

**I PRO 311**  
**Midterm Presentation**  
**March 13, 2008**

## 1.0 Revised Objectives

No changes have been made to IPRO 311's objectives to date. They remain as follows:

1. Create a conceptual design and branding of IIT as an eco-friendly campus
2. Build IIT brand awareness and campus visibility in ways that are aesthetically pleasing, exciting and memorable
3. Create an eco-friendly, self-sustained project that promotes general awareness of activities within the university among students, staff, faculty and the community.
4. Play a leadership role in supporting Mayor Daley's vision for creating a ultra-green Chicago by 2020.
5. Create an IIT campus sustainability plan for future IPROs to build upon.

## 2.0 Results to Date

IPRO 311 split into smaller teams each concentrating on a different area we felt needed to be addressed. These individual teams all came up with initial plans for what they would like to propose for.

### 1. CTA/Metra Team

#### Green Line 35<sup>th</sup> St. Station

Some ideas for ways to rework the Green Line station are to supply power to station with solar thermal energy and energy captured with horizontal-axis wind turbines, to remodel the 34<sup>th</sup> Street entrance to better its appearance and to create more shelter from the elements, to use recyclable materials and technologies to construct these changes, to construct a "Welcome to IIT" area at the base of the 34<sup>th</sup> Street entrance, to add wind shelters with heating near 34<sup>th</sup> Street entrance, to display IIT current events and history on the interior and IIT branding on exterior or the entrance and station, and to include signage on platform indicating the direction to campus and the current location with respect to the rest of campus.

#### Red Line 35<sup>th</sup> St. Station

Some ideas for the Red Line station are to supply power to station with solar thermal energy, to introduce IIT branding in the station, to display IIT current events and history, and to include signage on the platform indicating the direction to campus and current location with respect to the rest of campus.

#### New Metra Station

Some ideas for the new Metra station being built on campus are to introduce IIT branding that won't impede construction or intrude on the current design while at the same time being self-sufficient, and to include signage indicating the direction to campus and current location with respect to the rest of campus.

## Dan Ryan

Some ideas for the Dan Ryan are to gather solar energy and wind energy from traffic to power nearby 35<sup>th</sup> St. Red Line station and IIT sign (if lighted), to better the quality and appearance of IIT signs on the overpasses, and to place similar IIT signs on all overpasses (31<sup>st</sup> St. – 35<sup>th</sup> St.).

## **2. Reusable Billboards**

### Billboards

Outdoor placement is an important part of the brand launch, as it targets business professionals that live in the suburbs and in the city. Billboards are currently located on the Kennedy, Eisenhower, Stevenson, and Dan Ryan expressways, Tri-State Toll way, corner of LaSalle and Ontario streets, and at the corner of Ontario and Wells. The IIT branding campaign will also extend to exterior bus panels on routes that travel through the north/northwest Chicago neighborhoods, down lakeshore drive, and into the loop.

The plan is to transform old billboards into works of art by recruiting local artists willing to work for free. IIT students would then be found to work with the artists and to design and create the billboards. These billboards would then be placed at the corners of the school zone, and at nearby CTA stations.

### Signs

Currently there are signs in front of some buildings and on the tops of other buildings. However the letters are too small to read for most drivers on the Dan Ryan.

The plan is to make bigger letters on the signs so they are visible from a greater distance.

### Banner

Currently, the “We are” banner series promotes sustainability. The campus-wide banners reinforce the pillars of our brand promise and lead the general population to the iit.edu website.

The plan is to install more banners on the 31<sup>st</sup> Street (IIT students and faculty use 31<sup>st</sup> Street many times when they go to the loop, many non-IIT people use it as well). These banners would be unique, designed by IIT students and constructed of recycled materials.

## **3. Recycling Technology**

Information has been gathered on different recycled construction materials that can be used by other groups for their projects. Preliminary research into how much

recyclable material IIT collects monthly that could possibly be used for funding was also done.

3300 S. Federal (Main Building)  
2007 total: 68280 lbs  
Average monthly: 5690 lbs

3040 S. Wabash (Keating)  
2007 total: 14542 lbs  
Average Monthly: 1212 lbs

100 W. 33<sup>rd</sup> Street (Machinery Hall)  
2007 total: 20231 lbs  
Average Monthly: 1686 lbs

#### **4. Green Technologies**

##### Major problem with flooding of sidewalks and other landscape

The slope of the surrounding area is very important in that water runoff can cause erosion of the soil and other pollution problems. In order to lessen the standing water, slopes of the sidewalk and grass need to be directed towards sewers. Paver brick could be installed, either as the entire sidewalk or just part. The paver brick would play a major part in water drainage. Normal sidewalks allow no water to drain through, but the paver brick would look very appealing since they could be many colors.

Rain gardens could be installed in several areas to help reduce standing water. Instead of slopes being directed towards sewers, they could be directed to small rain gardens installed throughout the campus. The rain gardens consist of a small trench surrounded by native plants and shrubs. As water is drained into the trench, the surrounding plants would help absorb the water. Not only would the gardens improve the drainage, but they also would help prevent erosion of soil and increase the visibility of the campus. Native plants would work best since they are best adapted to the climate and would be effective protection even in the winter. The water should not stay long in the trench since the standing water would introduce pest problems.

##### Median between State Street

The sign at 31<sup>st</sup> and State should stand out more. Maybe a new and bigger sign should be installed or improvements to the current one done by planting flowers and other shrubs to make it stand out more. The street lights on campus should also be solar powered. New lighting should be installed up and down State Street that is solar powered or wind powered or a combination of both.

##### Creation of Green Spaces

Outdoor green spaces need to be added to campus that are appealing to students as well as meeting some need of theirs. Outdoor solar powered

workstations should be installed at various campus locations.. All of the energy could come from a single location where many panels are located. The electricity could then be run from cable buried under the ground to each work station. Alternatively, the panels could also be installed at each location. The size and number of panels would depend on what is wanted to be run off the electricity. The workbenches could be created using recycled materials including the benches and seats. In order to meet student needs, a complete universal wifi system should be installed to allow students to access the internet anywhere on campus.

#### *Distinguishing borders of campus and lighting*

Paver brick, especially if it was installed along State Street, would help define the campus better. Cars driving through the campus would be able to identify that they are on IIT's campus. The paver brick could also be installed through the cross walks to further enhance the image. A sign should be installed at 35<sup>th</sup> street that indicates where IIT starts much like the one that is at 31<sup>st</sup>. A bigger and more recognizable campus map should also be installed where the old one is. This would enable visitors to find the right building faster and with less confusion, signs on the entrances of each building indicating which building it is would also be a huge boon. All entrances to buildings also need a brighter spotlight that will illuminate the entire surrounding area. This also could be powered by solar lighting and the panels could be installed on the roof.

#### *Misting Roof*

A misting roof could be installed on many building in campus. Roof misting greatly increases the efficiency of air conditioning system by using the energy from the roof to evaporate water instead of seeping into the building as heat, this greatly reduces energy consumption.

## **6. Greenstallations**

**Greenstallations** are student created exhibit installations around campus to promote Illinois Institute of Technology sustainability initiative. Promoting the green technology advancements made at IIT will increase public awareness of the campus and identify the school as a leader in sustainability. There will be a center starting point on campus that educates the public on IIT's dedication to sustainability and the different projects that promote the commitment. This is also an opportunity to advertise what IIT has done already to campus to be sustainable and promote eco-friendly solutions. Remote installations will be placed across the campus at relevant locations to the project developed. A directional map will be constructed to aid in visitor navigation across the school grounds to locate the installations; from these, a budget for each project would be determined.

### The Infrastructure of *Greenstallations*

The project will be anchored in the development of a branch of IPROs labeled as “Eco-IIT Branding” IPROs. The series of ECO-IPROs would allow the professor to select an environmental friendly project to improve the campus of IIT and promote the concept of sustainability. The project must also contain a section in which the class builds an exhibit to be placed on campus displaying the final result with a description. Volunteers will be allowed to design a project by means of a grant to ensure a final result. Possible funding for the ECO-IPROs and grants would be the money earned from recycling campus materials and marketing funds.

### *Greenstallation Kiosk*

An interactive, informational kiosk will be placed in the visitor center of the MTCC (northwest corner). The visitor will be able to click on project locations on the interactive map to learn about the exhibits and IIT’s efforts toward sustainability. Advertisements, using recycled material, will be placed in the windows and will be double sided to face State Street traffic and pedestrians in the MTCC. Another location for *Greenstallation* advertisements is along the State Street median around the heavily used crosswalk outside the west sliding glass doors. Outside of the MTCC in front of the windows of the visitor center will be the site of an outdoor information point using green landscaping.

### *Greenstallation Exhibits*

The installation of exhibits will be temporary and constructed from recycled materials. The design and actual building of exhibits will be done by the ECO-IPROs and placed in locations relevant to their project. Across every display will be one identifying logo to connect each project to the ECO-IPRO infrastructure as well as descriptions of the initiative behind ECO-IPROs and the details of the project itself.

An example of how the *Greenstallations* project will work is an ECO-IPRO designed to create green artwork made from recycled materials for aesthetic improvement of the campus. The class would work to create a final project such as a temporary sculpture advertising IIT sustainability. The sculpture would be built and placed on a highly trafficked area near E1 and State Street. Along with the installation of the sculpture, the class would design an informative sign to identify the project as a result of an ECO-IPRO and describe the details of the recycled artwork design.

## **3.0 Revised Task/Event Schedule**

ID	Task Name	Duration	Start	Finish	Predecessor	Resource Names
1						
2	Campus Master Plan	31.5 days?	Tue 1/22/08	Mon 4/21/08		
3	CTA	31.5 days?	Tue 1/22/08	Mon 4/21/08		Anne Nadler,Brian Romanelli,Jon Navarro,Rae Mindock
4	Research	#####	Tue 1/22/08	Tue 3/4/08		
5	Planning	4.5 days?	Thu 3/6/08	Tue 3/25/08,4		
6	Final Design	9.25 days?	Thu 3/27/08	Mon 4/21/08,5		
7	BILLBOARDS	31.5 days?	Tue 1/22/08	Mon 4/21/08		Migun Choi,Brian Romanelli,Jon Navarro,Rae Mindock
8	Research	#####	Tue 1/22/08	Tue 3/4/08		
9	Planning	4.5 days?	Thu 3/6/08	Tue 3/25/08,8		
10	Final Design	1 day?	Mon 4/21/08	Mon 4/21/08,9,6FF		
11	RECYCLING	31.5 days?	Tue 1/22/08	Mon 4/21/08		Steve Bird,Josh Horwath,Brian Romanelli,Jon Navarro,Rae Mindock
12	Research	#####	Tue 1/22/08	Tue 3/4/08		
13	Planning	4.5 days?	Thu 3/6/08	Tue 3/25/08,12		
14	Final Design	1 day?	Mon 4/21/08	Mon 4/21/08,13,10FF		
15	TEMPORARY EXHIBITS	31.5 days?	Tue 1/22/08	Mon 4/21/08		Brianna Elg,Brian Romanelli,Jon Navarro,Rae Mindock
16	Research	#####	Tue 1/22/08	Tue 3/4/08		
17	Planning	4.5 days?	Thu 3/6/08	Tue 3/25/08,16		
18	Final Design	1 day?	Mon 4/21/08	Mon 4/21/08,17,14FF		
19	GREENING/LIGHTING/PAVING	31.5 days?	Tue 1/22/08	Mon 4/21/08		Brian Crowley,Steve Henry,Brian Romanelli,Jon Navarro,Rae Mindock
20	Research	#####	Tue 1/22/08	Tue 3/4/08		
21	Planning	4.5 days?	Thu 3/6/08	Tue 3/25/08,20		
22	Final Design	1 day?	Mon 4/21/08	Mon 4/21/08,21,16FF		
23						
24	Model/Digital Presentation	31.5 days	Tue 1/22/08	Mon 4/21/08		
25	Digital Campus Model	31.5 days	Tue 1/22/08	Mon 4/21/08		Nick Perry,Brian Romanelli,Jon Navarro
26	Poster	0 days	Mon 4/21/08	Mon 4/21/08,25FF		Nick Perry,Brian Romanelli,Jon Navarro
27	Abstract	0 days	Mon 4/21/08	Mon 4/21/08,26FF		Nick Perry,Brian Romanelli,Jon Navarro
28						
29	Reports	14.5 days	Tue 3/4/08	Mon 4/21/08		
30	Midterm Report	3 days	Tue 3/4/08	Fri 3/14/08		
31	Powerpoint Presentation	3 days	Tue 3/4/08	Fri 3/14/08		
32	Final Report	11.5 days	Tue 3/18/08	Mon 4/21/08		
33	Powerpoint Presentation	11.5 days	Tue 3/18/08	Mon 4/21/08,31		
34						
35	Organizational	16 days	Fri 2/22/08	Fri 4/18/08		
36	Project Plan	0 days	Fri 2/22/08	Fri 2/22/08		Brian Romanelli,Jon Navarro,Rae Mindock
37	Code of Ethics	0 days	Fri 3/7/08	Fri 3/7/08		Brian Crowley,Migun Choi
38	Meeting Minutes	0 days	Fri 4/18/08	Fri 4/18/08		Steve Bird

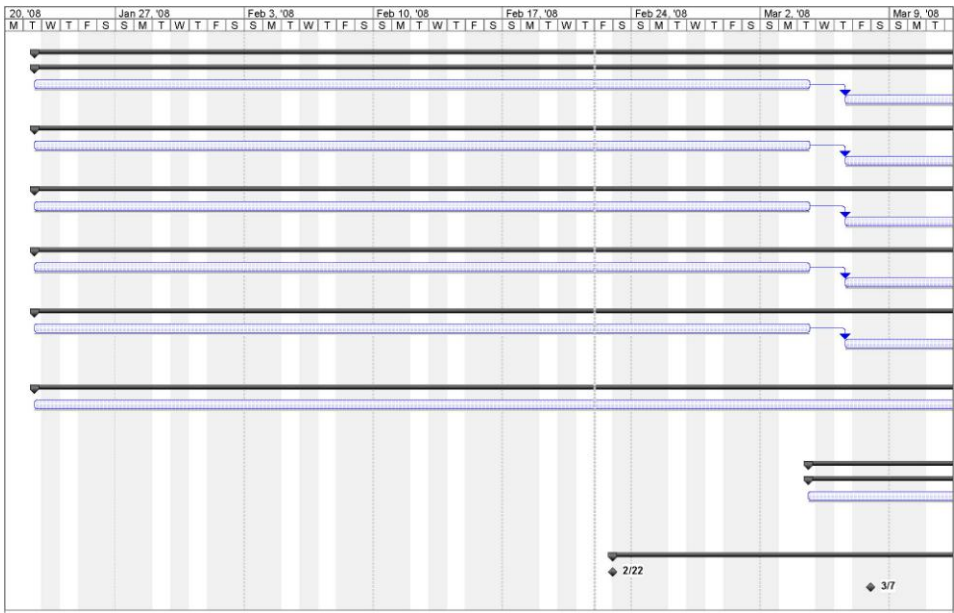
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Date: Fri 2/22/08

Task: Milestone: External Tasks:

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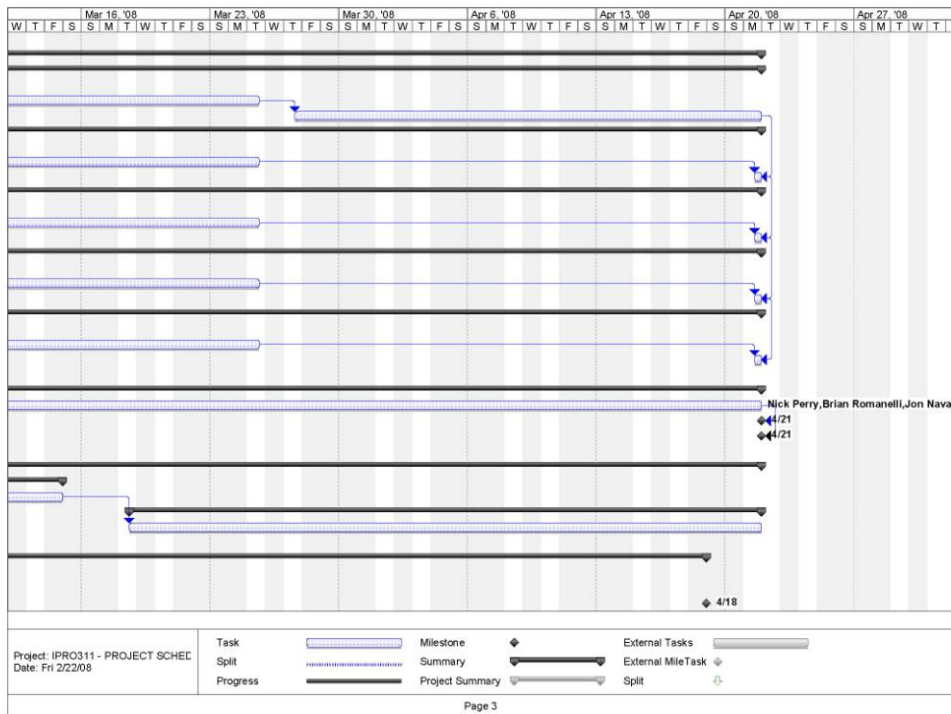
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Date: Fri 2/22/08

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#### 4.0 Changes in Task Assignments and Designation of Roles and Team Organization

The groups and task assignments for IPRO 311 have not changed. They are as follows:

1. CTA/Metra (transportation)
  1. This group will focus on enhancing the main transportation lines into and out of campus.
2. Reusable Billboards
  1. This group will research the current use of reusable billboards and develop a potential campus strategy
3. Recycling Technologies
  1. This group will identify sources of materials for recycling throughout campus as well as identify potential materials to assist each sub group.
4. Green Technologies
  1. This group will research green technologies to develop a general campus strategy to improve the sustainability of the campus.
5. Temporary Exhibit



1. This group will develop ideas for potential student temporary exhibits of a sustainable nature to be placed throughout the campus.

<b>Name</b>	<b>Role</b>	<b>Major</b>	<b>Skills</b>
Steve Bird	Minute Keeper / Leader Recycling	Political Science	Researching; Organizing
Migun Choi	Researcher / Leader Billboards	Industrial Technology and Management	Researching; Technology exploration; Microsoft Office; Photoshop
Brian Crowley	Researcher / Leader Greening	Civil Engineering	Researching; Technology exploration; AutoCAD
Brianna Elg	Researcher / Leader Temp. Exhibits	Psychology; Pre-Med	Researching; Technology exploration; Writing; Microsoft Office
Steve Henry	Researcher / Leader Paving/Lighting	Architecture	AutoCAD, Photoshop, Illustrator, Sketch-Up, Model Making, Computer Drawing
Josh Horwath	Researcher / Leader Transportation	Electrical & Computer Engineering	Researching; Technology exploration
Rae Mindock	Sustainability Consultant	Business	Sustainable technology applications
Anne Nadler	Researcher / Leader Transportation	Mechanical Engineering	Researching; Technical Solving; Organizing.
Jon Navarro	Project Manager	Architecture	AutoCAD, Photoshop, Illustrator, Sketch-Up, Model Making, Computer Drawing
Nick Perry	Model Master	Architecture	AutoCAD, Photoshop, Illustrator, Sketch-Up, Model Making, Computer Drawing
Brian Romanelli	Project Manager	Architecture	AutoCAD, Photoshop, Illustrator, Sketch-Up, Model Making, Computer Drawing

Our budget projection has also remained the same.

<b>Item</b>	<b>Unit Price</b>	<b>QTY</b>	<b>Price</b>	<b>Purpose</b>
Abstract	.50	30	15	IPRO Deliverables
Poster	20	3	60	IPRO Deliverables

General Concept Print	.5	30	15	General Process
Material Samples	50	n/a	50	Potential materials for utilization throughout the project plan.
Modeling Materials	200	n/a	200	Modeling concepts and prototypes, both small and full scale.
DVD/CD	5	15	30	3d Animation for presentation as well as handouts.
General Printing	.10	100	10	Project administration and process.
Handouts	.50	150	75	General handouts for the presentation
<b>TOTAL</b>			<b>\$455</b>	

### **5.0 Barriers and Obstacles**

I PRO 311 began just this semester, so the team had the unique task of starting it from scratch. While this gave us a lot of freedom, it also brought up a lot of challenges. The first challenge that presented itself to us was defining the scope of the I PRO and figuring out what exactly we wanted to do. The stated objective was to create a more eco-friendly branding for the IIT campus, but there are infinite possibilities for how to go about this. To solve this problem the team had a brainstorming session during which we threw out every idea that came to mind, and from this session were able to decide on a direction for the I PRO.

Another challenge we've encountered is inter-group communication. Each sub-group has its own task and though they interrelate they are inherently separate at the same time. Consequently, communication between the groups became an issue almost immediately. However, judicious use of IGroups and having meetings designed specifically to fill each other in have proven to be effective counter measures to the communication problem.

### **6.0 Midterm Presentation Slides**

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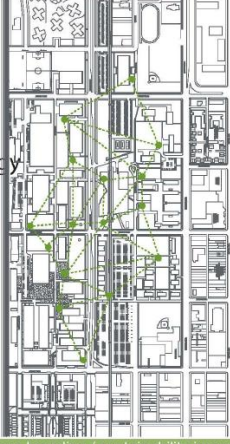
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# iit greenstallations

## introduction

- promote iit's dedication to sustainability
- increase public awareness of iit
- aesthetic appeal to campus
- student made projects
- technological advancements in green technology
- sense of community
- tradition among students

student made installations representing innovations in green technology



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# iit greenstallations

## infrastructure: exhibits

- temporary construction sites are project specific
- identifying logo to tie sites together
- volunteer groups / eco-IPROs

example project:  
solar powered outdoor work area



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## CTA/Metra (transportation)

- **what** -redevelopment of stations to enhance experience and associate IIT identity  
-creation of parking garage @ infill locations to increase green spaces at key locations throughout the campus
- **why** -stations are poor and undesirable with no association to IIT campus despite the close proximity and widespread use of students.
- **how** -use of recycled materials  
-new entrance on green line  
-sustainable energy solutions

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## Transportation Implementation




Examples of solar powered lighting already being done in Chicago



Garbage cans right when you walk off the Green Line



Lighting on the Green Line at IIT



Green Line entrance on 34<sup>th</sup> Street

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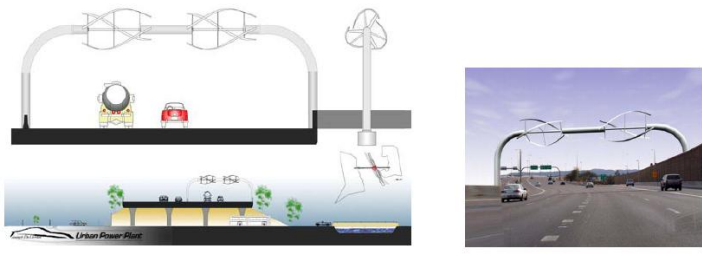
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# Horizontal Axis Wind Turbine



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# Recycled Billboards

- **what** -series of billboards/exhibits throughout the campus  
-LaSalle street, existing locations etc...
- **why** -help IIT advertise and show a focus on green technology  
-assist with the image of IIT
- **how** -use of recycled materials  
-determine locations  
-determine source of materials/reusable billboards  
-potential collaboration with art club at iit

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# Billboard Implementation



IIT signage/campus maps



IIT advertisement on street benches



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# Green Technologies



- **what** -planting/installing of solar powered lights throughout campus  
-creating more appealing green spaces
- **why** -help with energy consumption and make campus more appealing
- **how** -permeable pavers, solar powered lights, storm retention fences, State Street median, solar powered outdoor work stations.

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# Greening Implementation



Permeable paving used for parking lots and sidewalks to help with storm retention



Solar powered light poles to help with energy consumption of the campus

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# Greening Implementation



Misting roofs to help cool the buildings



Existing median conditions where greening will be focused

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# Recycling Technologies

- **what** -using recycled materials in the creation of the exhibits
- **why** -make IIT known for being a solid partner in recycling and the advancement in the technology of it
- **how** -contacting experts in the recycling industry to give us insightful information and knowledge  
-working with city workers

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