

Final Project Proposal

Budget Year 2011-12

Community College Construction Act of 1980
Capital Outlay Budget Change Proposal

Building 1200 Theater Renovation
Proposal Name

Solano Community College District
District Project No. C614-901

Solano College
College or Center

July 2009

Date

CCI= 5065

EPI = 2894

tBP/Architecture 20661

A _____ P _____ W _____ C _____ E _____

FINAL PROJECT PROPOSAL CHECKLIST

District: Solano Community College District
College: Solano College
Project: Building 1200 Theater Renovation
Prepared by: tBP Architecture P/N 20661 **Date:** July 2009

Section	Description	Completed	Date
1.1	Title Page	Yes	July 2009
2.1	Final Project Proposal Checklist	Yes	July 2009
3.1	Approval Page - Final Project Proposal (with original signatures)	Yes	July 2009
3.2	Project Terms and Conditions	Yes	July 2009
4.1	Analysis of Building Space Use and WSCH - JCAF 31	Yes	July 2009
5.1	Cost Estimate Summary - JCAF32	Yes	July 2009
5.2	Quantities and Unit Costs supporting the JCAF 32 <i>(Insert any optional cost analysis into this section)</i>	Yes	July 2009
6.1	California Energy Commission Approved Audit	Yes	July 2009
7.1	Responses to Specific Requirements - State Administrative Manual	Yes	July 2009
8.1	California Environmental Quality Act: Environmental Impact Report or Exemption Notice	Yes Yes	July 2009 July 2009
9.1	Outline of Specifications	Yes	July 2009
10.1	Federal Funds Detail	Yes	July 2009
11.1	Analysis of Future Costs	Yes	July 2009
12.1	Campus Plot Plan	Yes	July 2009
13.0	Floor Plans	Yes	July 2009
14.1	Guideline-Based Group 2 Equipment Cost Estimate - JCAF 33	Yes	July 2009
15.1	Justification of Additional Costs exceeding Guidelines <i>(as needed)</i>	Yes	July 2009
16.1	Detailed Equipment List	Yes	July 2009

APPROVAL PAGE
Final Project Proposal

Budget Year 2011-12

District: Solano Community College District
Project Location: Solano College
(College, campus, or center)
Project Name: Building 1200 Theater Renovation

The District proposes funds for inclusion in the State capital outlay budget (check items):
site acquisition preliminary plans working drawings construction equipment

Contact Person: Name: _____ Telephone: () _____
E-Mail Address: _____ Fax: () _____

District Certification

Approved for submission: _____ Date: July 1, 2009
(Chancellor/President/Superintendent Signature)

District Board of Trustees Certification

The Governing Board of the District approves the submission of this application to the Board of Governors of the California Community Colleges and, if funded, guarantees to abide by the Project Terms and Conditions.

(President of the Board of Trustees Signature and Date) _____
(Secretary of the Board of Trustees Signature and Date)

(Attach a copy of the Board Resolution which substantiates approval of the application and guarantees to abide by the Project Terms and Conditions.)

Submit proposal to:
Facilities Planning and Utilization
Chancellor's Office
California Community Colleges
1102 Q Street
Sacramento, CA 95814-6511

Chancellor's Office Certification

Reviewed by: _____
Date Completed: _____

PROJECT TERMS AND CONDITIONS

District: Solano Community College District College: Solano College
Project: Building 1200 Theater Renovation Budget Year: 2011-12

1. The applicant hereby requests State funds in the amount prescribed by law for the project named herein. All parts and exhibits contained in or referred to in this application are submitted with and made part of this application.
2. The applicant hereby certifies to the Board of Governors of the California Community Colleges that:
 - a. Pursuant to the provisions of Section 57001.5 of Title 5 of the *California Code of Regulations* no part of this application includes a request for funding the planning or construction of dormitories, stadia, the improvement of sites for student or staff parking, single-purpose auditoriums or student centers other than cafeterias. The facilities included in the proposed project will be used for one or more of the purposes authorized in Section 57001.5.
 - b. Any State funds received pursuant to this application shall be used solely for defraying the development costs of the proposed project.

If the application is approved, the construction covered by the application shall be undertaken in an economical manner and will not be of elaborate or extravagant design or materials.
 - c. Pursuant to the provisions of Section 81837 of the *Education Code*, approval of the final plans and specifications for construction will be obtained from the Board of Governors of the California Community Colleges before any contract is let for the construction.
 - d. No changes in construction plans or specifications made after approval of final plans which would alter the scope of work, function assignable and/or gross areas, utilities, or safety of the facility will be made without prior approval of the Chancellor's Office of the California Community Colleges and the Department of General Services, Division of the State Architect.
 - e. Pursuant to the provisions of Section 57001 of Title 5 of the *California Code of Regulations*, an adequate and separate accounting and fiscal records and accounts of all funds received from any source to pay the cost of the proposed construction will be maintained, and audit of such records and accounts will be permitted at any reasonable time, during the project, at the completion of the project, or both.
 - f. Architectural or engineering supervision and inspection will be provided at the construction site to ensure that the work was completed in compliance with the provisions of Section 81130 of the *Education Code* and that it conforms with the approved plans and specifications.
 - g. Pursuant to the provisions of State law, no State-funded construction contract shall be awarded prior to approval of the project by the State Public Works Board and release of funds by the State Department of Finance.
3. It is understood by the applicant that:
 - a. No claim against any funds awarded on this application shall be approved which is for work or materials not a part of the project presented and approved by the State Public Works Board.

Project Terms and Conditions (Continued)

- b. The failure to abide by each of the assurances made herein entitles the Board of Governors of the California Community Colleges to withhold all or some portion of any funds awarded on this application.
 - c. Any fraudulent statement which materially affects any substantial portion of the project presented in this application, as it may be finally approved, entitles the Board of Governors of the California Community Colleges to terminate this agreement or payment of any funds awarded on the project presented in this application.
4. It is further understood that:
- a. The appropriation which may be made for the project presented in this application does not make an absolute grant of that amount to the applicant.
 - b. The appropriation is made only to fund the project presented in this application, as it is finally approved, regardless of whether the actual cost is less than or equals the appropriation.
 - c. A change in the scope of the project or assignable areas shall only be granted with the approval of legislature or its designated agent.

ANALYSIS OF BUILDING SPACE USE AND WSCH - JCAF 31

New Construction Reconstruction

District: Solano Community College District **Project:** Building 1200 Theater Renovation **Date:** July 2009
College: Solano College **Prepared by:** tBP Architecture **CCI:** 5065 **tBP/Architecture** 20661

Room Type	Number of Rooms	Room Number	4 Digit TOP Code	Name of Space	Project Space ASF	Existing Space ASF	New Space/Programs ASF (4)-(5)	WSCH Capacity	Cost per ASF per Guidelines 5065	Total Allowable Cost
(1)			(3a)	(3b)	(4)	(5)	(6)	(8)		
615	5	1200-1218	1007	Assembly Service	1,312	1,125	187		\$502	\$658,624
610	1	1219	1007	Assembly	396	396	0		\$502	\$198,792
610	1	1220	1007	Assembly	3,654	3,710	-56		\$502	\$1,834,308
615	12	1221-1235	1007	Assembly Service	5,538	5,538	0		\$502	\$2,780,076
720	1	1238	1007	Shop	2,370	2,370	0		\$171	\$405,270
310	1	1238 A	1007	Office	250	172	78		\$425	\$106,250
310	1	1238 B	1007	Office	200	128	72		\$425	\$85,000
315	1	1238 C	1007	Office Service	53	53	0		\$425	\$22,525
725	4	1238 D-1238G	1007	Shop Service	576	576	0		\$171	\$98,496
210	1	1239	1007	Class Lab	1,504	1,504	0		\$527	\$792,608
310	1	1240	1004	Office	0	97	-97		\$425	\$0
310	1	1241	1004	Office	0	98	-98		\$425	\$0
215	1	1242	1004	Class Lab Service	160	146	14		\$527	\$84,320
215	1	1243	1004	Class Lab Service	366	185	181		\$527	\$192,882
215	1	1244	1004	Class Lab Service	162	162	0		\$527	\$85,374
210	1	1245	1004	Class Lab	1,584	1,584	0		\$527	\$834,768
210	1	1249	1004	Class Lab	804	804	0		\$527	\$423,708
310	1	1250	1004	Office	317	144	173		\$425	\$134,725
420	1	1251	1004	Library Stack	75	148	-73		\$527	\$39,525
230	1	1252	1004	Individual Study Lab	101	201	-100		\$527	\$53,227
225	1	1255	1004	Special Class Lab Service	0	100	-100		\$527	\$0
230	1	1256	1004	Individual Study Lab	0	54	-54		\$425	\$0
230	5	1257-1261	1004	Individual Study Lab	334	241	93		\$527	\$176,018
230	1	1262	1004	Individual Study Lab	0	54	-54		\$425	\$0
210	1	1263	1004	Class Lab	337	418	-81		\$527	\$177,599
225	3	1265-1267	1004	Special Class Lab Service	0	85	-85		\$527	\$0
				subtotal		20,093	0			
				Total ASF	20,093					
				Total GSF	25,231					
				100% Building Cost Allowance						\$9,184,095

ANALYSIS OF BUILDING SPACE USE AND WSCH - JCAF 31

New Construction Reconstruction

District: Solano Community College District		Project: Building 1200 Theater Remodel		Date: July 2009		tBP Architecture 20661		
College: Solano College		Prepared by: tBP Architecture		CCI: 5065		Total Allowable Cost		
Room Type	Number of Rooms	4 Digit TOP Code	Name of Space	Project Space ASF	Existing Space ASF	New Space/Programs ASF (4)-(5) (6)	WSCH Capacity	Cost per ASF per Guidelines
(1)		(3a)	(3b)	(4)	(5)	(6)	(8)	5065
			Summary of Spaces					
210-1007			Theater Arts	1,504				
210-1004			Recording Arts	2,725				
215-1004			Class Lab Service	688				
220			Special Class lab					
225			Special Class Lab Service					
230			Individual Study Lab	435				
310			Office	820				
420			Library Stack	75				
610			Assembly	4,050				
615			Assembly Service	6,850				
720			Shop	2,946				
			Total asf	20,093				

COST ESTIMATE SUMMARY AND ANTICIPATED TIME SCHEDULE - JCAF 32

District: Solano Community College District College: Solano College
 Project Name: Building 1200 Theater Renovation Date Prepared: July 2009
 Request for: A P W E CCCCI: 5065 EPI: 2894
 Prepared by: tBP Architecture 20695 tab

Local Contribution (State-Supportable): Set Amount: \$ 123,000 Percentage of Project: 23%	Locally Funded		State Funded		Total (Locally Funded State-Supportable + State Funded only)	
	Non State-Supportable	State-Supportable				
1. Site Acquisition						
A. Purchase Price of Property					\$ 509,399	
B. Appraisals					\$ -	
C. Costs Incurred in Eserow					\$ -	
D. Surveys					\$ -	
E. Other Costs					\$ -	
2. Plans and Working Drawings <i>(Total may not exceed 13% of construction contracts)</i>					\$ 509,399	
A. Architectural Fee for Preliminary Plans					\$ 324,255	
B. Architectural Fee for Working Drawings					\$ 416,899	
C. Project Management					\$ 92,644	
D. Div of the State Architect Plan Check fee					\$ 52,599	
E. Community College Plan Check fee					\$ 26,470	
F. Preliminary Tests (soil tests)					\$ 12,000	
G. Other Costs					\$ 80,500	
3. Construction					\$ 143,083	
A. Utility Service					\$ -	
B. Site Development, Service					\$ 121,614	
C. Site Development, General					\$ 16,500	
D. Other Site Development					\$ 6,898,957	
E. Reconstruction					\$ -	
F. New Construction (bldg) (w/Group I eqpmt)					\$ 2,084,263	
G. Other					\$ 9,264,417	
4. Tests and Inspections					\$ 239,644	
5. Contingency					\$ 648,509	
6. Construction Management (if justified)					\$ 185,288	
7. Architectural and Engineering Oversight					\$ 185,288	
8. Total Construction Costs (items 3 through 7 above)					\$ 10,523,146	
9. Furniture and Group II Equipment					\$ -	
10. Total Project Cost (items 1, 2, 8, and 9)					\$ 11,528,512	
11. Project Data						
Construction	Assignable Square Feet	Ratio ASF/GSF	Unit Cost Per ASF	Unit Cost Per GSF	Locally Funded (State-Supportable Only)	State Funded
Reconstruction	20,093	80%	\$574	\$457	\$ -	\$ -
12. Anticipated Time Schedule						
Start Preliminary Plans	10/01/11	Advertise Bid for Construction	03/01/13	Working Drawings	\$ -	\$ 669,111
Start Working Drawings	03/01/12	Award Construction Contract	05/01/13	Construction	\$ -	\$ 10,523,146
Complete Working Drawings	09/01/12	Advertise Bid for Equipment		Equipment	\$ -	\$ -
State Architect (ORS) Final Approval	02/01/13	Complete Project	07/01/14	Total Costs	\$ -	\$ 11,528,512
				% of Project Costs		100%

COST ESTIMATE SUMMARY AND ANTICIPATED TIME SCHEDULE - JCAF 32

District: Solano Community College District Date Prepared: Jul-09
 College: Solano College Budget Ref. No.: _____
 Project Name: Building 1200 Theater Renovation CFIS Ref No.: _____
 Prepared by: tBP Architecture P/N 20661 tab ENR Index: 5065 EPI 2894
 Request for: A P W C E

1. Site Acquisition	Acres: <u>NA</u>		
A. Purchase price of property		<u>\$0</u>	
B. Appraisals		<u>\$0</u>	
C. Cost incurred in escrow		<u>\$0</u>	
D. Surveys		<u>\$0</u>	
E. Other costs		<u>\$0</u>	<u>\$0</u>
2. Plans and Working Drawings <i>(Total may not exceed 13% of construction)</i>			
A. Architectural Fee for Preliminary Plans.		<u>\$324,255</u>	
B. Architectural Fee for Working Drawings		<u>\$416,899</u>	
C. Project Management		<u>\$92,644</u>	
D. Division of the State Architect Plan Check Fee		<u>\$52,599</u>	
E. Community College Plan Check Fee		<u>\$26,470</u>	
F. Preliminary Tests <i>(Hazardous Materials)</i>		<u>\$12,000</u>	
G. Other costs		<u>\$80,500</u>	<u>\$1,005,366</u>
3. Construction			
A. Utility Service		<u>\$143,083</u>	
B. Site Development, Service		<u>\$0</u>	
C. Site Development, General		<u>\$121,614</u>	
D. Other Site Development		<u>\$16,500</u>	
E. Reconstruction		<u>\$6,898,957</u>	
F. New Construction <i>(building) (w/Group I equipment)</i>		<u>\$2,084,263</u>	<u>\$9,264,417</u>
G. Other			
4. Tests and Inspections			<u>\$239,644</u>
5. Contingency			<u>\$648,509</u>
6. Construction Management <i>(if justified)</i>			<u>\$185,288</u>
7. Architectural and Engineering Oversight			<u>\$185,288</u>
8. Total Construction Costs <i>(items 3 through 7 above)</i>			<u>\$10,523,146</u>
9. Furniture and Group 2 Equipment			<u>\$0</u>
10. Total Project Costs <i>(items 1, 2, 8, and 9)</i>			<u>\$11,528,512</u>

11.	Project Data	Outside Gross Square Feet	Assignable Square Feet	Ratio ASF/GSF	Unit Cost Per ASF	Unit Cost Per GSF
	New Construction	25,231	20,093	79.64%	\$574	\$457
12.	Anticipated Time Schedule					
	Start Preliminary Plans		10/01/11	Advertise Bid for Construction		03/01/13
	Start Working Drawings		03/01/12	Award Construction Contract		05/01/13
	Complete Working Drawings		09/01/12	Advertise Bid for Equipment		
	State Architect (ORS) Final Approval		02/01/13	Complete Project		07/01/14

QUANTITIES AND UNIT COSTS SUPPORTING THE JCAF 32
(Architect's Cost Estimate)

District:	Solano Community College District	Date Prepared:	July 2009
College:	Solano College	Budget Ref. No.:	
Project Name:	Building 1200 Theater Renovation	CFIS Ref No.:	
Prepared by:	tBP Architecture 20661 tab	ENR Index:	5065 EPI = 2894

1. SITE ACQUISITION					
A. Purchase Price of Property					\$0
B. Appraisals					\$0
C. Cost Incurred in Escrow					\$0
D. Surveys					\$0
E. Other Costs					\$0
Total SITE ACQUISITION					\$0
2. PLANS AND WORKING DRAWINGS					
A. Architectural Fee for Preliminary Plans					
1. Architects fee for Schematic and Preliminary plans	\$9,264,416	@	10.0% X	35.0%	\$324,255
B. Architectural Fee for Working Drawings					
1. Architects fee for Working Drawings	\$9,264,416	@	10.0% X	45.0%	\$416,899
C. Project Management					
1. Project Administration/Management (District Cost)	\$9,264,416	@	1.0%		\$92,644
D. Division of the State Architect Plan Check Fee					
1. DSA Plan Check Fees	Cost-\$1M x .005+\$7000			\$48,322	
2. Access Compliance Review	(\$1M x .002) + (\$1.5M x .001) + (construction cost-\$1.5M) * .0001			\$4,276	
Total Plancheck Fee					\$52,599
E. Community College Plan Check Fee					
1. Community College Plan Check Fee	\$9,264,416	@	2/7	\$0	\$26,470
F. Preliminary Test (Soils test and Geotechnical Report)					

\$12,000

G. Other Costs (Geological, EIR, Etc.)

- 1. Special Consultants:
 - Constructibility \$18,000
 - Fire Water System Flow Testing \$3,500
 - Legal Fees/printing/advertisement \$27,000
 - Hazardous Material Survey/Test & Cost Estimate \$32,000

Total Other Costs

\$80,500

TOTAL PLANS AND WORKING DRAWINGS

\$1,005,366

1

3. CONSTRUCTION - HARD COSTS

A. Utility Service

- 1. a. Replace feeders to main switchboard 100 lf @ \$377 \$37,700

2. Telephone/Data/Signal

- a. Replace incoming fire signal communications conduits and cabling 200 lf @ \$150 \$30,000
- b. POC connection and campus system tie backs 1 ls @ \$15,000 \$15,000

3. Fire Loop Water

- a. 6" ductile pipe for new fire suppression 1 ls @ \$50,000 \$50,000
- b. system with stand pipe and fittings 1 ea @ \$1,581 \$1,581
- c. 6" butterfly valve 1 ea @ \$2,952 \$2,952
- h. PIV 4 ea @ \$1,000 \$4,000
- i. Concrete thrust blocks 50 lf @ \$37 \$1,850
- j. Trench & backfill

Total Utility Service

\$143,083

Total Site Development Service

C. Site Development General

- 1. Rough/Finish Grading
 - a. Rough grade and compact 250 sf @ \$2 \$438
- 2. Asphalt & Concrete Paving and Ramps
 - a. Concrete entrance walkways 4" with 6" ag. Base 1,384 sf @ \$14 \$19,376

3.	b. ADA POT 5 ramps with retaining walls	152 lf	@	\$550	\$83,600
	c. Galvanized steel railings at ramps and stairs	120 lf	@	\$110	\$13,200
	a. Repair of landscape	1 ls	@	\$5,000	\$5,000

Total Site Development General

\$121,614

D. Other Site Development

1.	Site Lighting				
	a. Walkway lighting at ADA POT	1 ls	@	\$15,000	\$15,000
	f. ADA site signage - allowance	1 ls	@	\$1,500	\$1,500

Total Other Site Development

\$16,500

E. Reconstruction CCI 5065

Scope of Work Items for Bat/Rodent Infestation, Health, Fire/Life Safety and ADA Mitigation and Code Compliance

1.	Selective Demolition				
	a. Selective demolition for correction items per detailed cost estimate	1 ls	@	\$214,701	\$214,701
2.	Foundations				
	a. Footing excavation and backfill	180 cy	@	\$53	\$9,540
	b. Elevator pit	2 ea	@	\$20,000	\$40,000
	c. Building slab on grade 5" thick /thickened edge with sand/WP membrane & ramp premium	2,935 sf	@	\$28	\$80,713
3.	Seismic Retrofit (Dasse Design)				
	a. Steel frame floor construction	2,104 sf	@	\$93	\$195,672
	b. Steel for lateral bracing	41 tns	@	\$12,000	\$492,000
	c. Reinf. Conc. Infill @ proscenium walls	176 sf	@	\$43	\$7,568
	d. Shotcrete back of proscenium walls/footings	15,626 lbs	@	\$4	\$62,504
	e. Unistrut lateral bracing @ auditorium ceiling	3,108 sf	@	\$45	\$139,860
	f. Remove/replace control room floor structure	480 sf	@	\$30	\$14,400
	g. Fire proofing @ steel floor frame	1 ls	@	\$6,000	\$6,000
	h. Form/pour seismic joint - allowance	1 ls	@	\$75,000	\$75,000
	i. (N) plywood shear wall & hold downs	238 sf	@	\$45	\$10,710
	j. Blocking and nailing @ roof diaphragm	9,517 sf	@	\$12	\$114,204
	k. Auditorium & mezzanine finishes	622 sf	@	\$94	\$58,468
	l. Misc. seismic restraints and bracing	1 ls	@	\$30,000	\$30,000
	m. Replace roof coverings and flashings	5,677 sf	@	\$19	\$107,863
	n. Replace roof drains	1 ls	@	\$47,184	\$47,184
	o. Orchestra pit filler system	1 ea	@	\$90,000	\$90,000

4.	Fire /Life Safety							
	a.	Remove and replace roof smooke hatch	1 ea	@	\$8,500	\$8,500		
	b.	(N) Fire ext. cabinets	7 ea	@	\$700	\$4,900		
	c.	Remove and replace stage fire curtain	654 sf	@	\$95	\$62,130		
	d.	Automatic wet sprinklers - complete	25,231 sf	@	\$6	\$151,386		
	e.	Main electrical panel, transformers, distribution panels, new wiring, devices	1 ls	@	\$127,819	\$127,819		
	f.	(N) Building fire alarm system/panels/wiring/devices	25,231 sf	@	\$5	\$126,155		
	g.	Remove and replace lighting fixtures	25,231 sf	@	\$11	\$277,541		
	h.	Lighting/power/equipt. Circuits, wiring, devices	25,231 sf	@	\$9	\$227,079		
	i.	Remove and replace AV/sound conduits & cabling	25,231 sf	@	\$7	\$176,617		
	j.	Replace theater counterweight rigging system						
	k.	per Shalleck Collaborative recommendations	1 ls	@	\$236,900	\$236,900		
	k.	Remove and replace 3 theater lighting dimmer panels	3 ea	@	\$55,000	\$165,000		
5	Health							
	a.	Exterior walls remove and replace for bat/rodent guano remediation	2,350 sf	@	\$85	\$199,750		
	b.	Remove/replace interior soffits and canopies	309 sf	@	\$155	\$47,895		
	c.	Remove and replace partition wallboard/finishes	4,456 sf	@	\$63	\$280,728		
	d.	Ceiling finishes	9,754 sf	@	\$8	\$78,032		
	e.	Remove and replace HVAC system and ductwork pumps and pipes	25,231 sf	@	\$10	\$252,310		
	f.	Ducts, valves, VAVs and exhaust system	25,231 sf	@	\$41	\$1,034,471		
	g.	HVAC controls	25,231 sf	@	\$5	\$126,155		
	h.	Specialties, balance/test and commission	25,231 sf	@	\$3	\$75,693		
6.	ADA Compliance							
	a.	(N) Two stop passenger elevator with finishes	2 ea	@	\$112,500	\$225,000		
	b.	(N) Orchestra pit lift	1 ea	@	\$47,135	\$47,135		
	c.	(N) Reinforced concrete elevator pit	2 ea	@	\$20,000	\$40,000		
	d.	CIP reinf. Concrete walls for elevator shaft	1,313 sf	@	\$365	\$479,245		
	e.	Remove and replace ext. storefront doors/hrdwr.	2 pr	@	\$11,250	\$22,500		
	f.	Remove and replace ext. HM doors/frames/hrdwr.	6 ea	@	\$4,750	\$28,500		
	g.	Automatic door openers/push pads/spec. hdw.	2 ea	@	\$9,750	\$19,500		
	h.	remodel lobby and green room restrooms/locker rm	1,036 sf	@	\$234	\$242,424		
	i.	Remove and replace casework, shelving and countertops @ lobby and green room	200 lf	@	\$445	\$89,000		
	j.	Fixed auditorium seating at remodeled areas	55 ea	@	\$455	\$25,025		
	k.	Fixed ambulatory/companion seating	6 ea	@	\$450	\$2,700		
	l.	Wenger modular acoustic pre-fabricated music practice rooms	6 ea	@	\$37,080	\$222,480		

California Community Colleges
Final Project Proposal

Total Reconstruction						\$6,898,957
F. Other						
1. Remediation						
a. Bat and Rodent infestation abatement						
DGM Environmental, Inc. allowance						
b. Asbestos, lead and PCB removal						
HMS Inc. allowance						
General conditions \$7,650,573 @ 12 %						
GC overhead & fee \$8,568,642 @ 6%						
Insurance and bonding 9,082,760 @ 2%						
Total Reconstruction Other						\$2,084,263
TOTAL CONSTRUCTION - HARD COSTS (3A thru 3F)						\$9,264,416
4. TESTS AND INSPECTIONS						
Tests						\$92,644
Inspections						\$147,000
TOTAL TESTS AND INSPECTIONS						\$239,644
5. CONTINGENCY						\$648,509
6. CONSTRUCTION MANAGEMENT						\$185,288
7. ARCHITECTURAL AND ENGINEERING OVERSIGHT						\$185,288
\$9,264,416						
8. TOTAL CONSTRUCTION (Items 3 through 7)						\$10,523,146
9. FURNITURE AND GROUP II EQUIPMENT						
10. TOTAL PROJECT COST						\$11,528,512

CALIFORNIA ENERGY COMMISSION APPROVED AUDIT

The project will exceed by at least 15% the requirements of Title 24 for energy efficiency.

STATE OF CALIFORNIA
CAPITAL OUTLAY
BUDGET CHANGE PROPOSAL (COBCP)
COVER PAGE (REV 11/98)

DEPARTMENT OF FINANCE
915 L Street
Sacramento, CA 95814
IMS Mail Code: A15

BUDGET YEAR 2011-2012

ORG CODE: __ COBCP NO: _____ PRIORITY: __ PROJECT ID : _____

DEPARTMENT: California Community Colleges

PROJECT TITLE: Solano Community College District, Solano College Building 1200 Theater Renovation

TOTAL REQUEST (DOLLARS IN THOUSANDS): \$ 11,529 MAJOR/MINOR:

PHASE(S) TO BE FUNDED: PWC PROJ CAT: C CCCI/EPI: CCI 5065/2894

SUMMARY OF PROPOSAL:

This project will renovate the 20,093 ASF and 25,231 GSF Building 1200 that houses the Music and Theater Arts programs of the college. The renovation will address severe safety and health, seismic, ADA accessibility and failing building infrastructure issues that make the existing building nearly uninhabitable and an unsafe and unhealthy place to be. Due to nature and severity of these many issues, an extensive renovation will be required as the only realistic means to address these problems. The spaces within Building 1200 are:

- 4,450 ASF in Theater Arts labs
- 3,413 ASF in Recording Arts labs
- 435 ASF in Individual Study labs
- 10,900 ASF in Assembly
- 75 ASF in Library Stack
- 820 ASF in Offices

The Building 1200 program and support spaces are not only important for Music and Theater Arts instruction. Building 1200 is also utilized for performance and recitals, which are often attended by the public. The theater is also utilized by the surrounding community for large assemblies and meetings, as well as Solano College Theatre, Community Theater and special performances. The approval of this A4 project is the District's only means to immediately address and correct these critical facility problems.

HAS A BUDGET PACKAGE BEEN COMPLETED FOR THIS PROJECT? (E/U/N/?): _____

REQUIRES LEGISLATION (Y/N): __ IF YES, LIST CODE SECTIONS: _____

REQUIRES PROVISIONAL LANGUAGE (Y/N) _____

IMPACT ON SUPPORT BUDGET: ONE-TIME COSTS (Y/N): _ FUTURE COSTS (Y/N):_
FUTURE SAVINGS (Y/N):_ REVENUE (Y/N):_

DOES THE PROPOSAL AFFECT ANOTHER DEPARTMENT (Y/N): __ IF YES, ATTACH COMMENTS OF AFFECTED DEPARTMENT SIGNED BY ITS DIRECTOR OR DESIGNEE.

SIGNATURE APPROVALS:

PREPARED BY DATE REVIEWED BY DATE

DEPARTMENT DIRECTOR DATE AGENCY SECRETARY DATE

DOF ANALYST USE

STATE OF CALIFORNIA
CAPITAL OUTLAY
BUDGET CHANGE PROPOSAL (COBCP)
COVER PAGE (REV 11//98)

DEPARTMENT OF FINANCE
915 L Street
Sacramento, CA 95814
IMS Mail Code: A15

BUDGET YEAR 2011-2012

ORG CODE: __ COBCP NO: _____ PRIORITY: __ PROJECT ID : _____

DOF ISSUE # _____ PROGRAM CAT: __ PROJECT CAT: __ BUDG PACK STATUS: __
ADDED REVIEW: SUPPORT: _____ TIRU: _____ FSCU: _____ OSAE: __ CALSTARS: _____

ORG CODE: __ COBCP NO: _____ PRIORITY: __ PROJECT ID : _____

tBP PN 20695 5-25-09 tab

A. Purpose of Project

Purpose

The purpose of the project is to provide functional, safe and code compliant instructional and assembly facilities to house the Recording Arts, Music and Theatre Arts instructional programs of the College.

Educational Program

The Music and Theatre Arts programs at Solano College are recognized as high quality programs supported by industry and arts grants. These grants are the result of faculty expertise, dedication and engagement of students to excel in the fields of Music and the Performing Arts. Building 1200 houses the Music and Theatre Arts programs which include: Fine Arts, Music, and Theatre Arts, which have all experienced steady enrollment and enrollment growth. These departments currently offer the following degrees and certificates:

- A.A. degree in Instrumental Music
- A.A. degree in Theory-Composition Music
- A.A. degree in Vocal Music
- A.A. degree in Fine Arts
- A.A. degree in Technical Theatre Arts
- A.A. degree in Acting Theatre Arts
-

Music department students may select from three music programs-Instrumental, Theory Composition, or Vocal. The Music department offers 53 different instructional sections of instrumental, theory-composition and vocal courses. Students are also provided individual study /practice spaces and access to piano, midi and recording labs during non instructional use periods to practice, study and hone their music talents and skills.

The Fine Arts program is an interdisciplinary program designed to provide a broad exposure to the fine arts. The program includes courses in Theatre Arts, Telecommunications, Music and Art. The course offerings are offered by the appropriate disciplines.

The Theatre Arts program is designed to provide a foundation in theater arts for the student who wishes to enter the entertainment industry. The Theatre Arts department offers 26 different instructional sections of technical and acting courses. Students also participate in theatrical performances, held in the Building 1200 theater, through Solano College Theatre (SCT).

Existing Facility

Building 1200 was constructed in 1974. The building is basically a one story, cement panel and wood frame building that was originally constructed with instructional lab, instructional support, assembly and office spaces for teaching, practicing and performing Music and Theatre Arts. There is a second story control room, as well as a multistory "fly area" over the theater stage area of the building. Building 1200 has never undergone a renovation or major maintenance. The building experiences significant use by the students and staff and is often frequented by the public and student's families to attend individual and public performances.

The building is divided at nearly the midpoint, by a hallway and seismic expansion joint, which also serves to separate the music and theater arts areas of the facility. Due to the occupancy rating differences between the music labs spaces and the theater assembly spaces, this separation also serves a very

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functional purpose as well. However, both buildings are similarly constructed of concrete panels and wood framing.

The music "wing" of the building is self contained, including entrances and restroom facilities. The area is served by its own building HVAC mechanical system as well. The faculty offices for music are also located in this area of the building as well.

The theater "wing" of the building includes the theater lobby, ticket booth and restrooms. The second story control room sits above the lobby area and is accessed via a stairway off the lobby. There are two ramped entrance portals from the lobby into either side of the back of the theater. The theater has a present seating capacity of 370 seats, an orchestra pit at the front of the theater and a large elevated stage. Adjacent to the stage area is a "green room" including make-up and restroom areas for both men and women. There is a large scene shop located beyond the stage area, which is separated by double story fire doors for stage access from the scenery shop. The theater arts office spaces have been located within a college theater arts staff built second story "loft" space above a portion of the scene shop which is accessed by a set of wooden stairs. The scene shop houses extensive amounts of equipment and building supplies to construct scenery and props for the theater. Construction activities within the shop include the extensive use of power tools, generation of noise and dust, spray painting and the storage and use of combustible paints, solvents and other hazardous and combustible materials.

Facilities Problem

There are numerous major issues confronting the use of the existing building and instructional teaching and support spaces identified above. First and foremost are the bat and rodent infestation issues, which have created not only an unpleasant urine "ammonia like" odor within many parts of the building, but more importantly, have created an extremely unhealthy environment for human beings as a result of the ubiquitous bat and rodent urine and feces deposits that have accumulated within wall cavities, on elevated flat surfaces throughout the building, within staff and student work and storage areas, and inside the rooftop and building interior air moving ductwork of the building HVAC system. The district has had several third party bat infestation inspection and industrial hygiene health inspection reports prepared for the building. These reports have been attached to this FPP funding request and are as follows:

- Building 1200 - Architectural Building Assessment , tBP Architecture, September 2008
- Building 1200 – Due Diligence Report (Mechanical, Electrical, Plumbing, Fire Protection), Interface Engineering, July 2008
- SCC Theater Building – Structural Evaluation, Dasse Design, Inc., May 2008
- SCC Campus Wide Bat Exclusion Plan, DGM Environmental, Inc., February 2007
- Building 1200 – Mold Evaluation, HMS, Inc., March 2009
- Building 1200- Asbestos Evaluation, HMS, Inc., March, 2009
- Building 1200 – Bat and Rodent Infestation Evaluation, HNS, Inc., March, 2009
- Building 1200 – Solano College Theatre Report, The Shalleck Collaborative, Inc., February 2007

The primary findings, concerns and safety and health issues identified within these third party reports are:

HEALTH ISSUES

- Bat and rodent feces and urine trails have been observed in nearly all areas of the building, wall and ceiling interstitial spaces and cavities, and most importantly within the building HVAC system supply and return air ducts. Bat and rodent droppings, when dried, have a potential threat of

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transmitting histoplasmosis, a respiratory fungal disease within humans. The presence and ongoing accumulation of bat and rodent fecal droppings within the noted building spaces constitutes a potentially significant health risk to students, staff and the considerable number of public attendees frequenting the theater.

- The considerable odor in the building from the bat and rodent urine and feces deposits within the walls, particularly within theater spaces, is a nuisance within itself. However, coupled with the other water intrusion issues within the building, there is concern that mold and mildew are also growing and accumulating within these spaces due to the presence of the droppings organic material and moisture within these confined spaces. Air sampling results have not indicated increased mold spore counts to date, but concern regarding the potential for increased mold spore counts has been expressed by the health experts examining the building.
- Due to the presence of seismic expansion joints and other roofing details, the building roof has chronically leaked. These leaks have worsened over the years and the interior areas of the building ceilings and walls exhibit considerable evidence of water damage. Additionally, the building HVAC duct work joint sealing compound has reached the end of its useful life cycle some time ago, and intrusion of water into the ductwork and associated building spaces has been ongoing for some time. The industrial hygiene report identified areas of duct work, ceiling tile and supply/return air registers that displayed clear signs of mold and mildew.
- The restroom areas within the theater wing of the building are significantly undersized for the 370+ attendees of the theater assembly spaces. Health codes require ample toilet facilities be provided, particularly for public gathering places. The college has received numerous complaints related to the clear lack of properly sized toilet facilities for the theater.
- The fire curtain at the stage proscenium contains asbestos. Due to this fact and the age of the fire curtain and the fear of releasing airborne asbestos fibers, the curtain has not been routinely inspected and tested as required by fire codes. Additionally, there are stage light cords, VAT floor tiles and mastic, and drywall taping/ topping compound that contain asbestos levels that exceed allowable health code regulations. The frequent moving of equipment and scenery throughout the building is damaging floor tile and walls and staff frequently handles the aged and fraying light cords. The significant intrusion of water into the building is also creating damage to sheet rocked walls and ceilings.
- Due to the aged condition of the building, many light fixtures throughout the building have or are failing. A few fluorescent light ballasts have failed in the past and smoldered, creating smoke within the building. The light ballasts contain polychlorinated biphenyls (PCBs) and constitute an inhalation health hazard when they fail and smolder.
- The building roof is leaking in many areas and is adding to the intrusion of water into building spaces and HVAC ductwork. Mold and mildew are present throughout the building and can be seen on ceiling panels and wall board in some areas.

SAFETY ISSUES

- The Building 1200 site is located within approximately 8 miles of an active seismic zone known as the Concord Green Valley Fault (class B). Due to the proximity of Building 1200 to this fault, it is reasonable to assume that the building will be subjected to strong ground shaking during the remainder of its useful life. Due to the high occupancy loads within the theater and music recital areas, coupled with the considerable building renovation work which will be required for the remediation of the bat and rodent infestation, a structural inspection and seismic analysis of the building was performed. The structural evaluation report, prepared by Dasse Design, Inc., identified the following seismic deficiencies requiring correction, to bring the building into minimal structural "life safety performance" and code compliance:

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1. Control room requires lateral bracing of the floor system.
 2. Existing shear walls are over stressed and will not resist overturning moments.
 3. Roof diaphragms need new collector lines at all building areas.
 4. Concrete shear wall connections to diaphragm needs strengthening all around entire building to resist out of plane seismic forces.
 5. Roof diaphragms must be re-nailed to strengthen diaphragm.
 6. Existing suspended ceiling in the theater auditorium requires lateral bracing.
 7. Voluntary seismic strengthening as noted above should not trigger further seismic retrofitting requirements by regulatory agency.
- The Fire alarm warning system throughout the building is substandard and non-complaint with fire and life safety codes (NFPA 13) and the CBC. The system is non-addressable and is not connected to the campus wide fire alarm system network. Required smoke and heat detectors, particularly within the scene shop, mechanical/electrical rooms and HVAC system, are non-existent. The horn strobe warning devices and pull stations throughout the building are non – compliant with respect to ADA access and life safety evacuation warning requirements.
 - Building electrical infrastructure is overloaded and constitutes an imminent failure situation and fire hazard. Due to the instructional delivery conversion to electronic pianos, midi lab and recording studio equipment, power tools in the scene shop, and substantial addition of new lighting and audio visual equipment in the theater, the building electrical circuits are overloaded and circuit failures are a daily occurrence. This overloaded condition constitutes a fire hazard and threat to the outdated and irreplaceable building electrical infrastructure. Due to the age and present configuration of the building power and distribution system, there is no capacity to accommodate additional loads or upgrades.
 - The theater lighting dimmer panel is also overloaded to the point of past failures. Due to overheating and some arching failures, part of the dimmer panel is now unusable, which only compounds the overloading situation and risk. The outdated dimmer panel must be replaced.
 - The stage counterweight rigging system is aged and no longer conforms to theater rigging safety standards. A theatrical rigging consultant has inspected the rigging and recommended that all moving parts of the rigging system be entirely replaced with new equipment including stage battens, lift lines, loft and head rigging blocks, and arbors. The life safety hazards and risks associated with this rigging system are significant and can result in catastrophic injuries and death if failures occur.
 - The building roof is leaking and must be replaced, after significant repairs and reframing to eliminate the inherent flashing defects and issues at the roof. The building roof drains are undersized and are no longer working effectively. There is some concern that the roof drains are leaking into building cavities and spaces and contributing to the water intrusion problems, as well as concern about accumulated water loads over stressing the roof structural system during heavy rain storms. Water intrusion into the building must be eliminated.
 - Only certain areas of Building 1200 are protected by an automatic sprinkler system. The Mechanical Engineer very strongly recommends the upgrade and completion of the building fire suppression system for the entire building, particularly with the large building occupancy loads identified. This important life safety system can be installed without major expense while other major renovation activities identified are conducted.
 - The existing code required smoke vent at the rooftop of the stage fly area is inoperative and in violation of state fire code for assembly areas. The smoke vent must be replaced at the earliest date possible. Additionally, the hose cabinets throughout Building 1200 have not been periodically inspected and replaced as required by fire code regulations. These must also be corrected immediately.

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- The dusts and fumes produced in the scene shop from newer technology materials such as foams, plastics and spray painting is being spread throughout the scene shop and theater area. Proper exhaust ventilation and dust collection is required in the scene shop area.
- The building main electrical transformer and panel board are located beneath the building main water pipes. This is a serious violation of electrical safety codes and constitutes a major fire hazard and potentially catastrophic failure of the building electrical infrastructure. The waterline must be relocated

ADA Accessibility Issues

- Numerous complaints have been received about the inaccessibility of the theater by the disabled. The theater entrances, both at the main lobby and at the lower entrances long ago remodeled for access. The ramps are non-compliant and are not negotiable by disabled patrons without assistance. Theater disabled seating is not code compliant and the number of spaces is inadequate in comparison to the overall seating capacity of the theater.
- The stage is inaccessible to disabled individuals. There are two stairways only that access the stage within the main house. When events such as graduation or other presentations are held in the theater, disabled persons must remain on the theater floor, below the stage level to receive recognition. A lift must be installed at the stage area to facilitate access by the disabled.
- The orchestra pit is only accessible by a small flight of stairs. Disabled musicians are unable to access the orchestra pit, or are carried there by others. A chair lift is required at the orchestra pit
- The control room for the theater is only accessible by a flight of stairs. Disabled persons in the technical theater arts program are unable to access the control booth. The stair access to the control booth is also non-compliant with respect to the width, run and rise. The stairs need to be replaced and a two stop elevator needs to be installed to provide access to the control booth.
- The ticket booth in the theater lobby is not accessible for persons either selling or buying tickets. The ticket booth needs to be enlarged and remodeled for access.
- The restrooms within the theater lobby are not accessible and must be remodeled.
- The path of travel to the theater is non-compliant with respect to cross slopes, handrails and walkway surface quality. The walkways need to be replaced to be compliant.
- The Green Room locker and make up rooms are not ADA accessible. Disabled performers must use make shift facilities to prepare for performances. These areas need to be remodeled to provide required access.
- The theater arts department and faculty offices are located in a loft within the scene shop that was not part of the original building construction and was not built to DSA required standards and inspection. The offices can only be accessed by a wooden stairway. The offices must be reconstructed with a two stop elevator included for disabled person access.
- The recording studio in the music wing is up a small flight of stairs and is not accessible to disabled students and staff. The recording studio is also cramped and lacks the proper equipment height and turn radius. The recording studio needs to be moved to ground level.
- The music individual study practice rooms are inaccessible to the disabled. Door widths, circulation hallway and rooms are not properly sized and configured for disabled access. The practice rooms must be reconfigured and resized.
- The piano and midi labs are overcrowded and lack proper aisle widths and turning radius for disabled access.

The above noted facilities problems are major disruptions to the Music and Theatre Arts instructional programs. The issues also constitute a severe health hazard to students, faculty, staff and the public and must be eliminated and corrected at the earliest date possible. The extensive renovation work required

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for addressing the safety and health issues will require replacing nearly all of the building infrastructure systems and interior finishes. The only reasonable approach is to perform all the corrective work at the same time, as the most cost effective and least disruptive means to resolve the problems.

WSCH Projections

The project involves the major renovation of building systems and structure to remediate Health, Safety and disabled access issues. Some modifications of the current building spaces and minor expansion of the building lobby area will be required to provide adequately sized spaces and circulation for ADA compliance. The project does not result in additional program space within the building.

Space Analysis (ASF):

Type	Lecture	Lab	Office	Library	AV/TV	Other	Total
Primary	0	5,352	820	75	0	13,846	20,093
Secondary	0	-5,578	-800	0	0	-13,715	-20,093
Net	0	-226	20	75	0	131	0
Beg. Cap/Load Ratios (2010)	160.1%	100.7%	119.6%	67.7%	24.3%	N/A	115.0%
End. Cap/Load Ratios (2010)	160.1%	100.5%	119.6%	68.0%	24.3%	N/A	115.0%

Criteria for Solution

- a. Provide functional and healthy instructional and support spaces for the Music and Theatre Arts programs.
- b. Provide appropriately sized and configured spaces to house instructional programs in Music and Theatre Arts Programs.
- c. Provide access to all program and assembly spaces to people with physical disabilities.
- d. Provide modern teaching labs that provide sufficient building system and technology infrastructure to support instructional needs.
- e. Provide facilities that are cost effective to renovate, operate and maintain.
- f. Provide permanent instructional buildings within the campus core, rather than remote locations.
- g. Provide instructional facilities consistent with Campus Educational Master Plan.
- h. Renovated and new buildings should exceed Title 24 energy efficiency requirements in accordance with State Chancellor's Office energy incentives.

B. RELATIONSHIP TO STRATEGIC PLAN

The renovation of the existing Music and Theatre Arts Building 1200 contributes to the achievement of the overall goal of the Solano College 2007 Educational and Facility Master Plans. The Plan goals are to provide seismically safe, appropriately sized and "smart" modern learning environments to serve the current and future needs of campus educational programs. The goals will be achieved by renovation and

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modernization of existing campus buildings and constructing new building space to replace non compliant, inadequately sized and poorly functional facilities. Objectives of the plan include:

- Create modern, smart and state of the art classrooms and laboratories.
- Provide adequately sized classroom, lab, support and storage spaces for instructional programs.
- Renovate or replace existing buildings that are identified as structurally deficient by structural engineering studies.
- Provide indoor and outdoor collaborative learning spaces throughout the campus that promote and enhance the educational experience and success of students.
- Provide equal access to all college facilities and activities to all individuals.

Renovation of the Music and Theatre Arts Building 1200 is listed as a building requiring renovation in the 2007 Solano College Master Plan and the District's Five Year Construction Plan.

C. ALTERNATIVES

Alternative 1: Renovate Existing Music and Theatre Arts Building 1200

Approach: Renovate and modernize the existing 20,093 ASF in Music and Theatre Arts building instructional laboratories, instructional support, practice rooms and assembly spaces. Existing facilities will be renovated and modernized to provide healthy and appropriately sized code compliant facilities for the current programs.

Cost: \$ 11,528,512

Pros:

- This approach is the least cost alternative and the preferred alternative.
- This approach will address all the existing health, safety, code compliance and building infrastructure issues at one time. This is the most realistic and cost effective way to resolve these problems.

Cons:

- This alternative will require the relocation of the Music and Theatre Arts programs to other campus flex space during the building renovation activities. This will create some disruption to the programs.
- This alternative will create unavoidable disruption to the campus and adjacent instructional spaces.

Alternative 2: Construct a Replacement Building

Approach: Demolish the existing Building 1200 and construct a new, replacement building on the site of the existing buildings. This approach will provide healthy and appropriate instructional spaces to serve the current and future Music and Theatre Arts instructional programs. A new building will also provide ADA access for people with physical disabilities.

Cost: \$ 15,840,774

Pros:

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- This alternative meets all of the criteria and will provide appropriate instructional spaces to serve the current and future Music and Theatre Arts instructional programs.
- This approach further addresses the replacement of existing unhealthy, non-functional and inadequately sized facilities.
- A replacement building will resolve the existing non-compliant conditions with respect to ADA, seismic and health code regulations.
- This solution will conform to the 2007 College Educational Master Plan.

Cons:

- There will be unavoidable campus disruption during demolition and construction activities.
- The Music and Theatre Arts programs will need to be relocated to other temporary facilities during the renovation, which will create disruption to the programs.

Alternative 3: Replace Existing Buildings with Portable Buildings

Approach: Relocate Music and Theatre Arts programs to 20,093ASF (25,231 GSF) in portable building facilities on campus. The only suitable area would be parking lot areas located on the west side of the campus. Utilities infrastructure would have to be extended to this area to provide service for labs, classrooms, offices and other support spaces. Off campus theater facilities would need to be rented on a regular basis for technical theatre arts instruction and theatrical performances.

Cost: \$ 16,605,281

Pros: There are no positive aspects to this approach. The loss of the theater, scene shop and theater control room would result in significant degradation of the theatre arts programs. Students would receive minimal instruction opportunities and have to leave the main campus for instruction.

Cons:

- This is not an appropriate solution because Music and Theatre Arts instructional labs would be located in portables without a plan for permanent housing. Portable buildings would be expected to need replacement at least once to compare to the expected 50-year+ service of a permanent building. The cost of installing portable buildings to provide space for the Music and Theatre Arts programs would be prohibitive with respect to initial costs and ongoing life cycle maintenance costs.
- The use of portable building space for instructional needs is not deemed a long term solution for campus facilities needs by the college and State Chancellor's Facilities Planning Unit.
- The parking lot locations which could possibly be used for the placement of the portables would limit the on campus available parking for students and staff.
- The requirement to rent off campus theater space and reduced availability would negatively impact the Theatre Arts instructional programs.

Alternative 4: Lease Other Facilities off Campus

Approach: Lease, with appropriate tenant improvements for instructional program needs, 25,231 GSF in off campus spaces. The leased space would need a mitigated negative declaration review minimally, due to the presence of hazardous materials, exhaust ventilation discharge and the negative traffic impact created by a 370 seat theater facility. Tenant improvements for the high tech music and theater lighting

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systems electrical infrastructure requirements, restroom facilities and tiered theater seating spaces would be very costly.

Cost: \$ 21,312,222

Pros: This approach would provide the required appropriately sized, healthy, safe and functional program space.

Cons:

- Locating an available and suitable off-site building; that fits the criteria for the instructional lab and assembly space requirements of the Music and Theatre Arts programs, as well as being within reasonable proximity to the campus, is deemed problematic.
- The high cost of tenant improvements for the specialized laboratories and theater would be very costly and would be abandoned costs if the programs were to be relocated prior to the 35-40 year life cycle of these improvements.
- The music and theater arts programs have a very high percentage of matriculating students within their programs. Consequently, the need for students to take many other general education and related programs at the main campus does not support the re-location of these programs from the main campus.
- The isolation of the Music and Theatre Arts programs from campus does not support the "complete campus" approach and funding priority.

Criteria Analysis Matrix

	Alternative 1. Renovate Existing Building 1200	Alternative 2. Construct New Replacement Building	Alternative 3. Relocate to Portables	Alternative 4. Lease off Campus Space
a. Provide healthy and functional instructional and support spaces	Yes	Yes	No	Yes
b. Provide appropriately sized and configured instructional and support spaces	Yes	Yes	No	Yes
c. ADA accessibility	Yes	Yes	Yes	Yes
d. Modern technology and sufficient building infrastructure systems for laboratories	Yes	Yes	Yes	Yes
e. Cost effective to renovate, operate and maintain	Yes	Yes	No	No
f. Provide permanent buildings located within the campus core	Yes	Yes	No	No
g. Consistent with Campus Facilities Master Plan	Yes	Yes	No	No
h. Exceed Title 24 energy efficiency requirements	Yes	Yes	No	Yes

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Economic Analysis

Item	Alternative 1. Renovate Existing Building 1200	Alternative 2. Construct Replacement Buildings	Alternative 3. Replace Existing Space with Portables	Alternative 4. Lease Off-Campus Space
Site Acquisition				\$0
Plans & Working Drawings	\$1,005,366	\$1,473,755	\$1,910,336	Leasing agent commission @ \$45,000
Construction Costs				
• Utility	143,083	897,465	576,679	
• Site Development, Service		365,976	467,545	
• Site Development, General	121,614	486,360	395,670	
• Other Site Development	16,500	267,550	510,000	
• Reconstruction	6,898,957			
• New Construction		9,184,095	Purchase and install 23 portable blds. @ \$275K ea, =\$6,325,000 replace after 30 years (2 turns) =\$12,650,000	T.I. @ \$250/sq ft x 25,231 GSF =\$6,307,750
• Other Construction	2,084,263	1,687,663	95,000	\$ 123,632 Deposit & Lease Costs for 20 yrs @ \$2.45/sq ft =\$61,816/m x 240mos = \$14,959,472
Test/Inspection	239,644	317,891	293,948	
Contingency	648,509	644,455	1,028,643	
CM/AE oversight	370,576	515,564	587,796	
Total Construction Costs	\$10,523,146	\$14,367,019	\$16,605,281	\$21,312,222
Equipment (Group II) EPI 2894	0	0	0	0
Total Project Cost, CCI 5065	\$11,528,512	\$15,840,774	\$18,515,617	\$21,312,222

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D. RECOMMENDED SOLUTION

1. Which Solution and Why?

The Recommended Solution is Alternative 1, Renovate Existing Building 1200. The cost of renovation is the least cost solution and will provide the required improvements to resolve the facilities health, safety and accessibility issues.

Alternative 1, Renovate Existing Building 1200 is the only approach that meets all of the criteria. It will renovate the existing building that currently houses the Music and Theatre Arts Programs, which have significant health, safety, seismic, ADA accessibility, code regulation non-compliance and failing infrastructure facilities problems. Some of the existing spaces are inadequately sized and configured for code compliance and class sizes. The renovated building will result in a healthy and safe environment to deliver instruction and promote student success.

2. Detailed Scope Description

The project involves a major renovation of existing Building 1200. The renovated facility will provide instructional, support, assembly, office and individual study space to serve the current and future educational programs and needs of the Music and Theatre Arts programs, and improve ADA access. It will house the following:

- 4,450 ASF in Theater Arts labs
- 3,413 ASF in Recording Arts labs
- 435 ASF in Individual Study labs
- 10,900 ASF in Assembly
- 75 ASF in Library Stack
- 820 ASF in Offices

3. Basis for Cost Information

The cost estimates for all of the alternatives are at the current cost index and have been provided by architects, engineers and construction cost estimators who have experience with other, similar educational facility projects. Project work scope and associated cost estimates have been developed from specific findings and recommendations of third party building and condition assessment reports. Because many building systems and utility infrastructure issues will be addressed in this renovation project, the design will include the following features to exceed by at least 15% the requirements of Title 24, part 6 Energy Efficiency requirements:

- Chilled and hot water systems (hydronic vs. air cooled and gas fired rooftops)
- Variable Air Volume (VAV)
- Variable Frequency Drives (VFD)
- Energy Efficient Motors
- Building Management Systems (BMS)
- Additional Insulation at Building Envelope
- Energy Star Roofing

4. Factors/Benefits of Recommended Alternative Other than Least Expensive Alternative

The preferred approach, Alternative 1, Renovate Existing Building 1200, is the least cost solution. This alternative meets all of the project criteria and the limitations of A4 remediation projects.

BUDGET YEAR 2011-2012

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5. Complete Description of Impact on Support Budget

The Analysis of Future Costs states:

- Certified: No additional costs for certificated staff are anticipated upon occupancy of the new facilities.
- Classified: No additional costs for classified staff are anticipated upon occupancy of the renovated facility.

6. Identify and Explain Any Project Risks

Risks related to the project include disruption to the normal operation of the college due to utility distribution systems required shutdowns and other construction activities. Unforeseen conditions and changes to address issues during construction could impact project costs and district required expenditures.

7. List Requested Interdepartmental Coordination and/or Special Projects Approval

- Division of the State Architect – Title 24 structural, access compliance and energy reviews
- State Fire Marshal – fire/life safety
- Fairfield Fire District – water and access review
- State Public Works Board
- Any other required local agency reviews

E. CONSISTENCY WITH CHAPTER 1016, STATUTES OF 2002 – AB 857

1. Does the recommended solution (proposed project) promote infill development by rehabilitating existing infrastructure and how? Explain.

The proposed project will not result in revisions to infrastructure for the existing campus of Solano College. Site infrastructure will not be relocated and replaced to renew the service life of existing utility infrastructure systems on campus. The existing campus is presently served by transit, streets, water, sewer and other essential services.

2. Does the proposed project improve the protection of environmental and agricultural resources by protecting and preserving the state's most valuable natural resources? Explain.

The project does not impact the state's most valuable natural resources, listed in Section 65041.1(b) as working landscapes such as farm, range, and forest lands, natural lands such as wetlands, watersheds, wildlife habitats, and other wild lands, recreation lands such as parks, trails, greenbelts, and other open space, and landscapes with locally unique features and areas identified by the State as deserving special protection.

3. Does the proposed project encourage efficient development patterns by ensuring that infrastructure associated with development, other than infill, support efficient use of land and is appropriately planned for growth?

The project conforms to the Solano College campus educational and facilities master plans to develop the campus safely, efficiently, ensure that infrastructure is developed to support the efficient use of land, and to accommodate the State Chancellor's Long Range Projections for Enrollment and WSCH. The campus plan includes elements for geotechnical limitations, buildings, usable exterior spaces, vehicular and pedestrian circulation, and infrastructure.

**CALIFORNIA ENVIRONMENTAL QUALITY ACT
ENVIRONMENTAL IMPACT REPORT**
(Reference: California Code of Regulations, Title 5 Section 57121)

A MITIGATED NEGATIVE DECLARATION WAS PREPARED WHICH INCLUDED THIS PROJECT AS AN ELEMENT OF THE CAMPUS FACILITY MASTER PLAN IMPROVEMENTS FOR THE 2006 LOCAL BOND MEASURE CONSTRUCTION PROJECTS AND FILED IN ACCORDANCE WITH CEQA REQUIREMENTS.

OUTLINE SPECIFICATIONS

**For the
Building 1200 Theater Renovation
Solano College
(FPP Submittal Phase)**

PROJECT DESCRIPTION:

The work includes limited new site work and building reconstruction of a Theater and Music instructional building. The building is currently a single story structure, with a 4 story "fly" area for the theater stage area of the building. The building is comprised of approximately 25,231 GSF, cast-in-place concrete, concrete panels, wood frame, exterior cement plaster and glass finishes. Foundation is primarily spread footings with concrete slab on-grade. The work will incorporate Solano Community College District campus standards for building materials and products.

BIDDING AND CONTRACT DOCUMENTS:

District will prepare all bidding requirements and forms, contract forms and conditions of the contract.

DIVISION 1 - GENERAL REQUIREMENTS

01110 - SUMMARY OF WORK

- 1.1 Contract Type: Single fixed-price.
- 1.2 This info will be available to the Contractor at the office of the District Representative.
Site Survey prepared by District Civil Engineer
As built building drawings for Solano Community College District (SCCD).
Geotechnical Investigation reports for Solano CCD.

01230 – ALTERNATES

01250 – CONTRACT MODIFICATION PROCEDURES

01270 – UNIT PRICES

Concrete moisture vapor emission and alkalinity control.

01291 – APPLICATIONS AND CERTIFICATES FOR PAYMENT

01310 – PROJECT COORDINATION

01312 – PROJECT MEETINGS

01321 – CONSTRUCTION PHOTOGRAPHS

01330 – SUBMITTAL PROCEDURES (w/ Shop Drawing Transmittal Form)

01410 - REGULATORY REQUIREMENTS:

- 1.1 California Building Code, Title 24, Parts 1, 2, 3, 4, 5, 7 and 9, California Code of Regulations, latest adopted edition.

01420 - REFERENCES

01450 - QUALITY CONTROL

- 1.1 Payment: Owner will pay for Quality Control Services.
- 1.2 Payment of Design Laboratory costs by Contractor. Payment of all other testing and inspection by Owner.

01500 - TEMPORARY FACILITIES AND CONTROLS (w/ Project Sign Drawing)

- 1.1 Temporary Construction Utilities: Paid for by Contractor.
- 1.2 Owner's Inspector's Office: Provided by Contractor.
- 1.3 Sanitary Facilities for Workmen: Provided by Contractor.
- 1.4 Project Sign: Provided by Contractor.

01505 – CONSTRUCTION WASTE MANAGEMENT

- 1.1 Contractor to prepare waste management plan.

01600 - PRODUCT REQUIREMENTS

- 1.1 Administrative and procedural requirements for selection of products used in the project.

- A. Submittals
- B. Quality Assurance
- C. Product delivery, storage and hauling.

- D. Product Selection
- E. Product installation
- 1.2 Alternative materials and equipment
 - A. Substitutions/procedures
 - B. Substitution request form

01650 - BUILDING COMMISSIONING

01722 – FIELD ENGINEERING

01732 – CUTTING AND PATCHING

01740 – FINAL CLEANING

01770 – CLOSEOUT PROCEDURES

01783 – OPERATION AND MAINTENANCE DATA

01787 – PROJECT RECORD DOCUMENTS

01789 – PRODUCT WARRANTIES

DIVISION 2 - SITE WORK

02200 – EARTHWORK (CIVIL / STRUCTURAL)

- 1.1 Soils Report for this project will be by Solano CCD selection for building 1200 renovation/modernization.
- 1.2 Typical Fill and Backfill:
 - A. Granular, not showing excessive shrinkage or swelling when subjected to changes in water content.

- B. Free of organic matter, concrete or brick fragments and other deleterious substances and containing no rocks or lumps over 4-inches in greatest dimension.
 - C. All fill material shall be within 3-percent of optimum moisture content as determined by ASTM D1557.
 - D. On-site soils may be used as fill material except where granular fill material is specified. The moisture content must be within the above limits to be acceptable. Some drying of on-site soils may be required.
 - E. Conform to the following minimum requirements:
 - 1. Minimum "R" value: 20.
 - 2. Maximum Expansion Pressure: 200 psf.
 - 3. Maximum Plasticity Index: 12. Values at an exudation pressure of 400 psi as determined by CMM Test Method No. 301 D.
- 1.3 Granular Backfill: ASTM C33 fine aggregate or relatively clean (less than 8-percent by weight passing No. 200 sieve) bank run sand and gravel.
- 1.4 Rock Course:
- A. Clean mineral aggregate (broken stone, crushed or uncrushed gravel, clean quarry waste, or combination thereof).
 - B. Free of adobe, organic matter, loam, volcanic tuff, or other deleterious material.
 - C. Absorption of water in saturated surface dry condition shall not exceed three percent of oven dry weight of sample.

D. Graded (Laboratory sieves, U.S. Series) to following:

Sieve Size	Percentage Passing Sieve
3/4-inch	100
No. 4	0-5

1.5 Sand: Clean dry concrete sand of no special grading or compaction.

1.6 Moisture Barrier: Ten-mil polyethylene sheet.

02210 - FINISH GRADING not used

02224 SELECTIVE DEMOLITION (CIVIL)

02230 SITE CLEARING (CIVIL)

02514 – SITE PAVING

1.1 This work will consist of concrete paving with construction profile meeting geo-tech requirements for pedestrian, emergency vehicles and small truck use. At all building emergency exits, a minimum five (5) foot wide concrete exit path is required, as shown on the plans. All concrete will have a texture finish surface such as broom, salt or sandblast. The pedestrian pathway shall consist of concrete with a salt finish and natural gray color with a medium sandblast finish.

02610 FIRE SERVICE (CIVIL)

OUTLINE SPECIFICATIONS

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02620 SANITARY SEWER (CIVIL)

02630 STORM DRAIN SYSTEM (CIVIL)

02640 WATER SERVICE (CIVIL)

02720 - LANDSCAPE DRAINAGE not used

02810 - IRRIGATION not used

02870 - SITE FURNISHINGS not used

02900 - LANDSCAPE PLANTING not used

02920 - SOIL PREPARATION not used

02930 - LAWNS & GRASSES not used

02970 - LANDSCAPE MAINTENANCE not used

DIVISION 3 - CONCRETE

03100 - FORMWORK (STRUCTURAL)

1.1 Forming Materials:

- A. Panel or board forms at the Contractor's option.
 - 1. Panel Forms: Minimum 5/8-inch thick exterior grade plywood with sealed edges, PS 1 grade Plyform Class I and II B-B Exterior or HDO Exterior.
 - 2. Board Forms: Shiplap or tongue and groove lined with PS 1 grade Plyform Class I and II Exterior 2-inch or HDO Exterior 2-inch or 3/16-inch thick fiberboard conforming to FS LLL-B-810a(1), type I.

- B. Forms for Exposed Finish Concrete: Plywood, metal, metal-framed plywood faced, or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed

surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on Drawings.

1. Use Plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, with each piece bearing legible inspection trademark. Panels to receive specified form sealer to ensure uniform finish of exposed surfaces.
 2. Designated "Architectural Concrete" Surfaces: Use overlaid plywood complying with U.S. Product Standard PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class 1.
- C. Chamfer Strips: Burke Concrete Accessories, PVC type CSF 2-inch, all exposed corners.
- 1.2 Wood Framing: WCLIB standard grade or better Douglas Fir.
- 1.3 Form Ties and Spreaders: Metal type acting as spreaders, leaving no metal within one inch of concrete face and no fractures, spalls, depressions or other surface disfigurements greater than 3/4-inch in diameter.
- 1.4 Expansion Joint Filler:
- A. Fiber type: Pre-molded asphalt-impregnated fiber, ASTM D1751, 1/4-inch thick unless otherwise noted. Same as W.R. Meadows, Inc.'s "Sealtight Fiber Expansion Joint"; Grace Construction Materials "Serviced Fiber Expansion Joint Filler, Code 1390"; National Expansion Joint Co.'s "Fiber Joint Filler No. 12"; Burke Concrete Accessories, Inc.'s "Burke Fiber Expansion Joint"; or equal product substituted per Section 01600.
 - B. Cork Type: Preformed cork, ASTM D1752, Type II, 1/4-inch size unless otherwise noted. Same as W.R. Meadows, Inc.'s "Sealtight Cork Expansion Joint"; Sonneborn-Contech's "Sonoflex Cork"; Grace Construction Materials "Serviced Standard Cork Expansion Joint Filler, Code 4323; or equal product substituted per Section 01600.

- 1.5 Form Sealer: Same as Grace Construction Material's "Formfilm"; or equal product substituted per Section 01600.
- 1.6 Release Agent: Must not stain or otherwise adversely affect architectural concrete surfaces. Same as the Nox-Crete Co.'s "Nox-Crete Form Coating"; Industrial Synthetics Corp.'s "Synthex;" or equal product substituted per Section 01600.

03200 - CONCRETE REINFORCEMENT (STRUCTURAL)

- 1.1 Bars: New billet steel, ASTM A615 Grade 60.
- 1.2 Tie Wires and Spirals: ASTM A82.
- 1.3 Welded Wire Fabric: ASTM A185.
- 1.4 Welding Electrodes: Mild steel covered arc-welding types conforming to AWS A5.1.
- 1.5 Bar Supports: As required for assembling and supporting reinforcement in place.
 - A. Typical: CRSI Class B Pre-galvanized.
 - B. Interior and Exterior Soffits and Other Exposed Conditions: CRSI Class C plastic-protected; or class E stainless steel wire, Type 430, and containing not less than 16-percent chromium.
- 1.6 Threaded coupler: Lenton Standard coupler by ERICO or equal product substituted per Section 01600. Coupler shall develop 125-percent of specified yield strength reinforcement.

03300 - CAST-IN-PLACE CONCRETE (STRUCTURAL)

Concrete Classes:

CLASS	STRENGTH	AGGREGATE	WEIGHT	SLUMP
A	4000	3/4	145	3 "
B	4000	3/4	110	3 "

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1.1 Cements:

- A. For Class A and B Concrete: ASTM C150, Type II. Use one brand of cement throughout project unless otherwise acceptable to Architect.

1.2 Fly Ash: ASTM C618, Type C or Type F.

1.3 Aggregates:

- A. Coarse: ASTM C33. Coarse aggregate shall consist of a clean, hard, fine grained, sound crushed rock, or washed gravel or a combination of both. It shall be free from oil, organic matter or other deleterious substances and shall not contain more than two percent by weight of shale or cherty material. Any suitable individual grading of coarse aggregate may be used provided "Grading of Combined Aggregates" shown in CBC Table 19A-2 are obtained. "Cleanness" value shall not be less than 75 when tested per MM Test Method, 227 and conforming to CBC Section 1903A.4.2.
- B. Fines: ASTM C33. Sand equivalent shall be not less than 75 when tested as per ASTM D2419.
- C. For Class B Concrete: ASTM C330; expanded shale type uniformly graded from 3/4-inch to No.200 Mesh. Cleanliness value and sand equivalent not less than 75. Same as Aggregate Division of Basalt Rock Co., Inc.'s "Basalite"; Port Costa Clay Products Co.'s "PC-7"; or equal product substituted per Section 01600.
- D. Provide aggregates from a single source for exposed concrete.

1.4 Water: Clean and potable, free from impurities detrimental to concrete.

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- 1.5 Water-Reducing Admixture: ASTM C494, Type A. Same as Grace Construction Materials "WRDA"; Master Builders "Pozzolith"; Sika Corp.'s "Plastocrete 161"; or equal product substituted per Section 01600.
- A. Air Entraining Admixture: ASTM C260, certified by manufacturer to be compatible with other products. Same as W.R. Grace's "Daravair", Master Builders, "Micro-Air", Sika Corp.'s "Sika Aer", or equal product substituted per Section 01600.
- B. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C494, Type F or Type G. Same as W.R. Grace's "WRDA 19", Master Builders "Rheobuild", Sika Corp.'s "Sikament", or equal product substituted per Section 01600.
- C. Water Reducing, Accelerator Admixture: ASTM C494, Type E. Same as W.R. Grace's "Daraset", Master Builders "Pozzutec 20", Euclids "Accelgurad 80", or equal product substituted per Section 01600.
- D. Water Reducing, Retarding Admixture: ASTM C494, Type D. Same as W.R. Grace's "Daratard-17", Master Builders "Pozzolith R", Sika's "Plastiment", or equal product substituted per Section 01600.
- E. Fibrous Reinforcement: Engineered polypropylene fibers designated for secondary reinforcement of concrete slabs. Same as W.R. Grace's "Grace Fibers", Euclid's "Fiberstrand 100", Fibermesh's "Fibermesh", or equal product substituted per Section 01600.
- 1.6 Other Admixtures: Only as approved by the Architect.
- 1.7 Abrasive Grains: Aluminum oxide type. Same as Sonneborn-Contech's "FricTex NS"; General Abrasive Co., Inc.'s "Fut-Sure"; The Exolon Co.'s "Exolon Co.'s "Exolon Anti-Slip"; or equal product substituted per Section 01600.

- 1.8 Abrasive Grains: Aluminum oxide type. Same as Sonneborn-Contech's "FricTex NS"; General Abrasive Co., Inc.'s "Fut-Sure"; The Exolon Co.'s "Exolon Anti-Slip"; or equal product substituted per Section 01600.

- 1.9 Non-Shrink Grout: Premixed high strength grout requiring only addition of water at the site. Same as Master Builders "Masterflow 928 Grout"; Burke's "Non-Ferrous, Non-Shrink Grout", or equal product substituted per Section 01600.

- 1.10 Curing Materials:
 - A. Waterproof Paper: ASTM C171, Type 1, regular. Same as Sisalkraft Division of St. Regis Paper Co.'s "Orange Label"; or equal product substituted per Section 01600.

 - B. Sheet Plastic: Polyethylene, four mils thick, fungus-resistance.

 - C. Curing Compound: ASTM C309. Same as Grace Construction Materials' "Horn Clear Seal"; Grimes Co.'s "Sealcrete"; Master Builders "Masterseal W", or equal product substituted per Section 01600.

- 1.11 Concrete Sealer: Clear water repellent treatment, blend of six resins containing no silicones or stearates, no darkening or change of color. Same as Sonneborn-Contech's "White Rox 6-50-8"; Tamms Industries "Chemstop" or equal product substituted per Section 01600.

03360 – CONCRETE FINISHES

- 1.1 Scratch Finish: Surfaces to receive mortar setting beds or cementitious flooring.
- 1.2 Trowel Finish: Hard, smooth, uniform surface for exposed finished floors or slabs for resilient flooring, carpet, or other thin finish flooring applied directly to slab. Provide sealer coat on exposed concrete surfaces and concrete surfaces to receive carpet.
- 1.3 Broom Finish: roughened surface after troweling with fine texture brooming across traffic direction at steps and ramps (usually for exterior work, not for interior).

OUTLINE SPECIFICATIONS

FPP Submittal Phase

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1.4 Exterior cast-in-place concrete. Finish to match existing campus buildings. Job site Mock-up required.

DIVISION 4 - BRICK MASONRY UNITS not used

DIVISION 5 - METALS

05120 - STRUCTURAL STEEL (*STRUCTURAL*)

1.1 Steel Shapes, Bars, Rods, and Plates: ASTM A992; Bars, Rods and Plates: ASTM A36.

1.2 Steel Tubing: ASTM A500, Grade B.

1.3 Steel Pipe: ASTM A53, Grade B.

1.4 Standard Threaded Fasteners:

A. Machine Bolts and Nuts: ASTM A307, Grade A.

B. Plain Washers: ANSI B18.22.1.

C. Beveled Washers: ANSI B18.23.1.

1.5 High Strength Bolts: ASTM A325SC.

- 1.6 Direct Tension Indicators: Load Indicator Washers, ASTM F959 or Hex Head "Tru Tension" Bolts by Nucor.

- 1.7 Shear Connectors: Size as shown, conform to requirements of AWS D1.1. Same as The Nelson Stud Welding Co.'s "Nelson Stud"; or equal product substituted per Section 01600.

- 1.8 Anchor Bolts: ASTM A307 and ASTM A449 as noted on Drawings.

- 1.9 Threaded Rods: ASTM A36.

- 1.10 Welding Electrodes: E70. The weld metal used shall be rated for Charpy V-Notch (CVN) values of 20 Ft-Lbs at a temperature 30F colder than the lowest ambient service temperature, and that test temperature shall not be above 0F. This may be determined based on the electrode classification system, or by performing CVN tests in accordance with the AWS A5.x filler metal specifications. SMAW electrodes shall be E7018.

- 1.11 Primer: Tnemec Co., Inc's "99 Red Metal Primer"; Rust-Oleum Co.'s "769 Damp-Proof Red Primer"; or equal product substituted per Section 01600.

05310 - STEEL DECKING *not used*

05500 - METAL FABRICATIONS *(ARCHITECTURAL / STRUCTURAL)*

- 1.1 Ferrous Metals:
 - A. Structural Steel Shapes: ASTM A36, conforming to AISC specifications.
 - B. Architectural and Miscellaneous Steel Items: ASTM A283.
 - C. Steel Sheets: ASTM A570, Grade 36.
 - D. Steel Pipe: ASTM A53.

- E. Steel Bars: ASTM A36.
- F. Steel Tubing: ASTM A500, Grade B.
- G. Steel Plate: ASTM A36.
- H. Checker Plate: FS QQ-F461c, flat back carbon steel, pattern 15 or 16.
- I. Zinc for galvanizing: ASTM B06 as specified in ASTM A123.
- J. Welding electrodes: E-70XX.
- K. Grout: Embeco "636" or approved equal.
- L. Stair Treads: Irving, Reliance, or equal with abrasive metal nosing.
- M. Grating: Irving, Reliance or equal typical one-inch X 3/16-inch beaming bars at 1-3/6-inch centers with 1/4-inch twisted cross bars welded at 4-inch centers, galvanized with bolted anchorage.

1.2 Fastenings:

- A. Typical Unfinished Bolts, Nuts, and Washers: Low carbon steel standard fasteners, externally and internally threaded, ASTM A307 Grade A; malleable washers.
- B. Expansion Bolts: FS FF-S-325, Group II, Type 4. Same as Hilti's "Kwik-Bolt II Concrete Anchors"; Wej-It Expansion Products, Inc.'s "Wej-It Concrete Anchors"; or approved equal.
- C. Primer: Zinc-chromate type. Same as manufactured by Fuller-O'Brien Corp.'s Ne. 121-00; The Glidden Co.'s No. 4570; Sinclair Paint Co.'s 20; or approved equal.

05511 - METAL STAIRS (ARCHITECTURAL)

- 1.1 Interior Stairs. Concrete treads and landings by Best Concrete Steps Inc. Trowel finish (non-slip) with 2" crushed aggregate stripe. Exposed aggregate nosing.
- 1.2 Ships Ladder (roof): Design based on "Sure Step SLRH 60° as mfg. by Royalite Mfg., Inc. San Carlos, CA. (Meet OSHA standards for fixed ladder). Aluminum.

- 1.3 Elevator Pit Ladder as detailed on the drawings.

05520 - PIPE AND TUBE RAILINGS

- 1.1 Prefabricated glass handrail system at main lobby and Mezzanine spaces.
- 1.2 Aluminum pipe and tube handrails and railings at all other locations.

05811 - ARCHITECTURAL JOINT SYSTEMS

- 1.1 Expansion joints at exterior internal and external corners: Flexible elastomeric seals with metal covers.
- 1.2 Expansion joints at exterior window wall and column intersections:
- 1.3 Horizontal compensation joints at exterior "stucco" walls:
- 1.4 Review all expansion joint criteria with Structural.

DIVISION 6 - WOOD AND PLASTICS

06200- FINISH CARPENTRY AND MILLWORK

- 1.1 Standing and Running Trim: Maple as detailed.

06400- ARCHITECTURAL WOODWORK

- 1.1 WIC, premium grade, construction style "A" (frameless), flush overlay
Comply with Section 15 & 16, WIC Manual of Millwork.

- 1.2 Plastic Laminate Casework ("Back of House" Utilitarian Locations.)
 - A. Tops & exposed surfaces: Plastic Laminate.
 - B. Vertical semi-exposed surfaces: Melamine.

- 1.3 Wood and Plastic Laminate Casework (Circulation Desk and Prominent Spaces)
 - A. Exposed Vertical Surfaces & Reveals, Doors and Edge trim (exposed to public): Maple Veneer, transparent finish.
 - B. Exposed Vertical Surfaces, doors, drawers, sides of open shelves on staff side: Plastic Laminate.
 - C. Counter-Tops: Granite as selected by Architect. Open shelves: Plastic Laminate.
 - D. Vertical semi-exposed surfaces: Melamine.
 - E. Countertop edges & other edge trim: Maple wood, Transparent Finish.

- 1.4 Casework hardware: 630 satin stainless steel. Cabinet door handles, banded wire 3 ¼" to 3 ½", satin stainless steel. Trimco #562-3 (BBW #9054).
- 1.5 WIC certified shop drawings with WIC Certification stamps and WIC Certified installation.
- 1.6 Laboratory casework to be manufactured by ISEC.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07131 - SHEET MEMBRANE WATERPROOFING

- 1.1 Type I Cement Plaster (Stucco) membrane: Vycor V40 Weather Barrier Strips Mfg. by Grace.
- 1.2 Type II Roof Underlayment: Vycor Ultra (30 mil) by Grace. Apply to concrete substrate with Bituthene P-3000 Primer by Grace.

07210 - BUILDING INSULATION

- 1.1 Thermal Batt Insulation: Concealed building insulation. Kraft faced mineral fiber blanket. Walls R-19. Roof R-30
- 1.2 Thermal Rigid Insulation: Tapered as required for roof drainage.
- 1.3 Sound Insulation: Unfaced, friction-fit, fiberglass batts. (See acoustical report).

07260 – CONCRETE MOISTURE VAPOR EMISSION AND ALKALINITY CONTROL

07530 – SINGLE –PLY MEMBRANE ROOFING

- 1.1 Design is based on D.C. Taylor Co. PVC Membrane System – Sarnafil.
 - A. Roof Slope: 1/4 inch per 12 inches minimum at valleys.
 - B. Single ply Thermal Plastic(PVC) heat welded membrane.
 - C. Finished Surface: Decorative gravel finish over manufacturer approved membrane separation sheet.
 - D. Fire Hazard Classification: UL Class A.
 - E. Roofing Manufacturer's Warranty Period required: 15 years.
- 1.2 Type of Roof Deck: Perlite panels over extruded polystyrene boards over concrete and metal deck. (*Verify roof venting requirements*).
- 1.3 Walkway Pads: D.C. Taylor Co. recommended system.
- 1.4 Cants: Fiber.

07620 - SHEET METAL FLASHING AND TRIM

- 1.1 Finish: Galvalume. Downspout (RWL) finish to match wall system. Paint to match adjacent surfaces, everywhere else.
- 1.2 Roof-penetration flashing: Bituminous flexible membrane as recommended by roof mfg.
- 1.3 Fabricate and install in accordance with Sheet Metal and Air Conditioning Contractor's "Architectural Sheet Metal Manual".

07720 - ROOF ACCESSORIES

- 1.1 Design based on Type NB by Bilco.

07811 - SPRAYED FIRE RESISTIVE MATERIALS

- 1.1 Concealed: Sprayed-on Monokote by Grace Construction Products or Sprayed-on PYROK-MD (or HD) by PYROK, Inc. or Cafco 300 series.
- 1.2 Exposed Fireproofing: Albi Clad 800 as manufactured by Albi Mfg.; Cafco (R) Spray Film (tm) -WB as provided by Isolatek International or Cafco Industries; or A/D fire film II Intumescent Coating Mfg. By A/D Fire Protection Systems, Inc.

07840 - FIRESTOPPING

- 1.1 Through-Penetration Firestop Systems where required.

07920 - JOINT SEALANTS

- 1.1 Type A – Non Sag, One Part Neutral Cure Silicone Sealant:
 - A. Exterior and interior control and expansion joints in vertical surfaces of cast-in-place concrete
 - B. Between metal and concrete or mortar
 - C. Interior and exterior perimeter joints between cast-in-place concrete and frames of doors and windows.
 - D. Control and expansion joints in exterior soffits and overhead surfaces.
- 1.2 Type B – Polyurethane Sealant, Two Component:

- A. Exterior Control expansion and isolation joints in cast-in-place concrete slabs.
- B. Exterior wood to wood and wood to galvanized metal and aluminum with primer.
- 1.3 Type C – Silicone Sealant, Single Component.
 - A. Interior ceramic tile control and expansion joints.
 - B. Perimeter joints of toilet fixtures.
- 1.4 Type D – One Part Acid Curing Silicone Sealant.
 - A. Exposed joints within glazed curtain wall framing and aluminum entrance framing systems.
- 1.5 Type E – Acrylic Emulsion Sealant
 - A. All other interior joints not indicated otherwise.
- 1.6 Type F – Acoustical Sealant
 - A. Concealed acoustical conditions
- 1.7 Type G – Expanding Foam Sealant
 - A. Concealed acoustical insulation where multiple pipes or conduits penetrate sound rated construction.
- 1.8 Backing: As recommended by compound manufacturer.

DIVISION 8 - DOORS AND WINDOWS

08110 - STEEL WINDOWS, DOORS AND FRAMES – USE AT ALL EXTERIOR & CLASSROOM/LAB LOCATIONS

- 1.1 Standards: Steel Door Institute “Recommended Specifications: Standard Steel Doors and Frames” (SDI-100).
- 1.2 Interior Door Performance:
 - A. Level 1: 44mm, standard duty.
 - B. Level 2: 44mm, heavy duty
- 1.3 Exterior Door Performance:
 - A. Level 3: 44mm, extra heavy duty.
- 1.4 Door Frames: Match door performance requirements.

- A. Frame Construction: Welded; 18GA Interior; 14GA Exterior
- 1.5 Door Louvers: Sightproof "V" or "Y" shaped, 24GA steel blades with 20GA steel frame
- 1.6 Finishes:
 - A. Interior Doors and Frames: Prime finish.
 - B. Exterior Doors and Frames: Prime finish, galvanized.

08210 - FLUSH WOOD DOORS – not used

08411 - ALUMINUM ENTRANCES AND STOREFRONTS

- 1.1 Design is based on Kawneer 350 Medium Stile "Heavy Wall" Entrance Doors. Hardware, pivot hinges, Paneline/Panic Guard Exit Device, Coordinate with Hardware spec. Finish: Class II, clear anodic.

08710 - DOOR HARDWARE

- 1.1 Follow Contra Costa Community College standards for door hardware. No substitutions are allowed. Template hardware throughout.
- 1.2 Products:
 - A. Locksets: Corbin- Russwin heavy duty 6-pin with inter changeable cores. Key ways to match existing campus key ways. Locks and keys to be shipped as blanks directly to District Locksmiths for keying. Provide (4) blank keys per lock and 100 spare keys.
 - B. Automatic Door Controls: Provide door controls at door frame for ease of access.
 - C. Door Closers: LCN heavy-duty closers.
 - D. Alarmed door hardware: Von Duprin panic devices.
 - E. Door hinges: All doors to have ball bearing hinges. Out swing doors to have non-removable pins.
 - F. Seals and weather strip: Aluminum extrusions with neoprene seals.

G. Thresholds: Maximum ½" high, profile to meet requirement of California Building Code, Section 1133B.

1.3 Finish: 626 satin chrome, spray door closers to match.

08800 - GLASS AND GLAZING not used

09220 - PORTLAND CEMENT PLASTER

1.1 Design based on 3-coat portland cement plaster. Integral color acrylic based finish coat. "Light - Dash" finish. Provide mock-up panels with control joints.

1.1 Water-resistant membrane: 2 layers of 15# felt or 30# asphalt felt

1.2 Paper-backed self-furring metal lath, rust inhibitive finish.

Control Joints:

CJ-1: 2-piece plaster control screed at compensation joint

CJ-2: Reveal type, horizontal joints at building wings

CJ-3: "M" or "V" shape type, typical vertical and horizontal joints

CJ-4: Concealed type, as required to minimize cracking

1.3 Accessories:

A. Corner and Strip reinforcement

B. Metal Corner Beads

C. Foundation Screed

D. Drip Screed: Vented aluminum, Fry Reglet "Foundation Weep Screed FWS-875".

E. Transition Pieces

F. Screws

1.6 Install diagonal lath reinforcing at stress points.

09250 - GYPSUM BOARD

- 1.1 Interior Gypsum Board: Type X, 5/8" x 48", tapered edges.
- 1.2 Water Resistant Gypsum Board: Type X, 5/8" x 48", tapered edges with edge sealant. Used in place of interior gypsum board behind vinyl wall covering to create tackable wall surface.
- 1.3 Exterior Gypsum Sheathing: Water-resistant core. Thickness: 5/8"
- 1.4 Metal Accessories: Manufacturer's standard galvanized steel trim accessories.
- 1.5 Finish Levels: Smooth finish
 - A. Level 1: Ceiling Plenum, Storage, Janitor, and concealed areas
 - B. Level 2: Wet Areas:
 - C. Level 3: Substrate for gloss, semi-gloss, eggshell and non-textured flat paint:
 - D. Level 4 : Substrates to receive wall coverings
 - E. Level 5: Walls over 12'-0":

09300 – CERAMIC TILE

- 1.1 Glazed and Unglazed Ceramic Tile: Design is based on Dal-Tile.
 - A. Floor Tile: Unglazed ceramic mosaic, sizes 2" x 2".
 - B. Wall Tile: At "wet wall" and wainscot only. Glazed Ceramic tile, size 4" x 4" field and 3" x 6", 2" x 2", and/or 3/4" x 6" quarter round accent/border tile.
 - C. Base Tile: 6" high, coved base type.
 - D. Threshold: Marble by Dal-Tile
 - E. Grout: Dark color.
- 1.2 Porcelain Tile: Design is based on Floor Gres.
 - A. Paver Tile: Natural, sizes 18" x 18" and 18" x 36".
- 1.3 Installation Methods:
 - A. Floors: Mortar bed, TCA method F121.
 - B. Walls: Thin-set on Cementitious Board, TCA W244 (Wet Areas); TCA W223 (Dry Areas, Toilets)

09500 - ACOUSTICAL CEILINGS

- 1.1 Design is based on Eclipse Clima Plus Face Cuts, Illusion two/24 panels, SLT edge by USG Interiors. Color white, 2' x 4' x 3/4". Centricitee suspension system by USG, color white.

- 1.3 Design is based on Eclipse Clima Plus, 2' x 4' x 3/4" panels, SLT edge by USG Interiors. Color white. Centricitee suspension system by USG, color white.

09620 – SPECIALTY FLOORING – None in this specification

09641 – WOOD FLOORING

- 1.1 System: Hardboard wood flooring over board flooring on wood sleepers.
 - A. Sleepers: Preservative treated Douglas Fir on resilient pads.
 - B. Board Flooring: 2 x Maple, tongue & groove.
 - C. Hardboard: 3/4" thick tempered hardboard, screw applied.

09650 - RESILIENT FLOORING

- 1.1 Floor Tile: Commercial Vinyl Composition floor tile, 1/8" by 12" x 12", by Armstrong, Azrock or Mannington.
- 1.2 Seamless flooring: Medintech commercial vinyl flooring with coved base at Labs, and kitchen areas.
- 1.3 Base: Homogeneous rubber, 4" high, 1/8" thick, rolled goods. Coved with resilient flooring. Straight with carpet. Prefab corners.
- 1.4 Full manufacturer's warranty.

09680 – CARPET

- 1.1 Design is based on Interface or Lees Faculty IV: 18"x18".

Carpet Tile with anti-static & anti-microbial treatment. Series as selected by the District.

- 1.2 Transition: Vinyl transition strip at carpet and resilient flooring
- 1.3 Full manufacturer's warranty for wear, edge ravel and zippering of materials.

09710- ACOUSTICAL WALL PANELS

- 1.1 See Acoustical Report. – Pending where required.

09720- WALL COVERING

- 1.1 Self-healing, suitable for thumb tacks.

09900 - PAINTING

- 1.1 Comply with California Air Resources Board (CARB) requirements for maximum volatile organic compound (VOC) content.
- 1.2 Interior Paint: 3 coat after proper preparation.
 - A. Semi-Gloss Acrylic Enamel: Kitchen, Toilet rooms, Janitor, Mechanical, hollow metal doors and frames, ferrous and galvanized metal.
 - B. Eggshell Acrylic Enamel: All other.
 - C. Wall finish- Light to medium orange peel texture. No smooth finish.
 - D. Anti-graffiti paint to be provide at toilet rooms.
- 1.3 Exterior Paint:
 - A. Ferrous Metal and Galvanized Metal: Aliphatic Acrylic Polyurethane
 - B. Portland Cement Plaster: Integral color finish coat. See Plaster 09220.
- 1.4 Transparent finish: Wood

DIVISION 10 - SPECIALTIES

10100 - VISUAL DISPLAY BOARDS

- 1.1 Marker boards: ½" thick porcelain-on-metal with finish intended for liquid markers.
- 1.2 Tackboards: Vinyl fabric faced cork over rigid backing.
- 1.3 Trim: Extruded aluminum, narrow style, clear satin anodized finish.
- 1.4 Provide chalktrough (continuous at bottom).

10160 - TOILET COMPARTMENTS

- 1.1 Design is based on Bobrick, phenolic resin. Floor mounted, overhead braced.
- 1.2 Institutional Hardware: 630 Satin Stainless Steel.

10200 – LOUVERS

- 1.1 Provide louvers whose performance ratings have been determined in compliance with Air Movement and Control Association (AMCA) Standard 500.
- 1.2 Stationary Formed Sheet Metal Louvers: Horizontal drainable fixed blade louvers of galvanized steel or aluminum; gage of metal as required, except not less than 16 gage for steel and 14 gage for aluminum. Free area as required. Provide removable insect screens.
- 1.3 Finish: Baked enamel using silicone polyester with minimum 50% silicone resin content over properly prepared substrate.

10265 - IMPACT-RESISTANT WALL PROTECTION

- 1.1 Wall and Corner Guards: High impact molded plastic corner guards. Color, clear.

10430 - SIGNS

- 1.1 Life and fire safety, way finding and accessibility signage to be provided. Interior signs to Acrylic as manufactured by Classic signs.

10523 - FIRE PROTECTION SPECIALTIES

- 1.1 Design is based on Fire-Rated Cabinet (or "Architectural Series") semi-recessed cabinets, factory finished, with minimum 10 lb. capacity fire extinguisher, enameled steel door baked enamel finish, "Vertical Duo Door", as Mfg. by Larsens Mfg. Co.

10705 - SUN CONTROL

- 1.1 Pre-engineered aluminum architectural sunshade compositions. Airolite, ASCA or C/S as selected by Architect.

10801 - TOILET ACCESSORIES

- 1.1 Design is based on Bobrick:
 - A. Seat Cover Dispenser: **(Owner furnished, contractor installed)**
 - B. Toilet Tissue Dispenser. **(Owner furnished, contractor installed)**
 - C. Paper Towel Dispenser and Waste Receptacle, Recessed: **(Owner furnished, contractor installed)**
 - D. Paper Towel Dispenser: **(Owner furnished, contractor installed)**
 - E. Sanitary Napkin Disposal: **(As Selected by Architect)**
 - F. Sanitary Napkin/Tampon Vendor: **(As Selected by Architect)**
 - G. Soap Dispenser: **(As selected by Architect)**
 - H. Hat and Coat Hook: **(As selected by Architect)**
 - I. Folding Utility Seat: **(As Selected by Architect)**
 - J. Mirror, Stainless Steel, Framed: @ Men's Rooms. Glass framed at Women's Rooms.
 - K. Grab Bars: **(As Selected by Architect)**
 - L. Waste Receptacle: **(As Selected by Architect)**

- M. Soap Dispenser: **(As selected by Architect)**
- N. Utility Shelf with Mop and Broom Holder: **(As Selected by Architect)**
- 1.2 Under-lavatory Guards: Molded vinyl covering for supply and drain piping with flip tops at valve to allow service access without removing coverings. Brocar Trap Wrap C500R; Trubro Lav Guard.
- 1.3 Finish: 630 Satin Stainless Steel, UON.

DIVISION 11 - EQUIPMENT

11130 - AUDIO-VISUAL EQUIPMENT

- 1.1 Projector stand: suspended ceiling mounted, fixed type, Progressive Marketing Model #ASA-2446 adjustable suspension adapter for video/data projector and monitor mounts, with escutcheon ring, Model "PVER".

11132 - PROJECTION SCREEN

- 1.1 Wall Mounted Front Projection Screen: Da-Lite "Tensioned Cosmopolitan Electrol", three position control switch.
- 1.2 Ceiling Recess Mounted Front Projection Screen: Da-Lite "Board Room Electrol", 3-position control switch.

DIVISION 12 - FURNISHINGS

12481 - FLOOR MATS AND FRAMES

- 1.1 Design is based on PediTred II as Mfg. by Construction Specialties, rail frame color clear anodize, tread insert, frame Peditread II level base.

12490 – FIBERGLASS SHADES

- 1.1 Mecco pull down shades without Louver blades; semi-transparent.

12491 - LOUVER BLINDS

- 1.1 Horizontal louver blinds with 1" narrow aluminum louver blades, wand operation for tilting, cord operation for raising. Levelor, Lorentzen, Inc. or Hunter Douglas, Inc. at office areas only.

12494 - ROLLER SHADES

- 1.1 Black-out window curtains as required for audio-visual presentation areas.

DIVISION 13 - SPECIAL CONSTRUCTION - NOT USED

DIVISION 14 - CONVEYING SYSTEMS

14240 - HYDRAULIC ELEVATOR

- 1.1 Hydraulic Passenger Elevator, 2-story, enclosed cab: Fleetwood 21 Pre-engineered oil hydraulic elevator, 2100 lbs. capacity, 100 fpm, as manufactured by ThyssenKrupp Elevator Company.

DIVISION 15 - MECHANICAL (MECHANICAL.)

15050 - PLUMBING (MECHANICAL.)

- 1.1 General:

- A. All work will conform to the California Plumbing Code.

- B. Complete water, gas, sanitary sewer, and rainwater systems, will be provided.
- C. All required utility services will be provided at plumbing fixtures.
- D. All flush valves will be Sloan Royal or equal.
- E. Lavatories in public restrooms to have self-closing valves.
- F. Contractor will apply in name of Owner for gas services. Owner shall pay all costs for same.

- 1. Installation of gas meter.

1.2 Systems:

A. Sewer System:

- 1. Consist of soil, waste and vent piping and connections to plumbing fixtures throughout buildings; and underground sewer piping five feet outside of building to civil point of connection.

B. Roof Drainage System:

- 1. Consists of drains and piping from roof to five feet outside of building to civil point of connection.

C. Domestic Cold Water System:

1. Consists of domestic cold water piping and connection to fixtures, hose bibbs, water heating equipment and other miscellaneous equipment.
2. All branch mains will contain shut-off valves.
3. Stops will be provided at all fixtures.
4. Shut off valves will be provided at all hose bibbs.

D. Domestic Hot Water:

1. Consists of domestic hot water heater, piping, and connections to plumbing fixtures and other miscellaneous equipment.
2. Domestic hot water to be generated by a gas fired storage tank type water heater.
3. Hot and cold water will be provided to all public sinks and lavatories.
4. A domestic hot water return loop will be provided in order to maintain temperature at each fixture.
5. Insta-hot hot water dispensers will be provided at break-room sinks for staff use in addition to domestic hot water.
6. Domestic hot water temperature to be maintained within system by circulating pump and hot water return system.

E. Gas Systems:

1. Consists of piping valves, connections to all gas using equipment, and underground piping outside to point of connection.

1.3 Materials:

A. Fixtures:

1. All plumbing fixtures and trim to be institution grade, American Standard or equal.

B. Pipe and Fittings:

1. Soil, waste and vent piping shall be service weight cast iron soil pipe and fittings, Commercial Standard CS-188. At Contractor's option, piping 2-1/2 inches and smaller if kept 6 inches or more above ground, may be galvanized steel pipe with black coated cast iron screwed drainage fittings.
2. Roof drainage piping shall be service weight cast iron soil pipe and fittings, Commercial Standard CS-188.
3. Domestic cold water piping shall be seamless hard drawn copper tubing, ASTM B88, Type "L" with wrought copper fittings. Exterior water piping and interior piping 2 1/2" and larger shall have brazed joints. All other locations shall be solder joints.

4. Domestic hot water piping shall be seamless hard drawn copper tubing, ASTM B88, Type "L" with wrought copper fittings. Piping 2 ½" and larger shall have brazed joints. Piping 2" and less shall have solder joints.

5. Above ground Gas piping shall be Schedule 40 black steel pipe with banded black malleable iron screwed fittings and/or welded with Tube-Turn welding fittings. Underground gas pipe shall be polyethylene pipe, PE2406; pipe and tubing to meet requirements of ASTM D2513.

6. Heating hot water and chilled water piping (hydronic) shall be ASTM A53 or ASTM A120 black steel schedule 40 pipe. On pipe sizes 2" and smaller, 125-lb., cast-iron, threaded steam pattern fittings. On pipe sizes 2 ½" and larger, standard-weight, full-radius, butt-welding fittings and weld neck flanges. Connections to threaded equipment, valves, etc. shall be made with cast-iron threaded fittings. At the contractor's option, hydronic water systems may be copper tube, ASTM B88 Type L, Hard-drawn temper, wrought-copper fittings with brazed joints.

1.4 Equipment:

- C. Water Heater: Gas storage type, heater to be UL approved, A.O. Smith, State, or equal.

1.5 Installation:

A. General:

1. Installation shall conform to the California Plumbing Code State and County Health Ordinances, State of California Industrial Accident Commission's Safety Orders and regulations of the State Fire Marshal.

15800 - HEATING, VENTILATING AND AIR CONDITIONING (MECHANICAL)

- 1.1 Work shall include furnishing and installing a year round heating, ventilating, and air conditioning system for all spaces within the building including ventilation of storage rooms, toilet rooms, janitor closets, and other service areas.
- 1.2 System Description:
- A. Heating, ventilation and air-conditioning will be provided by DX-Cooling AC Units mounting on the roof and ducted to serve the spaces. Each zone will be served by a variable volume box equipped with a reheat coil and controlled by a local area space temperature sensor.
 - B. Zone control will be by room temperature sensors which will control local individual air volume damper and reheat coils. All temperature sensors shall be connected to and controlled by the Campus's Building automation system by Andover.
 - C. All A.C. units will be provided with economy cycles using outside air for cooling when temperatures permit.
 - D. All A.C. units will be provided with variable frequency drives on both the supply and return air fan.
 - E. A.C. unit coils will be aluminum fin / copper tube construction.
 - F. Powered exhaust systems will be provided for toilet rooms, janitor closets, and electrical rooms. A plenum return air system will be provided at all other locations.
- 1.3 Design Criteria:
- G. System will be designed in accordance with the factors and practices as recommended by the American Society of Heating, Refrigeration and Air Conditioning Engineers in their Guide and Data Book, latest edition.

H. Equipment and installation will conform to the California Building, Mechanical, and Plumbing Codes.

1.4 Equipment:

I. Air handling equipment: Energy Labs, or equal by Governair, or Hawkin.

J. Boilers: Patterson-Kelly PK-high-efficiency type hot water boilers or equal.

K. Controls: Andover to match existing campus wide system.

L. Dampers/Louvers: Ruskin or equal

M. Grilles/Registers/Diffusers: Titus or Krueger

N. Exhaust Fans: Greenheck

O. Pumps: Bell & Gossett or Paco

P. VAV Boxes: Titus or Krueger

Q. Variable Frequency Drives: ABB

DIVISION 16 – ELECTRICAL

16000 - ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The intent of these specifications and supplemental drawings is to define the electrical scope of work.

These drawings and specifications are not to be used as Construction Documents.

1.2 SCOPE OF WORK

- A. The scope shall include the design of the electrical work, materials, equipment, fabrication, installation and tests in conformity with applicable codes, professionally recognized standards and authorities having jurisdiction as follows:

- 1. Construction drawings and specifications will include:

- a. Utility services.

- b. Power distribution system including:

- 1) Raceways.

- 2) Feeder and branch circuit wiring.
 - 3) Low voltage distribution equipment.
 - 4) Devices.
 - 5) Inserts and supports.
 - 6) Cutting and patching.
 - 7) Excavations and backfill.
- c. Lighting fixtures and lamps.
 - d. Fire alarm and detection system.
 - e. Conduit only telecommunications system.
 - f. Conduit only audio/visual system.

B. Related Work in Other Sections:

1. Temporary light and power.

2. Finished painting.
3. Furnishing and setting of motors under the sections corresponding to equipment that have motors.
4. As specified or indicated in the drawings.

1.3 QUALITY OF WORK

- A. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture.
- B. Supply all new equipment and accessories free from defects and listed by Underwriters' Laboratories, Inc., or bearing its label.
- C. All items of a given type shall be the products of the same manufacturer.

1.4 CRITERIA

- A. Service and Distribution:
 1. Service shall be obtained from the campus utility service at primary power. Power shall be distributed at 120/208 volts, 3 phase, 4 wire within the building.
 2. Utilization voltages as follows:

- a. 208 volts, 3 phase to all motors 1/2 horsepower and above.
 - b. 120 volts, single phase to all fluorescent and high intensity discharge lighting fixtures.
 - c. 120 volts, single phase to all motors less than 1/2 horsepower.
 - d. 120 volts, single phase all convenience outlets.
 - e. 120 and 208 volts for computer loads, as required.
 - f. As required for the load served.
3. Power requirements, generally as follows:
- a. Circuit loadings:
 - 1) 120 volts, 20 amp: maximum, 1500-volt amperes.
 - 2) Number of convenience outlets per circuit: maximum 5.
 - 3) Other loads: maximum 80% of full load amperes and as required.
 - b. Emergency loads:

- 1) Exit and egress lighting (standby battery).
- 2) Fire alarm control panel (standby battery).

B. Lighting System:

1. In accordance with California Code of Regulations, Title 24.
2. Generally fluorescent lighting fixtures throughout.
3. Ballasts and lamps for fluorescent fixtures shall be electronic, high power factor.

C. Fire Alarm and Detection System: Addressable, zoned, closed circuit, electrically supervised fire alarm system, furnished and installed in accordance with authorities having jurisdiction including but not limited to the following:

1. Zone, by floor, the following:
 - a. Manual pull stations.
 - b. Space smoke detectors.
 - c. Waterflow fire protection switches.
 - d. Tamper fire protection switches.

- e. Each duct detector for HVAC system.
-
- 2. Manual by-pass switches for fire mode operation of selected ventilation fans, as required by HVAC requirements.
-
- D. Public Telephone System:
- 1. Furnish and install an empty conduit system, complete with outlet boxes, cabinets, backboards, pullwires, required power source(s), as required for distribution throughout the facility.
-
- E. Heights of Outlets:
- 1. Heights of outlets from finished floor to centerline of outlets for;
 - a. Receptacles and telephones: 1 foot, 6 inches.
 - b. Wall switches: 4 feet, 0 inches.
 - c. Motor controllers and pushbuttons stations: 4 feet, 0 inches.
 - d. Fire alarm audible and visual devices: 7 feet, 6 inches.
 - e. Fire alarm stations: 4 feet, 0 inches.
 - f. Exceptions:

- 1) At junction of different wall finish materials.
- 2) On molding or break in wall surface.
- 3) Where the above heights do not meet the requirements of the applicable codes.
- 4) As noted or directed otherwise.

PART 2 – PRODUCTS

2.1 RACEWAYS

A. Conduit:

1. Electrical metallic tubing (EMT): Thin wall pipe, galvanized, threadless, minimum diameter 1/2 inch except as noted or required for wiring.
2. Polyvinyl chloride conduit (exterior use only, as noted)
 - a. Power, direct burial; Schedule 40.
 - b. Communications and signal, direct burial, Type "DB".
3. Flexible steel conduit: continuous single strip, galvanized, minimum diameter 1/2 inch as noted or required for wiring. PVC covered for liquid tight.

B. Conduit Fittings:

1. EMT: Compression type only. Indentor or setscrew type not permitted.
2. Flexible metallic conduit: Angle wedge type with insulated throat.
3. Bushings: Metallic insulated type. Weatherproof or dusttight installations; liquid-tight with sealing ring and insulated throat.

C. Boxes:

1. Outlet boxes: Except as otherwise required by construction, devices or wiring; Stamped steel, 4 inches square or octagon shape, as follows:
 - a. Lighting fixtures; 1-1/2 inch deep above ceiling, 3 inch deep in slab, and 2-3/4 inch deep in wall.
 - b. In wall for receptacles and switches, 1-1/2 inch deep with raised covers and fixture studs where required. Through-the-wall type: Not permitted.
 - c. Galvanized cast iron or aluminum with threaded hubs; 4-inch square, 2 inch deep with gasketed cover. Provide under raised floors.
 - d. Boxes for outdoors and damp locations: Weatherproof.
 - e. Boxes without fixture or device: Provide with blank cover.

- f. Offset back-to-back outlets with minimum six-inch separation.

2. Junction and pull boxes:

- a. Galvanized sheet steel.
- b. Covers: Screw-on, except as noted.
- c. With insulated supports for cables.
- d. Locations: As indicated, where required and accessible.
- e. Outdoors and damp locations: Galvanized cast iron or aluminum with threaded hubs and gaskets.

2.2 600 VOLT WIRE AND CABLE

- A. 600 Volt Wire and Cable, Complete with Accessories: Sizes AWG, except as noted

- B. Conductors:

- 1. Solid annealed copper for sized No. 10 and smaller and stranded copper for sizes No. 8 and larger.
- 2. For general uses: Minimum size No. 12.

3. Control wire: Minimum size No. 14
4. Fire alarm and detection system: Minimum size No. 16 or as recommended by system manufacturer.

C. Insulation:

1. 600 volt insulation types:
 - a. Type THHN/THWN: Feeders and branch circuits except Type USE used in raceway located in concrete in direct contact with the earth, in raceways direct buried in earth and in raceways in permanently wet locations.
 - b. Color-coding: Provide different color for each phase and neutral for each voltage system.

D. Accessories

1. Cable supports in risers: Clamping device with insulation wedges or "Kellems" grips.
2. Tags:
 - a. Flameproof; in accessible locations.

- b. Feeders: indicate number, size, phase and points of origin and terminations. Control or alarm: Indicate type of controls or alarm and points of origin and termination.

3. Terminations, splices and taps:

- a. Cable lugs and connectors: compatible metal with conductor to match cables with marking indicating size and type.
- b. Copper conductors No. 10 and smaller: Compression type or twist-on spring-loaded connectors and clear nylon insulated covering.
- c. Copper conductors No. 8 and larger: Mechanical bolted pressure or hydraulic compression type using manufacturer's recommended tooling.
- d. For copper lug connections to bus bars provide anti-seize compound.

2.3 MAIN SERVICE SWITCHBOARD

- A. Dead front, NEMA standard, fused switch construction for main and feeder units of required ratings and capacities including utility company metering and current transformer compartments.
- B. Bus shall be copper, minimum 98° conductivity, silver plated joints. Bus shall be braced for short circuit current available as stipulated by the utility company.

2.4 PANELBOARDS

- A. Dead front, NEMA standard, circuit breaker construction of required circuit breakers, ratings and capacities. Bus shall be copper, minimum 98° conductivity, silver plated joints. Bus shall be braced for short circuit current available.

- B. Trims shall have doors equipped with flush type combination lock and catch.

- C. Each panelboard shall be provided with typewritten directory indicating circuit number, location and equipment or devices serviced.

2.5 CIRCUIT BREAKERS

- A. Molded case construction, bolt on type, thermal-magnetic and ambient compensated. Interrupting capacity shall be not less than available short circuit at point of installation.

2.6 DISCONNECT SWITCHES

- A. Generally, NEMA 1 enclosure, heavy-duty type, horsepower rated for motor loads, load-break type of required rating.

2.7 MOTOR CONTROLLERS

- A. NEMA standard, suitable for the motor controlled, combination fused disconnect switch and motor starter with overload relay in each phase leg reset button, indicating lamps and Hand-Off-Automatic selector switch for manual/automatic operation.

2.8 MOTOR CONTROL CENTERS

- A. NEMA standard, Class II, Type B construction with copper bus 98% conductivity, silver plated at joints, of required rating and short circuit bracing capacity.

2.9 TRANSFORMERS

- A. Dry type, ventilated, with Class H, 115 degree C rise insulation over 40 degrees C ambient. Separated primary and secondary copper windings with four, 2-1/2% primary taps, 2 above and 2 below rated voltage. Sound level in accordance with NEMA standards; provide vibration dampers between frame and housing. Minimum K-13 rating.

2.10 DEVICES

- A. Duplex Receptacle: Specification grade, 20 amp, 125 volt, 2 pole, 3 wire.
- B. Local Wall Switches: Specification grade, heavy duty, toggle, quiet type, 20 amp, 120/277 volt AC rated.
- C. Special Receptacles: As required.

2.11 LIGHTING FIXTURES

- A. Lighting fixture shall be provided with all required components, lamps and accessories for the installation.

2.12 NAMEPLATES

- A. Screwed-on, engraved black lamicoid sheet with 3/4 inch high white lettering. Inscription: Subject to review, indicating equipment, designation and voltage.

Provide for:

- Disconnect switches.
- Circuit breakers.
- Panelboards.
- Switchboards.
- Cabinets.
- Motor controllers.
- Motor Control Centers.

PART 3 – EXECUTION

3.1 GENERAL

- A. Drawings will indicate general arrangement of systems and work included. Check drawings of other trades relating to work to verify spaces in which work will be installed. Maintain headroom and space condition to all points.
- B. Install equipment and supports, rigid and secure, plumb and level, and in true alignment with related and adjoining work. No welding of electrical materials for attachment or support is permitted.

3.2 INSTALLATION OF RACEWAYS

- A. Conduit, in general, shall be routed concealed.
- B. Exposed conduit shall be routed parallel with or at right angles to walls. No conduits exposed in finished spaces.
- C. Conduits for outlets in hung ceiling shall be routed in hung ceilings.
- D. Maintain grounding continuity of interrupted metallic conduit with ground conductor.
- E. Empty conduit over 10 feet long: Provide with pull wire.
- F. Steel Conduit:
 - 1. In slabs, maximum outside diameter not to exceed $1/3$ or the slab thickness.
 - 2. Direct buried conduit: Provide continuously with waterproofing tape, half lapped or two coats of asphaltum paint, dried thoroughly between paintings and before backfilling. Install two-inch thick wood boards over conduits containing circuits for lighting and power. Treat boards with preservative.
 - 3. Minimum one inch cover in concrete fill.
- G. EMT: Install generally for interior work except buried in concrete slabs on grade.
- H. Flexible Steel Conduit:

1. For short connections where rigid conduit is impracticable.
 2. From outlet box to recessed light fixture: Minimum four feet, maximum six feet length.
 3. For final connection to motor terminal box and transformers, with polyvinyl sheathing.
- I. PVC Conduit:
1. Convert to steel conduit when entering building with approved adapters.
 2. Direct buried conduit: Install two-inch thick boards over conduits containing circuits for lighting and power. Treat boards with preservative.
 3. General interior use: Not permitted.

3.4 INSTALLATION OF LOW VOLTAGE DISTRIBUTION EQUIPMENT

- A. Panelboards shall be installed as follows:
1. Circuit numbers for identification purposes. Typewritten directory under clear plastic cover.
 2. Provide multi-cable lugs where required. Double lugging shall not be permitted.

3. Mounting height shall be maximum 6 feet, 6 inches from floor to top switch unit.

3.5 INSTALLATION OF POWER, CONTROL AND ALARM WIRING SYSTEMS

- A. General: Complete wiring from service to distribution and utilization equipment and as described below.

- B. Motor Wiring:

1. Under Electrical Work, unless otherwise noted:

- a. Disconnect switches
- b. Motor controllers.
- c. Motor control centers.
- d. Wiring from power source to: Motors disconnect switches and control devices, motor controller and motor control centers.

2. Motor terminal boxes: Provide motor suppliers with minimum requirements to receive indicated wiring.

3. Raceways:

- a. Electric metallic tubing except flexible (with slack) for final motor connection.

- b. Install clear of motor foundations.
 - c. Allow clearance for motor removal and maintenance.
- C. Elevator Wiring:
- 1. Under Electrical Work:
 - a. Elevator machine room and secondary levels (where applicable) lighting, convenience receptacles, hoistway outlet boxes, pit lights with guards, telephone outlets and fire alarm system outlets.
 - b. Fused Disconnect switches and/or power panels.
 - c. Wiring from:
 - 1) Power source through elevator machine room disconnects to control panels or motor starters and control relay panels.
 - 2) Power source to bi-parting door disconnect switches.
 - 3) Remote alarm panel to pit junction boxes.
 - 4) Local 120 volt sources to: 120-volt emergency hoist-way outlet, pit lights and receptacles, intercommunication system stations in machine rooms and elevator starter panel and remote alarm panel.

- 5) Raceways from local telephone terminal center to hoist-way outlet boxes and elevator starters panel.

2. Under Elevator Work:

- a. Motors, generators, and starters.
- b. Control panels.
- c. Control relay panels.
- d. Starter's panels.
- e. Remote alarm panels.
- f. Wiring of starter panels.
- g. Wiring beyond:
 - 1) Control panels or motor starters.
 - 2) Control relay panels.
- h. Emergency operating selector switches.

- i. Emergency operating control wiring from selector switches to motor starters.

D. HVAC Temperature Control and Motor interlock Wiring:

- 1. Under Electrical Work: Motor interlock and line voltage wiring to panels and devices in accordance with sequence of operation and/or wiring diagrams provided under Mechanical work.
- 2. Under HVAC Work: Furnishing and installing temperature control wiring, panel(s) and devices.

E. Wiring Diagrams:

- 1. Obtain required wiring diagrams for respective work of other trades and provide wiring as indicated by these diagrams and in accordance with applicable Specifications.

3.6 FIELD TESTS

- A. General: Perform field tests in the presence of the Architect except as otherwise specified. Provide required labor, materials, equipment and connections to perform tests, document results and submit them to Architect for acceptance. Repair or replace all defective work.
- B. Tests on 600 Volt Wire and Cable:

1. Perform the following test prior to connecting the equipment and provide written documentation certifying the following:
 - a. Megger test on all feeders, 20 percent of branch circuits and all motor branch circuits 10 hp and over.

- C. Test on Low Voltage Distribution Equipment:
 1. Open and close switching devices under load.

- D. Test on Motor Controllers:
 1. Open and close controllers and load break switches under load.

 2. Operate selector switches and verify for specified operation.

END OF OUTLINE SPECIFICATIONS

FEDERAL FUNDS DETAIL

No federal funds are available for this project.

ANALYSIS OF FUTURE COSTS

Provide an economic analysis of additional instructional, administrative, and maintenance cost resulting from the proposed project, including personnel years. Disclose all new courses or programs to be housed in the project that may need Chancellor's Office review.

Certificated:

No additional costs for certificated staff are anticipated upon occupancy of the remodeled facilities. Any additions to staff will be funded through increased growth (FTE) funding.

Classified:

No additional costs for classified staff are anticipated upon occupancy of the remodeled building.

Depreciation, Maintenance, and Operation

NONE

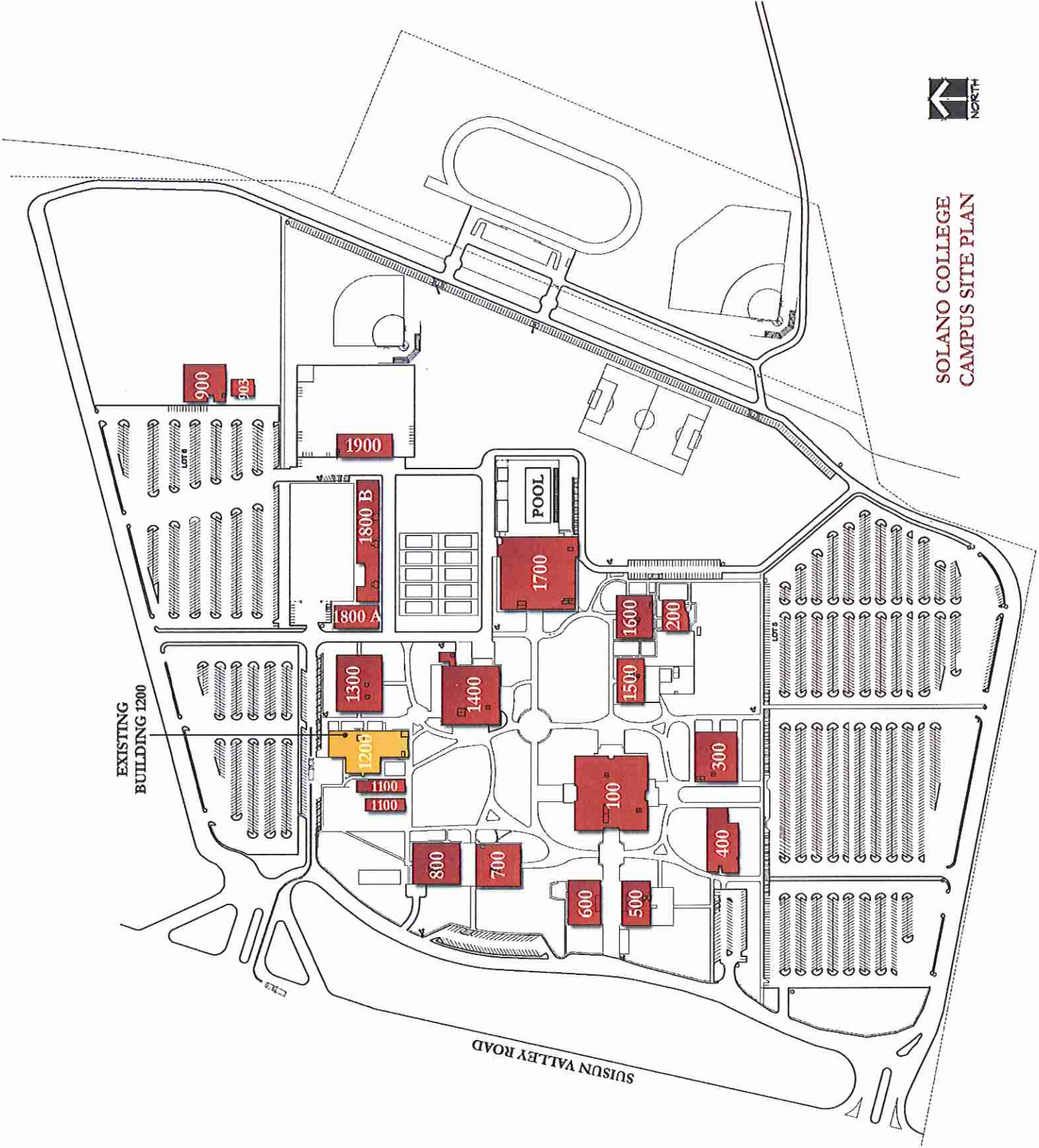
Program/Course/Service Approvals

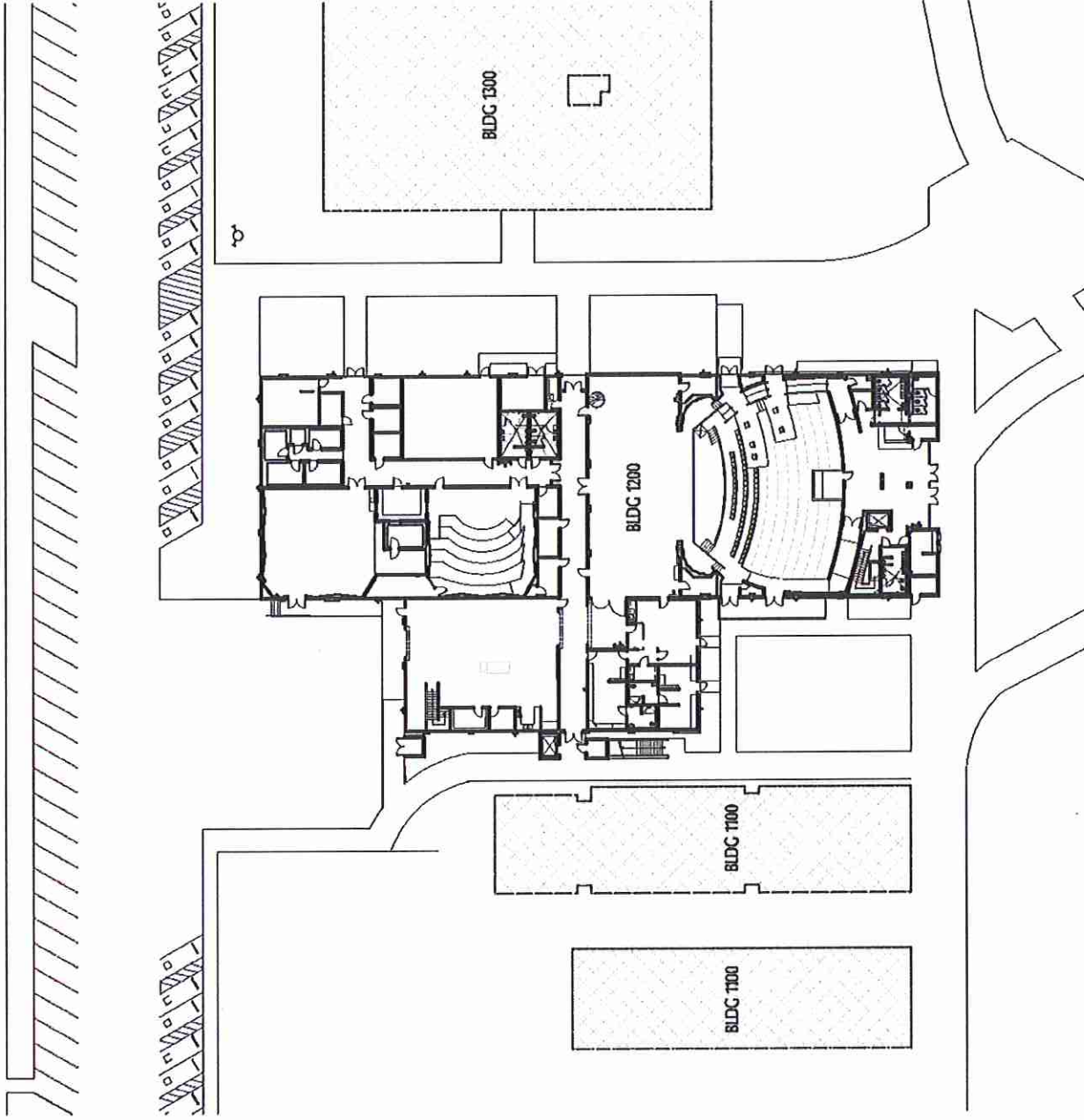
List all new programs/courses/services to be housed in this project or its secondary effects and give the date of approval. If there are no new programs/courses/services for which approval is required, please so state. This is not required for equipment-only projects.

Name of New Program/Course/Service	Date of Approval
NONE	NA
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____



**SOLANO COLLEGE
CAMPUS SITE PLAN**

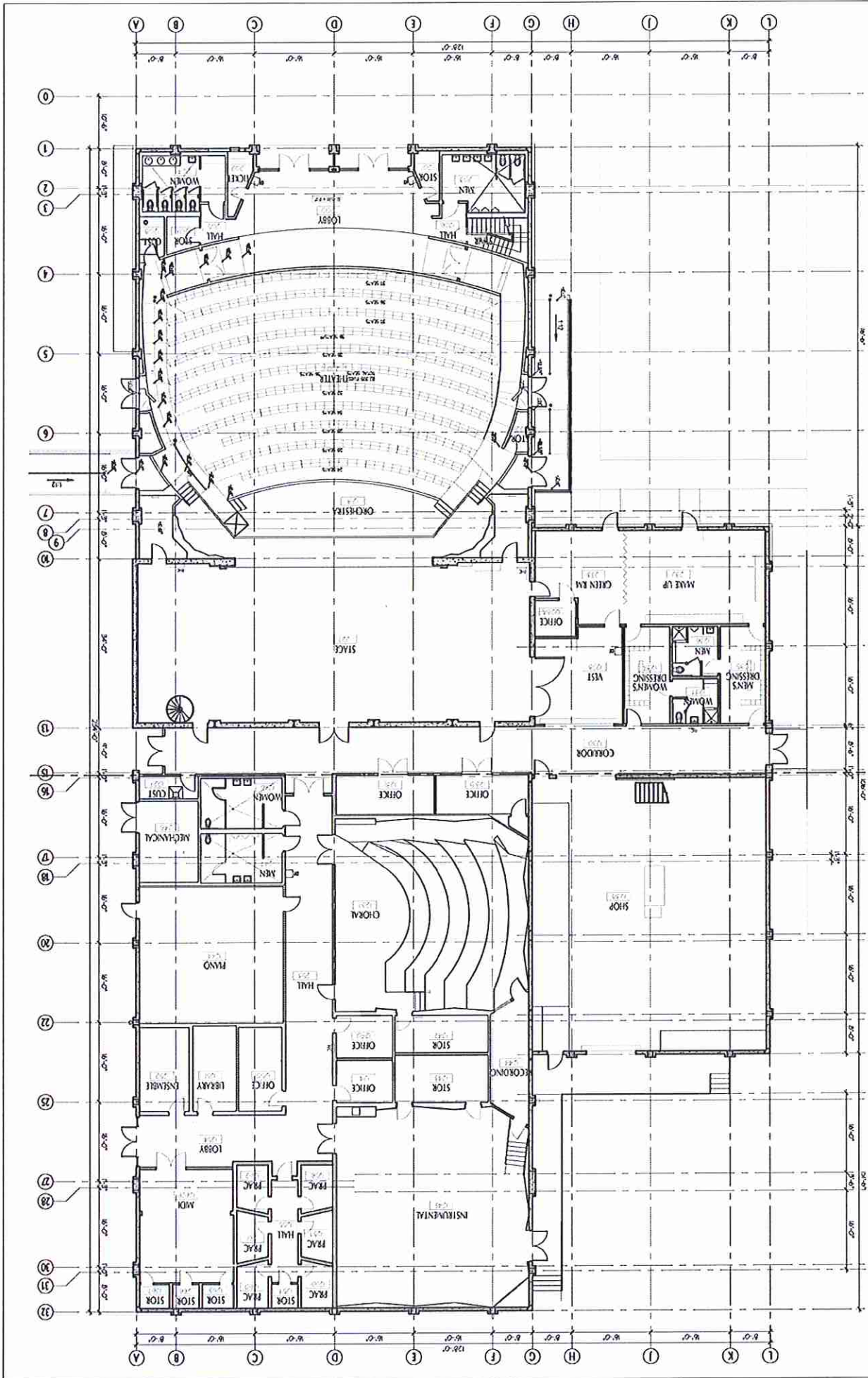




BUILDING SITE PLAN

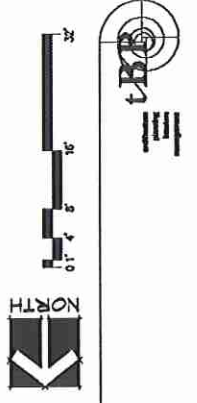
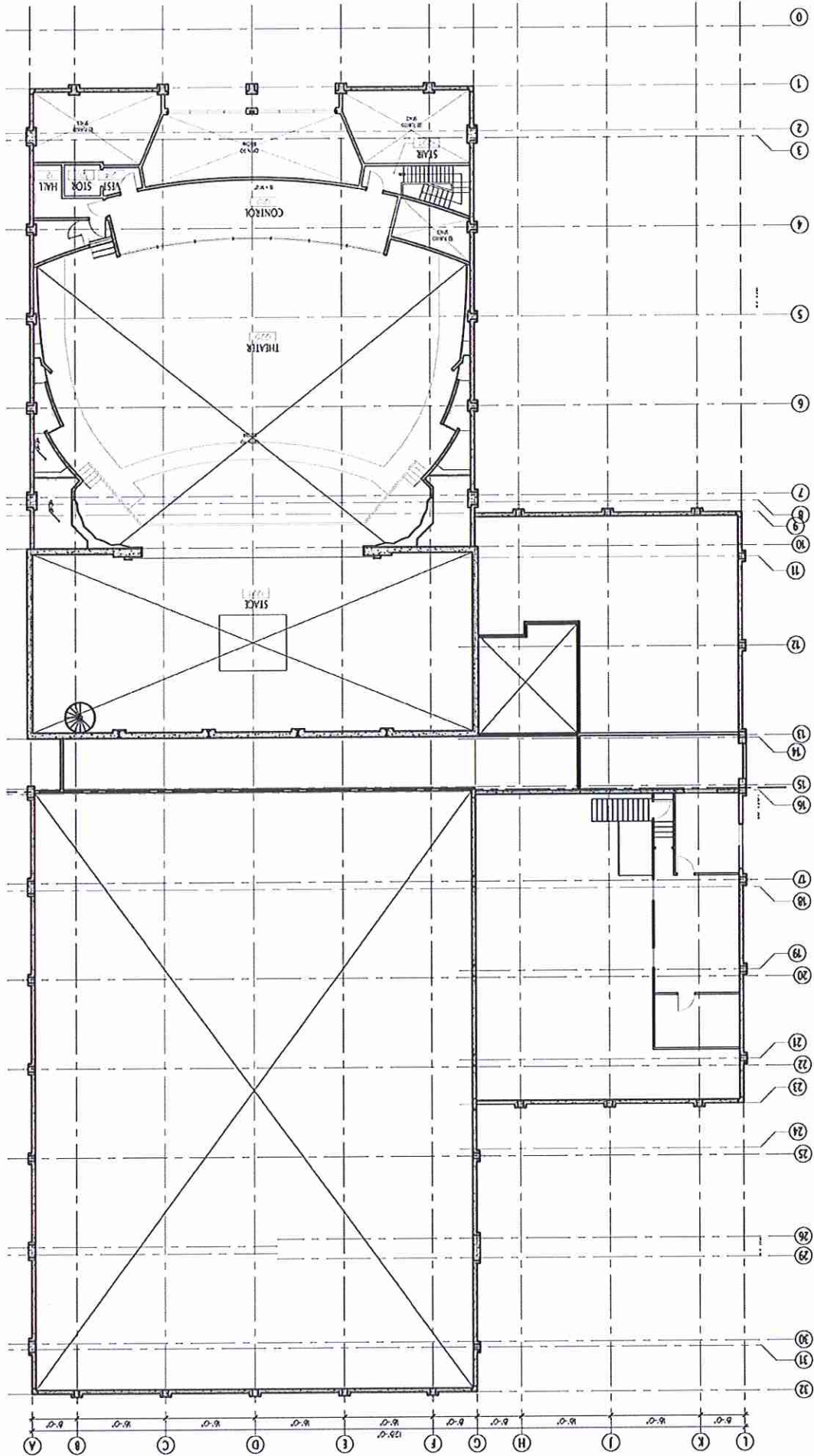
SOLANO COLLEGE
SOLANO COMMUNITY COLLEGE DISTRICT
 JUNE 4, 2009



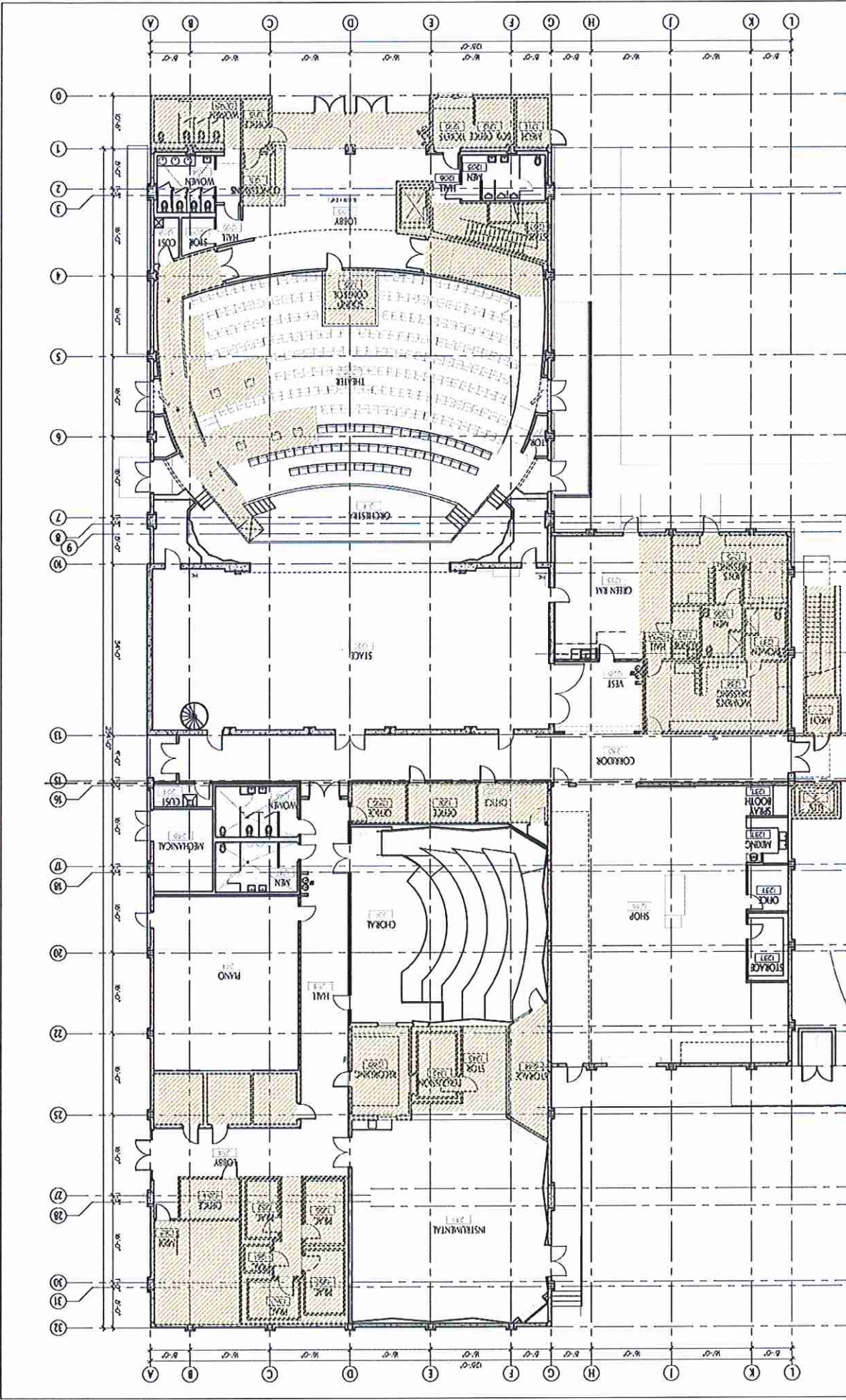


**FIRST FLOOR PLAN
EXISTING PLAN**

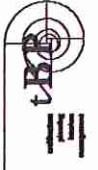
**SOLANO COLLEGE
SOLANO COMMUNITY COLLEGE DISTRICT**
JUNE 4, 2009

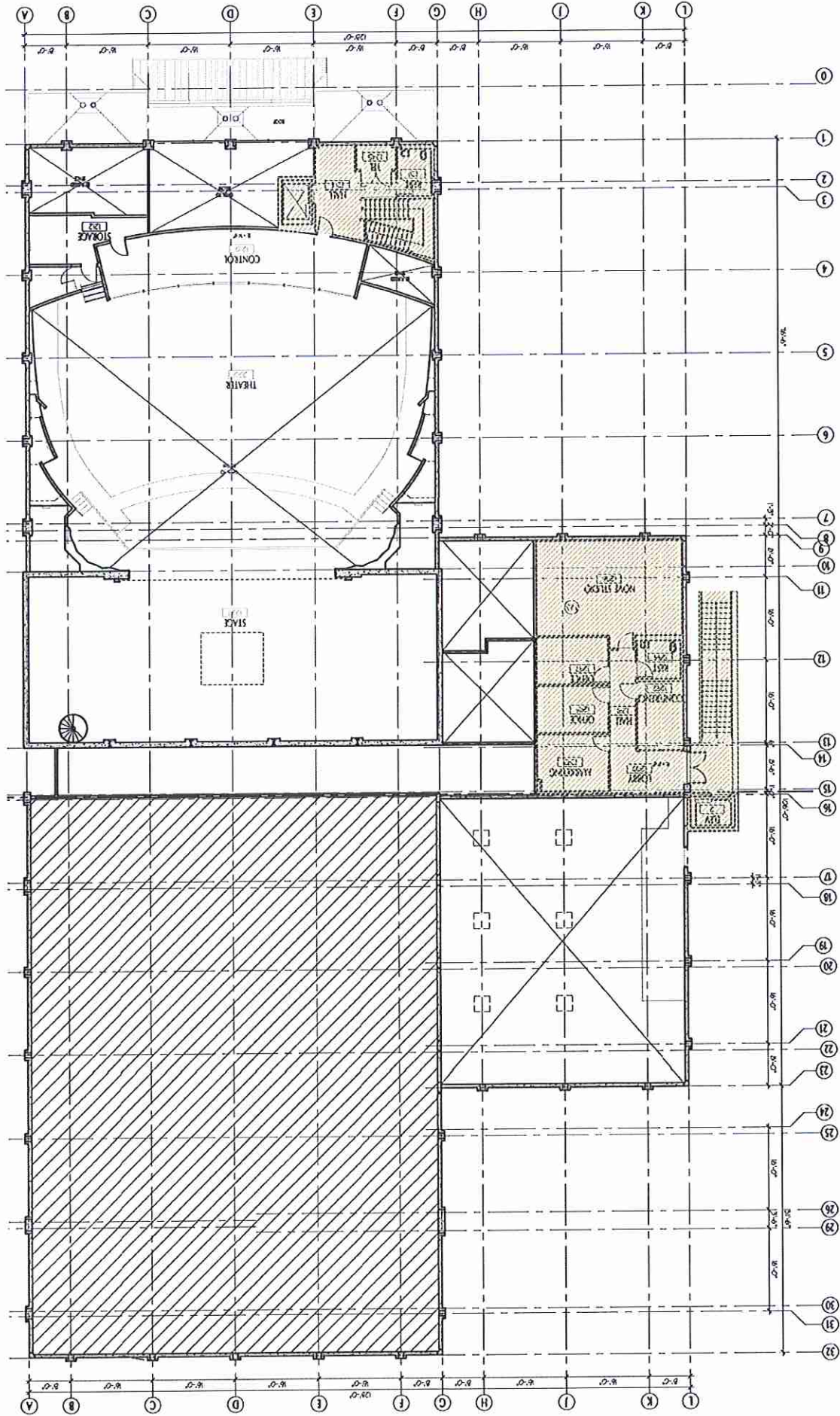


SECOND FLOOR PLAN
 EXISTING PLAN
 SOLANO COLLEGE
 SOLANO COMMUNITY COLLEGE DISTRICT
 JUNE 4, 2009



FIRST FLOOR PLAN
REMODEL PLAN
SOLANO COLLEGE
SOLANO COMMUNITY COLLEGE DISTRICT
 JUNE 4, 2009





SECOND FLOOR PLAN
REMODEL PLAN

SOLANO COLLEGE
SOLANO COMMUNITY COLLEGE DISTRICT
JUNE 4, 2009



REMODELED AREAS



JUSTIFICATION FOR ADDITIONAL COSTS EXCEEDING GUIDELINES

Construction (including Group I equipment), Equipment (Group 2 and Furniture)

District: Solano Community College District **College:** Solano College

Project: Building 1200 Theater Renovation

Please use this and additional pages or diagrams to explain and justify items of cost not easily explain on other forms. Examples of items needing justification: site improvements, unusual or high-cost construction methods, or items of equipment that exceed ASF cost guidelines. Equipment items must be listed and justified as to quantity and purpose. This form, when completed, supplements both the "Quantities and Unit Costs Supporting the JCAF 32" and the "Guidelines-based Group 2 Equipment Cost Estimate" forms.

Section 2 (Plans and working drawings) item G. Other Costs:

The Public Contract Code requirements for plan advertisement and distribution are very costly for a project of this plan and specification size. There are no other provisions in the project budget for these increasing costs.

Due to the age of the existing buildings a detailed hazardous materials inspection and materials testing for asbestos, lead, PCBs and other chemical substances is required to determine the presence and abatement requirements for the removal of the hazardous materials prior to demolition and general construction.

A constructibility and coordination review of the construction documents will be done prior to final DSA approval to assure the work scope is clearly presented and value engineering is accomplished prior to final bid document production and bidding the project. The constructibility review is a proactive and cost effective way to help assure the project stays on budget and bids favorably the first time out.

A utility engineering analysis and load current/circuit balance study is required for the campus 15KV high voltage electrical distribution system, due to the additional of building electrical service loads. The high voltage system circuits must be analyzed for these changes and circuit load balancing assured.

Justification for 3F, Reconstruction Other Costs

The Bat and Rodent infestation of the building will require abatement and remediation of the guano and feces deposited by these animals prior to and during demolition and construction. Prevention measures will be incorporated into the reconstruction and requires expert consultant over site.

Abatement of asbestos, lead (paint), PCBs and other hazardous materials will need to be done before selective demolition and during construction. This requires special state licensed abatement contractors.

Justification for Section 4, Inspection:

The requested allowance is based on other recent projects in the Solano Community College District, including the New Student Activities Building and Library Building Remodel at Solano College. The district competes with other Community College and K-12 Districts for DSA Inspectors within their geographic area. Expenses include administrative costs and insurance premiums for insurance (worker's comp, general liability, auto, etc.) that the District requires the inspector carry as an independent contractor working on District sites.

