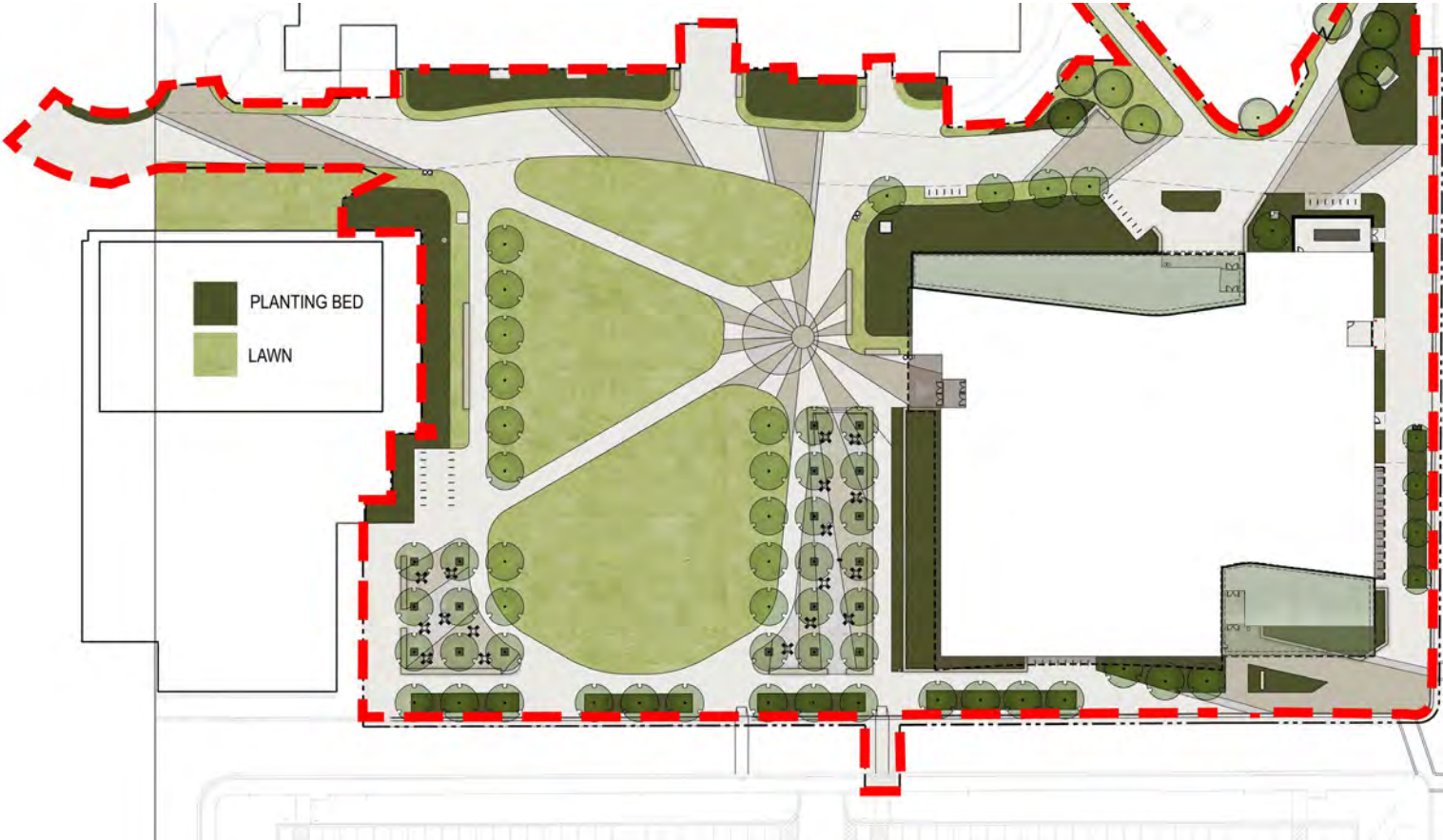


Workshop Architects

Albertson Hall

University of Wisconsin

Stevens Point



Southeast View



Northwest View



Sustainability Guidelines

Measure 1 : Design for Integration

Measure 2 : Designing for Equitable Communities

Measure 3 : Designing for Ecology

Measure 4 : Designing for Water

Measure 5 : Designing for Economy

Measure 6 : Designing for Energy

Measure 7 : Designing for Wellness

Measure 8 : Designing for Resources

Measure 9 : Designing for Change

Measure 10 : Designing for Discovery

Measure 1

Designing for Integration



Designing for Integration

Good Design elevates any project, no matter how small, with a thoughtful process that delivers both beauty and function in balance. It is the element that binds all the measures together with a bid idea.

Mandatory Requirements:

Kickoff Meeting

Project Narrative

Measure 2

Designing for Equitable Communities



Designing for Equitable Communities

Good Design positively impacts future occupants and the larger community.

Mandatory Requirements:

Bike Parking within 100 yds – 1 space per 2,000 sf

(1) Mother's Room per 200 occupants

(1) Wellness Room for project with over 50 FTE

(1) Gender Neutral Restroom

Designing for Equitable Communities

Good Design positively impacts future occupants and the larger community.

Encouraged Measures:

Provide site lighting and safety

Provide opportunities to engage with the environment

Several Possible Parking / Car Related provisions - N/A relates to parking lots

Mothers Room



Provide (1) mother's room per the first 200 occupants, and additional capacity for each additional 200 occupants, which may be additional mothers rooms or a design which provides multiple private areas for pumping/nursing and a shared washing and storage area. The mother's room shall meet the following minimum requirements (Reference WELL v2 C09 for a summary of the Issue and Impact):

- a. ADA accessible and including all components noted herein (typically requires approx. 7 ft x 7 ft footprint)
- b. Single, dedicated function – e.g. not shared space with a Wellness Room
- c. Minimum single basin sink minimum 9 inch in width and length for hand washing and equipment washing including an adequate faucet, minimum 3 inches from any edge of sink with 10 inch minimum column of water
- d. Paper towels, soap, waste bin
- e. Chair and adjacent minimum 30 inches wide x 20 inches deep open below counter space, work surface, or tabletop for pump and bottles to rest on while in use, (2) minimum receptacles adjacent, ideally at counter height
- f. Microwave optional yet beneficial for equipment sanitization
- g. If the space serves a work area with full-time employees (FTE), system in place for booking / scheduling designed to account for privacy, e.g. by using an occupant number in lieu of name if occupant prefers.
- h. A refrigerator with dedicated and sufficient space for milk storage based on assessment of occupant storage need for regular building occupants.
- i. Dedicated storage space for pumps and pumping supplies (e.g. shelving, base cabinets, or lockers)
- j. If the space serves an area with FTE, consider additional shelf or counter space for equipment drying
- k. Door to pumping/nursing area that is lockable from the interior with indication of 'in use' or similar message that is visible from the exterior
- l. Acoustic and visual privacy to adjacent occupied space. While visual privacy is required, daylight and views are beneficial, such as through translucent glazing or to an exterior unoccupied area. If any transparent or translucent glazing is present, user-controlled window coverings are required.



Stacked Resources



LEVEL FOUR: **Mother's Room**

LEVEL THREE: **Wellness Room**

LEVEL TWO: **Mother's Room**

LEVEL ONE: **Adult Changing Room**

- 75 square feet
- Fully ADA accessible
- Dimmable light levels (user-controlled)
- Acoustic and visual privacy
- Stacked Plumbing

Wellness Room



For projects with occupancy over 50 FTE, provide (1) wellness room minimum. The purpose of this space is cognitive or physical restoration and recovery, related to mental or physical health needs.

- a. Designated for a function of restoration (not a work area, not a mother's room)
- b. Minimum 75 square feet
- c. Fully ADA accessible
- d. Dimmable light levels (user-controlled)
- e. Acoustic and visual privacy to adjacent occupied space. While visual privacy is required, daylight and views are beneficial, such as through translucent glazing or to an exterior unoccupied area. If any transparent or translucent glazing is present, user-controlled window coverings are required.

Seating Arrangements

Seating arrangements which accommodate a range of user-preferences and activities (e.g. movable lightweight chairs, comfortable chair(s), cushions, mats).



Restrooms

All spaces which include a restroom shall provide minimum (1) all gender single-user restroom that meets the following requirements.

- a. A sign or label with text and symbols to indicate that the room is a bathroom and it is inclusive of all genders

- e. Meet occupant demand in quantity and location based on size of project (conveniently available to all occupants)



WALKSCORE

900 Reserve Street

Stevens Point, Wisconsin, 54481

Commute to **Downtown Stevens Point**

1 min 5 min 1 min 7 min [View Routes](#)

[Add scores to your site](#)

Favorite

Map

Walk Score
70

Very Walkable

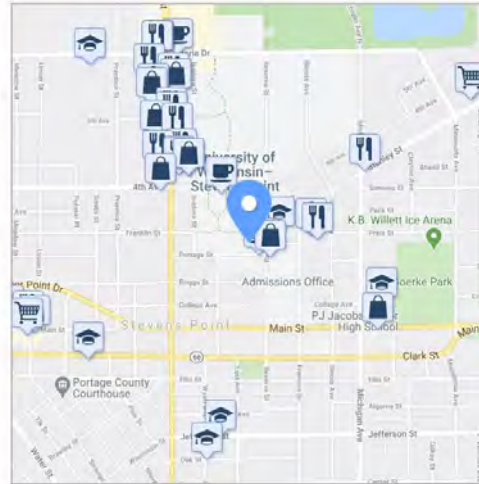
Most errands can be accomplished on foot.

Bike Score
85

Very Bikeable

Biking is convenient for most trips.

[About your score](#)



Walk Score
67

Walk Score

Transit Score

Bike Score

Score Details

What is Walk Score

Walk Score measures the walkability of any address based on the distance to nearby places and pedestrian friendliness.

- 90-100 Walker's Paradise**
Daily errands do not require a car
- 70-89 Very Walkable**
Most errands can be accomplished on foot
- 50-69 Somewhat Walkable**
Some errands can be accomplished on foot
- 25-49 Car-Dependent**
Most errands require a car
- 0-24 Car-Dependent**
Almost all errands require a car

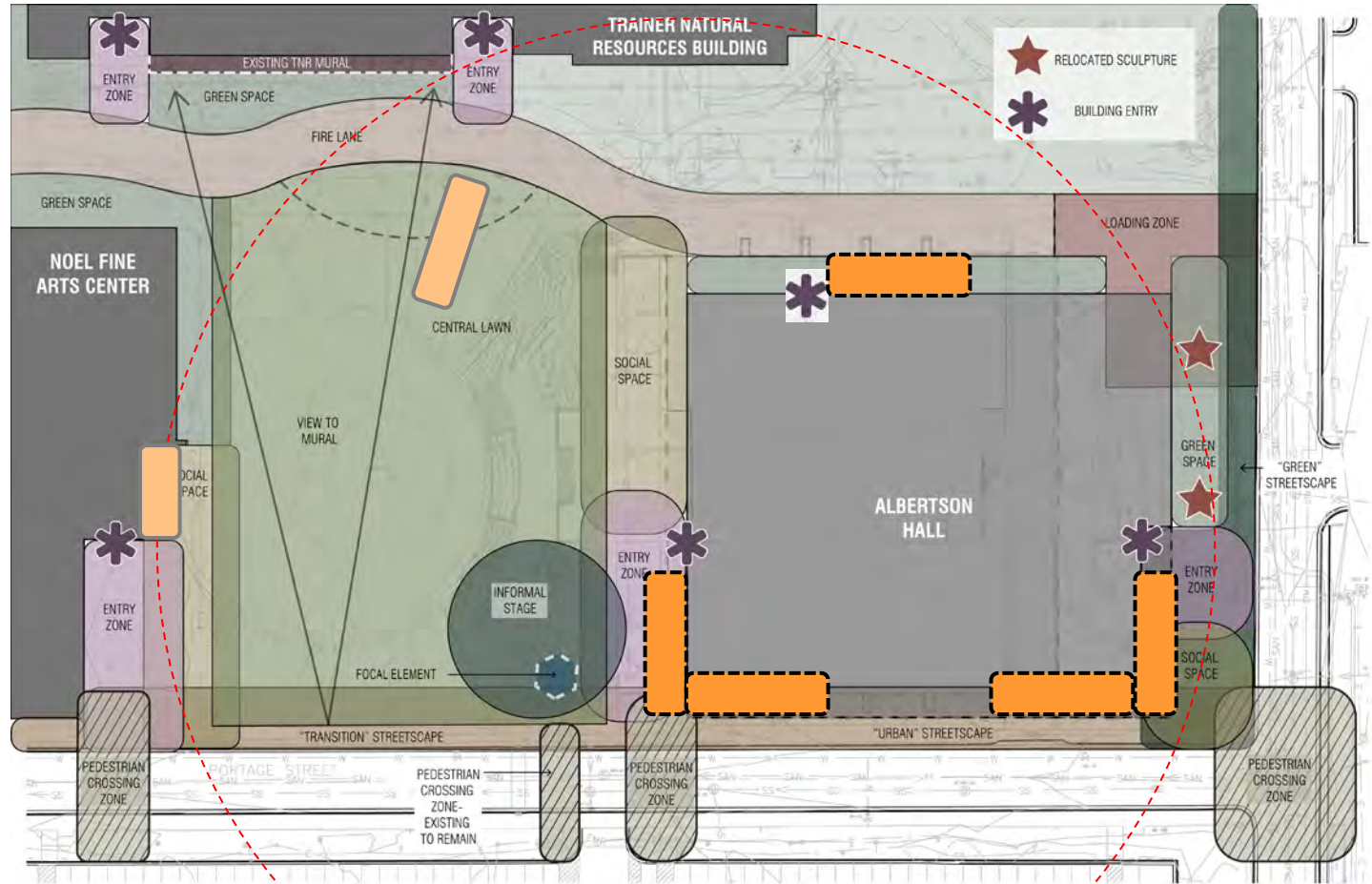
Bike Parking

1 space / 2,000 sf

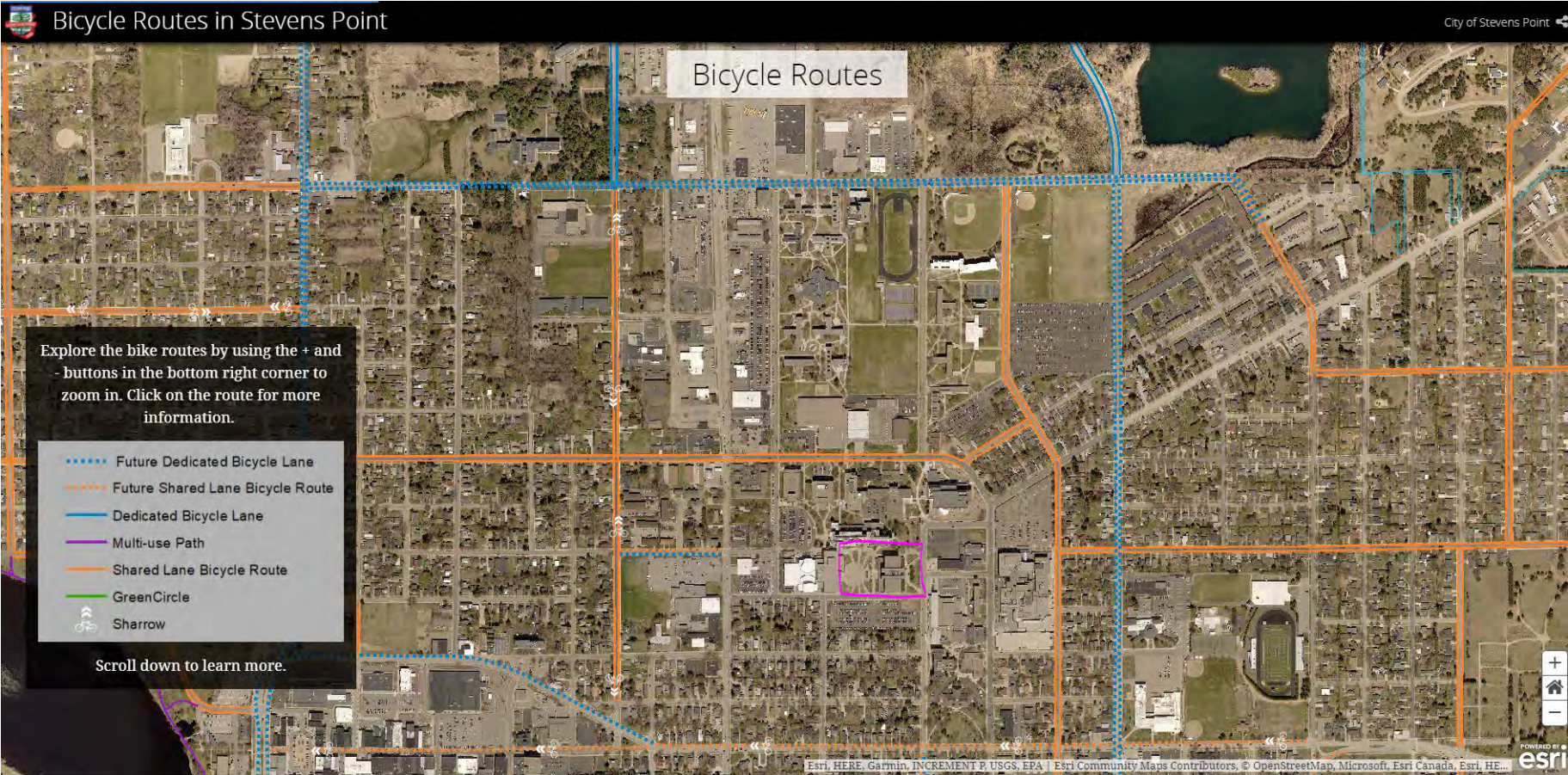
215,000 gsf = 108 spaces



WORKSHOP ARCHITECTS, INC



Bike Lane Connections



Bike Lane Connections



Bike Share Cooperation

Cooperate with local bike share programs.

Student Government Association

University of Wisconsin-Stevens Point > Student Government Association > SGA Resources

- Home
- About SGA
- Committees & Current Issues
- Executive Branch
- Legislative Branch
- Judicial Branch
- Budget Office
- Green Fund
- SGA Resources
- Bike Rental Program**
- Lawyer
- Housing Information
- Services Funded

Bike Rental @ UWSP

SGA has a **FREE** bike rental program for all students on campus!

If you want to rent a bike for free, all you need to do is bring your student ID to the SGA office in the bottom of the DUC, across from the CASE desk. The SGA Environmental and Sustainability Issues Director heads this program and can be contacted if you have any further questions.

We are currently out of bikes, but if you would like to place your name on a waiting list, please email Morgan Jeidy .

Contact Information:

Name: Maverick DeLain

Office: DUC 052

Email: sgaeasdir@uwsp.edu

Phone: (715) 346-4592



SPIN bikes on campus, available for students to rent. Photo by Ross Vetterkind

TAKE A SPIN AROUND CAMPUS WITH THE BIKE-SHARE PROGRAM

Posted by: pointer May 8, 2018

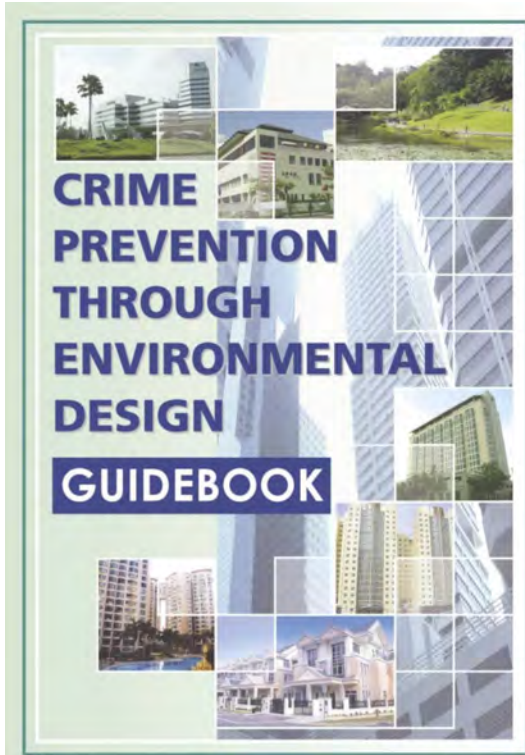
An app is bringing a spin to how students and faculty at University of Wisconsin-Stevens Point are getting around the campus and community.

SPIN is a GPS-based app that allows users to find a bright orange SPIN bike near them. The mobile app is free to download on iOS and Android devices. With a UWSP email, users can rent a bike for 50 cents per half hour or pay \$14 a month for unlimited rides.

UPDATE
(not sure this bike share is current)

Safety Lighting

Provide site lighting for safety. Limit dead ends and/or visually isolated spaces that may pose security concerns and employ measures of crime prevention through environmental design (CPTED).



LIGHTING

Sufficient lighting is necessary for people to see and be seen. From a security point of view, lighting that is strategically placed can have a substantial impact on reducing the fear of crime. A basic level of lighting should allow the identification of a face from a distance of about 10 metres for a person with normal vision.



Exterior lighting for night time use should provide adequate visibility

Measure 3

Designing for Ecology



Designing for Ecology

Good Design mutually benefits human and nonhuman inhabitants.

Mandatory Requirements:

Dark Sky Compliance

Tree Survey Data

Bird Collision Deterrence

Reduce Urban Heat Island Effect - N/A relates to parking lots

Native Vegetation

Designing for Ecology

Good Design mutually benefits human and nonhuman inhabitants.

Encouraged Measures:

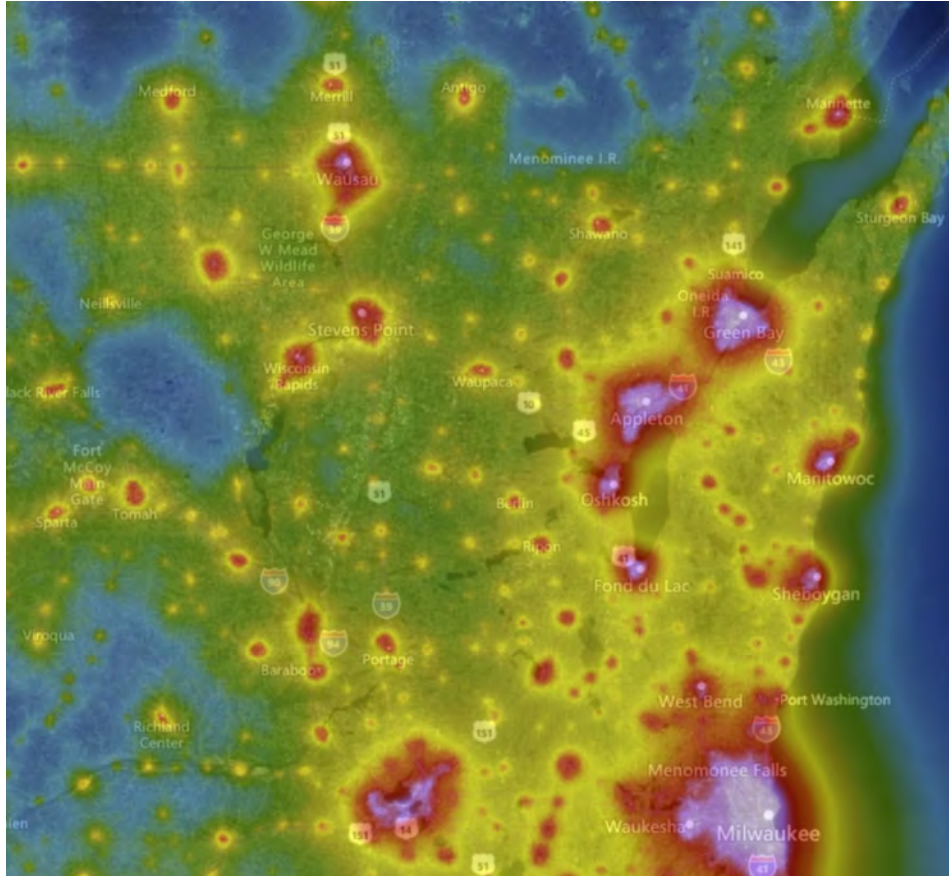
Vegetation that does not require irrigation –project not pursuing

Protect and preserve existing habitats and native vegetation

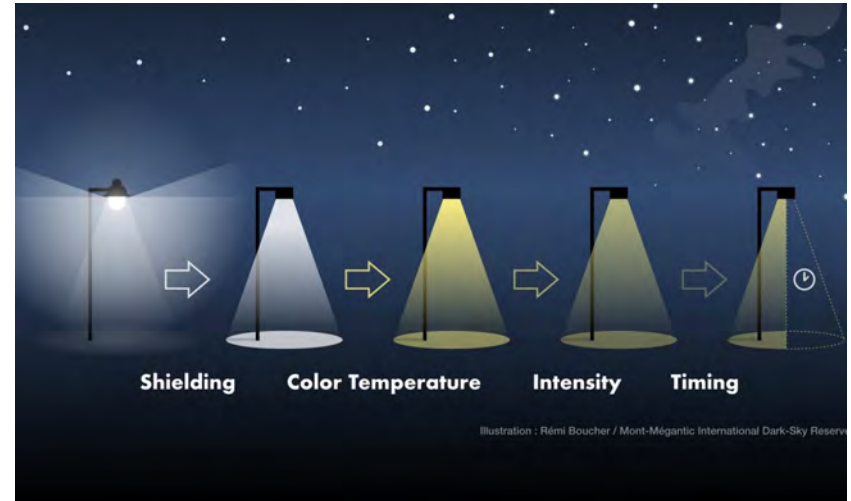
Restore habitats with new native plantings

Green Roof

Dark Sky Compliance



Outdoor lighting system design shall utilize full cutoff type luminaires which minimize the amount of source lumens emitted above the horizontal plane of the luminaire and which minimize light spill onto adjacent facilities.



Bird Collision Deterrence

For facades with >20% glazing:

1. At lowest two stories or tree canopy height, whichever is greater: Incorporate bird-deterrent strategies such as a properly designed scrim, glazing frit, or specialized coating to reduce non-treated glazing to a maximum of 20% in this zone. Treatments should be prioritized to occur within the canopy zone.

2. At green roof level glazing: apply deterrent design strategies to glazing surrounding and adjacent to green roof surface.

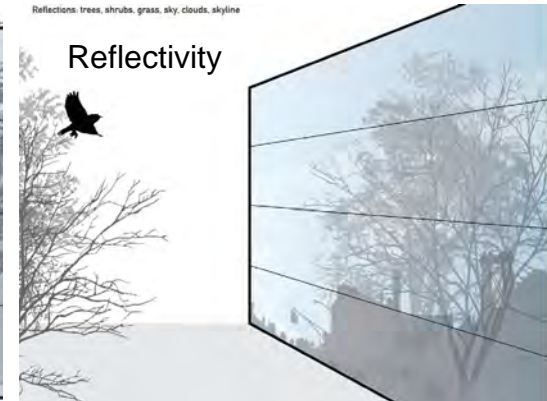
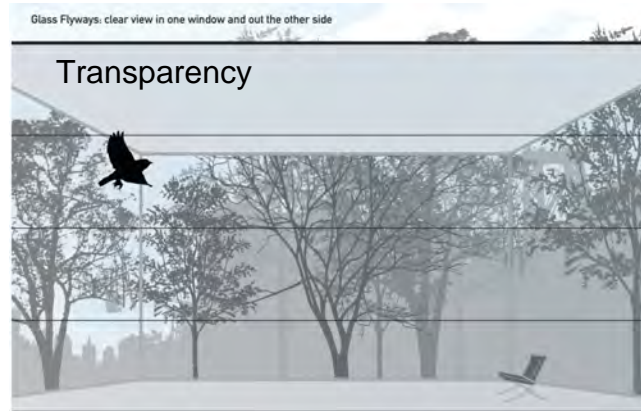


Building Height

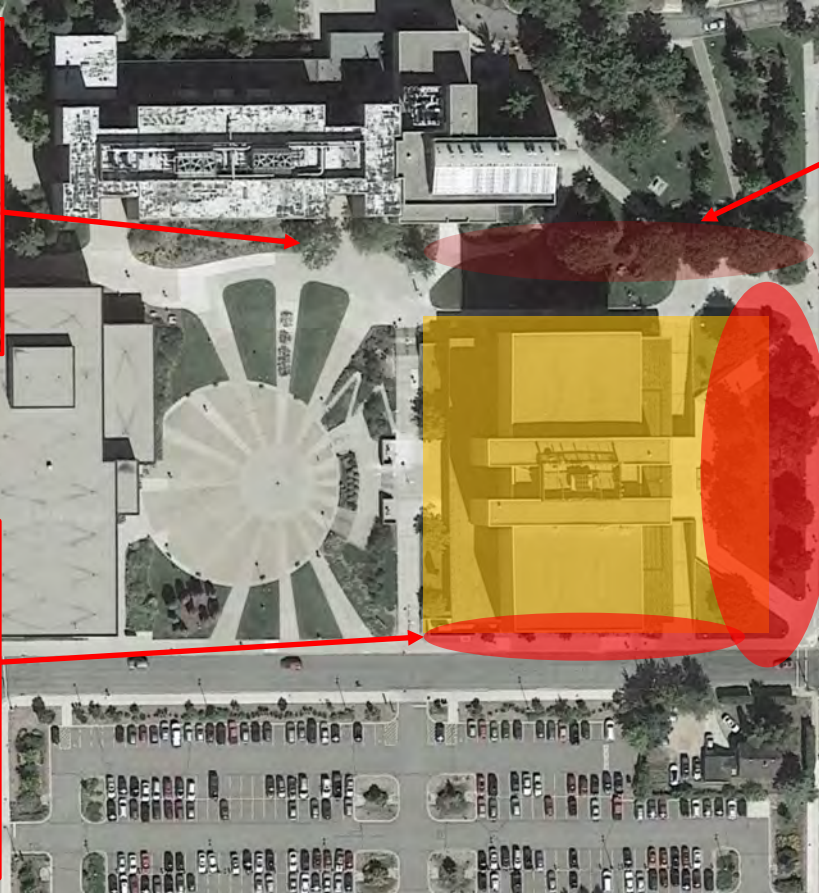
Lower levels:
The most hazardous areas of all buildings, especially during the day and regardless of overall height, are the ground level and bottom few stories. Here, birds are most likely to fly into glazed facades that reflect surrounding vegetation, sky and other features attractive to birds.

Moderate height:
Buildings between 50 and 500 feet tall pose hazards since migrating birds descend from migration heights in the early morning to rest and forage for food. Migrants also frequently fly short distances at lower elevations in the early morning to correct the path of their migration, making moderate-height buildings a prime target, especially if they have large expanses of reflective or transparent glass, or if they are highly illuminated.

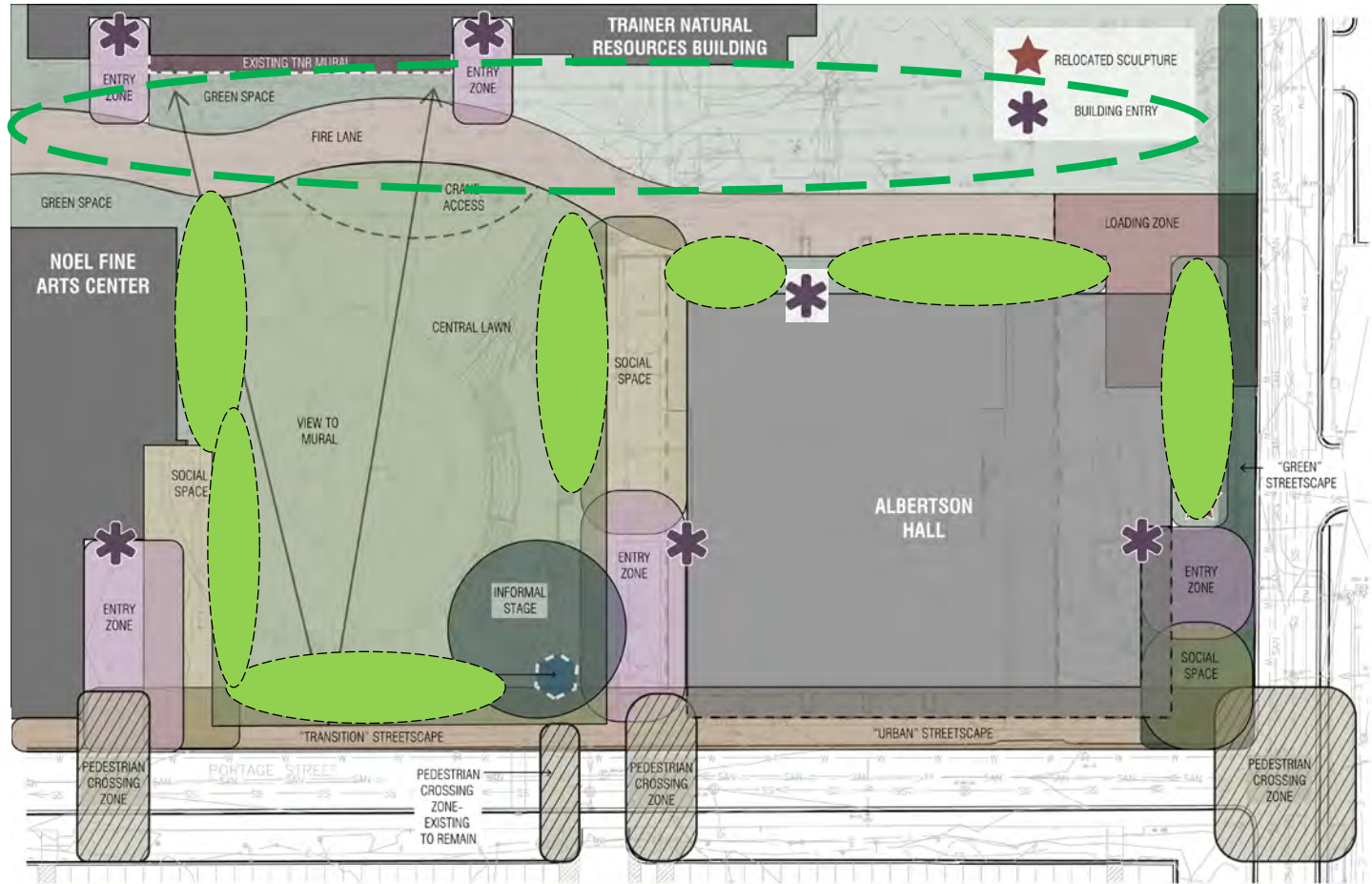
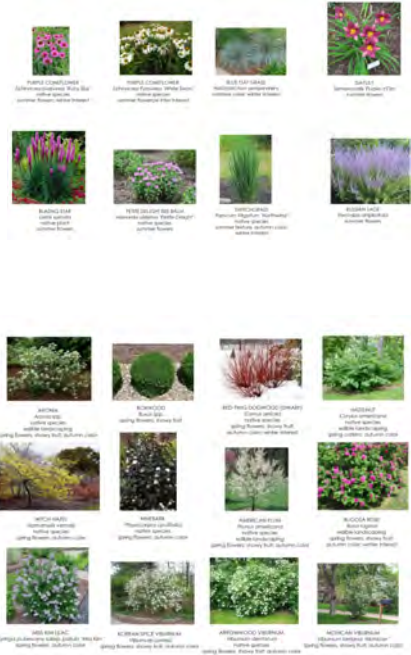
Tallest:
While the exact height of birds' migratory paths varies depending on species, geography, season, time of day/night, and weather conditions, radar tracking has determined that approximately 98% of flying vertebrates (birds and bats) migrate at heights below 500 meters (1640 feet) during the spring, with 75% flying below that level in the fall. Today, many of the tallest buildings in the world reach or come close to the upper limits of bird (and bat) migration.² Storms or fog, which cause disorientation, put countless numbers of birds at risk during a single evening. Any building over 500 feet tall then—approximately 40-50 stories—is an obstacle in the path of avian nighttime migration and must be thoughtfully designed and operated to minimize its impact.



Tree Survey



Native Vegetation



Green Roof

Reduces peak stormwater run-off for site

Water percolating through soil, where filtration and biological actions remove contaminants (reduces Total Suspended Solids (TSS))



Green Roof- Preliminary Plant Palette

- Sun/Part Sun Perennial Mix

Green Roof Perennial Mix	
<i>Achillea</i> 'Moonshine'	Moonshine Yarrow
<i>Agastache foeniculum</i>	Anise Hyssop
<i>Amorpha canescens</i>	Lead Plant
<i>Asclepias tuberosa</i>	Butterflyweed
<i>Aster laevis</i>	Smooth Aster
<i>Bouteloua curtipendula</i>	Sideoats Grama
<i>Calamintha nepeta ssp. nepeta</i>	Calamint
<i>Dalea candida</i>	White Prairie Clover
<i>Dalea purpurea</i>	Purple Prairie Clover
<i>Echinacea pallida</i>	Pale Purple Coneflower
<i>Liatris ligulistylis</i>	Meadow Blazingstar
<i>Penstemon digitalis</i>	Beardtongue
<i>Rudbeckia hirta</i>	Black Eyed Susan



Measure 4

Designing for Water



Designing for Water

Good Design conserves and improves the quality of water as a precious resource.

Mandatory Requirements:

Define project boundary based in limits of disturbance

Oil & Grease control

Reduce Total Suspended Solids (TSS)

Implement Safe overflow conditions

Indoor Water Efficiency – Predict and Reduce indoor water usage

Designing for Water

Good Design conserves and improves the quality of water as a precious resource.

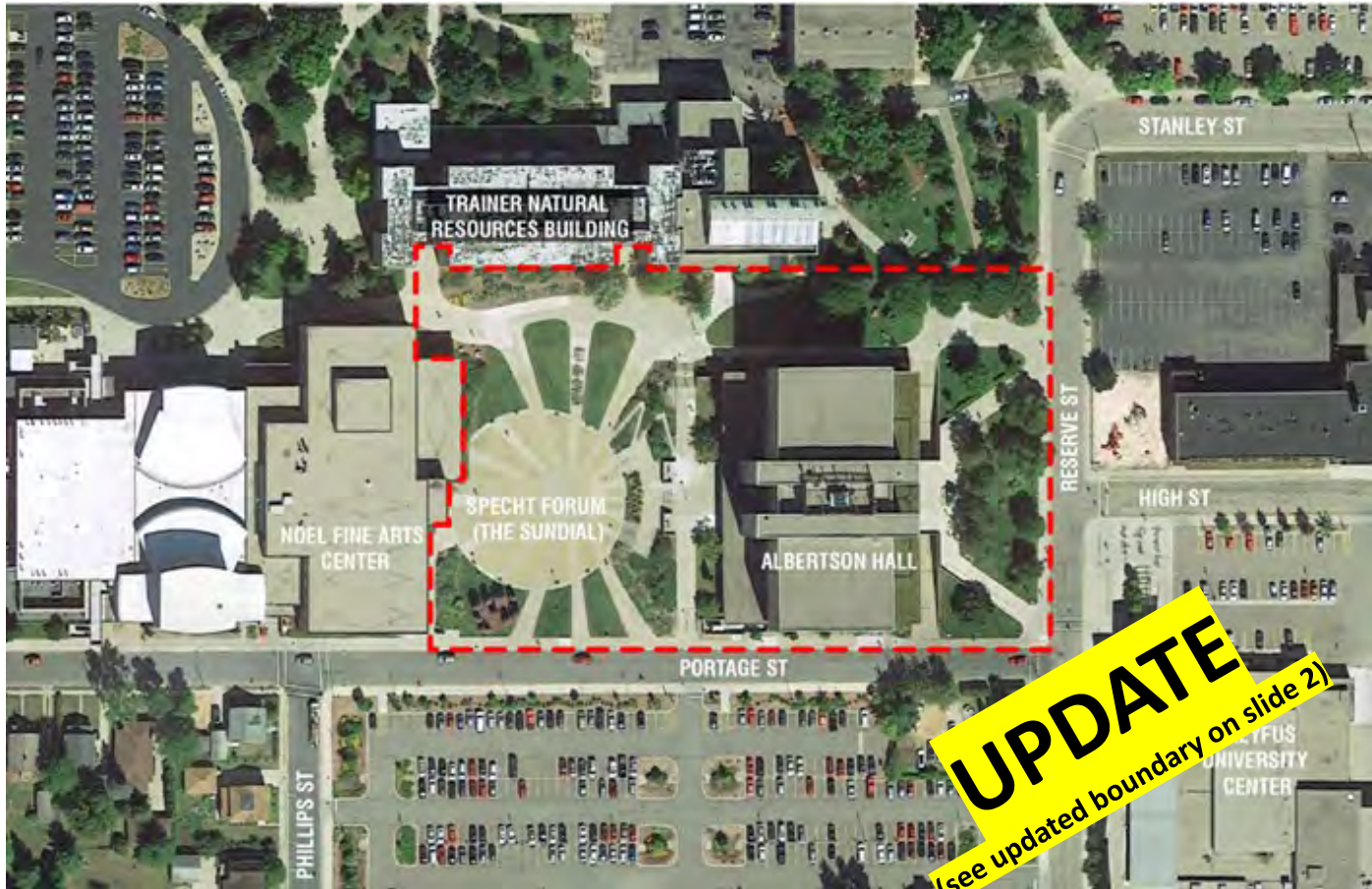
Encouraged Measures:

Detain site water

Infiltration and Stormwater volume control – 60-90% of pre-development volume

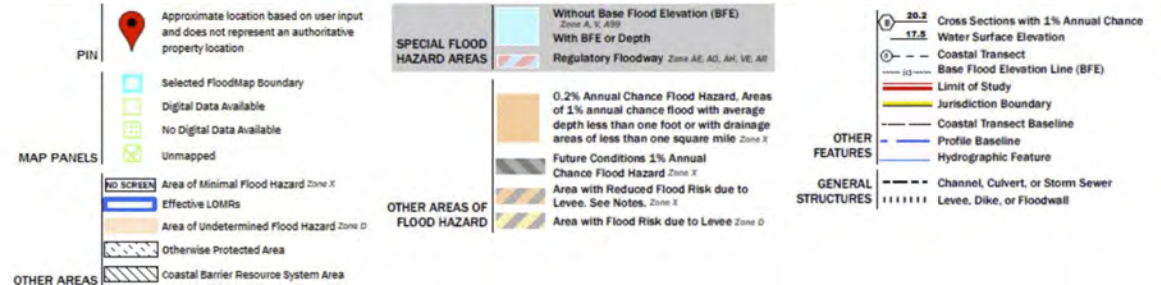
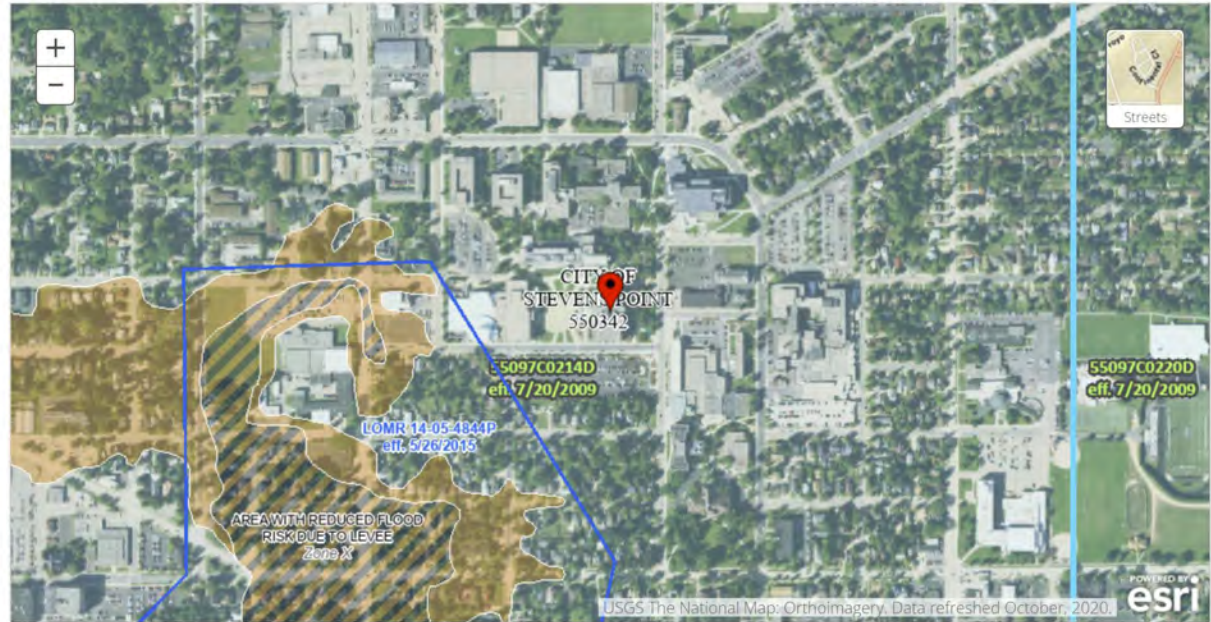
Restrict potable water for permanent irrigation – project not pursuing

Project Boundary



Safe Overflow

- a. First floor elevations of occupiable structures must be set 24 inches above the 100-year floodplain elevation or flood-proofed with a back-up system.
- b. Development should not occur in 100-year floodplain.
- c. The project should document the drainage patterns and overland flow routes



25% Water Reduction



Measure 5

Designing for Economy



Designing for Economy

Good Design supports human, community, and environmental health, regardless of project size and budget. Design choices must add value for owners, occupants, community, and planet.

Mandatory Requirements:

Register and Participate in Focus on Energy

Energy Modeling

Encouraged Measures:

Right-size the project

Register and and Participate in Focus on Energy



Focus on Energy is Wisconsin utilities' statewide energy efficiency and renewable resource program funded by the state's investor-owned energy utilities and participating municipal and electric cooperative utilities. Focus on Energy works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus on Energy information, resources and financial incentives help to implement projects that otherwise would not be completed. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment and control Wisconsin's growing demand for electricity and natural gas. For more information call visit focusonenergy.com.



2022 SUMMARY OF SERVICES AND INCENTIVES FOR BUSINESSES

FOCUS ON ENERGY[®] partners with Wisconsin utilities to provide expert Energy Advisor assistance and financial incentives to businesses and industries in Wisconsin.

Start Saving Today!



Prescriptive incentives listed on the following pages are available for products purchased and installed between January 1 - December 31, 2022. Obtain a custom incentive by working with an Energy Advisor. Find your Energy Advisor at focusonenergy.com/ea-map.



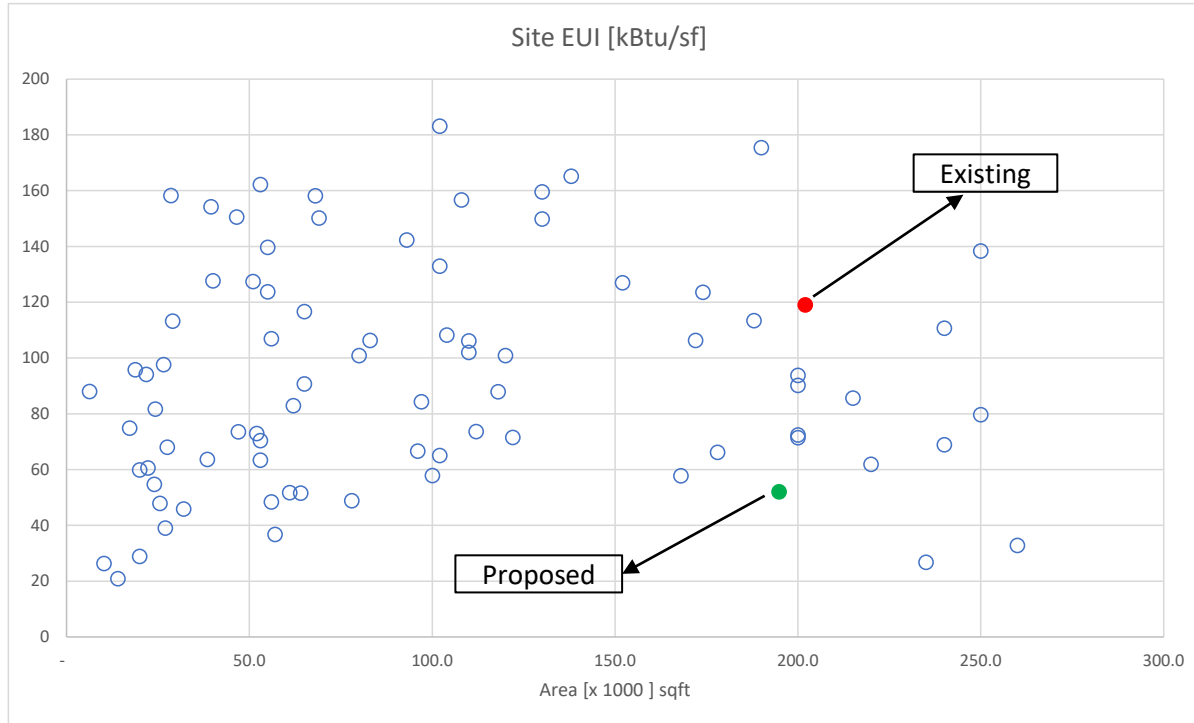
Work with registered Trade Allies to ensure you select qualifying equipment to maximize energy savings. Find a registered Trade Ally at focusonenergy.com/findtradeally.

Energy Modeling

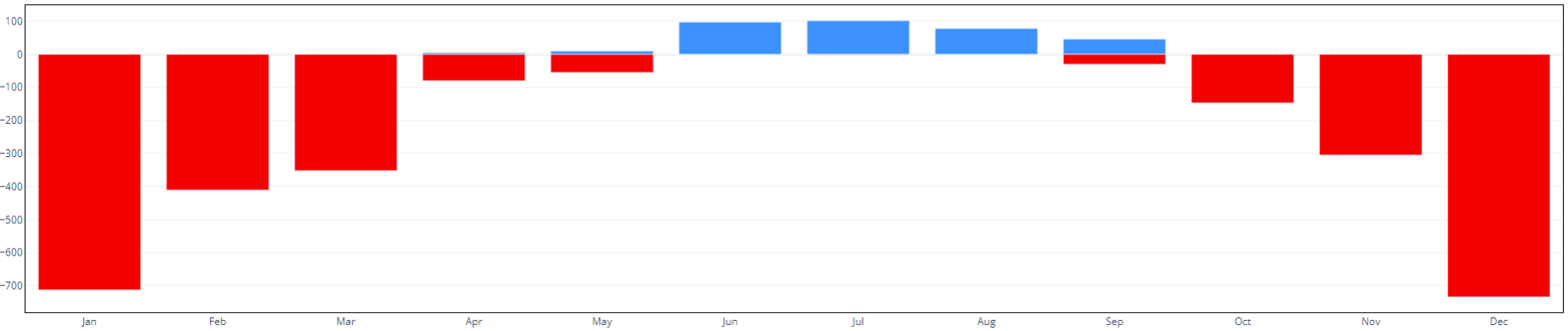
- Envelope Construction
- Glazing Construction
- Glazing Percentages
- Renewables
- Mechanical Systems Options
- Life Cycle Analysis
- Operational Analysis

Benchmarking

Proposed building EUI of 52 kBtu/sqft is currently at the lower end compared to other benchmarked buildings in the category.



 Cooling Degree Days
  Heating Degree Days
 



Building site climate is significantly heating dominated, Essentially Strategies include

Envelope

- Tighter envelope to reduce infiltration (Positive pressurization)
- High U-Values for walls and roofs.
- High U-Values for windows
- Lower performance SHGC for windows to let the solar heat in.

HVAC

- Demand control ventilation.
- High efficiency enthalpy wheel Heat recovery systems.
- Radiant heating for higher comfort at lower temperatures.
- Geothermal not recommended due to unbalanced loads.
- Separation of HVAC System for perimeter and core spaces

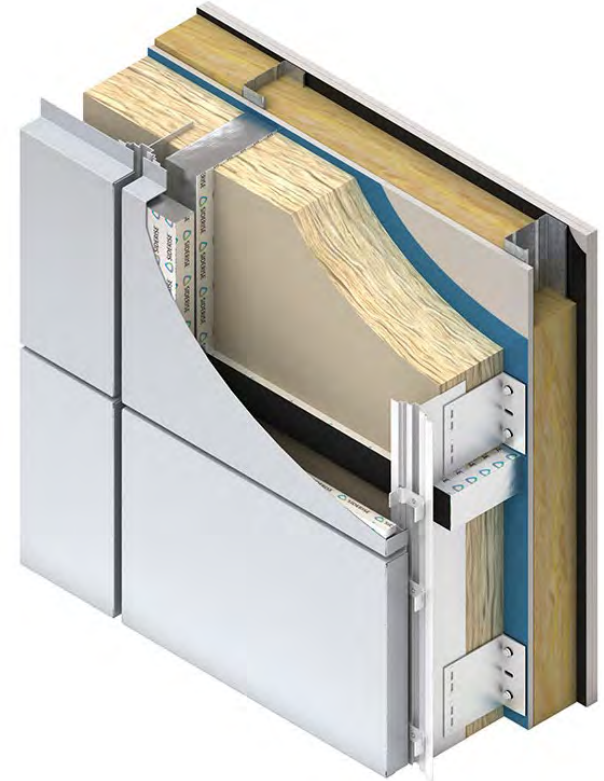
Envelope Upgrades

Walls - Additional Continuous Insulation (c.i.):

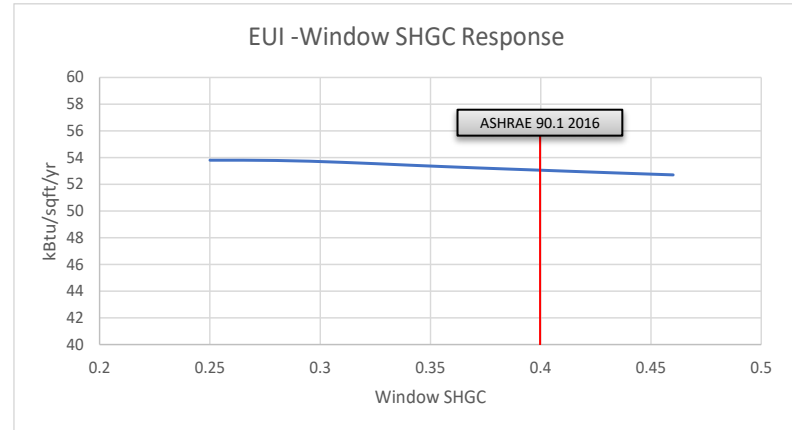
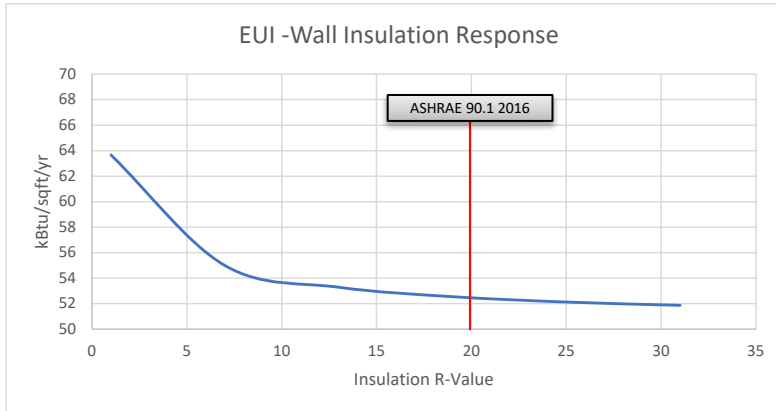
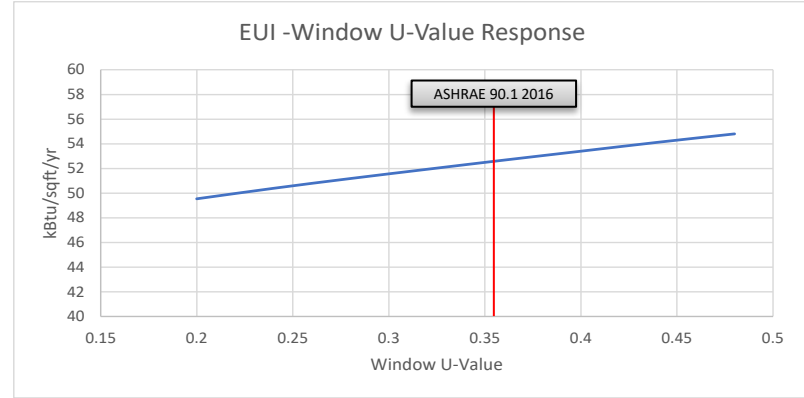
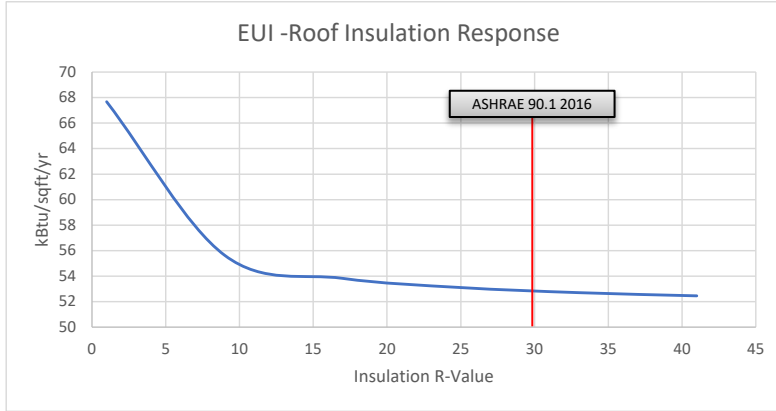
Baseline: 2016 ASHRAE Code Min: R-13 + R-10 c.i.

Upgrade 1: Meet 2021 IECC: R-21 + R-13 c.i

Currently Modeling: 2021 IECC plus additional inch of c.i.: R-21 + R-15 c.i

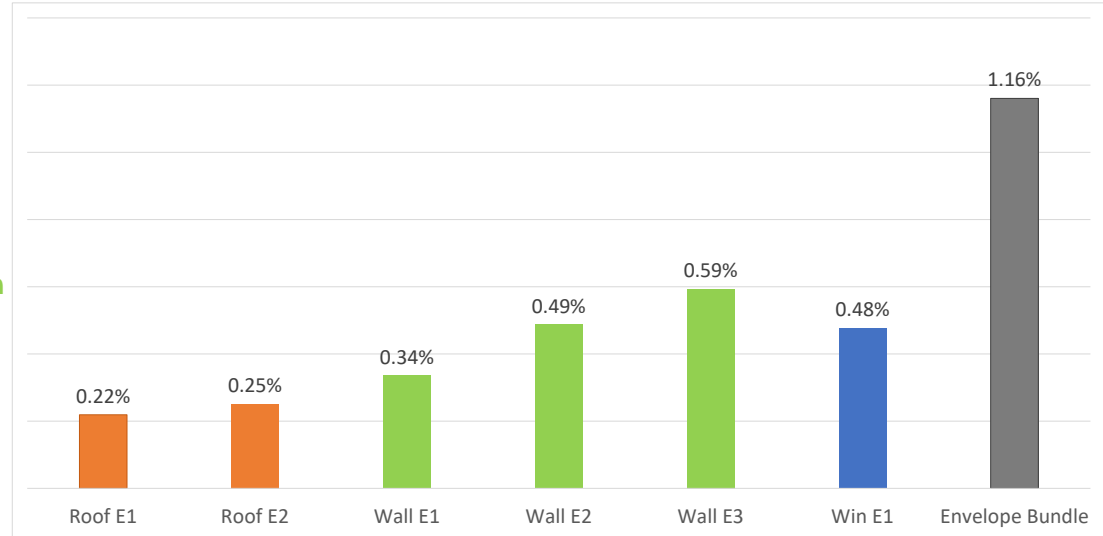


Envelope Performance Response Curves



Envelope Measure Impacts (Cost Savings)

- **Roof**
 - ~~E1: Additional CLT Roof Insulation~~
 - **E2: Green Roof**
- **Wall**
 - **E1: Added Stud and Mass wall Insulation**
 - **E2: Additional ½” Insulation**
 - **E3: Additional 1” Insulation**
- **Window**
 - **E1: U-Factor Upgrade**
- **Envelope Bundle**
 - **Roof E1 + Roof E2 + Wall E3 + Win E1**



Path to Carbon Neutral

Path to offset Electricity consumption Co2 of building.

- Target 1: Reduce Building EUI to minimum possible
- Target 2: On site roof PV, including all stated areas.
- Target 3: Renewable energy purchase.

Note: Net Zero assumes utility buyback by grid or electrification of building.

Solar ready – Roof space planning, conduit/electrical infrastructure to the roof, structure sized to handle solar load

	Current Building	Design Target	Design Target + PV	Carbon Neutral
Consumption	119 EUI	51 EUI	51 EUI	51 EUI
On Site PV			17 EUI	17 EUI
Off-site renewables				34 EUI
Carbon	1847 m.tons	719 m.tons	433 m.tons	0 m.tons

Measure 6

Designing for Energy



Designing for Energy

To promote the design and operation of energy-efficient buildings to reduce expenditures on imported fuel, reduce the impacts associated with greenhouse gas emissions, minimize negative impacts of refrigerant selection, and ensure for next-generation energy infrastructure.

Mandatory Requirements:

Meet or Exceed ASHRAE 90.1-2016

Window to Wall Ratio Guidelines

Energy Modeling

1% Renewable Energy Sources

Solar Panel Ready – Campus Update on Panels?

Detailed for airtightness

Feasibility of on-site battery storage

Energy Reduction Strategies

- ASHRAE 90.1-2016
- Maximum Allowable EUI: 65 kBtu/sqft/yr
 - Goal?
- Strategies
 - Enhanced Envelope (Insulation/Glazing)
 - Shading Options (Exterior, Electrochromic Glass, etc.)
 - On-Site Renewables
 - PV Location
 - Mechanical Systems Discussion
 - Campus Utilities
 - Geothermal
 - Campus Familiarity



Measure 7

Designing for Wellness



Designing for Wellness

Good Design supports health and wellbeing for all people, considering physical, mental, and emotional effects on building occupants and the surrounding community.

Mandatory Requirements:

Smoke Free Environment

Biophilia

Daylighting

Encouraged Measures:

Acoustic Comfort

Nature in Design - Biophilia

Project stakeholders (including at a minimum DFDM PM, Agency Contact, and a minimum of one representative each from the A/E and MEP disciplines) shall hold a meeting in Preliminary Design phase dedicated to integrating biophilic design into the project. The meeting shall include project goals and objectives.

WELL BUILDING STANDARD Nature Incorporation

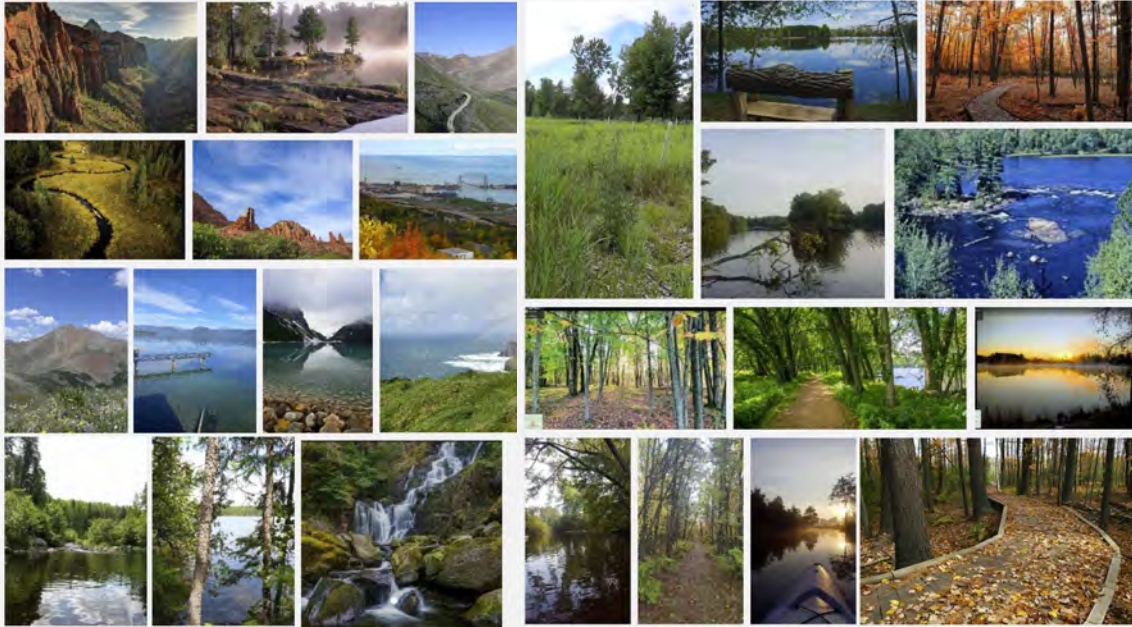
Environmental elements.
Lighting.
Space layout.

Nature's patterns throughout the design.

Within the building.
Within the project boundary, external to the building.



Biophilic Design Charette Overview



Seasons
Connection
Collaboration
Natural
Sky
Peaceful
Scale
Water
Meandering
Curvilinear
Exploration + Discovery
Organized
Timeless Beauty
Views
Water
Light
Warm
Wildlife
Variety
Time of Day
Native Heritage
Color
Plants

Biophilic Design Charette Results

Shapes & Forms

similar shapes
at different
scales |
fractals

Unexpected
shapes and
forms

curvilinear
soft edges

variety of scale
in areas - large
expanded and
intimate areas

Graceful
arches and
curves like the
river and tree
boughs

Light & Reflection

Light pools - like
light poking
through spaces
in a forest

Sunset
reflected
off calm
water

Light source
being a
statement
piece

Feeling light
from all round
you bottom
top left and
right

Play of
Light and
Shadows

light
reflection
off the
water

Water & Paths

Paths of
the river,
paths in
Schmeckle

meandering
pathways /
edges. not all
paths direct

Water and
relation of
water to
life

Views

connecting
virtual and
physical
spaces

views to
landscape

views or spaces that
are concentrated
but then open up to
larger space/view
element of surprise

Daylighting

Occupied spaces shall meet the following minimum criteria to ensure equitable access to daylight. Daylighting metrics may be verified through daylight model or post occupancy verification.

1. In all spaces, achieve at least one of the following requirements:

- a. Spatial Daylight Autonomy of sDA200,40% is achieved for at least 30% of regularly occupied space.
- b. Locate workspaces such that at least 30% of all workstations are within 20 feet of transparent envelope glazing.
- c. Transparent envelope glazing is no less than 7% of the floor area for each floor level.

2. In common spaces: Locate common spaces such that at least 70% of all seating is within 16 feet of transparent glazing with views to the exterior.

- b. Prioritize the location of areas of highest use, such as common or shared areas and open workspaces, at available exterior glazing.

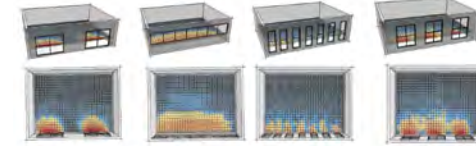
3. If private offices are located along an exterior wall that provides daylight and views, a minimum of 50% of the interior face must be transparent or translucent if facing a common area (other than circulation) to allow borrowed light. Transom height glazing is also encouraged.

Benchmarking - Rapid Facade



Glazing Placement Study (Early Design) - 40% WWR

Option 1 - Default window Option 2 - Ribbon Window Option 3 - Vertical Slit Option 4 - Large Openings

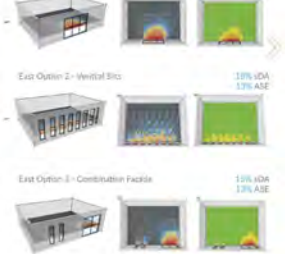


GTCC

East
Facade Study

East Facade (SD Phase) - 30% WWR

East Option 1 - Large Coverings East Option 2 - Vertical Slit East Option 3 - Combination Facade



Benchmarking - Daylight



Spatial Daylight Autonomy (sDA) measures the percentage of floor area that receives at least 200 lux (or at least 20% of the unobstructed floor area) for at least 200 hours of the unobstructed year.

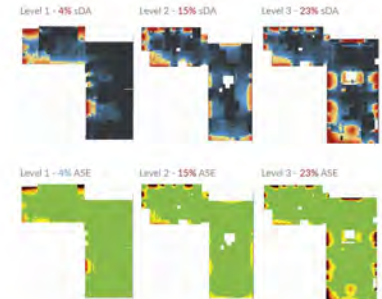
GTCC

16% Daylight (per 1000 ft²)

14% Glare (per 1000 ft²)

Level 1: 4.0% sDA
Level 2: 15% sDA
Level 3: 23% sDA

Level 1: 4.0% ASE
Level 2: 15% ASE
Level 3: 20% ASE



UPDATE
(these are project examples)



11:15 am

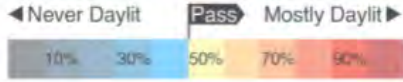
April 13

NOT CURRENT

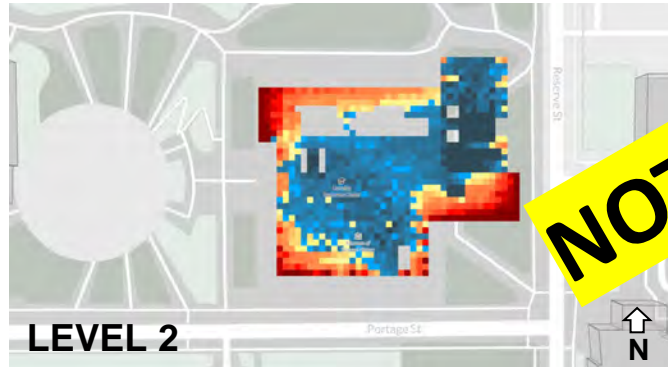
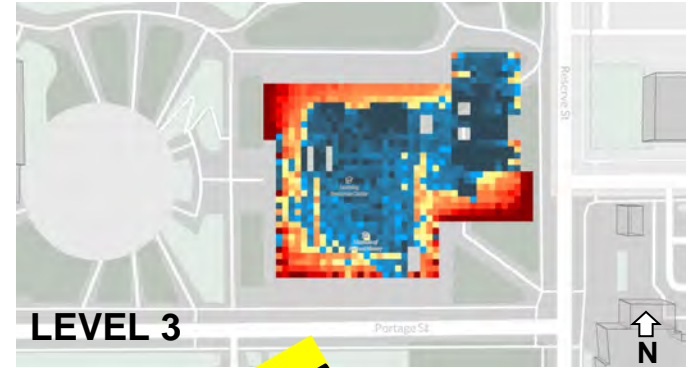
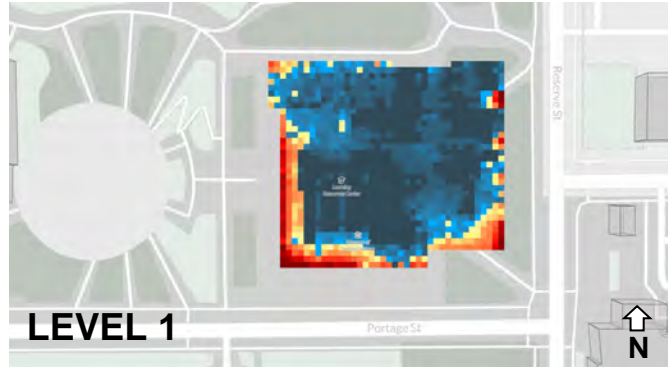
Daylighting

Spatial Daylight Autonomy (sDA)

Legend



sDA refers to the percentage of floor area where 30 fc is achieved for at least 50 percent of the workday. Higher sDA values indicates that a larger interior space receives at least 30 fc of daylight for at least 50 percent of the workday



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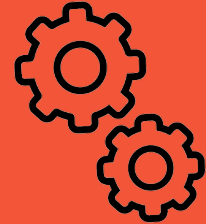
Acoustic Comfort

Spaces in the following categories should meet minimum wall and ceiling noise reduction coefficient criteria to ensure acoustic comfort appropriate to use: open workspaces, enclosed offices, dining spaces, conference rooms, and classrooms.



Measure 8

Designing for Resources



Designing for Resources

Good Design depends on informed material selection, balancing priorities to achieve durable, safe, and healthy projects with an equitable, sustainable supply chain to minimize possible negative impacts on the planet.

Mandatory Requirements:

Exotic Hardwood Prohibition

Perform Life Cycle Assessment to track embodied carbon

Environmental Product Declarations – min of 20 products with EPDs

Designing for Resources

Good Design depends on informed material selection, balancing priorities to achieve durable, safe, and healthy projects with an equitable, sustainable supply chain to minimize possible negative impacts on the planet.

Encouraged Measures:

Responsible Steel Usage

Responsible Concrete Usage

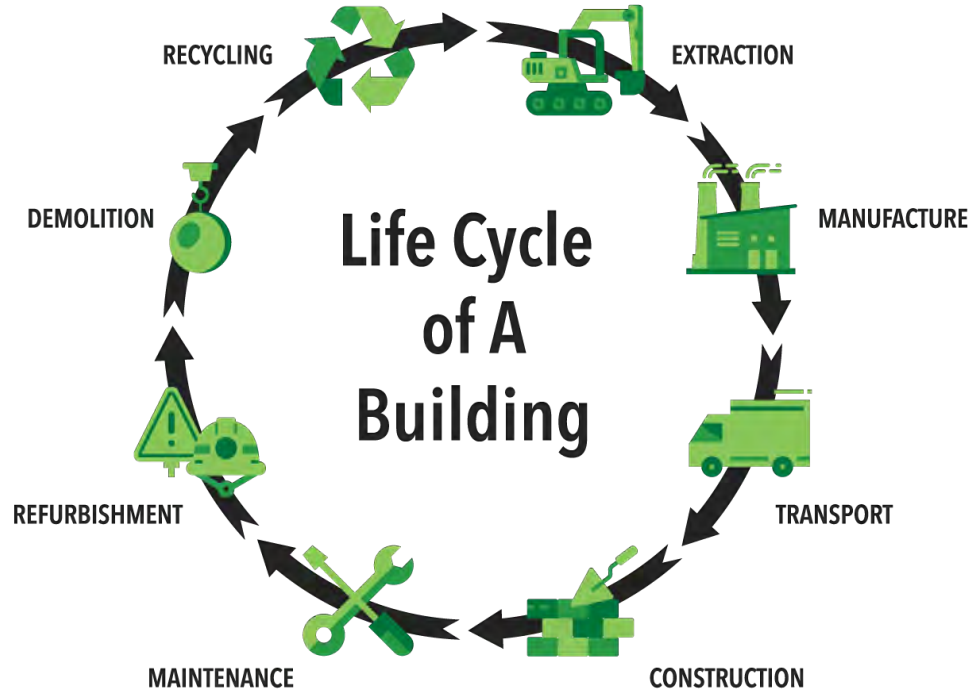
Responsible Architectural Insulation Usage

Responsible Wood Sourcing

Local and Regional Priority

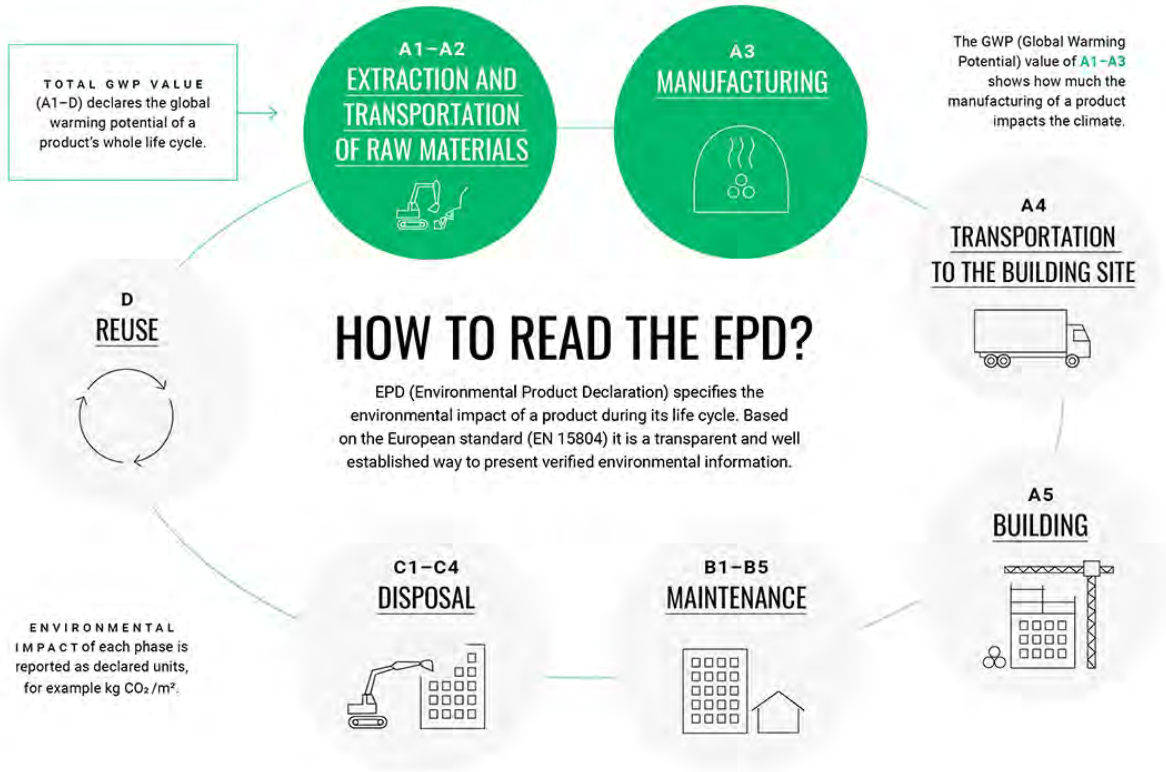
Life Cycle Assessment

Perform a Life Cycle Assessment (LCA) that tracks embodied carbon. Identify tools used and summarize results.



Environmental Product Declarations

Use a minimum of 20 products with EPDs.

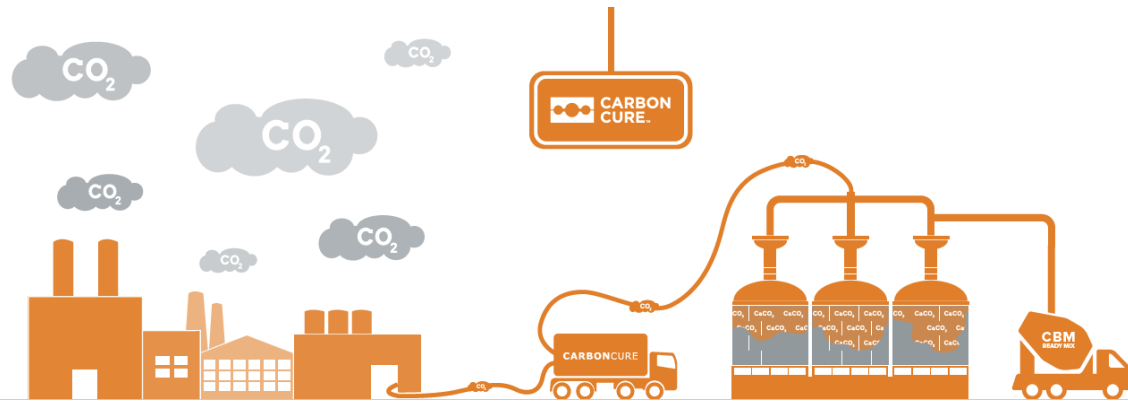


Responsible Concrete Usage

Sourcing:

1. Reduce the amount of Portland Cement utilized in the concrete mix while still achieving required strength. Specify concrete with a high supplementary cementitious material (SCM) content, such as fly ash, slag, pozzolan, and lime, among others.
2. Employ carbon-sequestering aggregate or mix techniques

Employ design strategies which reduce the overall mass of concrete in the project while achieving desired functionality.



Responsible Wood Sourcing

Interior applications:

Specify species available to be harvested and milled locally within Wisconsin.

Specify FSC certified lumber.

- Is there Reclaimed Wood for Use from Campus?



The mark of
responsible forestry



Table 5. Industrial roundwood production by species group and product, 2013 (thousand cubic feet).

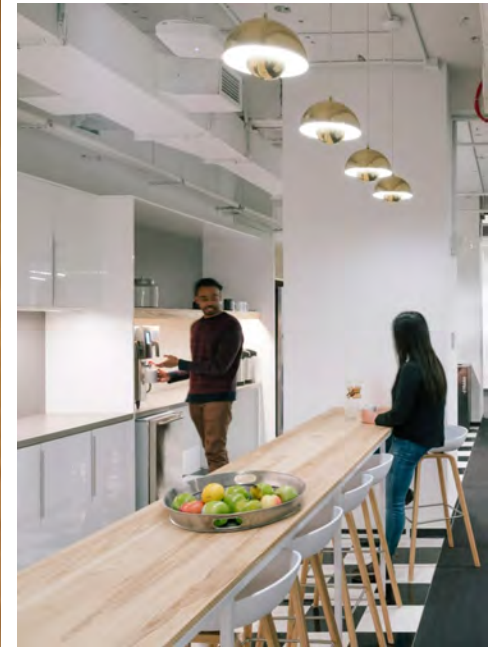
Species	Pulp products	Comp products	Saw logs	Veneer logs	Industrial fuelwood	Other products	Total
Aspen	23,402	29,881	10,119	1,167	2,012	2,470	71,062
Sugar maple	24,829	523	12,189	1,249	1,215	-	41,221
Red pine	14,659	751	15,114	440	454	1,326	33,198
Red maple	22,079	841	5,497	127	928	16	30,414
N red oak	10,397		12,902	830	533		25,203
Jack pine	9,071	233	4,133	1	43		13,524
Ash	8,116	18	3,804	274	362		12,935
Black & N pin oak	4,671		5,797	373	240		11,312
White pine	5,135	141	3,916	37	409	348	10,393
Basswood	867	4,117	3,795	103	302	387	9,872
Paper birch	6,769	78	1,157	168	324		8,821
White oak	989	-	4,141	388	54		5,626
Balsam fir	4,075	263	151	-	31		4,551
Spruce	3,116	28	598	194	31	18	4,015
Hemlock	1,963	-	147	-	88		2,285
Yellow birch	573	56	959	111	1		1,702
Black walnut	-	-	1,139	160	-		1,299
Black cherry	58	-	935	49	15		1,071
Hickory	44	-	733	58	28		891
Elm	63	-	464	56	2		587
N white-cedar	111		74		1		288
Beech	325	-	93	18	3		442
Tamarack	403	-	25	4	110		653
Minor species	26,269	-	474	106	5	133	26,854
Total	167,985	36,930	88,358	5,911	7,188	4,697	312,007

Campus Salvaged Wood

Is there an update from Campus on the removal of the 4-5 Ash trees?

Timeline for drying Ash is shorter, 6 months vs 1 year for Oak.

Ash is right below Maple and Red Oak for hardness, but above White Oak, Walnut and Cherry for hardness.



Measure 9

Designing for Change



Designing for Change

Adaptability, resilience, and reuse are essential to good design, which seeks to enhance usability, functionality, and value over time.

Mandatory Requirements:

Reuse reporting - N/A – new construction

Risk Assessment

Resilience

Encouraged Measures:

Renewable-Ready

Interchangeability

Risk Assessment

List the likely threats a project may face, both environmental / climate and health and safety. Describe how the design supports safety and recovery in these scenarios (such as designated safe zones or alternate modes of use to support recovery in emergency).

Tornado & Severe Thunderstorms

Climate Trends Long-term trend analysis of Wisconsin's climate indicates that the state is becoming warmer and wetter.³ After analyzing historical climate data from 1950-2006 and developing downscaled local climate models, University of Wisconsin climate scientists created potential climate projections based on historical trends and scientifically validated models. Several of the potential outcomes indicate that an increase in average annual precipitation and warmer annual average temperature may occur in the state. Severe storms and tornadoes need warm moist air to form, among many other factors. Climate surveillance has shown that within the past 60 years tornadoes are not occurring more frequently but rather are occurring on days that already had a documented tornado. This means that there is an increase in tornado density.



Renewable Ready

Provide necessary infrastructure and design considerations to support future installation of solar photovoltaic arrays if none are required in Measure 6: Designing for Energy.



Interchangeability

Provide a paragraph describing how the building will meet program needs on opening day and enable adaptability for future unknowns.

- Maximize Structural Spans
- Open Flexible Floor Plate
- Raised Access Floors

On-Site Recycling

While the practical uses of recycled concrete is well established, the significantly lower density of brick has hindered the material from being recycled on site and used as backfill.

Reuse of existing foundations where possible



DownCycling

Reuse of crushed concrete for use as gravel fill base, backfill or recycled aggregate in new (non-structural) concrete
Reuse of crushed bricks for backfill



Measure 10

Designing for Discovery



Designing for Discovery

Every project presents a unique opportunity to apply lessons from previous projects and to gather information to refine the design process.

Mandatory Requirements:

CxA to track utilities – 6, 12, and 18 months

Meeting to discuss lessons learned

Encouraged Measures:

Consider performing a preoccupancy evaluation

Provide educational tours and training for the building

Energy Performance & Verification

- Desire to separate loads for metering?
- Desire to display building energy usage?

EUI goal setting by area

	Square footage	EUI	Weighted Average
Inpatient	73,624	215	100
Outpatient	64,789	120	
Parking	176,880	20	
Shell (Inpatient)*	33,998	215	
Shell (Outpatient)*	68,414	120	
Other	35,149	75	

*assumed square footage based on programming during RFP development in January 2018

Cost savings between EUI of 125 and 100 estimated to be
\$175,000 per year

Related Experience



Univ. of Chicago - Res. Hall



Iowa State - Academic

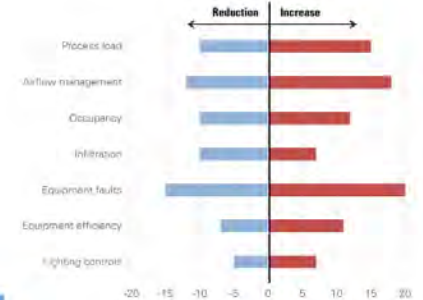


Mayo Clinic - Inpatient



NREL RSF - office

EUI sensitivities



*generic example, not actual model results

