

### The Harker School Nichols Hall LEED-NC Gold



## Too Cool for School

A design-build, ground-up, 50,000 s.f. concrete and steel science and technology building including classrooms and a 200seat auditorium. A student-led project to educate people on the buildings sustainable features helped secure the additional points to achieve LEED-NC Gold.

#### Designer: DES Architects + Engineers



### Energy

Direct/indirect evaporative cooling system (6 air changes/hour using 25% less energy)

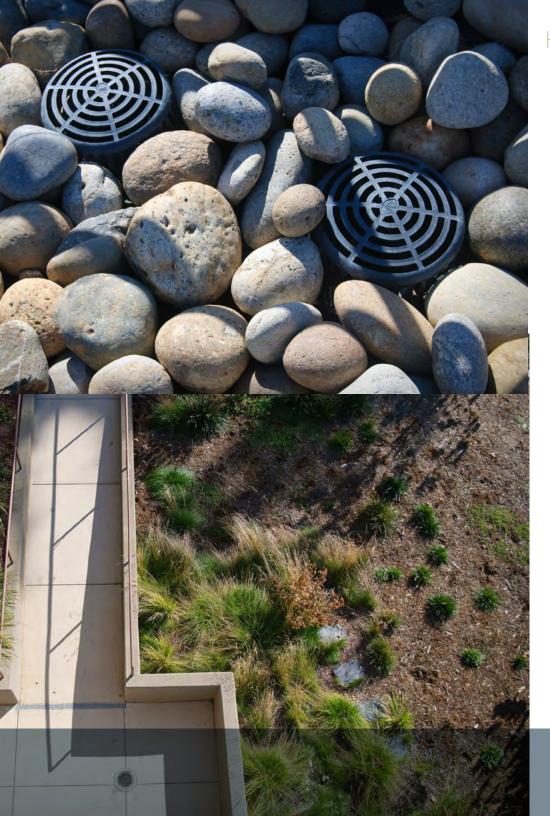
Highly efficient glazing on windows reduces solar heat transfer

Radiant heating in the concrete and stone floors

#### How efficient is the mechanical system?

The addition of Nichols Hall increased Harker's building square footage by 50%.

Harker experienced an increase in utility costs of just 16-18%.



### Water

Bioswales to filter/reduce runoff water

Low-flow water fixtures - 44.6% reduction in water usage from baseline



# Going the Extra Green Mile

Kalwall curvilinear roof system over forum provides daylighting and insulation

Construction waste diversion of almost 95%

Living roof covering the 200-seat auditorium aids in cooling the space

Solar panel installation produces up to 1/3 of the buildings energy needs



## Materials

Low VOC/No-VOC emitting materials

Adherence to material ventilation and offgassing requirements

The building contains 27% recycled content, including the structural steel





# Learn by Doing

Students at the Harker School helped the project achieve LEED Gold by creating an educational display. XL's MEP Coordinator Greg Creighton worked with the kids to help them understand the benefits of the advanced mechanical system.

# Scorecard

### Harker School Nichols Hall LEED NC-Gold

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2	e	Water Efficiency			Possible Points:	5
	WE	Credit 1.1-1.2	🥐 Water Efficient Landscaping	Not Attempted		2
	WE	Credit 2	🥐 Innovative Wastewater Technologies	Not Attempted		1
2	WE	Credit 3.1-3.2	🕘 Water Use Reduction 🔶	MEP Coordinator	Earned	2
8	0	Energy & Atmos	phere		Possible Points:	17
es	EA	Prerequisite 1	Eundamental Commissioning of the Building Energy Systems	MEP Coordinator	Earned	0
es	EA	Prerequisite 2	Minimum Energy Performance	Mechanical Contractor	Earned	0
es	EA	Prerequisite 3	🥐 Fundamental Refrigerant Management 🔶 🛧	MEP Coordinator	Earned	0
6	EA	Credit 1	Uptimize Energy Performance	Mechanical Contractor	Earned	10
1	EA	Credit 2	🥐 On-Site Renewable Energy 🔶	MEP Coordinator	Earned	3
	EA	Credit 3	Enhanced Commissioning	Not Attempted		1
1	EA	Credit 4	Enhanced Refrigerant Management	Mechanical Contractor	Earned	1
	EA	Credit 5	Measurement & Verification	Not Attempted		1
	EA	Credit 6	0 Green Power	Not Attempted		1
4	0	Materials & Resc	urces		Possible Points:	13
es	MR	Prerequisite 1	Storage & Collection of Recyclables	Project Engineer #1	Earned	0
	MR	Credit 1.1-1.2	0 Building Reuse	Not Attempted		2
	mr	Credit 1.3	🏮 Building Reuse, Non-Structural	Not Attempted		1
2	MR	Credit 2	Construction Waste Management	Project Engineer #1	Earned	2
	MR	Credit 3	Resource Reuse	Not Attempted		2
2	MR	Credit 4	<u>Recycled Content</u>	Project Engineer #1	Earned	2
	MR	Credit 5	0 Regional Materials	Not Attempted		2
	mr	Credit 6	🔋 Rapidly Renewable Materials	Not Attempted		1
	MR	Credit 7	0 Certified Wood	Not Attempted		1
.1	0	Indoor Environm	ental Quality		Possible Points:	15
es	EQ	Prerequisite 1	Minimum IAQ Performance	Mechanical Contractor	Earned	0
es	EQ	Prerequisite 2	Finitionmental Tobacco Smoke (ETS) Control	MEP Coordinator	Earned	0
1	EQ	Credit 1	Uutdoor Air Delivery Monitoring	Mechanical Contractor	Earned	1
1	EQ	Credit 2	Increased Ventilation	Mechanical Contractor	Earned	1
1	EQ	Credit 3.1	Construction IAQ Management Plan: During Construction	Project Engineer #1	Earned	1
1	EQ	Credit 3.2	0 Construction IAQ Management Plan: Before Occupancy	MEP Coordinator	Earned	1
1	EQ	Credit 4.1	U Low-Emitting Materials: Adhesives & Sealants	Project Engineer #1	Earned	1
1	EQ	Credit 4.2	U Low-Emitting Materials: Paints & Coatings	Project Engineer #1	Earned	1
1	EQ	Credit 4.3	U Low-Emitting Materials: Carpet Systems	Project Engineer #1	Earned	1
	EQ	Credit 4.4	🏮 Low-Emitting Materials: Composite Wood & Agrifiber	Not Attempted		1
	EQ	Credit 5	🥐 Indoor Chemical & Pollutant Source Control	Not Attempted		1
1	EQ	Credit 6.1	Controllability of Systems: Lighting	Electrical Engineer	Earned	1
1	EQ	Credit 6.2	Controllability of Systems: Thermal Comfort	Mechanical Contractor	Earned	1
1	EQ	Credit 7.1	🕐 Thermal Comfort: Design	Mechanical Contractor	Earned	1
1	EQ	Credit 7.2	Ihermal Comfort: Verification	Project Engineer #1	Earned	1
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