



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CA10-101**

1. Agenda Item Number: 23
2. Council Meeting Date: November 19, 2009

TO: MAYOR & COUNCIL

3. Date Prepared: October 30, 2009

THROUGH: CITY MANAGER

4. Requesting Department: Community Services

5. SUBJECT: Approve Change Order No. 1 to the construction contract with Brignall Construction for the Chandler Center for the Arts Renovation, Project No. CS0802-402 in an amount of \$256,373, for a revised contract amount of \$4,355,289.

6. RECOMMENDATION: Staff recommends that Council approve Change Order No. 1 to the construction contract with Brignall Construction for the Chandler Center for the Arts Renovation, Project No. CS0802-402 in an amount of \$256,373, for a revised contract amount of \$4,355,289.

7. BACKGROUND/DISCUSSION: The Chandler Center for the Arts is located on the campus of the Chandler High School and is operated by the City through agreements with the Chandler Unified School District and the Chandler Cultural Foundation. On May 14, 2009, Council approved the contract with Brignall Construction for the renovations at the Chandler Center for the Arts funded by proceeds of bond elections held by the City and the school district. The original scope of work upgraded the central chiller plant, which included a new control system for the central plant. Change Order No. 1 is for the added scope of work that upgrades the Art Center's Building Energy Management System. The scope of work includes removing the existing ANDOVER control system and replacing it with a city wide compatible LONWORKS system, installation of new controllers, valves, sensors, and wiring for all Heating, Ventilation and Air Conditioning, HVAC, equipment located in the Art Center. The new control system allows City staff to remotely monitor and control the building EMS resulting in increased equipment reliability and reduced technician response times.

8. EVALUATION: City staff verified the costs submitted by Brignall Construction and found them to be consistent with recent similar work. The construction schedule will not be impacted by this change order. The completion of this project is anticipated in the summer of 2010.

9. FINANCIAL IMPLICATIONS:

Original Contract:	\$4,098,916	
Change Order No. 1:	\$256,373	6.17%
Revised Contract Amount:	\$4,355,289	

Fund Source:

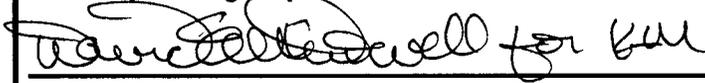
<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
101.3200.0000.6212	General Fund		09/10	\$256,373

10. PROPOSED MOTION: Move that Council approve Change Order No. 1 to the construction contract with Brignall Construction for the Chandler Center for the Arts Renovation, Project No. CS0802-402 in an amount of \$256,373, for a revised contract amount of \$4,355,289, and authorize the Mayor to sign the contract documents.

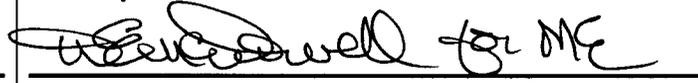
ATTACHMENTS: Location Map, Change Order

APPROVALS

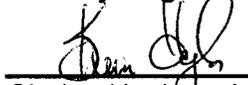
11. Requesting Department


Katrina Mueller, Art Center Manager

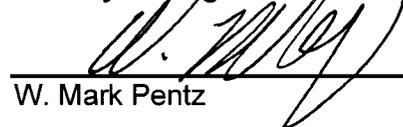
13. Department Head


Mark M. Eynatten, Community Services Director

12. City Engineer

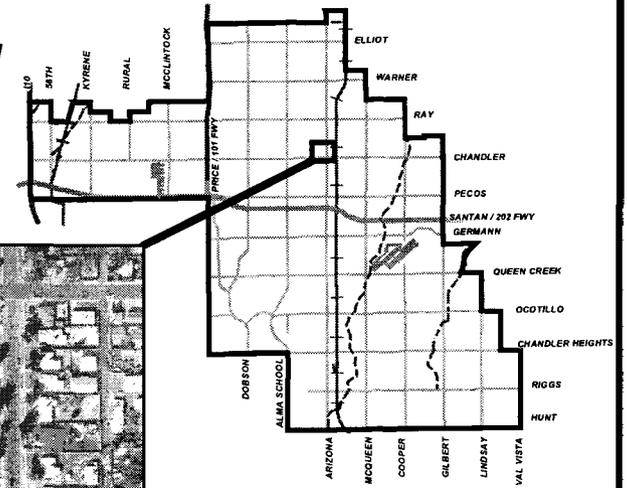

Sheina Hughes, Asst. Public Works Director/City Engineer

14. City Manager


W. Mark Pentz



CHANDLER CENTER FOR THE ARTS RENOVATION PROJECT NO. CS0802-402



MEMO NO. CA10-101

■ PROJECT SITE



CITY OF CHANDLER CHANGE ORDER
CHANGE ORDER NUMBER 1
DATE 10/28/09

This Change Order is not valid until signed by both the City and the Contractor. Signature of the Contractor indicates agreement herewith, including any adjustments in the Contract Price or Contract Time.

PROJECT NAME	<u>Chandler Center for the Arts</u>	CONTRACTOR	<u>Brignall Construction</u>
PROJECT NO.	<u>CS0802-402</u>	COST ACCT #	<u>101.3200.0000.6212</u>
USER DEPT	<u>Community Services</u>	NTP DATE	<u>06/04/09</u>

TO: Brignall Construction
 (CONTRACTOR)

YOU ARE DIRECTED TO MAKE THE FOLLOWING CHANGES TO THIS CONTRACT:
 Energy Management System Upgrade: Scope of Work Exhibit A, attached hereto and incorporated in by reference.

ORIGINAL CONTRACT AMOUNT:	<u>\$4,098,916.00</u>
CURRENT CONTRACT PRICE PRIOR TO CHANGE ORDER: (Including previous change orders)	<u>\$4,098,916.00</u>
NET CHANGE RESULTING FROM THIS CHANGE ORDER:	<u>\$253,088.00</u>
REVISED CONTRACT PRICE INCLUDING THIS CHANGE ORDER:	<u>\$4,352,004.00</u>
CHANGE ORDER IS % OF ORIGINAL CONTRACT AMOUNT:	<u>6.17%</u>

CONTRACT TIME OR COMPLETION DATE PRIOR TO THIS CHANGE ORDER (Including previous change orders):	<u>300</u> DAYS DATE
NET CHANGE RESULTING FROM THIS CHANGE ORDER:	<u>0</u> DAYS
REVISED CONTRACT TIME AND COMPLETION DATE:	<u>300</u> DAYS DATE

THE ABOVE IS AGREED TO BY:

Brignall Construction
CONTRACTOR

By:  11/2/09
 Date

CITY OF CHANDLER (Date & Name of Owner Dept. verbal approval): Katrina Mueller, 10/22/09

For Change Orders of less than \$50,000 and 10% of contract price:

Title:	Signature	Date
Department Director or Designee	By:	

Or (but not both)

For Change Orders of \$50,000 or more, or 10% or more of contract price:

MAYOR
 Approved by Council on: _____
 Date

Date: _____
 Attest: City Clerk _____ Date

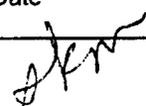
Approved as to form: 
 City Attorney

EXHIBIT A
SCOPE OF WORK

Project No:	CS0802-402	Chandler Center for the Arts Renovation		
Change Order No:	1			
System: LonWorks based DDC control system. Provide and install all controllers, sensors, wiring for all Heating, Ventilation and Air Conditioning, HVAC, equipment located in the Chandler Center for Arts.				
Subtier Costs:				
HVAC:	Unit	Quantity	Comment	\$ Cost
	Single-Zone Air Handlers	16	Includes custom control panel for each air handling unit	
	Fan coils	2		
	VAV	1		
	Exhaust Fan	3		
	General		Control of rotating stage position damper	
Lighting	Outside light circuits	2	Provide and install 1 photo cell	
Power Monitoring	Power Monitor	1	Power monitor to trend building power consumption	
Misc.			Demo of existing Andover control system	
Subtotal				\$121,520
Controls:	Labor	1	Includes deliveries, supervision and OT	\$39,987
	Materials	1	Includes all sheetmetal, plumbing and pipefitting	\$5,806
	Equipment	1	Includes Outside Air Dampers	\$6,451
	Equipment Rental	1	Includes Delivery	\$2,520
	As-built updating	1	Includes CAD time	\$687
	Warranty Reserve	1		\$687
	Check, Test & Start	1		\$900
	Site Cleanup	1		\$458
	Safety	1		\$916
	Testing and Balancing	1	Includes report copies	\$6,650
	Insultation	1		\$7,356
	Water treatment	1	Includes proper disposal of all chemicals	\$2,000
Subtotal				\$74,418
Subtier OH&P + Insurance				
				\$17,013
Total				\$212,951
General Contractor Costs				
General:	Repairs	1	Ceiling and wall patch and paint - allowance	\$5,000
	General Conditions	1	Per original contract values	\$6,540
	Liability Insurance	1	Per original contract values	\$1,908
	Performance Bond	1	Per original contract values	\$2,490
	Fee	1	Per original contract values	\$11,987
	tax	1	Per original contract values	\$12,212
Grand Total				\$253,088



Input/Output Point Summary Table		System I/O Controller										System Software / Control										Trending		Page 1 of 2	
Site: City of Chandler																						Date: 5/5/09			
Building: Performing Arts																						Revision:			
System: Central Plant																						By:			
Control Sequence:																						Reviewed:			
System Graphic Required:	Yes	Analog Input	Digital Input	Analog Output	Digital Output	Remote Notification	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/Stop	Dry Bulb Economizer	Enthalpy Economizer	Temp Reset	Sequential Staging	Humidity Control	Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Change-of-state	Notes/Comments
				2		X	X					X		X			X								Hard wire
					2																				LON if available
																									LON if available
		2							X	X															LON if available
		2							X	X															LON if available
		2							X	X															LON if available
		2							X	X															LON if available
		2							X	X															LON if available
		2							X	X															LON if available
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Input/Output Point Summary Table		City of Chandler EMS Upgrade																								
Site: City of Chandler Building: Performing Arts System: AHU-2 & 9 Control Sequence: Single Zone AHU System Graphic Required: Yes		System I/O				System Software / Control														Trending		Page 1 of 1				
		Controller				Alarm Processing				Application / Function																
		Analog Input	Digital Input	Analog Output	Digital Output	Remote Notification	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/Stop	Dry Bulb Economizer	Enthalpy Economizer	Temp Reset	Sequential Staging	Humidity Control	Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Change-of-state	Notes/Comments	
Supply Fan					2	X	X					X														
Supply Fan Status			2																							
Supply Fan Speed				2																						
Supply Fan VFD Alarm			2				X																		LON if available	
Supply Fan VFD % Load			2																							LON if available
Cooling Valve				2																						
Heat Stage 1					2																					
Heat Stage 2					2																					
Supply Air Temp			2						X	X																
Return Air Temp			2																							
CHW Return Temp			2																							
Space Temp			2						X	X																
System Digital Outputs:		6																								
System Analog Outputs:		4																								
System Digital Inputs:		4																								
System Analog Inputs:		10																								
Total System Points:		24																								

Symbol Key: Failure Modes: C = Closed/Off, O = Open/On, L = Last Command.
 Trending: Values listed are sampling intervals (in minutes).
 FB = Feedback



Input/Output Point Summary Table		System Software / Control																	Trending		Page 1 of 1					
Site: City of Chandler		System I/O				Alarm Processing							Application / Function													
Building: Performing Arts		Controller																								
System: AHU-3		Analog Input	Digital Input	Analog Output	Digital Output	Remote Notification	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/stop	Dry Bulb Economizer	Enthalpy Economizer	Temp Reset	Sequential Staging	Humidity Control	Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Change-of-state	Date: 5/5/09	
Control Sequence: Single Zone AHU																									Revision:	
System Graphic Required: Yes																								By:		
																								Reviewed:		
																								Notes/Comments		
Supply Fan					1	X	X					X														
Supply Fan Status			1																							
Supply Fan Speed				1																						
Supply Fan VFD Alarm			1				X																			LON if available
Supply Fan VFD % Load		1																								LON if available
Cooling Valve				1																						
Supply Air Temp		1							X	X																
Return Air Temp		1																								
CHW Return Temp		1																								
Space Temp		1							X	X																
Terminal Unit Damper				1																						
Terminal Unit Space Temp		1																								
System Digital Outputs:		1																								
System Analog Outputs:		3																						Symbol Key: Failure Modes: C = Closed/Off, O = Open/On, L = Last Command.		
System Digital Inputs		2																						Trending: Values listed are sampling intervals (in minutes).		
System Analog Inputs		6																						FB = Feedback		
Total System Points:		12																								



Input/Output Point Summary Table		System I/O		System Software / Control																Trending		Page 1 of 1					
Site: City of Chandler Building: Performing Arts		Controller		Alarm Processing								Application / Function								Interval	Change-of-state	Date: 5/5/09 Revision: By: Reviewed:					
System: AHU-6, 7 & 11 Rotating Stage Units Control Sequence: Single Zone AHU		Analog Input	Digital Input	Analog Output	Digital Output	Remote Notification	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/Stop	Dry Bulb Economizer	Enthalpy Economizer	Temp Reset	Sequential Staging	Humidity Control	Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Change-of-state	Notes/Comments		
System Graphic Required: Yes																											
	Supply Fan				3	X	X					X															
	Supply Fan Status		3																								
	Supply Fan Speed			3																							
	Supply Fan VFD Alarm		3				X																			LON if available	
	Supply Fan VFD % Load		3																							LON if available	
	Cooling Valve			3																							
	Heat Stage 1				3																						
	Stage Position Damper			3																						Air duct diverting based on stage position.	
	Supply Air Temp		3						X	X																	
	Return Air Temp		3																								
	CHW Return Temp		3																								
	Space Temp 1		3						X	X																Temp ctrl point for stg position #1	
	Space Temp 2		2						X	X																Temp ctrl point for stg position #2 (AHU-6 & 7 only)	
	Stage Position FB			3																						Determines stg pos damper ctrl and space temp input.	
System Digital Outputs:		6																									
System Analog Outputs:		9		Symbol Key: Failure Modes: C = Closed/Off, O = Open/On, L = Last Command.																							
System Digital Inputs:		9		Trending: Values listed are sampling intervals (in minutes).																							
System Analog Inputs:		17		FB = Feedback																							
Total System Points:		41																									



Input/Output Point Summary Table

Site: City of Chandler Building: Performing Arts System: AHU-15 Control Sequence: Single Zone AHU System Graphic Required: Yes	System I/O				System Software / Control														Page 1 of 1 Date: 5/5/09 Revision: By: Reviewed: Notes/Comments					
	Controller				Alarm Processing						Application / Function										Trending			
	Analog Input	Digital Input	Analog Output	Digital Output	Remote Notification	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/stop	Dry Bulb Economizer	Enthalpy Economizer	Temp Reset	Sequential Staging	Humidity Control		Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Change-of-state
Supply Fan Low Speed			1	X	X						X													
Supply Fan High Speed			1	X	X																			
Supply Fan Status		2																						
Cooling Valve			1																					
Heating Stage			1																					
Supply Air Temp	1						X	X																
Return Air Temp	1																							
CHW Return Temp	1																							
Space Temp	1						X	X																
System Digital Outputs:	3																							
System Analog Outputs:	1																							
System Digital Inputs	2																							
System Analog Inputs	4																							
Total System Points:	10																							

Symbol Key: Failure Modes: C = Closed/Off, O = Open/On, L = Last Command.
 Trending: Values listed are sampling intervals (in minutes).
 FB = Feedback



Input/Output Point Summary Table
 Building: City of Chandler
 System: FC-2
 Control Reference: Fan Coil Units
 System Graphic Required: Yes

System ID	System ID		System Status / Control										Application / Function		Reasoning		Page 1 of 1 Date: 5/5/06 Revision By: [blank] Reviewed By: [blank] Notes/Comments: [blank]						
	Control	Point	Alarm	Equipment Status	Maintenance Status	High Limit	Low Limit	Run Time	Scheduled Start/Stop	Optimum Start/Stop	Interlock Start/Stop	Dry Out	Compressor	Compressor	Temp Reset	Sequential Staging		Humidity Control	Pressure/Volume Control	Demand Ventilation	Failure Mode (see key)	Interval	Testing
3	Supply Fan Start	1																					
4	Return Fan Start	1																					
5	Heating Valve	1																					
6	Supply Air Temp	1																					
7	Space Temp	1																					

System Digital Outputs: 3
 System Analog Inputs: 1
 System Digital Inputs: 1
 System Analog Outputs: 1
 Total System Points: 6

Symbol Key: FB = Feedback
 Failsafe Mode: C = Closed/Off, O = Open/On, L = Lock/Command
 Tripping Values listed are sampling intervals (in minutes).

