



UNIVERSITY OF ALASKA  
ANCHORAGE

Total Project Cost	\$ 123,200,000
Approval Level:	Full Board

### SCHEMATIC DESIGN APPROVAL

TO: Pat Gamble  
President

THROUGH: Kit Duke  
AVP Facilities and Land Management

THROUGH: Tom Case  
Chancellor

THROUGH: Elisha Baker  
Interim Provost

THROUGH: William Spindle  
Vice Chancellor, Administrative Services

THROUGH: Chris Turletes  
Associate Vice Chancellor, UAA Facilities & Campus Services

THROUGH: John Faunce  
Director, UAA Facilities Planning & Construction

FROM: John Hanson  
Sr. Project Manager

DATE: November 5, 2012

SUBJECT: Project Type: NC, R&R Project  
Project Name: UAA Engineering and Industry Building  
Project No.: 08-0024

Cc:



UNIVERSITY OF ALASKA  
ANCHORAGE

## ***SCHEMATIC DESIGN APPROVAL***

**Name of Project:** Engineering and Industries Building  
**Project Type:** NC, R&R  
**Location of Project:** UAA, Main Campus, Engineering and Industries Building (AS162), Anchorage, AK  
**Project Number:** 08-0024  
**Date of Request:** November 05, 2012

<b>Total Project Cost:</b>	<b>\$ 123,200,000</b>	
<b>Approval Required:</b>	<b>Full Board</b>	
<b>Prior Approvals:</b>	<b>Preliminary Administrative Approval</b>	<b>November 2011</b>
	<b>Formal Project Approval</b>	<b>February 18, 2011</b>
	<b>Schematic Design Approval (partial)</b>	<b>June 8, 2012</b>
	<b>Schematic Design Approval (partial)</b>	<b>September 28, 2012</b>

A Schematic Design Approval (SDA) is required for all Capital Projects with a Total Project Cost in excess of \$250,000.

SDA represents approval of the location of the facility, its relationship to other facilities, the functional relationship of interior areas, the basic design including construction materials, mechanical, electrical, technology infrastructure and telecommunications systems, and any other changes to the project since formal project approval. Unless otherwise designated by the approval authority or a material change in the project is subsequently identified, SDA also represents approval of the proposed cost of the next phases of the project and authorization to complete the design development process, to bid and award a contract within the approved budget, and to proceed to completion of project construction. Provided however, if a material change in the project is subsequently identified, such change will be subject to the approval process.

### **Action Requested**

**“Consistent with and expanding upon the limited schematic design approvals at the June 2012 and September 2012 meetings of the Board, the Facilities and Land Management Committee recommends that the Board of Regents approve the schematic design approval request for the University of Alaska Anchorage Engineering and Industry Project, including the parking garage facility, in compliance with the amended campus master plan, and authorizes the university administration to complete construction bid documents to bid and award a contract within the approved total project cost budget of \$123.2M, and to proceed with project construction not to exceed a total project cost of \$62.6M. This motion is effective November 19, 2012.”**

### **RATIONALE AND REASONING**

#### **Background**

UAA Engineering has been experiencing growth in its enrollments since Board adoption of the 2007 Engineering Initiative. New baccalaureate engineering and related associate and certificate programs were created to meet industry demand and have been one of the driving forces for the enrollment increases.

The existing engineering building was built in the early 1980s and is significantly undersized for the current enrollment as documented in the 2010 UA Engineering Plan. The site selected for the new Engineering Building is directly south of the Bookstore and will eventually connect with the new Health Sciences Building across Providence Drive.

This study conducted by Ira Fink & Associates confirmed the need for additional space to meet the existing programmatic need for the engineering space at both UAA and UAF. Additional space would be comprised of classrooms, instructional laboratories, educational shops and office space to accommodate the high demand for engineers in Alaska. The UAA Master Plan approved by the Board of Regents in June 2004 also identified the need for additional space to meet the needs of the Engineering Program as it was configured at that time.

This project will accommodate current program requirements detailed in the Board-approved Engineering Initiative and allow for the consolidation of Engineering Programs currently being taught elsewhere on and off campus.

### **Project Scope**

The project consists of three major components: 1) construction of the new four story, 75,000 gsf Engineering and Industry Building located on Providence Drive, in the UAA South Parking lot, 2) renovation of the existing three story, 40,000 gsf School of Engineering Building and 3) construction of a multi-story structured parking facility with approximately 500 parking spaces.

#### **A. ENGINEERING AND INDUSTRY BUILDING:**

The Engineering and Industry Building, previously granted SDA at the September 28, 2012 Board meeting, will be designed to accommodate the first phase of the School of Engineering expansion. At four stories, the building will be similar to the Health Sciences Building in height and scale due to the change in topography across Providence Drive. The southwest corner of the Engineering and Industry Building will incorporate a future pedestrian bridge across Providence Drive, linking the Engineering Building to the Health Sciences District. Phase II of construction will likely occur to the north of the Phase I building and will allow an enclosed connection to the campus spine circulation network. Outdoor areas will be integral to the building design, serving both as amenities for students, faculty and staff and as functional spaces for project work display and storage areas.

The first floor includes the lobby, teaching labs and building support spaces include storage, mechanical and electrical room. A double height project work area provides connecting crane access for the Structures Testing and Properties of Materials labs, and allows outdoor access for the service yard and deliveries. Additional mechanical teaching labs, e-learning classrooms, and a student commons are located on the second floor. The third floor consists of environmental, computer system and electrical teaching labs, as well as a faculty office suite. An HVAC teaching lab, computational lab and faculty office suite are located on the fourth floor. In order to display the building's mechanical systems, the boiler room and fan rooms are also located on the fourth floor in high visible locations along the main corridor.

#### **Engineering on Display**

The influence of the School of Engineering on the UAA campus, in industry, and as an economic driver in Alaska will be illustrated in the Engineering and Industry Building. Elements of the design may include:

- Building systems and materials express architecturally to highlight the engineering of the building itself and creative use of engineered materials in conventional and unconventional ways.

- Interactive displays, both active and passive, that integrate civil, structural, mechanical and/or electrical engineering design, as well as exhibits that celebrate UAA Engineering achievements.
- Corridors and other public areas incorporating interior glazing for visual connections to engineering laboratories and student project work areas. Views into unique laboratory spaces may serve to stimulate interest in engineering for students or visitors.

## **B. EXISTING ENGINEERING BUILDING**

In conjunction with construction of the Engineering and Industry Building the existing Engineering Building, previously granted SDA at the June, 7, 2012 Board meeting, will be upgraded and fully renovated to complete the first phase of the School of Engineering expansion. The three-story building was originally designed in 1980 as a classroom and office building, and has been modified over the last thirty years to accommodate various academic programs mostly recently the School of Engineering. Engineering labs, classrooms and offices will be relocated to the new Engineering and Industry Building, and existing spaces are intended to be renovated for the functions below. Equipment is insufficient for the program needs and will need to be purchased.

The lobby with an enclosed computational lab will be located in the first floor. The remainder of the floor will be dedicated to lab support spaces including the machine shop, wood shop, milling and lathing shop, composite materials lab, reverse engineering lab, and materials storage. Outdoor access to the service yard will be through two existing sets of double doors located on the east side of the building. The second floor will consist of classrooms, open student computational labs and Student Success and faculty office suite. The Dean's suite, faculty offices, computational labs and Geomatics labs will be located on the third floor.

## **C. PARKING STRUCTURE**

This 500 space parking structure, the action item associated with this SDA request, will be a post tensioned concrete beam and slab structure with four levels of parking with the option of having a fifth level, accessible to faculty and students for research. Each level will have a 42" barrier at the perimeter for building safety. This will also provide, or work in coordination, with head light screening required by local authorities. The façade, facing UAA Drive, will include architectural concrete making the finish of the garage appear similar to the metal panel exterior of the Engineering Building.

Each floor of parking structure, including the roof, will be serviced by one elevator and two stairs. This will meet access and exiting code requirements. A bridge will be developed for pedestrian connection to existing School of Engineering Building, and thus, to existing pedestrian spine linking students to other core facilities.

## **D. TEMPORARY PARKING LOT**

Temporary Parking, previously granted SDA at the June 7, 2012 Board meeting, for approximately 240 vehicles may not be required if the parking structure can be completed early.

## **Variance Report**

The Alaska State Legislature provided \$4,000,000 for the UAA Engineering and Industry Building project during the 26<sup>th</sup> legislative session (2010-2011) and an additional \$58,600,000 during the 27<sup>th</sup> legislative session (2011-2012). This total amount represents approximately half of the funding required for the project. The UAA plan for this initial funding is to complete the design for all facilities, construct the parking structure, and begin site work for the new building.

**Proposed Total Project Cost and Funding Source(s)**

80101-564337	FY 11 UAA/SW Engineering Plan	\$ 140,000 *
17172-564341	FY 11 UAA Engineer Building Planning	\$ 3,860,000
	FY 13 Capital Budget	\$ 58,600,000
	FY 14 Capital Budget Request	\$ 60,600,000
	Total	\$ 123,200,000

\* This was set aside for the 2010 UA Engineering Plan.

**Estimated Annual Maintenance and Operating Costs (O&M)**

M & A	\$ 1,293,640 / Year
Custodial:	\$ 103,500 / Year
Grounds:	\$ 310,800 / Year
Admin:	\$ 310,809 / Year
Utilities:	\$ 1,154,400 / Year

**Consultant(s)**

Architect: Livingston Slone, Inc.  
Associate Architect: Ayers/Saint/Gross  
Laboratory Design: Research Facility Design  
Mechanical/Electrical Engineering: AMC Engineers  
Civil Engineering: Livingston Slone, Inc.  
Structural Engineering: Reid Middleton Engineers  
Geotechnical Engineering: Dowl, LLC  
Landscape Architect: Corvis Design, Inc.  
Cost Estimating: Estimations, Inc.

**CMAR Contractor**

Neeser Construction, Inc.

**Other Cost Considerations**

The cost estimate for the schematic design indicated that the current scope of the project may need to be reduced to stay within the Total Project Cost of \$123,200,000. Items to be considered include, but not limited to: 1) eliminating the roof and reducing the size of the parking garage, 2) seeking road upgrade funding for Mallard Drive realignment, 3) defer the exterior siding, curtain wall of the atria, elevator refurbishment and installation of the smoke management system in the atrium of the existing building. The design development estimate for the new building and parking garage is currently under review with the CMAR contractor and project scope and/or budget elements will be adjusted as necessary to stay within budget. A similar review will be done for the existing building upon completion of design development for that building.

**Backfill Plan**

This new space currently does not exist on campus. Some relief in the existing engineering building will occur as labs are reconfigured and multi-purposed. The existing building will be reconfigured to supply the remaining scope items needed to meet the 2010 Engineering Plan space budget after the completion of the new building to allow existing spaces to be vacated for renovation.

**Schedule for Completion**

DESIGN

Conceptual Design		August 2011
<i>Formal Project Approval</i>		September 2011
(Amended)		
Schematic Design		April 2012
<i>Schematic Design Approval</i>		June 2012
Design Development		December 2012
Construction Documents	New Building	January 2013
	Structure Parking	January 2013
	Existing Building Renovation	February 2013
BID & AWARD		
Advertise and Bid	New Building	CMAR
	Structure Parking	January 2013
	Existing Building Renovation	February 2015
Construction Contract Award		
	New Building	CMAR
	Structured Parking	February 2013
	Existing Building Renovation	March 2015
CONSTRUCTION		
Start of Construction	New Building	April 2013
	Structured Parking	April 2013
	Existing Building Renovation	April 2015
Date of Beneficial Occupancy	New Building	July 2015
	Structured Parking	December 2013
	Existing Building Renovation	July 2016

#### **Procurement Method for Construction**

New Building Construction:	Construction Manager at Risk (Neeser Construction)
Existing Building Renovation:	Construction Manager at Risk (Neeser Construction)
Parking Structure:	Design-Bid-Build
Temporary Parking Lot:	Design-Bid-Build (If required)

#### **Affirmation**

This project complies with Board Policy, the amended campus master plan, and the project agreement.

#### **Supporting Documents**

One-page Project Budget  
New Building Site Plan  
Renderings – UAA Engineering and Industries Building  
Site Plan – Parking Garage  
Renderings – Parking Garage

#### **Approvals**

The level of approval required for SDA shall be based upon the estimated TPC as follows:

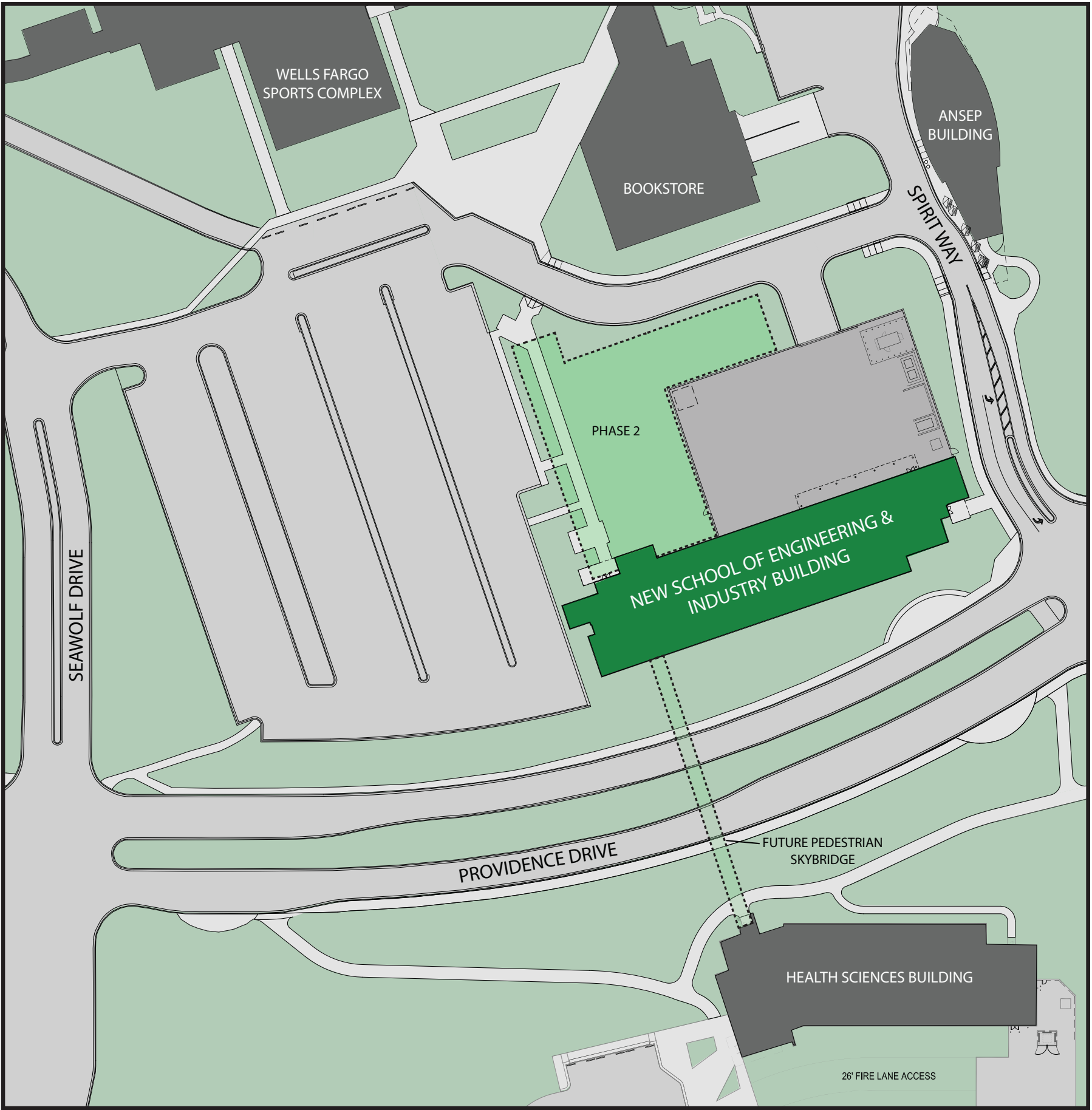
- TPC > \$4.0 million will require approval by the board based on the recommendations of the Facilities and Land Management Committee (FLMC).
- TPC > \$2.0 million but not more than \$4.0 million will require approval by the FLMC.
- TPC > \$1.0 million but not more than \$2.0 million will require approval by the Chair of the FLMC.
- TPC ≤ \$1.0 million will require approval by the AVP of Facilities and Land Management.



UNIVERSITY OF ALASKA		
Project Name: UAA Engineering Industry Building		
MAU: UAA		
Building: Engineering	Date:	10/31/2012
Campus: Anchorage	Prepared by:	J. L. Hanson
Project #: 08-0024	Acct #:	
Total GSF Affected by Project:		
PROJECT BUDGET	FPA Budget	SDA Budget
<b>A. Professional Services</b>		
Advance Planning, Program Development	650,000	\$650,000
Consultant: Design Services	7,900,000	\$7,900,000
Consultant: Construction Phase Services	3,100,000	\$3,100,000
Consultant: Extra Services (List: Special Inspections)	345,000	\$345,000
Plan Review/Permits	4,312,000	\$4,312,000
Professional Services Subtotal	<b>16,307,000</b>	<b>\$16,307,000</b>
<b>B. Construction</b>		
New Building (75,000 GSF)	54,767,283	\$54,767,283
Existing Building (40,000 GSF)	11,530,190	\$11,530,190
Parking Structure (204,000 GSF)	16,913,009	\$16,913,009
Temporary Parking (125,000 GSF)	3,031,919	\$3,031,919
Construction Contingency (10%)	8,624,240	\$8,624,240
Construction Sub Total	<b>94,866,641</b>	<b>\$94,866,641</b>
<i>Construction Cost per GSF</i>	<i>\$0</i>	<i>\$0</i>
<b>C. Building Completion Activity</b>		
Equipment	\$1,825,000	\$1,825,000
Furnishings	\$1,850,000	\$1,850,000
Move-Out Costs	\$250,000	\$250,000
Move-In Costs	\$250,000	\$250,000
Art	\$663,000	\$663,000
Temp. Relocation Cost	\$1,250,000	\$1,250,000
OIT Support / Equipment	\$1,300,000	\$1,300,000
Maintenance Operation Support	\$300,000	\$300,000
Building Completion Activity Subtotal	<b>\$7,688,000</b>	<b>\$7,688,000</b>
<b>D. Owner Activities &amp; Administrative Costs</b>		
Project Planning, Staff Support		
Project Management	\$4,312,120	\$4,312,120
Misc. Expenses: Advertising, Printing, Supplies, Etc.	\$26,239	\$26,239
Owner Activities & Administrative Costs Subtotal	<b>\$4,338,359</b>	<b>\$4,338,359</b>
<b>E. Total Project Cost</b>	<b>\$123,200,000</b>	<b>\$123,200,000</b>
<i>Total Project Cost per GSF</i>	<i>\$0</i>	<i>\$0</i>
<b>F. Total Appropriation(s)</b>	<b>\$123,200,000</b>	<b>\$123,200,000</b>



SITE PLAN



# School of Engineering & Industry Building













SITE PLAN 



# School of Engineering Proposed Parking Structure







Metal Panel Option 2



## School of Engineering Proposed Parking Structure







Metal Panel Option 2



School of Engineering Proposed Parking Structure























F. Looking across intersection of UAA Drive & Alumni Drive