# Susquehanna Center Renovations & Expansion



Brad Gaugh November 29, 2010

1

### **Preview**

- Building Background
- Lighting Spaces
  - Façade
  - Lobby
  - Auxiliary Gymnasium
  - Weight and Fitness Room

## Susquehanna Center

Occupant

Harford Community College Fighting Owls

Building type

Athletic Facility

Usage

Division III NCAA basketball Local Community indoor activities Weight and Fitness Room Swimming Complex Building Background

## Susquehanna Center

Location Bel Air, Maryland

latitude = 39.56°N, longitude = 76.28°W

Size 110,000 ft<sup>2</sup>

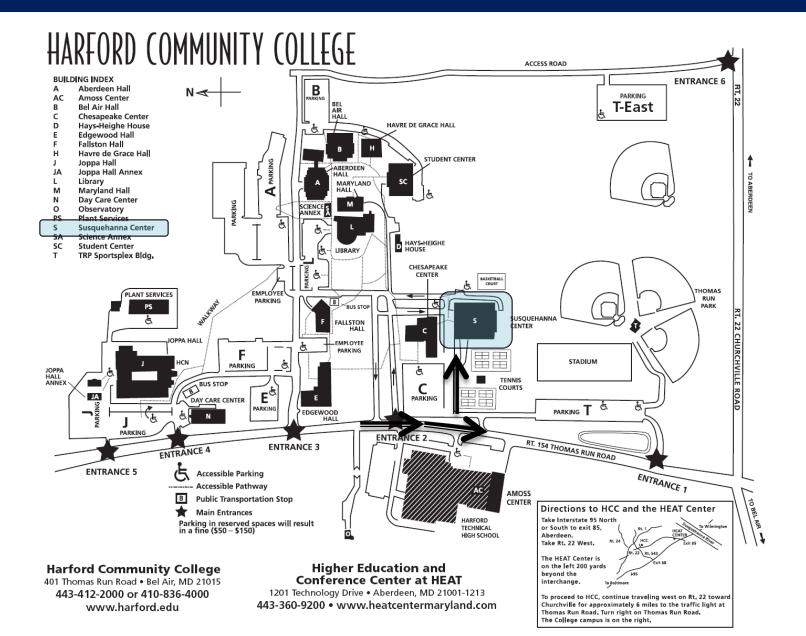
Cost \$28 million

Construction Dates
April 2011 - August 2012

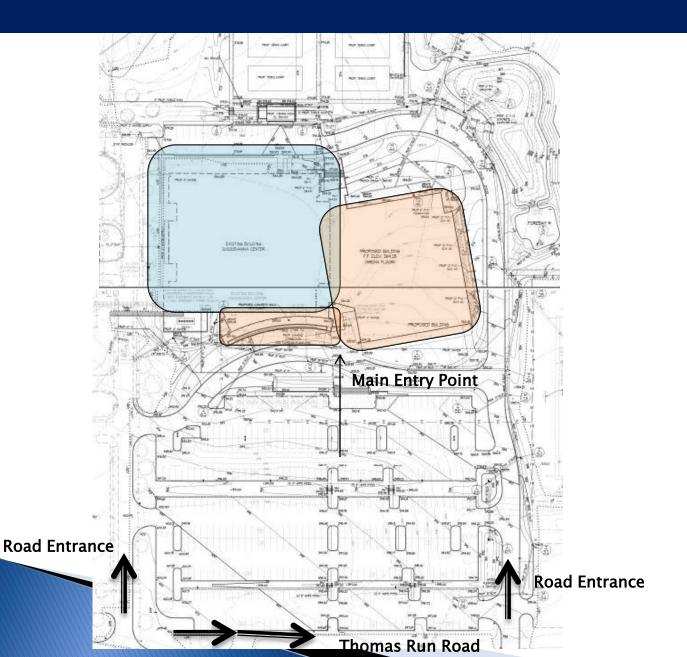
Delivery Method Design-Bid-Build

Architect Hord Coplan Macht

Lighting Consultants Dunlop Lighting Design



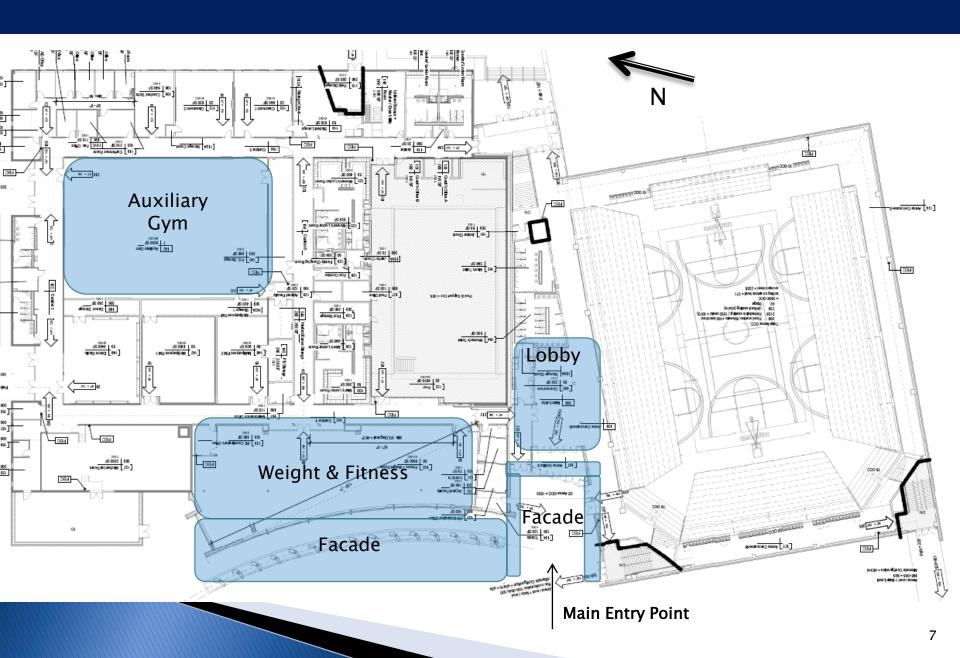




**Existing Building** 

Addition





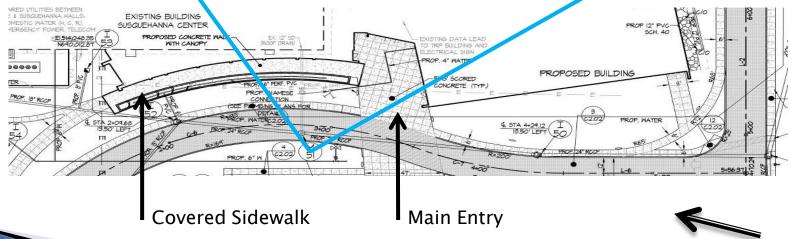
## Susquehanna Center

#### **General Lighting Design Concepts**

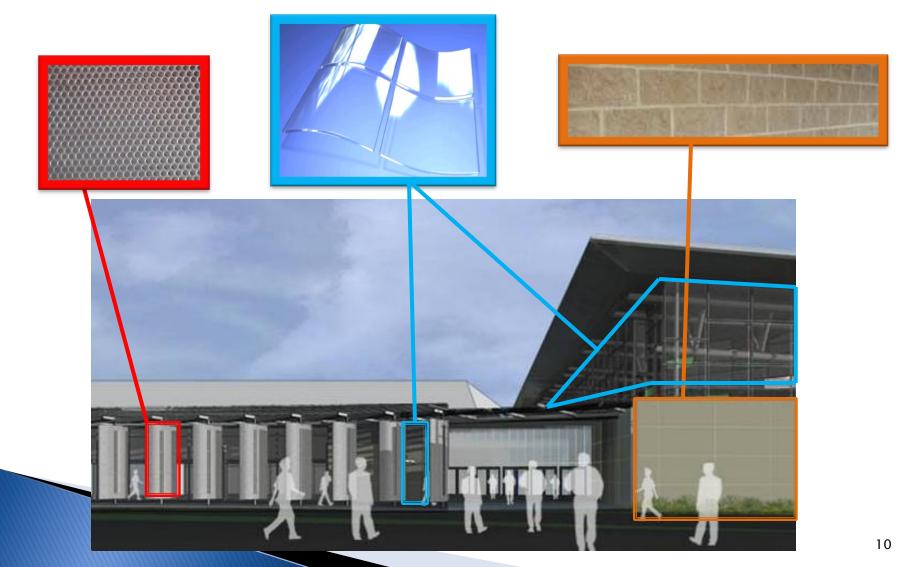
- Emphasize Game Type Atmosphere (Excitement, Intrigue, Festive, Cheerful)
- Provide Uniformity for Task Oriented Spaces
- · Exhibit High Quality Facility

#### **Facade Floor Plan**





#### **Facade Materials**



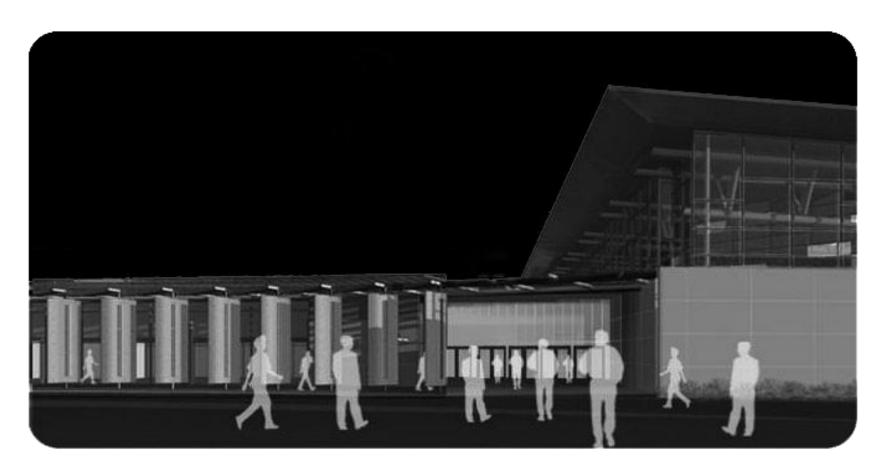
#### **Facade Lighting Design Concepts**

#### Schematic #1 - Intrigue

- Create Visual Curiosity
- Develop Points of Interest
- Highlight Travel to Entrance



Schematic Design #1



Schematic Design #1



Schematic Design #1
Highlight Shade



Schematic Design #1
Wall Emphasis



Schematic Design #1
Sidewalk Illumination



Schematic Design #1

Back Lighting of Sign



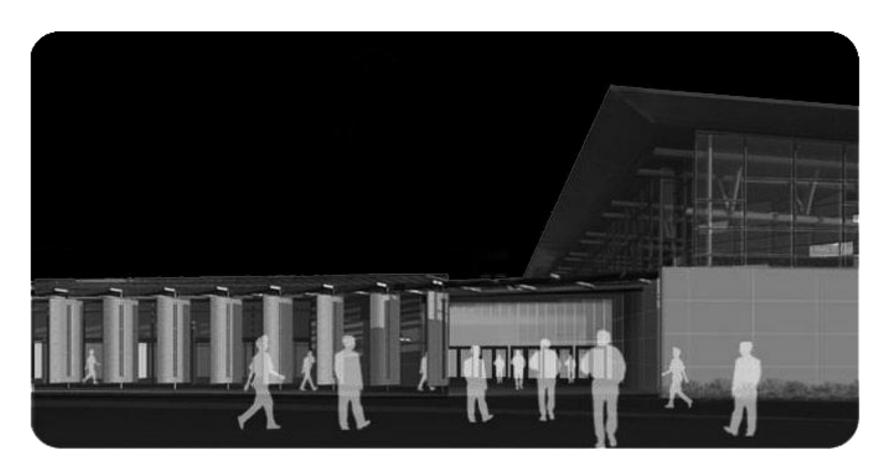
Schematic Design #1
Visual Curiousity



#### **Facade Lighting Design Concepts**

#### Schematic #2 - The Nest

- Floating Roof
- Structure = Twigs of Nest
- Visual Curiosity
- Emphasize Travel to Entrance



Schematic Design #2

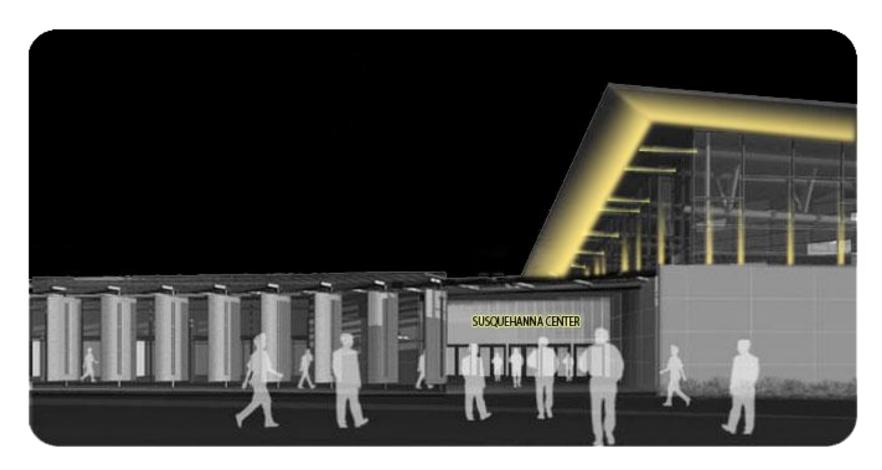


Schematic Design #2

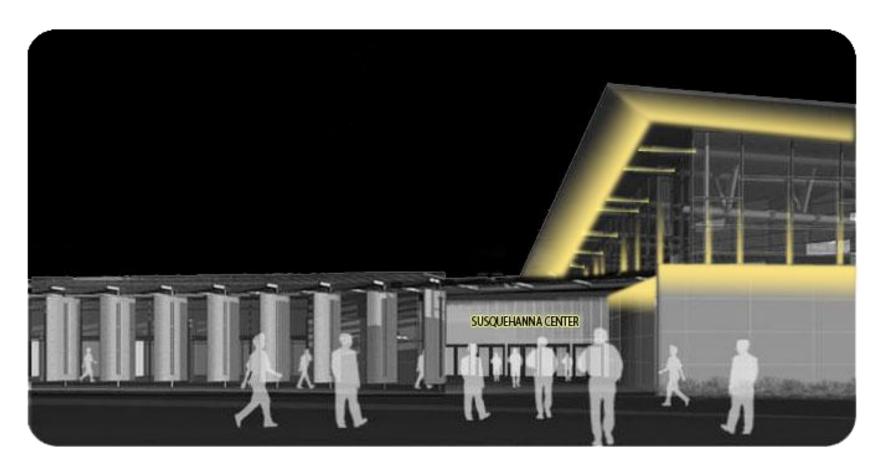
Back Lighting of Sign



Schematic Design #2
Visual Curiosity Top of Nest



Schematic Design #2
Visual Curiosity Twigs of Nest



Schematic Design #2
Wall Emphasis



Schematic Design #2
Sidewalk Illumination





Schematic Design #2

Equipment

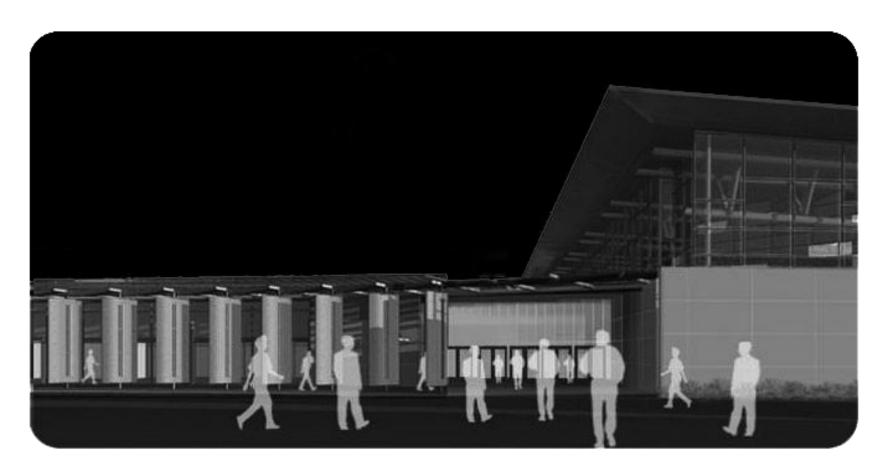
#### **Facade Lighting Design Concepts**

#### Schematic #3 - Game Day

- Inspiration Bryce Jordan Center Penn State
- Visual Interest Using Team Colors
- Create Visual Curiosity
- · Highlight Travel to Entrance



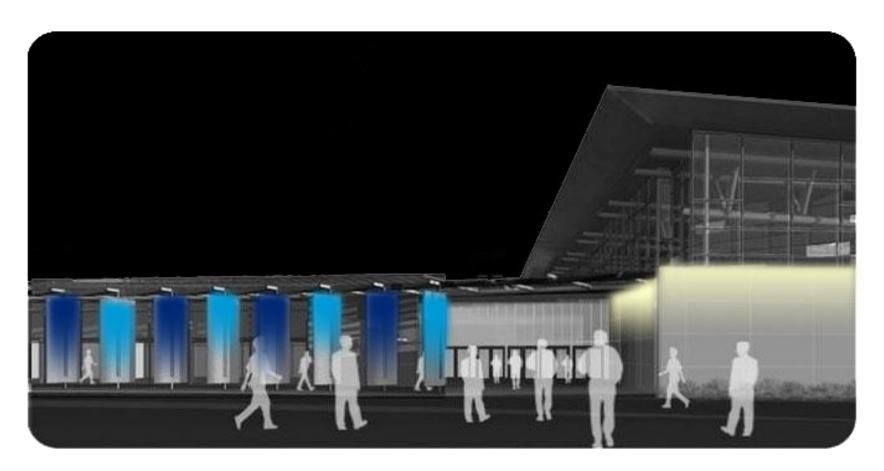




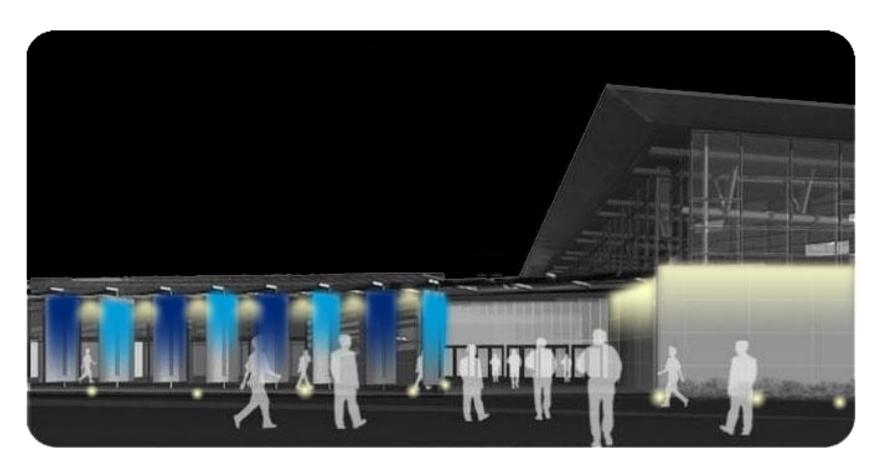
Schematic Design #3



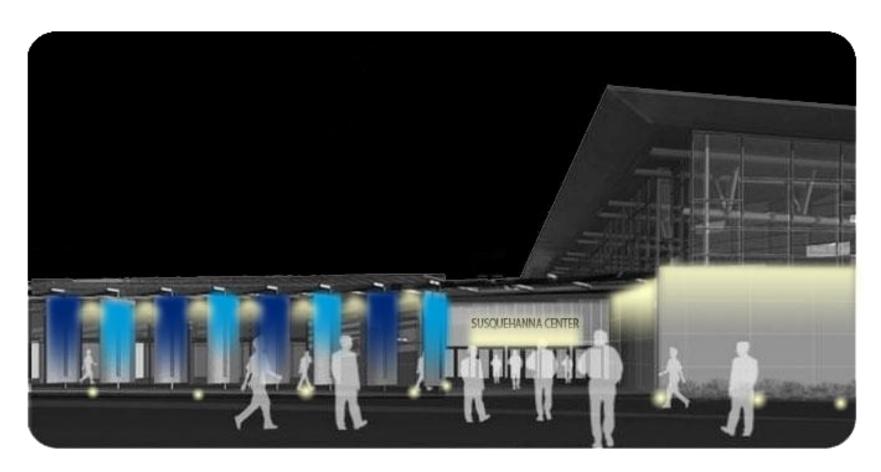
Schematic Design #3
Color Lighting of Shades



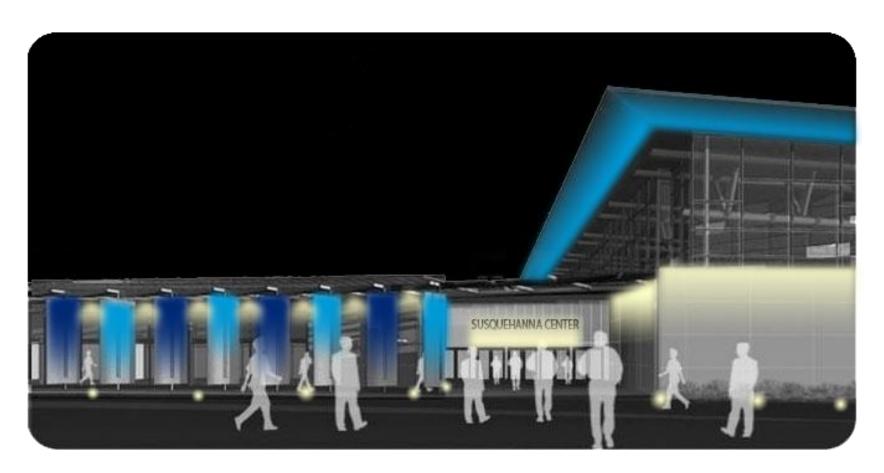
Schematic Design #3
Wall Emphasis



Schematic Design #3
Sidewalk Illumination



Schematic Design #3
Sign Illumination



Schematic Design #3
Color Changing Illumination



Schematic Design #3
Color Changing Illumination

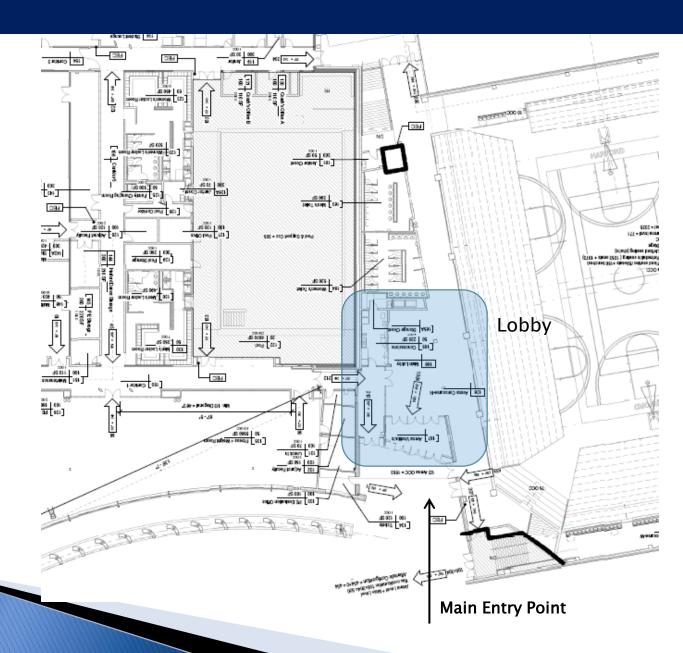


Schematic Design #3
Color Changing Illumination

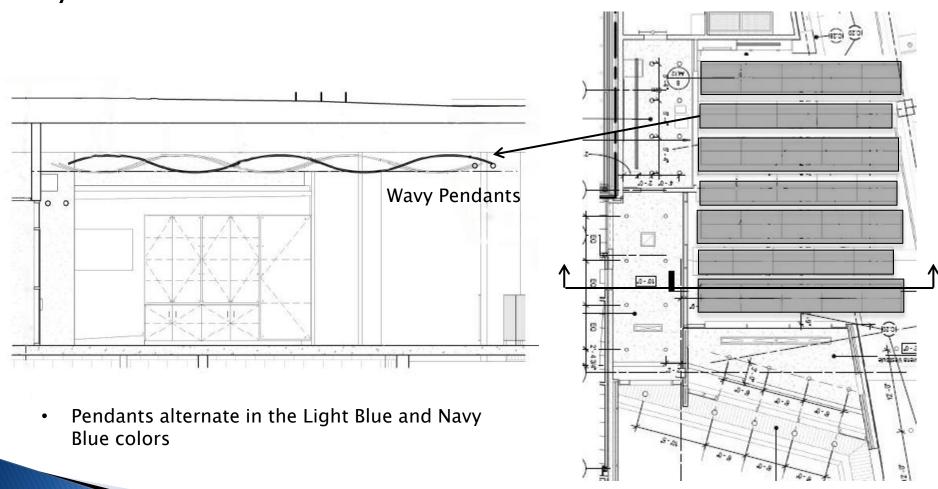


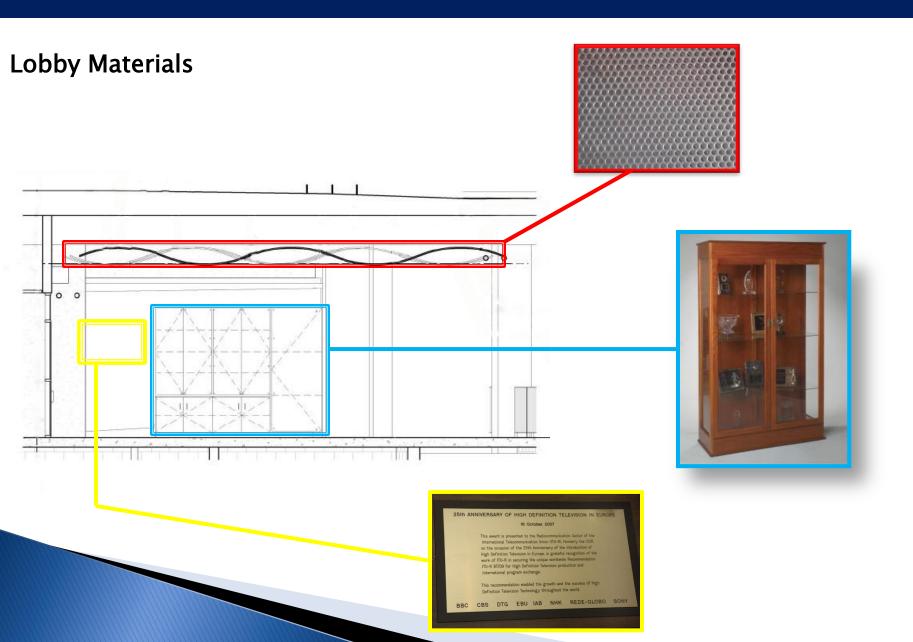
Schematic Design #3

Equipment



# **Lobby Floor Plan**





### **Lobby Lighting Design Concepts**

#### Lighting to an Impression – Festive

- Provide bright non-uniform Lighting Mode
- Place emphasis on Points of Interest
- Utilize Movement of Light Sparkle or Pulsate



Lobby Schematic Design
Lobby Schematic Design



Lobby Schematic Design
Display Case



Lobby Schematic Design
Honorary Plaque



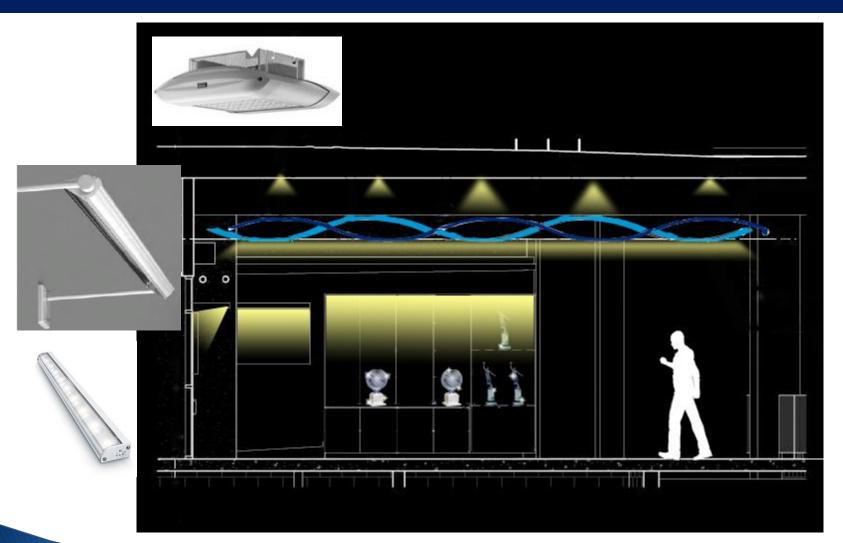
Lobby Schematic Design Random Slow Pulsating Fixture



Lobby Schematic Design Random Slow Pulsating Fixture



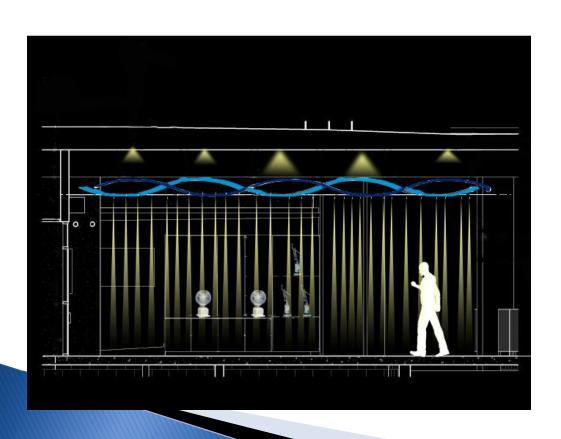
Lobby Schematic Design Random Slow Pulsating Fixture



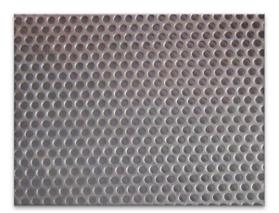
Lobby Schematic Design
Equipment

# **Lobby Lighting Design Issues**

# Light interaction with Perforated Aluminum

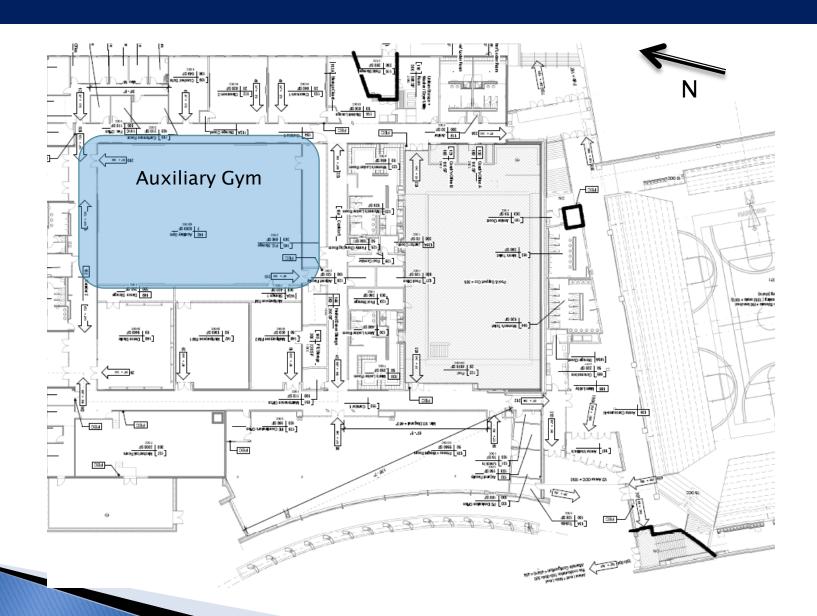


· Stream Lines of Light

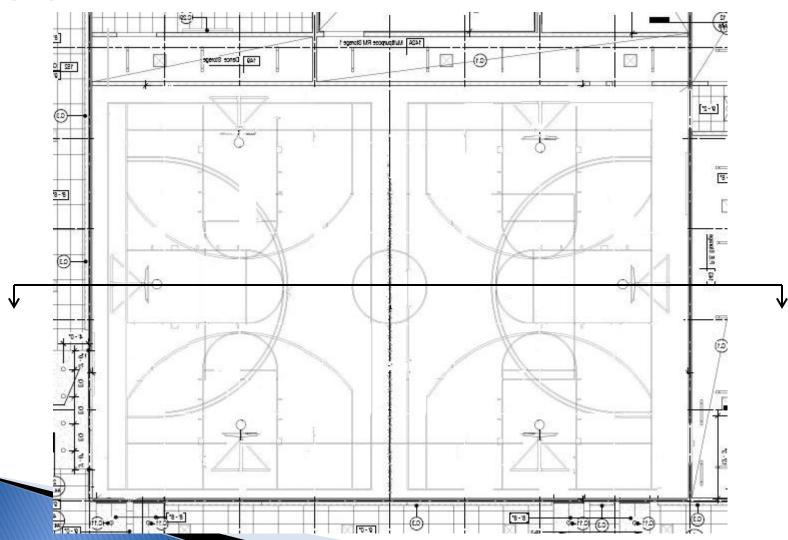




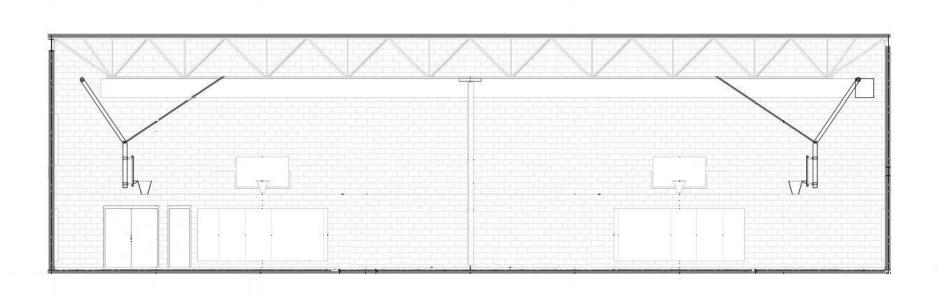
Lobby Schematic Design
Alternate Solution Wall Mounted



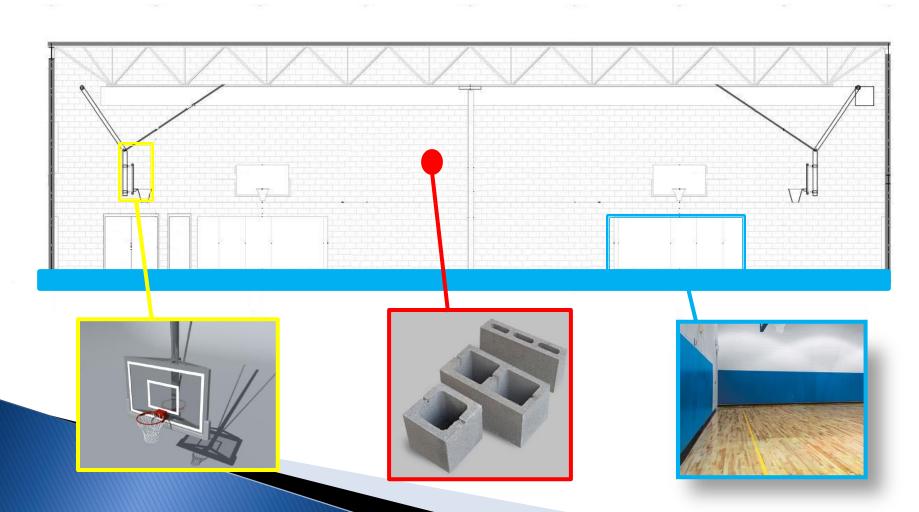
# **Auxiliary Gymnasium Floor Plan**



# **Auxiliary Gymnasium Section**



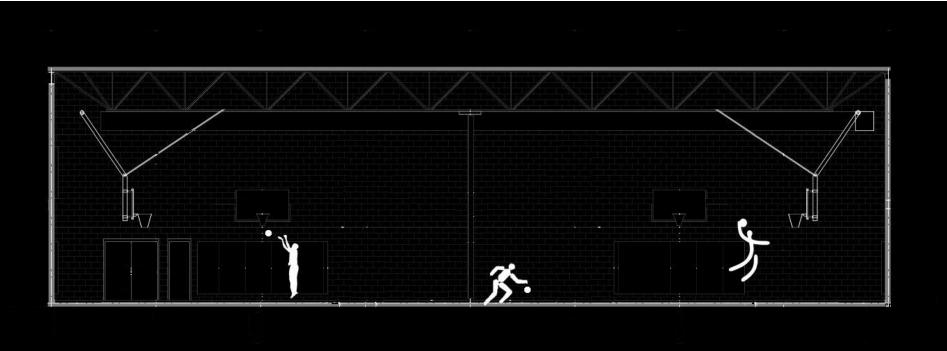
# **Auxiliary Gymnasium Materials**



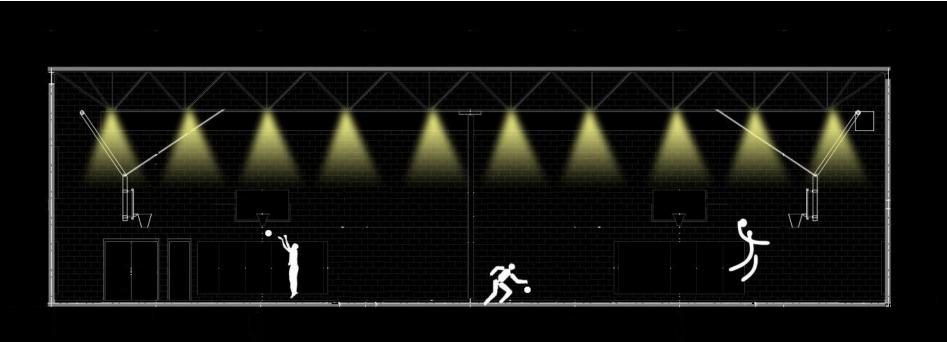
### **Auxiliary Gymnasium Lighting Design Concepts**

#### Lighting For an Task

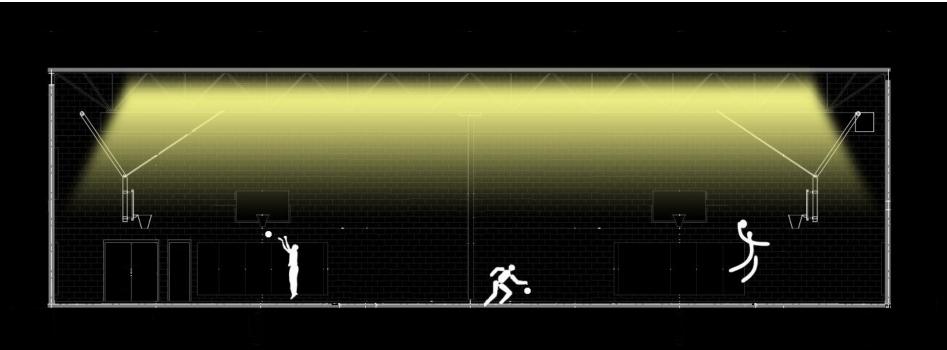
- Provide adequate Illuminance
- Supply sufficient Uniformity at Task Plane
- Bring Daylight into space
- Integrate between Electric Light and Daylight



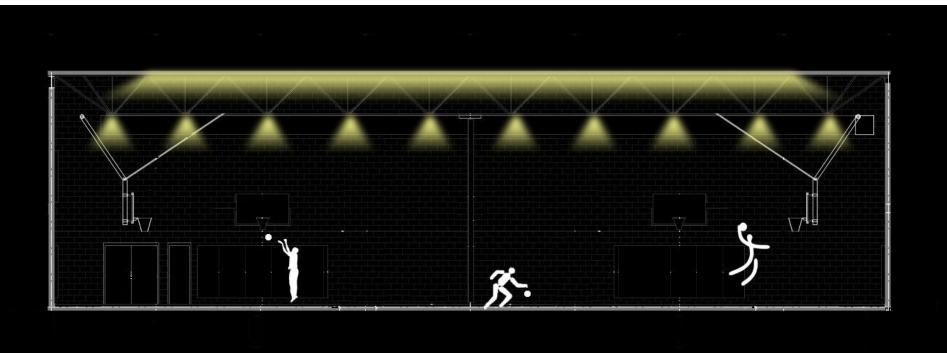
Auxiliary Gym Schematic Design



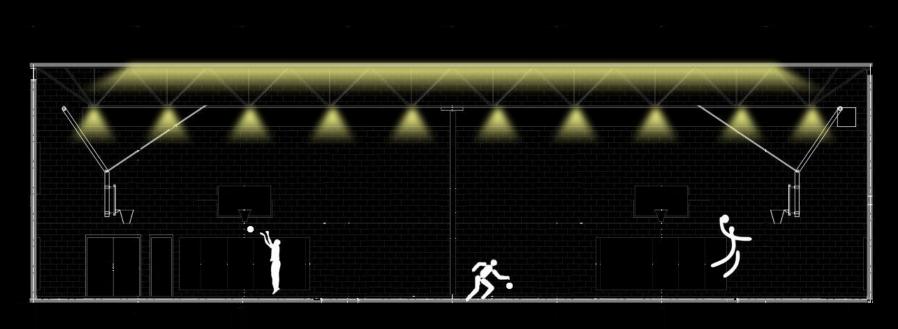
Auxiliary Gym Schematic Design Electrical Lighting



Auxiliary Gym Schematic Design
Daylighting with Skylights



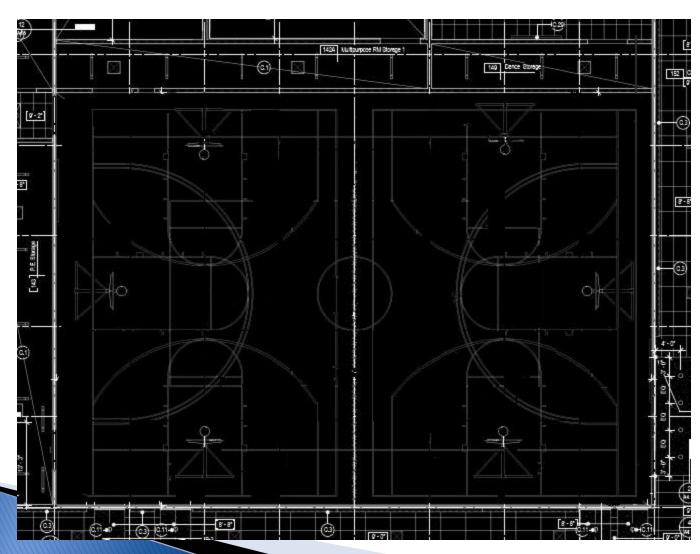
Auxiliary Gym Schematic Design
Integration between Electric Light and Daylight



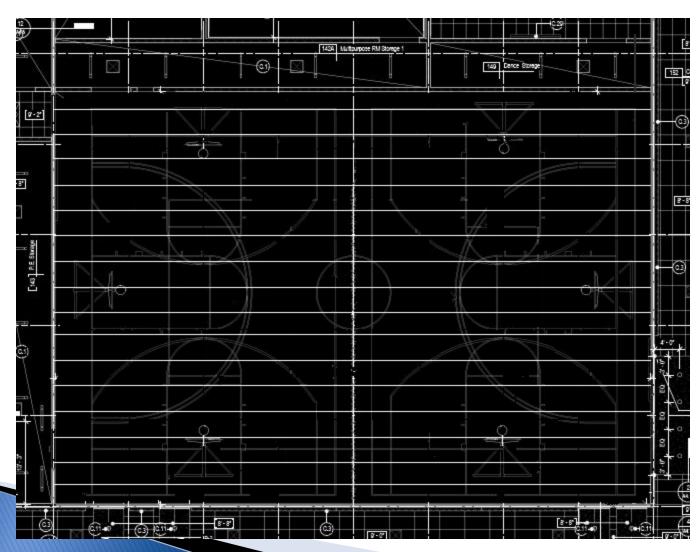


Auxiliary Gym Schematic Design Equipment

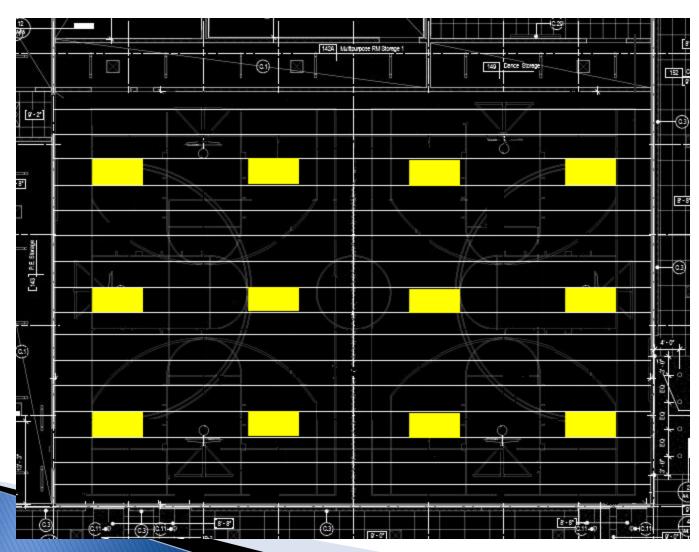
# Auxiliary Gymnasium Skylight Design



# Auxiliary Gymnasium Skylight Design

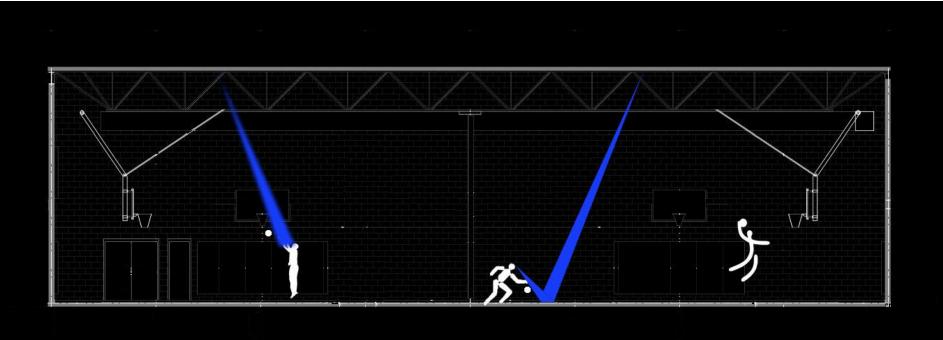


# Auxiliary Gymnasium Skylight Design



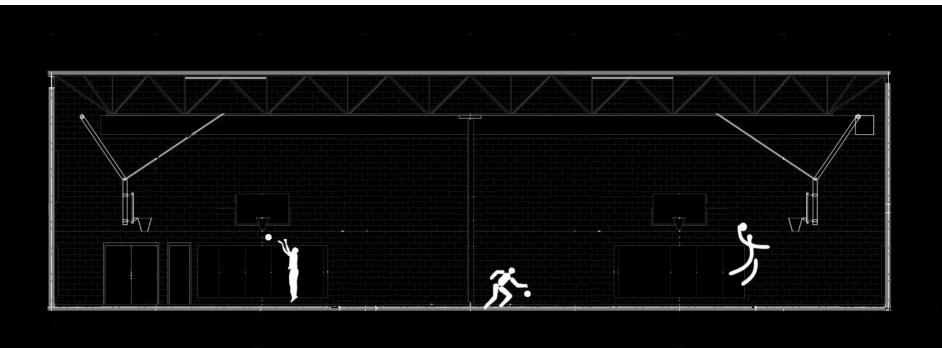
## **Auxiliary Gymnasium Lighting Design Issues**

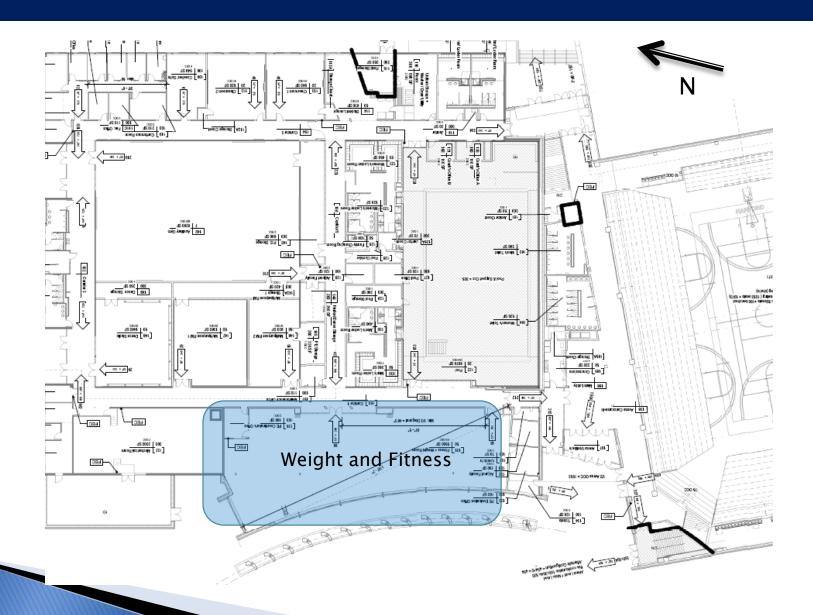
Direct and Reflected Glare from Skylights



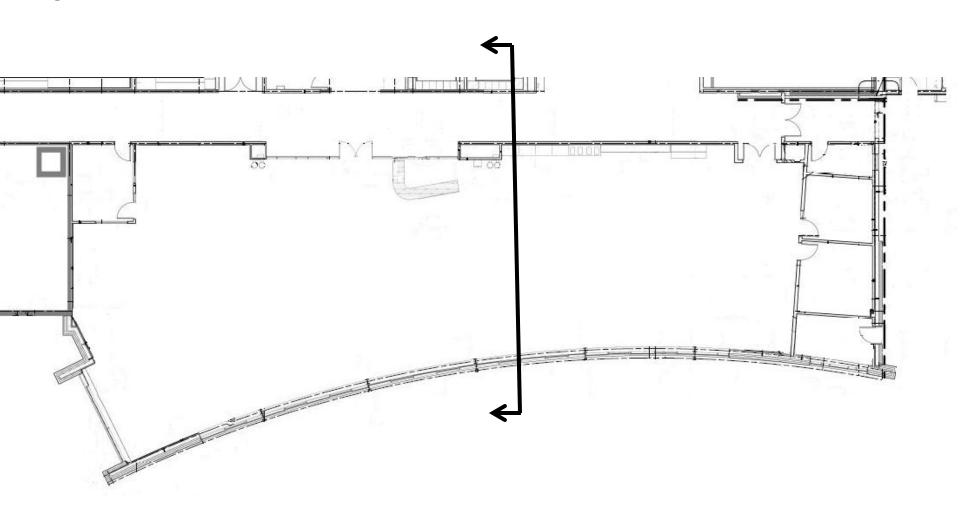
### **Auxiliary Gymnasium Lighting Design Issues**

Direct and Reflected Glare from Skylights - Solution Electronic Shade Devices

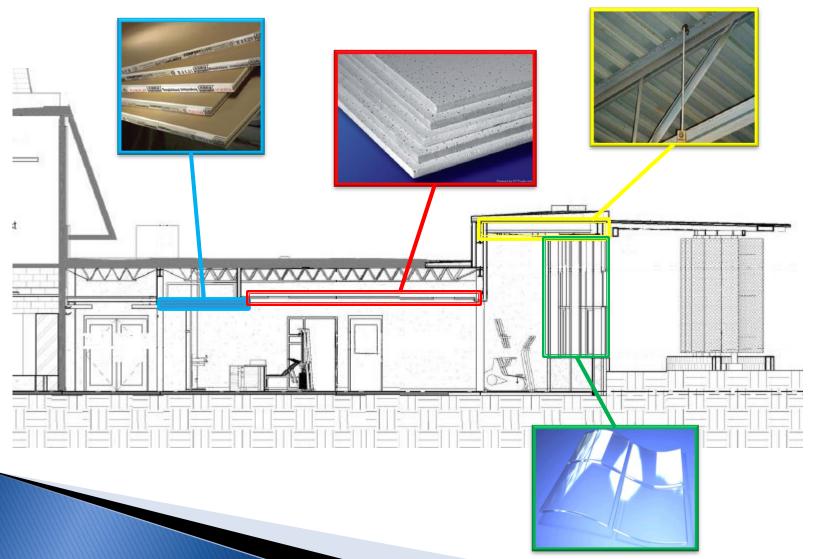




## Weight & Fitness Floor Plan



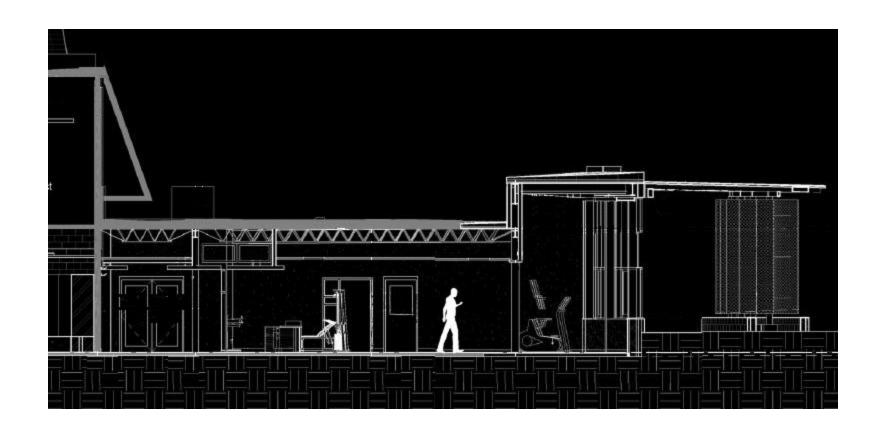
# Weight & Fitness Section and Materials



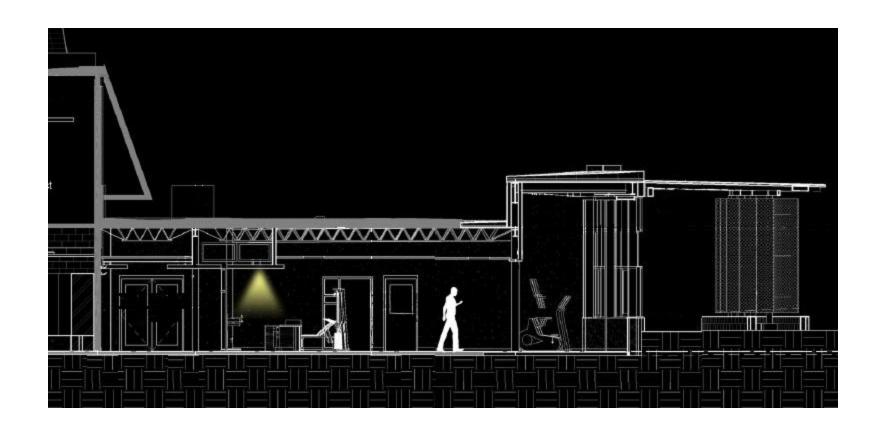
## Weight & Fitness Lighting Design Concepts

#### Lighting For an Task

- · Provide adequate Illuminance
- · Supply sufficient Uniformity at Task Plane
- Bring Daylight into space
- Integrate between Electric Light and Daylight



Weight & Fitness Schematic Design



Weight & Fitness Schematic Design

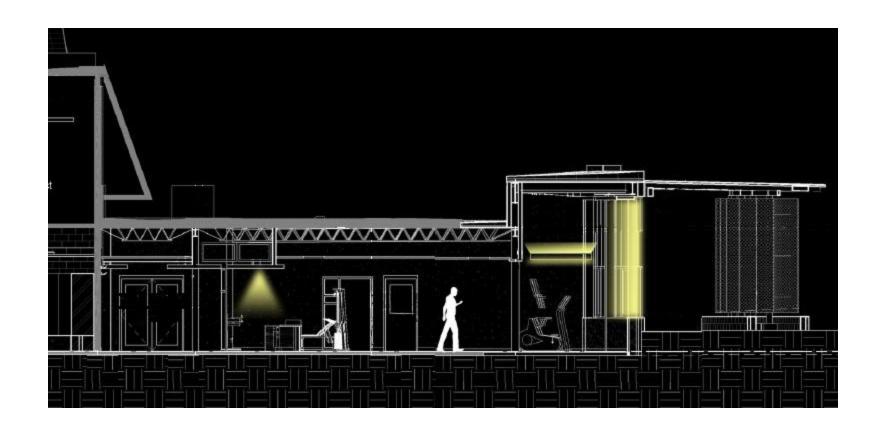
Lower Ceiling Down Lighting



Weight & Fitness Schematic Design Indirect Lighting in High Exposed Ceiling



Weight & Fitness Schematic Design
Direct Daylight from North Facade



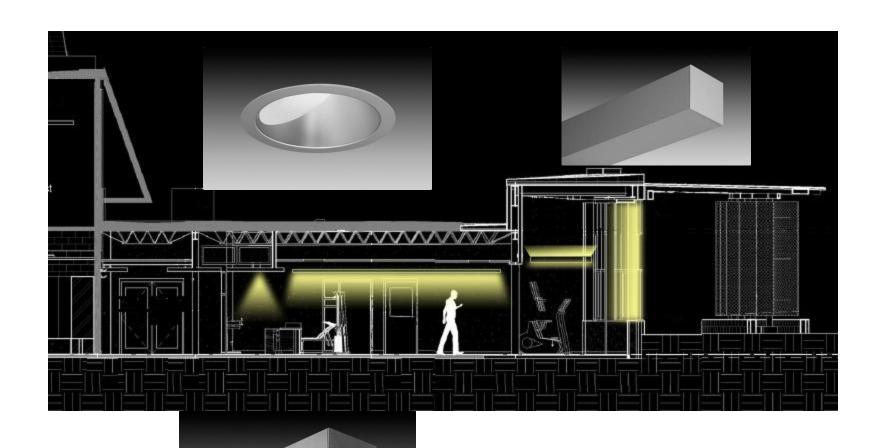
Weight & Fitness Schematic Design
Integration between Electric Light and Daylight



Weight & Fitness Schematic Design
Mid-Ceiling Down Lighting



Weight & Fitness Schematic Design
Mid-Ceiling Down Lighting

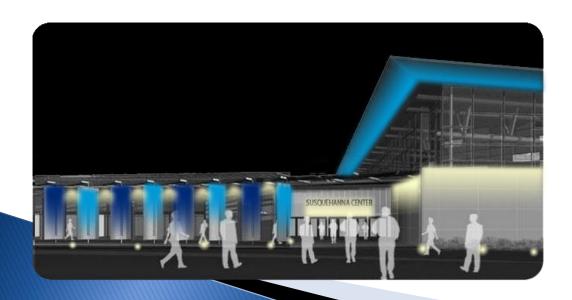


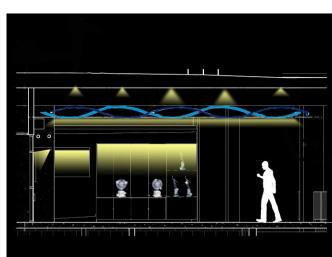
Weight & Fitness Schematic Design Equipment

## Connecting the DOTS . . .

## **General Lighting Design Concepts**

- Emphasize Game Type Atmosphere (Excitement, Intrigue, Festive, Cheerful)
- Exhibit High Quality Facility

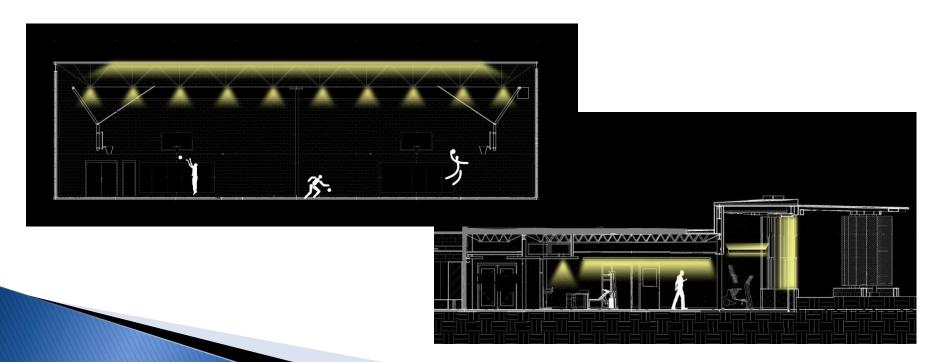




## Connecting the DOTS . . .

### **General Lighting Design Concepts**

Provide Uniformity for Task Oriented Spaces



# Questions?



Brad Gaugh November 29, 2010