERS

project description goals/guiding principles

### SITE INFORMATIVE

site investigation site analysis

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## **CASE STUDIES**

- orthopedic ambulatory building
- culinary school
- maggie's centre gartnavel
- maggie's centre fife

### **PROJECT PROGRAM**

- program inventory
- scale comparison
- program organization

### REFERENCES

annotated bibliography



"If I would have listened, if I would have understood diabetes like I understood music, maybe these things wouldn't have happened." -Marvin Isley

# **STATEMENT/DRIVERS**

project description/goals/guiding principles/qualitative parameters



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# project**TEXT**

### project **DESCRIPTION**

My project will be a revitalization and life center for people living with diabetes.

The project will be available to people living with diabetes and their families as an escape from everyday living. This project will possess elements to improve the knowledge and livelihoods of individuals who have been diagnosed with the disease. Research and minor treatment will also be elements of the project. Partnerships with relative medical facilities will establish a client base and ease the access to the facility.

Diabetes is a very serious disease, and the 7th leading cause of death in the United States. The disease itself takes an estimated 71,382 lives (it's also one of the largest contributors for heart disease; the number one killer disease in the US) each year. The disease is also very personal as it has been in my family for generations. Though strides have been made, I strongly believe it is necessary to have a facility completely dedicated to finding the cure for such a debilitating disease.

My research will focus on developing a scheme that creates an environment where one can retreat, engage and learn all in one place and greatly improve the resources available to the sick and their families. A well implemented facility will be vital and could be the cornerstone to spark multiple facilities in medical districts across the nation.

### project GOALS

Implemented well, the project could be a cornerstone to multiple facilities across the country.

Creating an environment that promotes relaxation and revitalization within an urban context.

To create a central node to educate society about the disease.

### projectGUIDING PRINCIPLES

Flexible project attributes will help promote the ability to create a project similar across the United States.

Creating an appropriate environment is key to allowing one to achieve a proper mind set for escaping everyday stresses.

People and their families affected by the disease need to possess a much higher level of education so they can feel more comfortable in making decisions, and simply living everyday lives.

# qualitative **PARAMETERS**

**ENERGY** *Raising the level of education for users of the facility is key to raising the level of understanding of the disease.* 

## NATURE.

The prevelance of nature or the natural throughout the project aids in provoking a sense of calmness.

## HEALTH

The presence of treatment near the project creates a synergistic relationship between doctors, researchers and users.

## MEDITATION.

Finding a sense of self or oneness, is part of the mood necessary to ignite the motor for life improvement.

## KNOWLEDGE

Raising the level of education for users and researchers of the facility is key to raising the level of understanding of the disease.













site investigation/site analysis



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# site**INVESTIGATION**

## selection CRITERIA

-Must be in or near large city to sustain.
-Must be near larger medical facilities.
-Relative to highways for efficient access.

## site LOCATION

-Birmingham, Alabama

-North/South border - 8th Ave. & Magnolia Ave. -East/West border - 22nd St. & 23rd St.

## site ATTRIBUTES

-Located in Alabama's largest city.

-Relative to 7 medical facilities (4 hospitals).

-Between Interstate 65 & State Highway 280/31

## other INFORMATION

-Site is within 130 miles of Alabama's highest diagnosed counties.

-Within 250 miles of several large southern cities.

-Under 150 miles from Atlanta, Georgia; specifically the US Center for Disease Control.



### state**PERCENTAGE**

West Virginia - 15.4% Mississippi - 14.9% Alabama - 14.0% South Carolina - 13.7% Tennessee - 13.6% Kentucky - 12.9% Maine - 12.6% Louisiana - 12.2% North Carolina - 11.9% Oklahoma - 11.9%

## percentage**DIABETES**

|              |                         | • • • Jefferson Cou<br>• • • • Wilcox<br>• · · · · · Perr<br>• · · · · Sumter Co | nty [Birmingham, AL] - 11.0%<br>County [Camden, AL] - 15.6%<br>y County [Marion, AL] - 15.5%<br>ounty [Livingston, AL] - 15.4% |
|--------------|-------------------------|--|--|
|              | Memphis, TN<br>238.0 mi |  | ·····Nashville, TN<br>192.7 mi   |
| Jackson, MS… |                         |  | 146.66 mi  |

### cityHOSPITALS

- St. Vincents Hospital 1
- Callahan Eye Foundation Hospital 2
  - Children's Hospital 3
  - Cooper Green Mercy Hospital 4
    - Brandford Health Services 5
      - The Kirklin Clinic 6
      - UAB Bartow Arena 7



medical**RELATIVE** 















site**AXIS** 

site**GRID** 





hospital ACCESS

site ACCESS



prevailing**WINDS** 







solar **RELATIONSHIP** 



site **VEGETATION** 

## site**ANALYSIS**cont.



Highway Main Road Secondary Roads



### vehicular **CIRCLATION**



pedestrian **CIRCLATION** 

transit **CIRCLATION** 



bicycleCIRCLATION



site TRANSITION



site TRANSPARENCY



site**PARKING** 



interior **CIRCLATION** 



orthopedic ambulatory building/culinary school/maggie centre gartnavel/maggie centre fife



# caseSTUDY 1

project: Orthopedic Ambulatory Building architect: Perkins+Will location: Chicago, IL

## programINVENTORY

1-lobby 4-waiting area 60-exam room 1-procedural room 6-radiology room 2-cast room 2-soil room 1-clean room 9-offices 2-fire rated stair 3-elevator 2-mechanical space (data, electrical) 4-restroom

5-storage space







## program**CALCULATIONS**

| -lobby            | ···· <del>·</del> | •••••••••••••••••••••••••••••••••••••• |
|-------------------|-------------------|--|
| -waiting area     |                   |  |
| -exam room        |                   |  |
| -procedural room  |                   | - 7598.24 sf                           |
| -radiology room   |                   |  |
| -cast room        |                   |  |
| -soil room        |                   | = TOTAL BUILDING AREA - 32925.72 sf    |
| -clean room       |                   |  |
| -offices          |                   |  |
|                   |                   |  |
| -fire rated stair |                   |  |
| -elevator         |                   |  |
| -mechanical space |                   |  |
| -restroom         |                   |  |
| -storage space    | •                 |  |
| -circulation      |                   |  |

# caseSTUDY 2

project: Culinary Art School architect: Gracia Studio location: Tijuana B.C., Mexico

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## program**INVENTORY**

1-grand plaza
6-classroom
4-cooking station
1-seminar auditorium
1-administrative office center
1-wine cellar

1-fire rated stair 2-mechanical space 2-restroom 3-storage space

## projectATTRIBUTES

-9622.935 sf -simple geometries, inside vs. outside, inclusion of natural, warm materiality



Level 1



Level 2











-Branch-like circulation, promotes movement, directionality and orientation for the user.

-Primary circulation is located in the exterior creating natural common space, promoting most of the qualitative parameters.

-Secondary circulation consists of "branch" movements accessing programmatical elements.





-Most of the program falls within the knowledge category, though is shared with other parameters at times.

-Exterior, "nature" space is a focal point to which the energy, health and meditation parameters can be applied.

-The cooking stations (in red) fall into the knowledge parameters, but the thought is that they create a positive energy, a healthy mindset and even meditation.

# caseSTUDY 3

project: Maggie's Centre Gartnavel architect: OMA location: Glasgow, Scotland

## programINVENTORY

1-lobby 2-medium counseling room 2-small counseling room 1-large room 1-library 1-office 1-kitchen 1-dining room 1-mechanical space 2-restroom

5-storage space

## projectATTRIBUTES

-5747.928 sf -simple circulation, simple geometries, fragmentation, urban retreat, simple materiality











-Central, circular circulation, promotes movement, directionality and orientation for the user.

-Primary circulation is a continuous corridor connecting all programmatic elements in a free plan.

-Secondary circulation seems to spiral off the the primary path creating an almost pinwheel effect creating natural transitions.



qualitative **RELATIONSHIPS** 



-Most of the program falls within the nature parameter as the projects intent was to marry the outside with the interior programs.

-Exterior, "nature" space is a focal point and a cradle to which the other parameters are connected through a symbiotic relationship.

-Due to the design of the circulation, one moves through the parameters freely and continuously, helping to alleviate the mind of a negative mindset.

# caseSTUDY 4

project: Maggie's Centre Fife architect: Zaha Hadid Architects location: Kircaldy, Fife, Scotland

## program**INVENTORY**

1-lobby 2-small counseling room 1-office 1-kitchen 1-flexi-hall 1-library

1-restroom

## 1-parking

### project ATTRIBUTES

-2690.977 sf -simple circulation, integrated landscape, fragmentation, urban retreat, simple and continuous materiality









#### qualitative **RELATIONSHIPS**

Energy Nature Health Meditation Knowledge

-A rigid, spiral-like circulation, promotes movement, and creates interactions for the users.

-Primary circulation is a continuous movement to which all programmatic elements are "hung" from outside of the kitchen (central social space).

-Secondary circulation work as attachements to which walls were curved to meld program and circulation.

-Most of the program falls within the nature parameter as the projects intent was to marry the outside with the building form.

-Though there is a lack of the knowledge parameter, this project has promoted the meditation parameter, with counseling spaces and a large terrace looking over the landscape.

-The health parameter is strengthened in this project, by the scale and location of the space as it's positioned at the intersection of the primary circulation.



program inventory/scale comparison/organization



# room**INVENTORY**

| •••••••••••••••  | •••   |   |       |   |   |                                       |                    |
|--|-------|---|-------|---|---|---------------------------------------|--------------------|
|  |       |   |       |   |   |                                       |                    |
| HEALTH SERVICES  | ÷     |   |       |   |   |                                       |                    |
| 1-reception-500sf  |       |   |       |   |   |                                       |                    |
| 5-exam room-140sf = 700sf  | :···· |   |       |   |   | notsour                               |                    |
| $1_{\text{waiting area}}$  | ÷     | : |       |   |   | netsque                               | ARE FOOTAGE        |
|  | .:    |   | ••••• |   |   |                                       | 1500sf             |
|  | :     |   |       |   |   |                                       |                    |
|  | ÷     | : |       |   |   |                                       | 900sf              |
| I-reception-200st  |       |   |       |   |   |                                       |                    |
| 2-lab area-300st = 600st   | ÷     |   |       |   |   |                                       | ···· 11800sf       |
| 1-computer space-100sf   |       |   |       |   |   |                                       |                    |
|  |       |   |       | • |   | +                                     | 3200sf             |
| ENERGY FACILITY  | ÷     |   |       | :                                       |   | ·                                     | 52005.             |
| 1-reception-200sf  | :     |   |       |   |   |                                       | 17100 (            |
| 4-classroom/seminar space-750sf = 3000sf   | ÷     |   |       |   |   | IOIAL                                 | 1/400st            |
| 1-library-750sf  | ÷     |   |       |   |   |                                       |                    |
| culinary center-2900sf   |       |   |       |   |   |                                       |                    |
| 1-lobby-200sf  | -     |   |       |   |   |                                       |                    |
| 1-seminar space-750sf  | ÷     | : |       |   |   |                                       |                    |
| 1-cooking area-1000sf  | 1     |   |       |   |   |                                       |                    |
| 1-food library-750sf   |       | : |       |   |   |                                       |                    |
| 1-cleaning area-200st  | ÷     |   |       |   |   |                                       |                    |
| fitness center-3200sf  |       |   |       |   |   |                                       |                    |
| 1-lobby-200st  |       |   |       |   |   |                                       |                    |
| 1-yoga room-15 people-500st<br>1-woight grog-500sf   | -     |   |       |   |   |                                       |                    |
| 1-equinment area-1000sf  | :     |   |       |   |   |                                       |                    |
| 2-locker room-500sf = 1000sf   | ÷     |   |       |   |   |                                       |                    |
| 10-meditation space-100sf = $1000sf$   | -     |   |       |   |   |                                       |                    |
| 1-religious space-750sf  | ÷     |   |       |   |   | gross <b>SQU</b>                      | <b>ARE FOOTAGE</b> |
|  | .:    |   |       |   |   | 5                                     | 17400af            |
| OFFICE SPACE   | ÷     |   |       |   | ••••••••••••••••••••••••••••            | • • • • • • • • • • • • • • • • • • • | ···· 1/400SI       |
| 15-offices-150sf each-2250sf   | ÷     |   |       | •                                       |   |                                       | (2001) 5220 (      |
| conference conter 050sf  | ÷     |   |       |   | ••••••••••••••••••••••••••••••••••••••• | +                                     | (30%) 5220st       |
| 1-lobby-200sf  | <br>  |   |       |   |   |                                       |                    |
| 1-larae conference room-500sf  | :     |   |       |   |   | TOTAL                                 | 22620sf            |
| 1-small conference room-250sf  | ÷     |   |       |   |   |                                       |                    |
|  | ••    |   |       |   |   |                                       |                    |
| MISCELLANEOUS  | ÷     |   |       |   |   |                                       |                    |
| restrooms - 620st per pair 6 pair $-3720st$  | -     |   |       |   |   |                                       |                    |
| $\frac{100}{5} = \frac{100}{5} = 10$ |       |   |       |   |   |                                       |                    |
| storage - 10% si per 20ne = $7400$ si  |       |   |       | ·····                                   |   |                                       |                    |
| outdoor space - by discretion  | :     |   |       |   |   |                                       |                    |
| mecnanical space - 20% total sf  | ÷     |   |       |   |   |                                       |                    |
| parking - # vehicles   | .:    |   |       |   |   |                                       |                    |
|  |       |   |       |   |   |                                       |                    |
|  |       |   |       |   |   |                                       |                    |
|  |       |   |       |   |   |                                       |                    |
|  |       |   |       |   |   |                                       |                    |

## scale**COMPARISON**

energy FACILITY



### research**LAB**





#### miscellaneous PROGRAM





#### office**SPACE**

## program **ORGANIZATION**

### **PROGRAM ADJACENCIES**



### **QUALITATIVE RELATIONSHIPS**



## programORGANIZATION cont.

**PUBLIC / PRIVATE** 



#### ENTRY PROXIMITY



## programORGANIZATION cont.

#### NATURAL LIGHT HIERARCHY



### 2-STORY, 1 vs. 2 LEVEL



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#### **POSSIBLE MULTI-STORY**

|                  |           |          |           |             |              |      |               |      |              |           | office          | office | office          | office          | office        |
|------------------|-----------|----------|-----------|-------------|--------------|------|---------------|------|--------------|-----------|-----------------|--------|-----------------|-----------------|---------------|
|                  | med. med. |          |           | r           | eception     | сри  | сри           |      | conference c |           | office          | office | office          | office          | office        |
|                  | med. med. |          |           |             | lab          |      | lab           |      |              |           | office          | office | office          | office          | office        |
| LEVEL 2 PROGRAMS | med.      | med. ••• |           | • • • • • • | ••••         |      | • • • • • • • | •••• |              | • • • • • | • • • • • • • • | •••••  | • • • • • • • • | • • • • • • • • | • • • • • • • |
|                  | med.      | med.     |           |             |              |      |               |      |              | c         | lassroom        | cla    | assroom         | lib             | rary          |
|                  | med.      | med.     |           | avam        | 0/2 <b>m</b> |      |               |      |              |           |                 |        |                 |                 |               |
|                  |           |          | reception | exam        | exam         | exam | waiting       |      | reception    | c         | lassroom        | cla    | assroom         | religio         | us space      |

LEVEL 1 PROGRAMS



annotated bibliography


### annotated **BIBLIOGRAPHY**

#### GENERAL

"CDC - Basics about Diabetes - Diabetes & Me - Diabetes DDT." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 13 July 2011. Web. 15 Sept. 2011. <a href="http://www.cdc.gov/diabetes/consumer/learn.htm">http://www.cdc.gov/diabetes/consumer/learn.htm</a>>.

The Center for Disease Control and Prevention (CDC) is the government organization focused on the prevention of diseases in the United States. Being funded by the government allows for the CDC to produce a lot of information regarding basic information, types, risk factors, etc. about different diseases. The information about diabetes is plentiful in volume, but not necessarily in detail. The articles on the site tend to outsource more specific information to other organizations. For it's a purpose as a starting point, it is very relevant and useful.

"Guiding Principles for Diabetes Care | NDEP." National Diabetes Education Program - Free Information to Prevent and Control Diabetes | NDEP. National Institute of Health, 1 Apr. 2009. Web. 15 Sept. 2011. <a href="http://ndep.nih.gov/publications/PublicationDetail.aspx?Publd=108">http://ndep.nih.gov/publications/PublicationDetail.aspx?Publd=108</a>>.

The National Institute of Health (NIH) is an agency of the United States Department of Health and Human Services and the primary agency of the United States government for biomedical and health-related research. This research sector, works in partnership with the CDC on many articles related to diabetes and other diseases, but tends to go a step further in the information it lists. As mentioned of the CDC this is an organization to which they cite in articles to obtain more information.

"Living With Diabetes - American Diabetes Association." American Diabetes Association Home Page - American Diabetes Association. American Diabetes Association, 1995. Web. 15 Sept. 2011. <a href="http://www.diabetes.org/living-with-diabetes/?utm\_source=WWW">http://www.diabetes.org/living-with-diabetes/?utm\_source=WWW>.</a>

The American Diabetes Association (ADA) is a United States-based association fighting the battle against diabetes. The association provides funding for research and treatment and aids people and communities who battle the disease. They are at the forefront of providing information on how to live and treat the disease and should be viewed as a critical source for information. This section of information in particular is meant to show people how to live everyday lives and manage their blood glucose levels (the aspect that diabetes affects). It is critical to understand these points to be able to develop an appropriate solution to the problem.

Mayo Foundation for Medical Education and Research. "Diabetes - MayoClinic.com." Mayo Clinic. Mayo Clinic, 1998. Web. 15 Sept. 2011. <a href="http://www.mayoclinic.com/health/diabetes/DS01121/TAB=indepth">http://www.mayoclinic.com/health/diabetes/DS01121/TAB=indepth</a>.

Mayo Clinic is a not-for-profit medical practice and medical research group located in Rochester, Minnesota; Jacksonville, Florida and Scottsdale, Arizona. The Mayo Clinic Health System, consists of more than 70 hospitals and clinics across Minnesota, Iowa, and Wisconsin. This website is very detailed in the information it gives and how it breaks it down. Information such as testing, complications, treatments, lifestyles and prevention are found here, but at a much more detailed level. The Mayo Clinic also puts out a lot of articles that are backed by government agencies solidifying it's place in the medical field. What will be particularly useful about this site outside of the information, is the model they use to present it. Not a straightforward translation to design, but their goals and direction are something to admire when molding a physical environment.

Office of Information Services. "FASTSTATS - Leading Causes of Death." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 23 May 2011. Web. 15 Sept. 2011. <a href="http://www.cdc.gov/nchs/fastats/lcod.htm">http://www.cdc.gov/nchs/fastats/lcod.htm</a>.

The intention of this article on the CDC's website to show just how prominent the affects of diabetes are in the United States when it comes to annual deaths. The disease ranks in the top 10, but one should note that diabetes is also a trigger for other diseases such as heart disease which is the number one killer in the United States.



#### **CASE STUDIES**

"Culinary Art School by Gracia Studio." ANP. Architecture News Plus. Web. 05 Oct. 2011. <a href="http://www.architecturenewsplus.com/projects/2057">http://www.architecturenewsplus.com/projects/2057</a>>.

This website is a recognized architectural news website. The publishers displayed a variety of imagery of the project including some technical drawings giving me enough material to be inspired and include the project as one of a set of three case studies.

"Gold LEED Certification Awarded to Orthopedic Building at Rush University Medical Center." Newswise: News for Journalists, Press Release Distribution for Public Relations. Newswise, 13 Apr. 2010. Web. 10 Oct. 2011. <a href="http://www.newswise.com/articles/gold-leadership-in-leed-certification-awarded-to-orthopedic-building-at-rush-university-medical-center">http://www.newswise.com/articles/gold-leadership-in-leed-certification-awarded-toorthopedic-building-at-rush-university-medical-center</a>.

The article on this website celebrated the awarding of the Gold LEED certification for a usable case study. The article offered high resolution imagery, and insight into the project. That along with meeting with the designer my knowledge base of that typology and the necessary attributes was improved.

Hunter, Keith. "Maggies Gartnavel, Rem Koolhaas Glasgow, Architect, Building, Rem Koolhaas, Maggie's Centre Gartnavel, OMA." Glasgow News, Buildings, Glasgow Property, Development, Images, Glasgow Building News. Glasgow Architecture, 21 Nov. 2011. Web. 27 Nov. 2011. <a href="http://www.glasgowarchitecture.co.uk/maggies\_gartnavel.htm">http://www.glasgowarchitecture.co.uk/maggies\_gartnavel.htm</a>>.

Glasgow Architecture is a site based in Scotland that displayed a newly completed Maggies Centre. This building is crucial to my project because it offers a similar scale, style and intended environment. High resolution imagery along with technical drawings made this a serviceable case study.

"OMA: Maggie's Gartnavel." Designboom.com. Designboom, 3 Oct. 2011. Web. 07 Dec. 2011. <a href="http://www.designboom.com/weblog/cat/9/view/16890/oma-maggies-gartnavel.html">http://www.designboom.com/weblog/cat/9/view/16890/oma-maggies-gartnavel.html</a>>.

Designboom is a worldwide recognized architecture blog site. There display of the newly completed Maggies Centre offered an even more informative set of drawings. On top of that, key text was offered to pin down ideas present in the project which is important for this project to be used as a case study.

Rosenberg, Andrew. "Culinary Art School / Gracia Studio | ArchDaily." ArchDaily | Broadcasting Architecture Worldwide. ArchDaily, 4 Jan. 2011. Web. 15 Oct. 2011. <http://www.archdaily.com/100778/culinary-art-school-gracia-studio/>.

This website is a recognized architectural news website. Piggy backing on the ANP resource the imagery along with supplemental writings gave more insight into the materiality and program of the project which was most inspiring towards the project at hand.

#### PROGRAM

Carr, Robert F. "Outpatient Clinic | Whole Building Design Guide." WBDG - The Whole Building Design Guide. National Institute of Building Sciences, 21 Apr. 2011. Web. 05 Sept. 2011. <a href="http://www.wbdg.org/design/outpatient.php">http://www.wbdg.org/design/outpatient.php</a>.

The Whole Building Design Guide was created by the National Institute of Building Sciences. Well respected, it offers guidelines and requirements for numerous items, specifically building types. For this instance, it was necessary to find requirements for outpatient facilities due to a small portion of my project falling into that category. I was able to find square footage's and specific program requirements.

Conway, Brian. "Office Building | Whole Building Design Guide." WBDG - The Whole Building Design Guide. National Institute of Building Sciences, 22 July 2010. Web. 21 Sept. 2011. <a href="http://www.wbdg.org/design/office.php">http://www.wbdg.org/design/office.php</a>.

The inclusion of office space for doctor's and other administrative staff, it was necessary to find information on the office typology. Information on sunlight, space programming and environmental considerations for workers were discovered there.

Harris, Nada D., ed. "CHAPTER 13. EYE CLINIC." VETERANS HEALTH ADMINISTRATION - PATIENT CARE AND CLINICAL SUPPORT. Ed. D. Mark Catlett. Washington D.C., 1996. 13-5-3-11. Print.

This chapter out of the Veteran Affairs handbook on the eye clinic was an interesting tangent. Though the facility being designed has no eye care in it, the scale and the process of determining examination rooms was very important. It offered equations and simple understanding to determining the quantity of rooms.

Mion, Eric G. "Fitness Centers | Whole Building Design Guide." WBDG - The Whole Building Design Guide. National Institute of Building Sciences, 25 May 2010. Web. 05 Sept. 2011. <a href="http://www.wbdg.org/design/fitness\_centers.php">http://www.wbdg.org/design/fitness\_centers.php</a>>.

The improvement of physical health is a large part of my facility so getting down the necessary space requirements was of great importance. I was able to allocated the correct amount of space needed for free weight and machine areas. Knowing these quantities will allow of a pleasant gym experience free of the cramping of space.

WBDG Subcommittee. "Educational Facilities | Whole Building Design Guide." WBDG - The Whole Building Design Guide. National Institute of Building Sciences, 25 May 2010. Web. 05 Oct. 2011. <a href="http://www.wbdg.org/design/educational.php">http://www.wbdg.org/design/educational.php</a>>.

This section offered square footages required for a person in classrooms holding about 30 people. From this I could calculate the total square footage needed for 1 classroom. Also design tips on sunlight and other "pleasant" factors were made available.

WBDG Subcommittee. "Research Facilities | Whole Building Design Guide." WBDG - The Whole Building Design Guide. National Institute of Building Sciences, 26 May 2010. Web. 05 Nov. 2011. <a href="http://www.wbdg.org/design/research.php">http://www.wbdg.org/design/research.php</a>.

A small research facility is among the programs so I needed information on wet/dry lab space, the typical lab module and computer requirements. From this efficient square footages with detail were able to be discovered for the design project.

### closing**THOUGHTS**

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Diabetes affects 25.8 million people (18.8 diagnosed, 7.0 undiagnosed), 8.3% of the U.S. population.

Among U.S. residents aged 65 years and older, 10.9 million, or 26.9%, had diabetes in 2010.

About 215,000 people younger than 20 years had diabetes (type 1 or type 2) in the United States in 2010.

About 1.9 million people aged 20 years or older were newly diagnosed with diabetes in 2010 in the United States.

Diabetes is the leading cause of kidney failure, nontraumatic lower limb amputations, and new cases of blindness among adults in the United States.

In 2005–2008, based on fasting glucose or hemoglobin A1c levels, 35% of U.S. adults aged 20 years or older had prediabetes (50% of adults aged 65 years or older). Applying this percentage to the entire U.S. population in 2010 yields an estimated 79 million American adults aged 20 years or older with prediabetes.

Diabetes is the seventh leading cause of death in the United States.



"Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek. -President Barack Obama



BILLY VENIA | PIN-UP REVIEW | ARCH 593 | FEBRUARY 10, 2012

### Geographic Folds / Faults

#### **OVERVIEW**

Alabama is a very geologically diverse state. Rocks exposed at the surface range in age from Precambrian to Holocene (2.5 billion years to about 1,800 years old). Alabama's vast geologic history includes episodes of continental collision and mountain building that produced numerous landforms, including in the folded and faulted sedimentary rocks of the Appalachian Valley and Ridge; the metamorphic rocks of the Piedmont Upland; and the extensive coal beds of north-central Alabama during the late Paleozoic and the formation and evolution of the Gulf of Mexico basin, as recorded in the Mesozoic and Cenozoic strata of the East Gulf Coastal Plain. These geologic events have shaped Alabama's landscape, and the rock strata that bear testament to these events are either host to significant natural resources—oil, natural gas, and ground water—or, in many cases, are themselves composed of valuable economic commodities, including coal, limestone, sand, gravel, and clay. Additionally, the landscapes, watersheds, and habitats of the Alabama we know today are formed on the foundation of the underlying geology and have in turn produced the state's impressive biodiversity, which is almost unparalleled in the rest of the United States.

#### GEOLOGY

These curious formations are the remnants of an ancient fold-and-thrust belt, west of the mountain core that formed in the Alleghenian orogeny. Here, strata have been folded westward, and forced over massive thrust faults; there is little metamorphism, and no igneous intrusion. The ridges represent the edges of the erosion-resistant strata, and the valleys portray the absence of the more erodible strata. Smaller streams have developed their valleys following the lines of the more easily eroded strata.







UNDERDATE FAVESTONE COLBERT FAVESTONE HARLON WINSTON ULLMAN HARLON HALKER FAVESTE FAVESTE HALLE and a strength





Physiographic Provinces



Zigzag Ridges



**Geological Striations** 

#### ANTICLINE

In structural geology, an anticline is a fold that is convex up and has its oldest beds at its core. The term is not to be confused with antiform, which is a purely descriptive term for any fold that is convex up. Therefore if age relationships (i.e. younging direction) between various strata are unknown, the term antiform must be used.

On a geologic map, anticlines are usually recognized by a sequence of rock layers that are progressively older toward the center of the fold because the uplifted core of the fold is preferentially eroded to a deeper stratigraphic level relative to the topographically lower flanks. The strata dip away from the center, or crest, of the fold.

#### SYNCLINE

In structural geology, a syncline is a fold, with younger layers closer to the center of the structure. A synclinorium is a large syncline with superimposed smaller folds. Synclines are typically a downward fold, termed a synformal syncline (i.e. a trough); but synclines that point upwards can be found when strata have been overturned and folded (an antiformal syncline).

On a geologic map, synclines are recognized by a sequence of rock layers that grow progressively younger, followed by the youngest layer at the fold's center or hinge, and by a reverse sequence of the same rock layers on the opposite side of the hinge. If the fold pattern is circular or elongate circular the structure is a basin. Folds typically form during crustal deformation as the result of compression that accompanies orogenic mountain building.



**Rock Layers Exposed** 









**Continental Collision - Alleghenian Orogeny** 



**Primitive diagram** 



Anticline Condition







### Evolution of a Fault-bend Fold







**Development of Thrust Duplex** 

### Ridge + Valley Scheme Extraction



Zigzag Ridges in Alabama

Scheme 1 - Flow

### PRIVATE EXTERIOR

-Orientation of scheme suggests using existing warehouse as a natural barrier.

-With all sides of the traingular form closed, a more intimate environment can be pursued.

-More sensible entry location/ sequence.

#### PARKING

PROJECT

a new environment.

-Sensible location for vehicular traffic and adjacent residential areas.

-Orientation of scheme bisects site forming public/ private zones.

-This allows the project to act as a transition space, beginning to form

-Located within the "public" zone of the site.

-Access is made easier with entrance off of main roads.

#### TRANSIT ACCESS

-1/2 block walk from current bus stop to main entry.

-Secondary access possibility on south side of site.



### Scheme 1 - Site Strategies





Site Parking



Site Barriers

### Scheme 1 - Site Strategies





Site Access



Site Circulation

### Scheme 1 - Building Strategies





Level 2



| <br>Off. | Off. | Off. | Off.    | Off. | Fata  |  |
|----------|------|------|---------|------|-------|--|
| Class 3  |      | С    | Class 4 |      | Entry |  |
|          |      |      |         |      |       |  |
|          |      |      |         |      |       |  |

### Ridge + Valley Scheme Extraction





### Scheme 2 - Clustering

#### PROJECT

-Orientation of scheme intends to exploit the sloped landscape of the site.

-The project lends itself to the urban enivronment while creating a new, exterior enivronment conducive for meditative clusters.

-More prominent entry location/ sequence.

#### PARKING

-Underground parking adds space for clustering.

-Very accessible off of 9th Avenue.

-Leads directly to entrance of building.

#### PRIVATE EXTERIOR

-Highly privatized exterior space to contain meditative units.

-Opens the project to the possibility of truly removing the "urban" feel.

TRANSIT ACCESS -1/4 block walk from current bus stop to main entry.

-No secondary access anticipated.



### Scheme 2 - Site Strategies







Site Barriers

### Scheme 2 - Site Strategies





Site Access



Site Circulation

### Scheme 2 - Building Strategies









### Ridge + Valley Scheme Extraction



Zigzag Ridges in Alabama

### Scheme 3 - Hook + peel

#### PROJECT

-Orientation of scheme bisects site forming a large private zone.

-This allows the project to act as a connecting space, that removes barriers and begins to form a new environment.

-More sensible entry location/ sequence.

#### PARKING

-Sensible location for vehicular traffic and adjacent residential areas.

-Located within the "public" zone of the site.

-Access is made easier with entrance off of main roads.

#### PRIVATE EXTERIOR

-This scheme offers the most plentiful amount of exterior landscape.

-The large privatized area can use the "peeling" manuever to form and refine more formal and informal meditation spaces.

TRANSIT ACCESS -3/4 block walk from current bus stop to main entry.

-Secondary access is not initially anticipated.



### Scheme 3 - Site Strategies







Site Barriers

### Scheme 3 - Site Strategies







Site Circulation

### Scheme 3 - Building Strategies







### Spatial Study Concept





# Revitalization and Life Center BILLY VENIA | ARCH 593 | DIRK DENISON | SPRING 2012

### Case Studies

**PROJECT:** Maggie's Centre Gartnavel **ARCHITECT:** OMA **LOCATION:** Glasgow, Scotland **SIZE:** 5747.928 sf



**PROJECT:** Maggie's Centre Fife **ARCHITECT:** Zaha hadid Architects **LOCATION:** Kircaldy, Fife, Scotland **SIZE:** 2690.977 sf



















# Site Photographs





## Geographic Study

#### **OVERVIEW**

-Rocks exposed at the surface range in age from Precambrian to Holocene (2.5 billion years to about 1,800 years old).

-Alabama's vast geologic history includes episodes of continental collision and mountain building that produced numerous landforms.

-Oil, natural gas, and ground water—or, in many cases, are themselves composed of valuable economic commodities, including coal, limestone, sand, gravel, and clay.

-The landscapes, watersheds, and habitats we know today are formed on the foundation of the underlying geology and have in turn produced the state's impressive biodiversity.

#### **GEOLOGY**

-Formations are the remnants of an ancient fold-and-thrust belt, west of the mountain core that formed in the Alleghenian orogeny.

-Strata have been folded westward, and forced over massive thrust faults

-The ridges represent the edges of the erosion-resistant strata, and the valleys portray the absence of the more erodible strata.

-Smaller streams have developed their valleys following the lines of the more easily eroded strata.









**Zigzag Ridges** 



ANTICLINE

Are recognized by a sequence of rock layers that are progressively older toward the center of the fold because the uplifted core of the fold is preferentially eroded.

#### SYNCLINE

Are recognized by a sequence of rock layers that grow progressively younger, followed by the youngest layer at the fold's center or hinge.

![](_page_64_Figure_21.jpeg)

![](_page_64_Figure_22.jpeg)

![](_page_64_Picture_23.jpeg)

![](_page_64_Figure_25.jpeg)

![](_page_64_Figure_26.jpeg)

![](_page_64_Figure_27.jpeg)

**Geological Striations** 

Development of Thrust Duplex

Mineral Distribution

# Alabama Landscape

![](_page_65_Picture_1.jpeg)

![](_page_65_Picture_2.jpeg)

![](_page_65_Picture_3.jpeg)

![](_page_65_Picture_4.jpeg)

![](_page_65_Picture_5.jpeg)

![](_page_65_Picture_6.jpeg)

### Spatial Study Concept

![](_page_66_Figure_1.jpeg)

# Figure/Ground

![](_page_67_Picture_1.jpeg)

Site Plan

![](_page_68_Picture_1.jpeg)

![](_page_68_Figure_2.jpeg)

## Ground Floor Plan

![](_page_69_Figure_1.jpeg)

Scale: |---|0' 25'

### LEGEND

- 1. Entry
- 2. Library
- 3. Health Services
- 4. Counseling Offices
- 5. Seminar Rooms
- 6. Multi-purpose Room
- 7. Restrooms/ Locker Rooms
- 8. Office Space
- 9. Meditation Space
- 10. Culinary Center
- 11. Fitness Center

Level 2 Plan

![](_page_70_Picture_1.jpeg)

\_\_**|**\_\_\_| 25′

### LEGEND

1. Research Center

# Longitudinal Section

![](_page_71_Picture_1.jpeg)

![](_page_71_Figure_2.jpeg)
### **Transverse Section**





## Meditation Hut





Project: One+ Sauna House Architect: Add A Room Location: Anywhere; 2012







## Exterior Shading Concept



Curvilinear spanning members, changing in density.





Fabric "blotches" of shading or complete coverarge.



#### **Exterior Finishes**



Project: T House Architect: Sou Fujimoto Location: Gunma, Japan; 2005



Project: Element House Architect: Sami Rinatala Location: Anyang, South Korea; 2005



Architect: Steven Holl Architects Location: Kansas City, Missouri; 2007



Project: Private House, Summer Retreat Architect: Reiulf Ramstad Arkitekter Location: Fuglevik, Norway; 2011



Project: Culinary Art Center Architect: Gracia Studio Location: Tijuana, Baja California, Mexico; 2010



Project: The Nelson-Atkins Museum of Art



Project: Endemico Resguardo Silvestre Architect: Gracia Studio Location: Valle de Guadalupe, Mexico; 2010

#### Interior Finishes



Project: Rowing Club Architect: VJAArchitects Location: Minneapolis, Minnesota; 1999



Project: Villa Tantangan Architect: Word of Mouth Location: Nyanyi Beach, Bali, Indonesia; 2010



Project: Private House, Summer Retreat Architect: Reiulf Ramstad Arkitekter Location: Fuglevik, Norway; 2011



Project: Queen Anne Mid-modern Architect: coop15 Location: Seattle, Washington; 2011



Project: Luxembourg Apartment Architect: Metaform Atelier D'architecture Location: Luxembourg; 2011







Project: 1028 Natoma Street Architect: Stanley Saitowitz/ Natoma Architects Location: San Francisco, California; 2006

#### Patterning, Progression, Screening



Project: Peninsula House Architect: Watson Architecture + Design Location: Victoria, Australia; 2011



Project: Private House, Summer Retreat Architect: Reiulf Ramstad Arkitekter Location: Fuglevik, Norway; 2011



Project: Vennesla Library and Cultural Center Architect: Helen & Hard Location: Victoria, Australia; 2011



Project: Parametric Fragment Architect: Takashi Yamaguchi & Associates Location: Matsusaka, Mie, Japan; 2011



Project: The Cube Restaurant Architect: Park Associati Location: Milan, Italy; 2011

#### Landscaping





Project: Peninsula House Architect: Watson Architecture + Design Location: Victoria, Australia; 2011

Project: Culinary Art Center Architect: Gracia Studio Location: Tijuana, Baja California, Mexico; 2010



Project: Villa Tantangan Architect: Word of Mouth Location: Nyanyi Beach, Bali, Indonesia; 2010



Project: Heatherland Poolhouse Architect: Satellite Architects Location: Devon, United Kingdom; 2011



Project: Drew House



Project: Kettle Hole House Architect: Robert Young Architecture + Interiors Location: East Hampton, New York; 2011



# Revitalization and Life Center BILLY VENIA | ARCH 593 | DIRK DENISON | SPRING 2012

### Case Studies

**PROJECT:** Maggie's Centre Gartnavel **ARCHITECT:** OMA **LOCATION:** Glasgow, Scotland **SIZE:** 5747.928 sf



**PROJECT:** Maggie's Centre Fife **ARCHITECT:** Zaha hadid Architects **LOCATION:** Kircaldy, Fife, Scotland **SIZE:** 2690.977 sf



















# Site Photographs





# Alabama Landscape















LOCATION: Dungiven, Ireland

**ATTRIBUTES:** Campus-like, holds edge, creates inner-exterior spaces.



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LOCATION: Oxford University

**ATTRIBUTES:** Strong edge condition, creates/privatizes inner-exterior spaces.



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**PROJECT:** Barcelona Pavilion **ARCHITECT:** Mies van der Rohe **LOCATION:** Barcelona, Spain











**PROJECT:** Barcelona Pavilion **ARCHITECT:** Mies van der Rohe **LOCATION:** Barcelona, Spain











# Figure/Ground



Site Plan



### Fitness Center - Ground Floor



#### LEGEND

1. Entry/Lobby 2. Pool Area



### Fitness Center - Second Floor



- 1. Yoga/Activity Room
- 2. Weight Room
- 3. Cardio Equipment



## Culinary Center



- 1. Entry/Lobby
- 2. Culinary Library
- 3. Seminar Space
- 4. Cooking Area
- 5. Cleaning Room



## Library



- 1. Entry/Circulation Desk
- 2. Collection Space
- 3. Reading Lounge 4. Reading Patio



## **Education Space**



- 1. Classrooms
- 2. Outdoor Seminar Space
- 3. Break Area



## Meditation Pavilion



- 1. Meditation Rooms
- 2. Reflecting Pond
- 3. Meditation Gardens



### Health Services - Ground Floor



- 1. Entry
- 2. Reception
- 3. Waiting Area
- 4. Exam Rooms



## Counseling Offices - Second Floor



#### LEGEND

1. Reception/Lobby 2. Offices



## Longitudinal Sections







#### **Transverse Sections**



Section C














# Revitalization and Life Center BILLY VENIA | ARCH 593 | FINAL | SPRING 2012

#### Case Studies

**PROJECT:** Maggie's Centre Gartnavel **ARCHITECT:** OMA **LOCATION:** Glasgow, Scotland **SIZE:** 5747.928 sf



**PROJECT:** Maggie's Centre Fife **ARCHITECT:** Zaha hadid Architects **LOCATION:** Kircaldy, Fife, Scotland **SIZE:** 2690.977 sf











#### **Statistics**















# Site Photographs





# Alabama Landscape















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1

# Figure/Ground



## Site Plan



### Fitness Center - Ground Floor





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2. Pool Area



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## Longitudinal Sections







#### **Transverse Sections**



Section C













