

Project Overview

Industrial Placement

Name: Brian Emmerich

Major: Civil Engineering

School: University of Nebraska – Lincoln



Company Background

The DLR Group is a full service architecture and engineering firm founded in 1966 that provides a diverse mixture of ability, culture, experiences and professional achievement to design and the creative approach. Each project begins by listening to the client to understand their goals, vision and objectives. Each design balances fiscal, functional and social responsibilities for innovation and excellence in environmental stewardship.

Project Description

The primary focus of this project was to evaluate and recommend areas where pollution could be prevented in the West Haymarket Civic Arena. In light of the fact that the arena is still in the design stage, the areas of potential prevention suggested are compared to the standard practices of the day. The main areas of focus were the VIP parking facility's electric consumption and the logistics of a recycling program for the arena.

Pollution Prevention Benefits

The table below presents the recommendations compiled during the summer placement at DLR Group. Each specific recommendation is listed with the corresponding benefit of pollution prevention, initial cost and potential annual savings. In addition to the benefits listed below, around **1,015 MT of CO₂e** can be prevented.

Recommendation	Pollution Prevention Benefit	Initial Cost (\$)	Potential Annual Savings (\$)
Install LED Fixtures Throughout Parking garage	Reduce electricity use by 80,000 kWh/year	\$18,000	\$11,400
Install Occupancy Sensors Throughout Parking Garage	Reduce electricity use by 14,000 kWh/year	\$5,000	\$1,000
Install Photosensors Throughout Garage	Reduce electricity use by 7,000 kWh/year	\$4,000	\$450
Install 20kW Solar Array Atop of Parking Garage	Reduce grid electricity consumption by 27,400kWh/year	\$84,000	\$2,300-\$7,300
Implement Recycling Program including containers and compactor	Potentially divert 260 tons/year from landfill	\$19,725	\$15,600
Implement Composting Program for organic wastes	Potentially divert 280 tons/year from landfill	\$19,725	\$16,800