

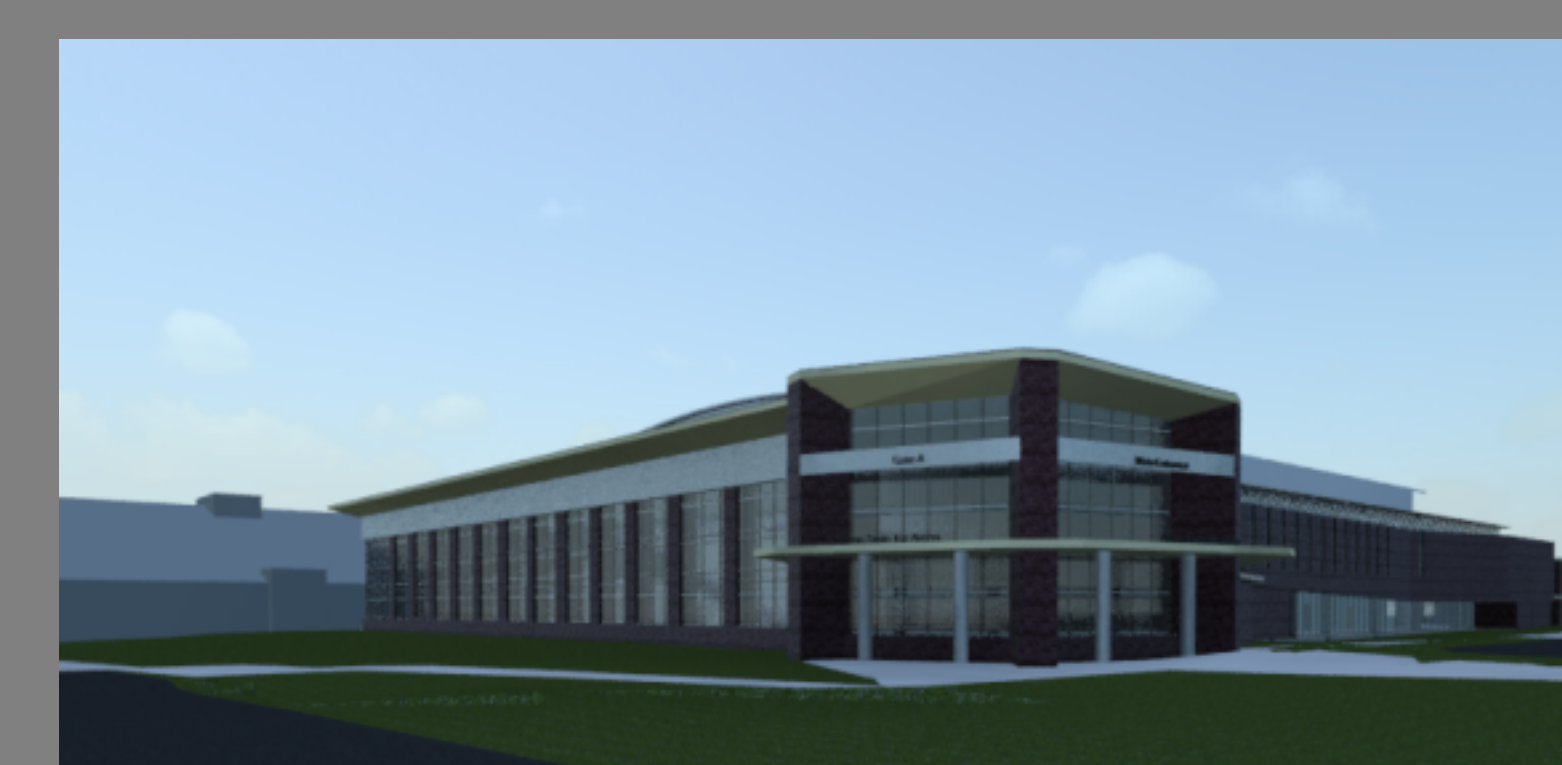


Current Design

Budget
\$73,000,000

Building Size
Event Level, Main Concourse, & Club Level
220,000 Sq-ft

Delivery Type
Design-Bid-Build with CM at Risk



Redesign

Objective: To deliver a high quality product to the owner while maintaining the architect's design intent.

Strategy: First, find savings, then reallocate savings to enhance the arena's design.

\$ 2%

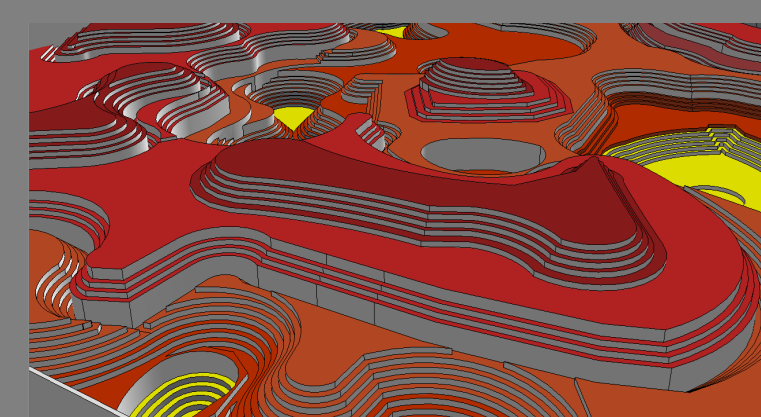
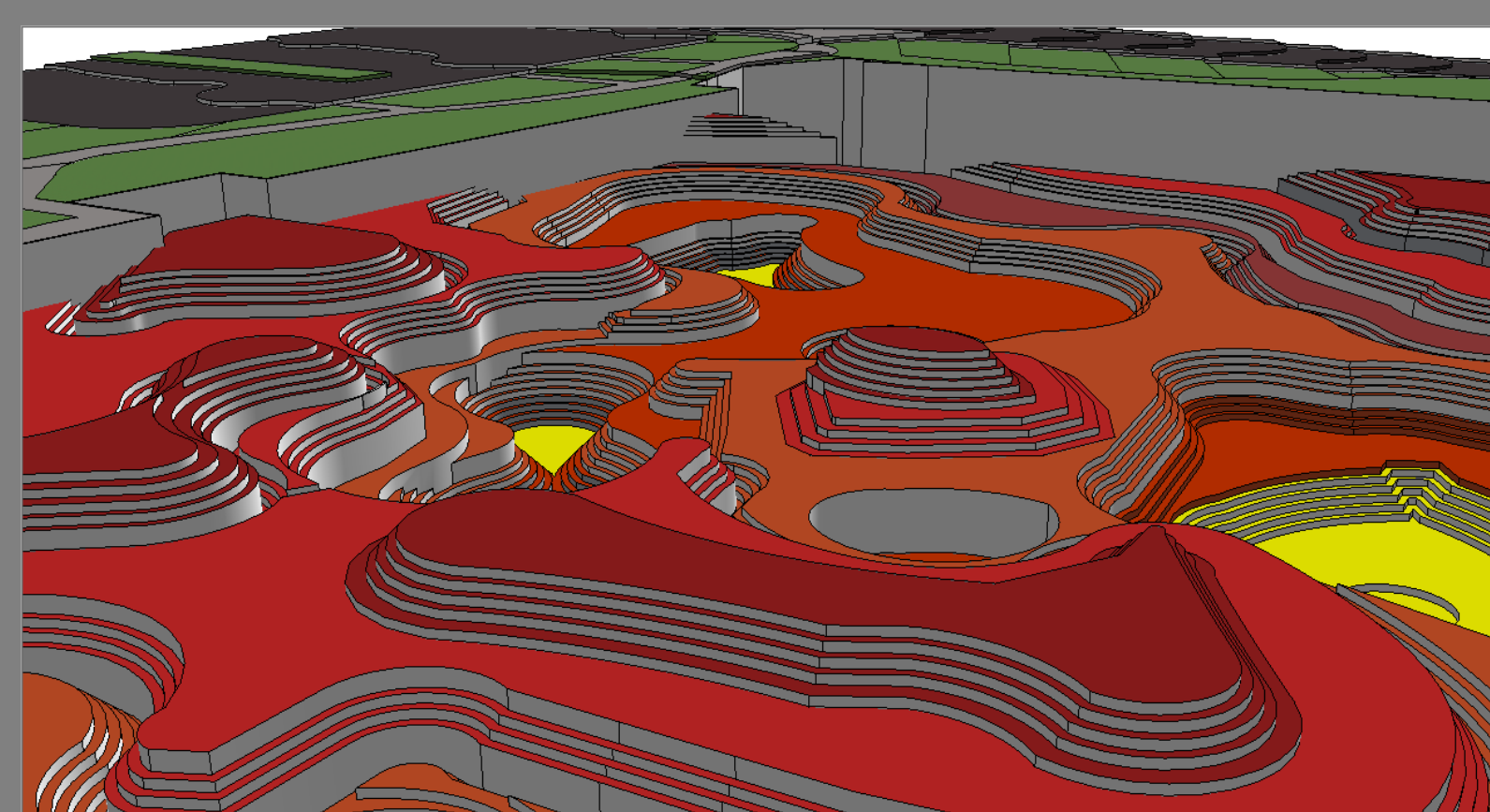
Savings Package

Prominence Package

Function Package

Baseline:

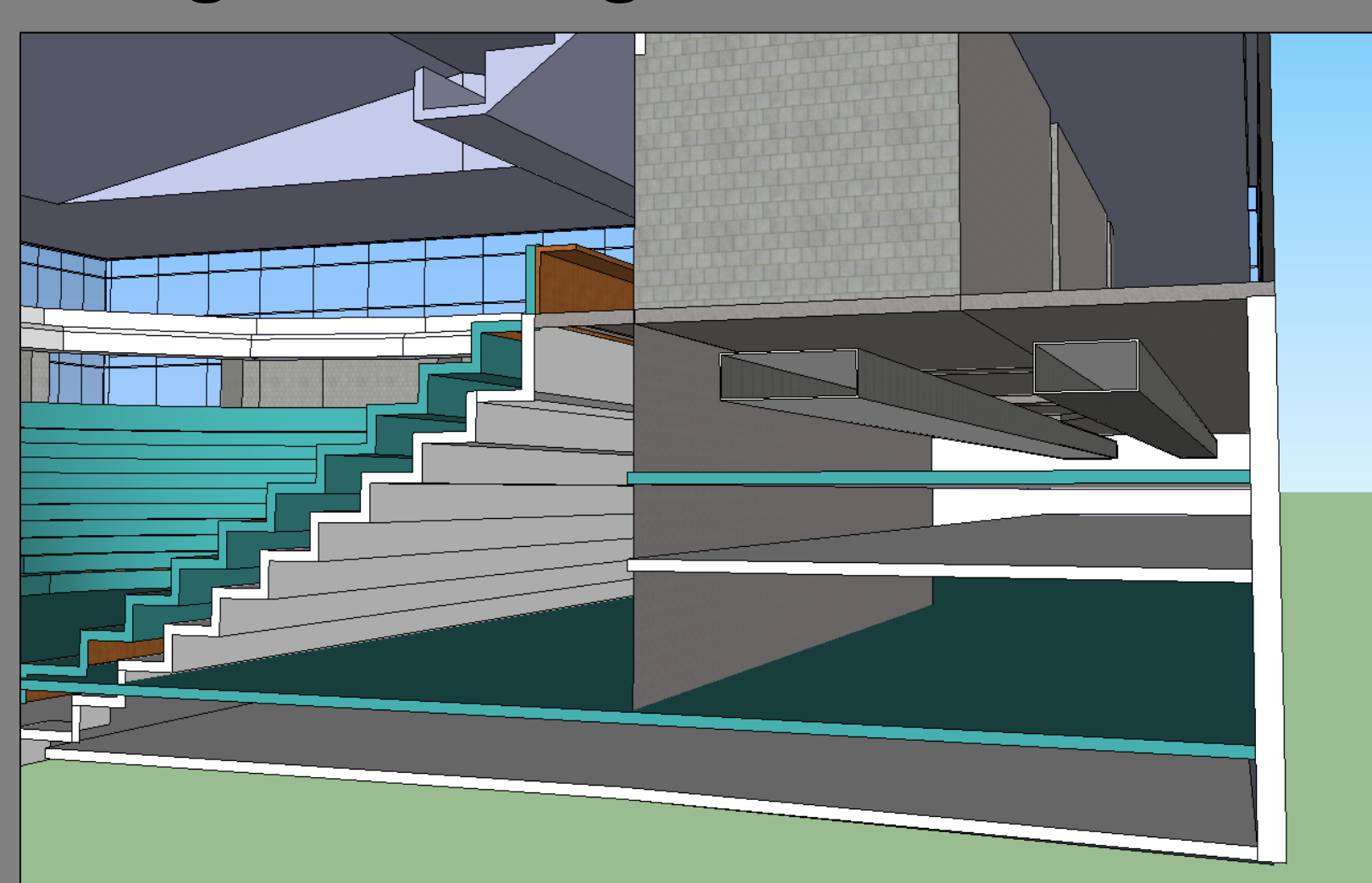
\$2.5 million 25 Work Days



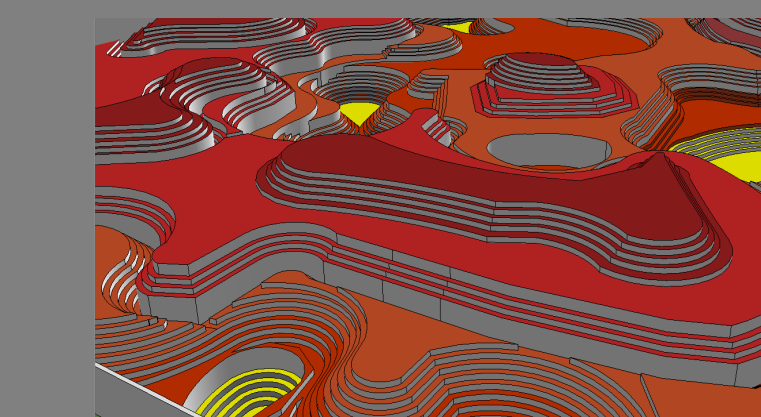
\$582,041 \$532,757

73,207 CY 25,401 CY

Redesign: Raising of Event Level 3'-2"



White - Current Design
Blue - Proposed Redesign



\$533,569 8.3% \$268,300 49.6%

67,061 CY 8.4% 13,275 CY 47.7%

Excavation: **Save 7 Days**

Foundations: **Save 8 Days**

Total Savings: **\$330,406***

*Additional Best Design Practice Designs Made

Baseline Truss Complete: 29 Nov 2012

Preliminary Truss Design

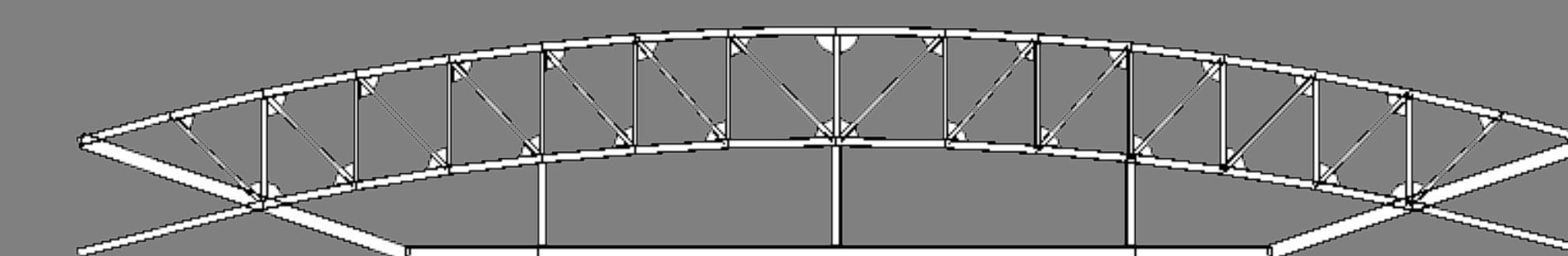


428 Tons

\$21.98 / SF



Redesign:



538 Tons

34.5%

\$26.41 / SF

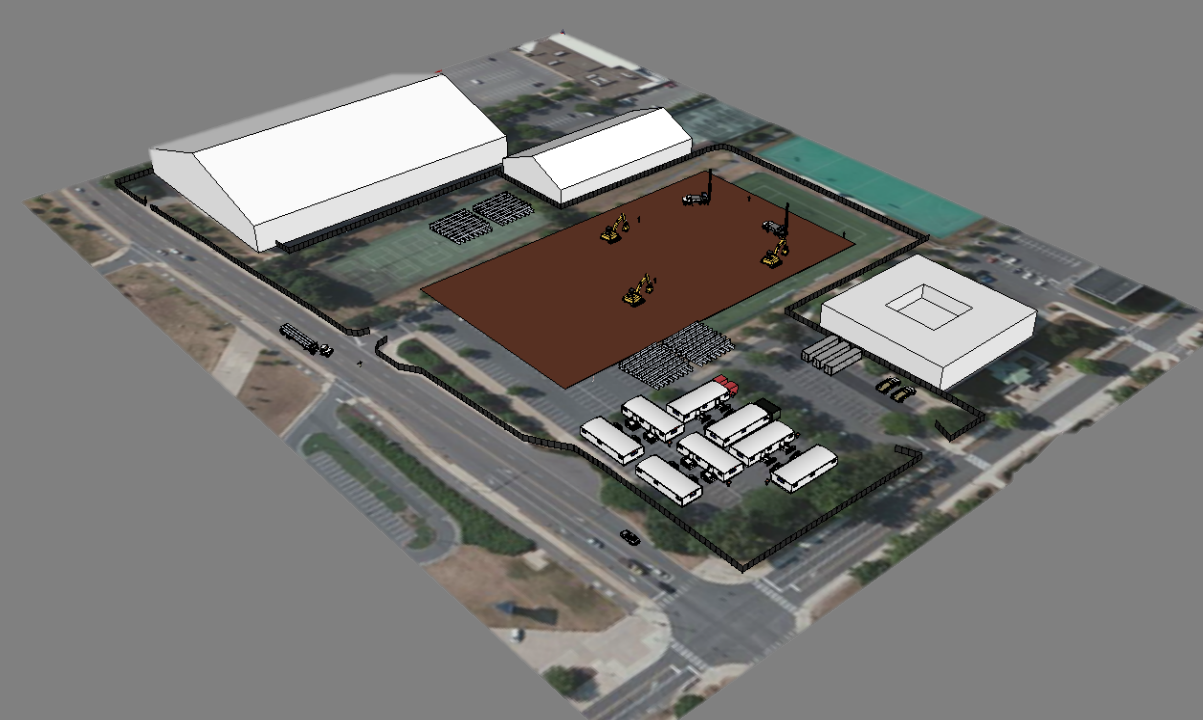


Delivery & Sequence:

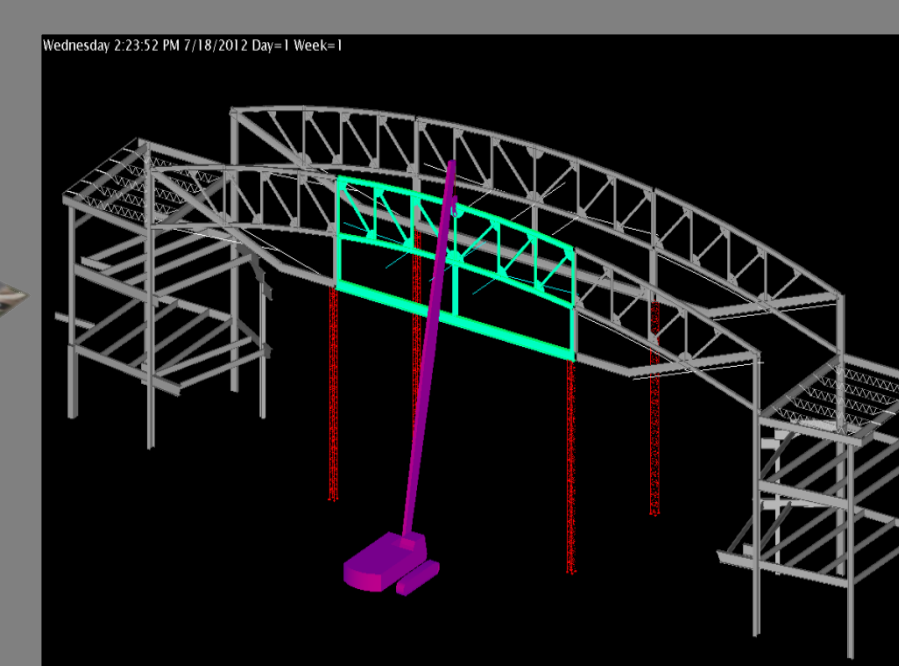
- 3 prefabbed sections truck delivered with bottom chords welded on-site
- 3 day truss erection sequence
- East steel erected first, followed by north and south sides erected simultaneously
- Trusses then erected with one crane
- Remaining steel erected simultaneously

Truss Installation Method:

- 150-ton & 40-ton hydraulic crane with shoring



Site Logistics



4D Modeling

Redesign Truss Complete: **24 Oct 2012**

\$497,468 26 Days

Baseline Wall Complete: 29 Jan 2013

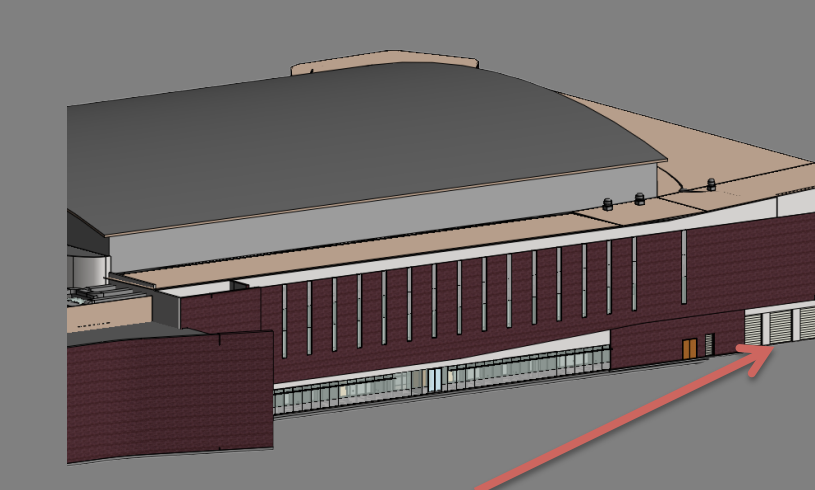
Preliminary East Façade & Entrances



East Façade

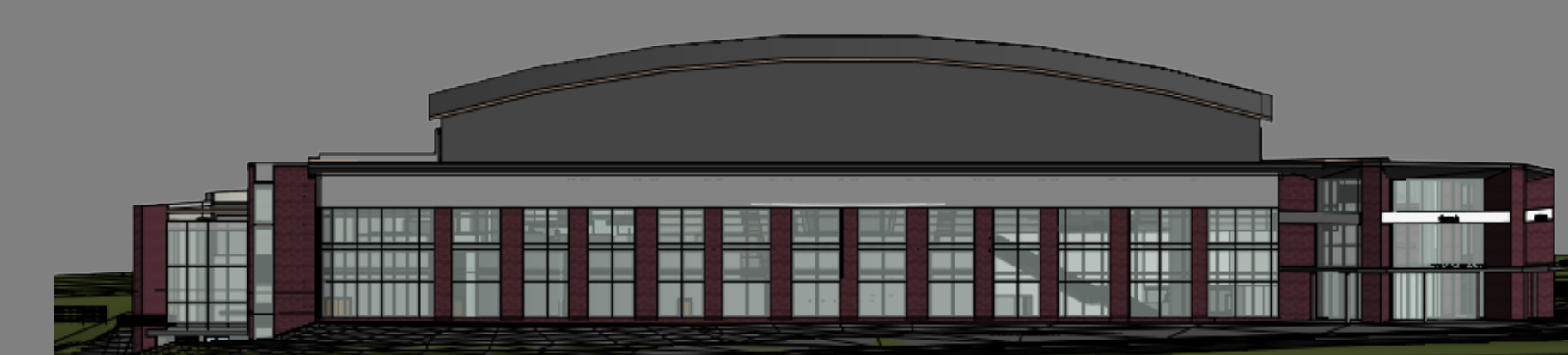


Main Entrance

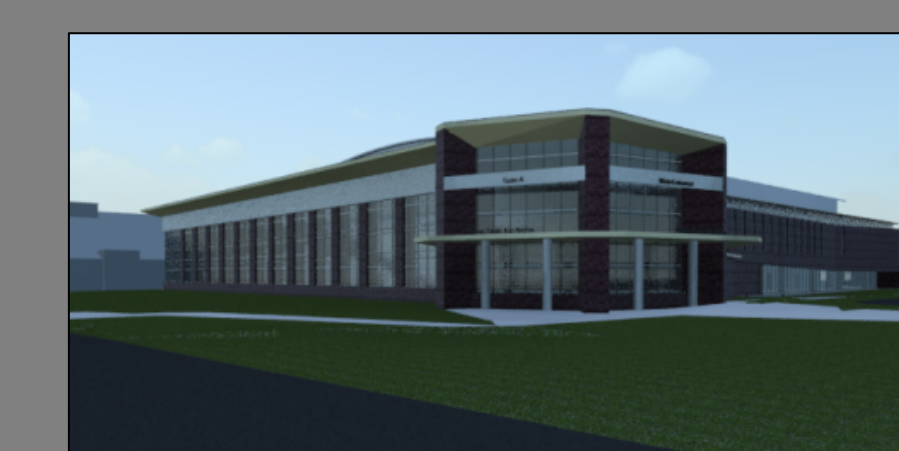


Student Entrance

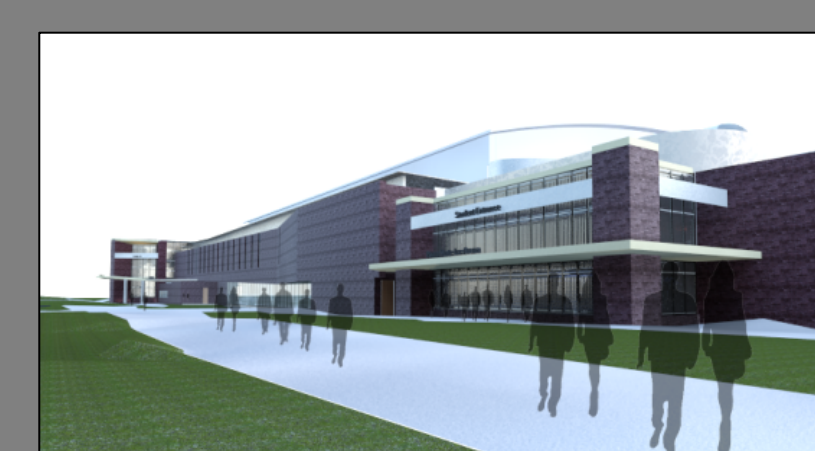
Redesign:



East Façade



Main Entrance



Student Entrance

Curtain Wall LEED Improvement:

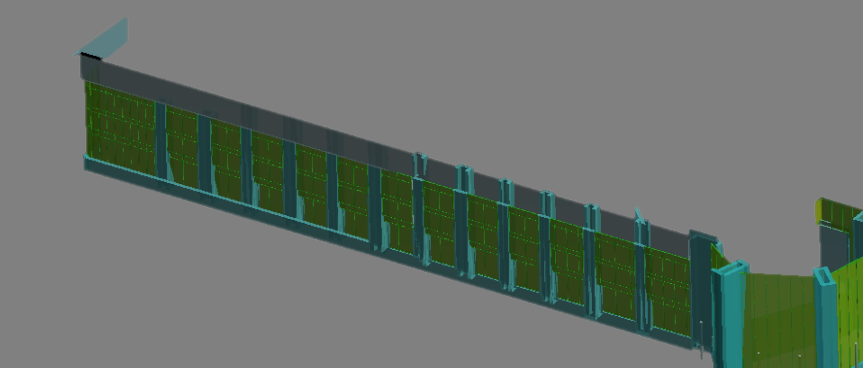
- DD Design: 5pts - 20% less than that of ASHRAE Appendix G
- HPR's Design: 6 pts - 23% less than that of ASHRAE Appendix G
- 3.9% Costs Saved from Brick:Glass

Lobby Lighting:

- Automatic Daylight ON/OFF Time Clock Lights



Lobby Lighting



Quantity Takeoff

Redesign Wall Complete: **04 Feb 2013**

\$95,542 8 Days

Baseline Project Complete: 05 Sep 2013

17 Days

Redesign Project Complete: **13 Aug 2013**

Redesign Increased Budget: **\$294,056** Reduced General Conditions: **\$348,671**

Owner Savings: **\$54,615**