

Moscow Intermodal Transit Center

Apocalypse or Regeneration
By
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Site Description

- Architects: Design West
- Transit center for Moscow's public transit and other buses
- Built next to the Sweet Avenue blue parking lot
- Not existing building on site just sod patch
- Newest building on Campus



Air, Water, & Food



Pollutes Air – Cleans Air

Buses run M-F throughout the entire year arriving at this station nearly every half hour. Buses remain running while parked at this station which produces a lot of pollution in the local area. Since the main function of the building is to be a transit center, mainly for the Moscow bus system we found that this building would be very difficult to give a positive score. The building also has a furnace system which pollutes air. There are however a few plants that clean the air.

Score = -75



Pollutes Water – Cleans Water

All water runs into the Sewer or flower beds. There is no retention pond, no green roof or living machine system.

Score = -100

Wastes Rainwater – Stores Rainwater

All rainwater runs into flower beds, patches of grass or the storm water drain. There is no harvesting or reuse of rainwater on the site.

Score = -100

Consumes Food – Produces Food

The site produces no food at all. All food consumed on site is either brought from home or bought at these expensive machines.

Score = -100



Soil, Waste, Habitat, & Energy



Destroys Rich Soil – Create Rich Soil

There are a few flower beds on site, but majority of them are covered in bark with very little vegetation. These few plants do not help keep the soil nutrient rich. The flower beds need mulch and other natural fertilizers mixed into them. They also need much more vegetation to create a better environment for worms and bugs.

Score = -50

Dumps Wastes – Consumes Wastes

All waste is dumped. Water is not recycled, pollutants are thrown out or enter the atmosphere, and all garbage is thrown in the dumpster. The only small exception is a recycling bin on site that is meant for cardboard.

Score = -75



Destroys Habitat – Provides Habitat

There is no area on the site that provides habitat. There are no trees, bird houses, or various other areas for wild creatures to feel welcome. However since the site was a grass field before being developed it didn't destroy habitat either.

Score = 0

Imports Energy – Exports Energy

The site imports all of its energy and creates no energy.

Score = -100



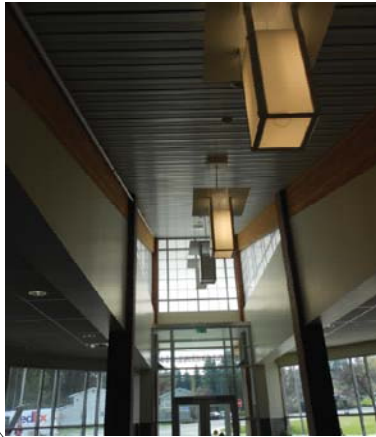
Transportation, Weather, & Daylight



Fuel-Powered Transportation – Human Powered Transportation

The building and site is easily accessible by all forms of transportation, yet being a transit center mainly for the bus routes it seems a little ironic that there are bike racks along side the building. The site experiences two different types of people. One group of individuals come to the site to ride the bus to their next destination. The other group comes into the office to buy parking passes for an area on campus close to their classes. It has been a rare experience to see a person park their bike at these racks due to the main dedication of this building. Thus, due to the main purpose of this building we rate it with a negative score.

Score = -100



Intensifies Local Weather – Moderates Local Weather

The building and site has a fair bit of paving around it, however not being asphalt it does not cause as much heat. The building has some paint, but for the most part is all pretty light in color thus reducing the heat gain. The single main issue is the pitched roof with green standing seam metal. The color of the roof tends to absorb quite a bit of heat thus increasing the microclimate effect.

Score = -50

Electric – Natural Lighting

The building actually has some decent natural daylighting taking place. The only issue is that there is not quite enough of it. The image gives a good example of how far the light from outside reaches.

Score = 50



Heating, Cooling, Repair, & Comfort

Uses Mechanical Heating – Uses Passive Heating

The heating system is entirely forced air with a boiler room. There are no other systems in the building that allow for heating to take place.

Score = -100

Uses Mechanical Cooling – Uses Passive Cooling

The cooling system is entirely forced air with an air conditioning unit. There are no other systems in the building that allow for cooling to take place. There are also no windows in the building that can open manually or electronically. Employees complain about the inconvenience of not being able to have natural air from outside enter their building at their pleasure.

Score = -100

Needs Cleaning and Repair – Maintains Itself

The building is entirely exposed to the elements. The building also has many mechanical elements to try and keep the occupants comfortable. There are no systems implemented in the building which helps to clean itself.

Score = -100

Human Discomfort – Human Comfort

There is no contact with the outdoors through air circulation since all air enters through HVAC systems. The desks and offices are all towards the back of the building where the least daylight is. Windows can sometimes produce high amounts of glare.

Score = -50



Circulation, Air, Materials, & Recycle



Fuel-Powered – Human Powered

There really are no forms of fuel powered circulation in the space. The only transportation form through this building and site is by foot.

Score = 0

Pollutes Indoor Air – Creates Pure Air

Again, there are a few plants that produce clean air, but majority of the system is HVAC and thus need filters changed to keep the air relatively clean.

Score = -75



Virgin Materials – Recycled Materials

There seems to be no sign of recycled materials anywhere on this building. The entire material pallet seems to be new. It is possible that the steel on the building was recycled, but its not for certain.

Score = -100

Cannot be Recycled – Can Recycle

A lot of materials on the building can easily be recycled. The steel, wood and glass are just a few of the materials that can easily be recycled for another project. Brick and aluminum are two other materials that can easily be reused on another project.

Score = 75



Icon, Neighborly, & Beauty



Apocalypse – Regeneration Icon

The building is a better example which is working towards regeneration compared to a lot of other buildings on campus, but it has a lot of work to improve on. The main thing it does well is use natural daylight.

Score = 0

Bad Neighbor – Good Neighbor

The main purpose of this building is to function as a transit center for the bus route. The buses cause a lot of air and noise pollution, so having this building as a neighbor would not be the most satisfying. Fortunately, no one really lives next door to the transit center.

Score = -25

Is Ugly – Is Beautiful

The building is not the most ugly of buildings, but it is also not very beautiful. The building is just kind of there on the corner. It is a rather sad experience to enter the main atrium and see a visual path leading your eyes towards the bathroom. Perhaps that is the best part of the building.

Score = 0



Regeneration-Based Checklist for Design and Construction

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Project: **MITC**

	degeneration			sustainability			regeneration												
	-100 always	-75 usually	-50 sometimes	-25 a bit	0 balances	25 a bit	50 sometimes	75 usually	100 always										
the site	pollutes air									cleans air									
	pollutes water									cleans water									
	wastes rainwater									stores rainwater									
	consumes food									produces food									
	destroys rich soil									creates rich soil									
	dumps wastes unused									consumes wastes									
	destroys wildlife habitat									provides wildlife habitat									
	imports energy									exports energy									
	requires fuel-powered transportation									requires human-powered transportation									
	intensifies local weather									moderates local weather									
the building	excludes daylight									uses daylight									
	uses mechanical heating									uses passive heating									
	uses mechanical cooling									uses passive cooling									
	needs cleaning and repair									maintains itself									
	produces human discomfort									provides human comfort									
	uses fuel-powered circulation									uses human-powered circulation									
	pollutes indoor air									creates pure indoor air									
	is built of virgin materials									is built of recycled materials									
	cannot be recycled									can be recycled									
	serves as an icon for the apocalypse									serves as an icon for regeneration									
is a bad neighbor									is a good neighbor										
is ugly									is beautiful										

negative score: 2200 possible
-1300

positive score: 2200 possible
125

final score:
-1175

L.E.E.D.

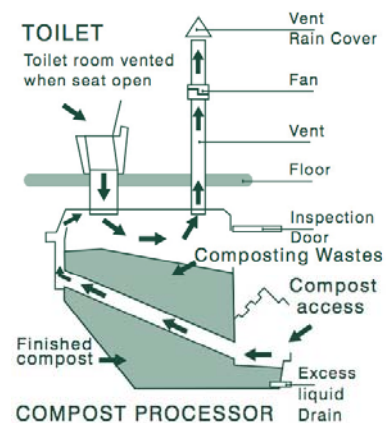
LEED 2009 for New Construction and Major Renovations		Project Checklist		Project Name	
				Date	
10	16 Sustainable Sites	Possible Points: 26		Materials and Resources, Continued	
1	Credit 1 Construction Activity Pollution Prevention	1		2	Credit 4 Recycled Content 1 to 2
5	Credit 2 Site Selection	5		2	Credit 5 Regional Materials 1 to 2
1	Credit 3 Development Density and Community Connectivity	5		1	Credit 6 Rapidly Renewable Materials 1
6	Credit 4.1 Brownfield Redevelopment	1		1	Credit 7 Certified Wood 1
1	Credit 4.2 Alternative Transportation—Public Transportation Access	6		3	12 Indoor Environmental Quality
1	Credit 4.3 Alternative Transportation—Bicycle Storage and Changing Rooms	1		Possible Points: 15	
3	Credit 4.4 Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3		1	Credit 1 Minimum Indoor Air Quality Performance
2	Credit 4.5 Alternative Transportation—Parking Capacity	2		1	Credit 2 Environmental Tobacco Smoke (ETS) Control
1	Credit 5.1 Site Development—Protect or Restore Habitat	1		1	Credit 3.1 Outdoor Air Delivery Monitoring 1
1	Credit 5.2 Site Development—Maximize Open Space	1		1	Credit 3.2 Increased Ventilation 1
1	Credit 5.3 Stormwater Design—Quantity Control	1		1	Credit 3.3 Construction IAQ Management Plan—During Construction 1
1	Credit 5.4 Stormwater Design—Quality Control	1		1	Credit 3.4 Construction IAQ Management Plan—Before Occupancy 1
1	Credit 7.1 Heat Island Effect—Non-roof	1		1	Credit 4.1 Low-Emitting Materials—Adhesives and Sealants 1
1	Credit 7.2 Heat Island Effect—Roof	1		1	Credit 4.2 Low-Emitting Materials—Paints and Coatings 1
1	Credit 8 Light Pollution Reduction	1		1	Credit 4.3 Low-Emitting Materials—Flooring Systems 1
2	6 Water Efficiency	Possible Points: 10		1	Credit 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products 1
1	Credit 1 Water Use Reduction—20% Reduction	2 to 4		1	Credit 5 Indoor Chemical and Pollutant Source Control 1
2	Credit 2 Water Efficient Landscaping	2 to 4		1	Credit 6.1 Controllability of Systems—Lighting 1
4	Credit 3 Innovative Wastewater Technologies	2		1	Credit 6.2 Controllability of Systems—Thermal Comfort 1
2	Credit 4 Water Use Reduction	2 to 4		1	Credit 7.1 Thermal Comfort—Design 1
22	Energy and Atmosphere	Possible Points: 35		1	Credit 7.2 Thermal Comfort—Verification 1
1	Credit 1 Fundamental Commissioning of Building Energy Systems	1		1	Credit 8.1 Daylight and Views—Daylight 1
1	Credit 2 Minimum Energy Performance	1		1	Credit 8.2 Daylight and Views—Views 1
10	Credit 3 Fundamental Refrigerant Management	1 to 19		1	5 Innovation and Design Process
3	Credit 4 Optimize Energy Performance	1 to 7		Possible Points: 6	
2	Credit 5 Enhanced Commissioning	2		1	Credit 1.1 Innovation in Design: Specific Title 1
2	Credit 6 Enhanced Refrigerant Management	2		1	Credit 1.2 Innovation in Design: Specific Title 1
3	Credit 7 Measurement and Verification	3		1	Credit 1.3 Innovation in Design: Specific Title 1
2	Credit 8 Green Power	2		1	Credit 1.4 Innovation in Design: Specific Title 1
4	10 Materials and Resources	Possible Points: 14		1	Credit 2 LEED Accredited Professional 1
3	Credit 1 Storage and Collection of Recyclables	1 to 3		4	Regional Priority Credits
1	Credit 1.1 Building Reuse—Maintain Existing Walls, Floors, and Roof	1		Possible Points: 4	
1	Credit 1.2 Building Reuse—Maintain 50% of Interior Non-Structural Elements	1		1	Credit 1.1 Regional Priority: Specific Credit 1
2	Credit 2 Construction Waste Management	1 to 2		1	Credit 1.2 Regional Priority: Specific Credit 1
2	Credit 3 Materials Reuse	1 to 2		1	Credit 1.3 Regional Priority: Specific Credit 1
				1	Credit 1.4 Regional Priority: Specific Credit 1
19	175 Total	Possible Points: 110		Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110	

Score 19 – 1 – 75

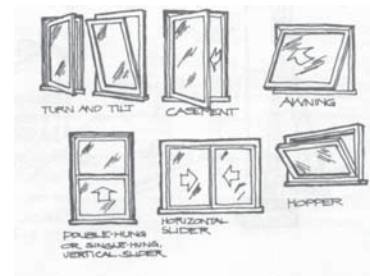
Redesign Features

- Site Improvements
 - Cistern
 - Fruit Bearing Plant Life
 - Additional trees and shrubbery for wildlife
 - Recycling Bins
- Building Improvements
 - Compost Toilet
 - Interior Plant Life
 - PV's and Solar Water Heaters
 - Additional Shading Devices on West and East
 - Operable Windows and Cross Ventilation
 - Geothermal Pump
 - Recycled Steel and New Roof Color
 - More Lighting Controls

Redesign Features

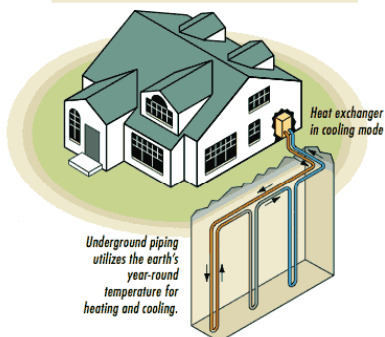


Redesign Features



Redesign Features

Geothermal Heat Pump



Regeneration-Based Checklist for Design and Construction

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										pollutes indoor air									creates pure indoor air	
										is built of virgin materials									is built of recycled materials	
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										serves as an icon for the apocalypse									serves as an icon for regeneration	
									is a bad neighbor									is a good neighbor		
									is ugly									is beautiful		

negative score: 2200 possible **-300**

positive score: 2200 possible **1025**

final score: **725**

Redesign L.E.E.D.

LEED 2009 for New Construction and Major Renovations		Project Checklist		Project Name	
				Date	
17	9	Sustainable Sites	Possible Points: 26	8	7
Y	1	Prereq 1 Construction Activity Pollution Prevention	1	Y	2
Y	5	Cwst 2 Development Density and Community Connectivity	5	Y	2
Y	1	Cwst 3 Brownfield Redevelopment	1	Y	1
6	4	Cwst 4.1 Alternative Transportation—Public Transportation Access	6	Y	1
1	3	Cwst 4.2 Alternative Transportation—Bicycle Storage and Changing Rooms	1	Y	1
2	4	Cwst 4.3 Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	2	Y	1
1	1	Cwst 4.4 Alternative Transportation—Parking Capacity	1	Y	1
1	1	Cwst 5.1 Site Development—Protect or Restore Habitat	1	Y	1
1	1	Cwst 5.2 Site Development—Maximize Open Space	1	Y	1
1	1	Cwst 6.1 Stormwater Design—Quantity Control	1	Y	1
1	1	Cwst 6.2 Stormwater Design—Quality Control	1	Y	1
1	1	Cwst 7.1 Heat Island Effect—Non-roof	1	Y	1
1	1	Cwst 7.2 Heat Island Effect—Roof	1	Y	1
1	1	Cwst 8 Light Pollution Reduction	1	Y	1
8	10	Water Efficiency	Possible Points: 10	1	1
Y	1	Prereq 1 Water Use Reduction—20% Reduction	1	Y	1
2	2	Cwst 1 Water Efficient Landscaping	2 to 4	Y	1
2	2	Cwst 2 Innovative Wastewater Technologies	2	Y	1
4	3	Cwst 3 Water Use Reduction	2 to 4	Y	1
20	3	Energy and Atmosphere	Possible Points: 35	1	1
Y	1	Prereq 1 Fundamental Commissioning of Building Energy Systems	1	Y	1
Y	1	Prereq 2 Minimum Energy Performance	1	Y	1
Y	1	Prereq 3 Fundamental Refrigerant Management	1	Y	1
10	3	Cwst 1 Optimize Energy Performance	1 to 19	Y	1
3	2	Cwst 2 On-Site Renewable Energy	1 to 7	Y	1
2	2	Cwst 3 Enhanced Commissioning	2	Y	1
2	2	Cwst 4 Enhanced Refrigerant Management	2	Y	1
3	3	Cwst 5 Measurement and Verification	3	Y	1
3	2	Cwst 6 Green Power	2	Y	1
5	9	Materials and Resources	Possible Points: 14	1	2
Y	1	Prereq 1 Storage and Collection of Recyclables	1	Y	1
3	1.1	Cwst 1.1 Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3	Y	1
1	1.2	Cwst 1.2 Building Reuse—Maintain 50% of Interior Non-Structural Elements	1 to 2	Y	1
2	2	Cwst 2 Construction Waste Management	1 to 2	Y	1
2	3	Cwst 3 Materials Reuse	1 to 2	Y	1
6	7	Indoor Environmental Quality	Possible Points: 15	1	2
Y	1	Prereq 1 Minimum Indoor Air Quality Performance	1	Y	1
Y	1	Prereq 2 Environmental Tobacco Smoke (ETS) Control	1	Y	1
1	1	Cwst 1 Outdoor Air Delivery Monitoring	1	Y	1
1	1	Cwst 2 Increased Ventilation	1	Y	1
1	1	Cwst 3.1 Construction IAQ Management Plan—During Construction	1	Y	1
1	1	Cwst 3.2 Construction IAQ Management Plan—Before Occupancy	1	Y	1
1	1	Cwst 4.1 Low-Emitting Materials—Adhesives and Sealants	1	Y	1
1	1	Cwst 4.2 Low-Emitting Materials—Paints and Coatings	1	Y	1
1	1	Cwst 4.3 Low-Emitting Materials—Flooring Systems	1	Y	1
1	1	Cwst 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products	1	Y	1
1	1	Cwst 5 Indoor Chemical and Pollutant Source Control	1	Y	1
1	1	Cwst 6.1 Controllability of Systems—Lighting	1	Y	1
1	1	Cwst 6.2 Controllability of Systems—Thermal Comfort	1	Y	1
1	1	Cwst 7.1 Thermal Comfort—Design	1	Y	1
1	1	Cwst 7.2 Thermal Comfort—Verification	1	Y	1
1	1	Cwst 8.1 Daylight and Views—Daylight	1	Y	1
1	1	Cwst 8.2 Daylight and Views—Views	1	Y	1
6	6	Innovation and Design Process	Possible Points: 6	1	1
1	1	Cwst 1.1 Innovation in Design: Specific Title	1	1	1
1	1	Cwst 1.2 Innovation in Design: Specific Title	1	1	1
1	1	Cwst 1.3 Innovation in Design: Specific Title	1	1	1
2	1	Cwst 1.4 Innovation in Design: Specific Title	1	1	1
2	1	Cwst 1.5 Innovation in Design: Specific Title	1	1	1
1	2	Cwst 2 LEED Accredited Professional	1	1	1
2	2	Regional Priority Credits	Possible Points: 4	1	1
1	1	Cwst 1.1 Regional Priority: Specific Credit	1	1	1
1	1	Cwst 1.2 Regional Priority: Specific Credit	1	1	1
1	1	Cwst 1.3 Regional Priority: Specific Credit	1	1	1
1	1	Cwst 1.4 Regional Priority: Specific Credit	1	1	1
60	6	30	Total	60	30
Continued 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110					

Score 60 – 6 – 30

Conclusion

- A single green feature could be address many issues which will create a greener building and site