STATE OF ARIZONA
SCHOOL FACILITIES BOARD

SCHOOL FACILITIES BOARD

NOTICE OF PUBLIC MEETING

Pursuant to Arizona Revised Statutes Annotated (A.R.S.) 38-431.02, notice is hereby given to the members of the School Facilities Board and to the general public that the Board will hold a meeting open to the public at the date, time and place set forth below. The Board will consider the items listed on the agenda and will take action when necessary and appropriate. The Board reserves the right to change the order of items on the agenda, with the exception of public hearings.

Pursuant to A.R.S. 38-431.03(A)(3), (4) and (7) the Board may vote to go into Executive Session, which is not open to the public to receive legal advice from the Board's attorney on any matter listed on the agenda.

One or more members of the School Facilities Board may attend either in person or by telephone, video or internet conferencing.

August 19, 2015
10:00 AM MST
Arizona State Archives Building
1901 W. Madison St.
1st Floor Meeting Room
Phoenix, AZ 85009

Kerry Campbell, Public Information Officer
602-542-6504
School Facilities Board
1700 W. Washington St., Ste. 104
Executive Tower, 1st Floor
Phoenix, Arizona 85007

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Kerry Campbell at 602-542-6504. Requests should be made as early as possible to allow time to arrange the accommodation.

AGENDA

SCHOOL FACILITIES BOARD
August 19, 2015
10:00 AM

Arizona State Archives Building
1901 W. Madison St.
1st Floor Meeting Room
Phoenix, AZ 85009

Pursuant to A.R.S. 38-431.03(A)(3), the Board may vote to go into Executive Session, which is not open to the public for discussion or consultation for legal advice with the Board's attorney.

I. Call to Order

II. Roll Call

III. Minutes

IV. Director's Report

   a. Follow-up on Shingle Roofs vs. Metal Roofs Business Model Presentation

   b. Discussion on Repair vs. Replace

V. Reduction of Square Footage - Grade Re-configuration

   a. Phoenix Elementary

   b. Tempe Elementary

VI. Reduction of Square Footage - Square Footage Reduction

   a. Cave Creek Unified

VII. Building Renewal Grant Requests

   a. Consideration and possible vote to ratify the Executive Director's awards of Building Renewal Grant funds as authorized in the Building Renewal Grant Policy IX.C. (up to $50,000 for deficiencies correction)

      - Bullhead City Elementary 022BRG
      - Bullhead City Elementary 023BRG
      - Crane Elementary 007BRG
      - Gila Bend Unified 013BRG
      - Gila Bend Unified 014BRG
      - Gila Bend Unified 015BRG
      - Lake Havasu Unified 022BRG
      - Lake Havasu Unified 023BRG
      - Lake Havasu Unified 024BRG

- Lake Havasu Unified 025BRG
- Lake Havasu Unified 026BRG
- Liberty Elementary 003BRG
- Mesa Unified 019BRG
- Mesa Unified 020BRG
- Mesa Unified 021BRG
- Mesa Unified 022BRG
- Miami Unified 007BRG
- Miami Unified 008BRG
- Tonto Basin Elementary 006BRG

b. Consideration and possible vote to accept, reject or modify Building Renewal Grant Requests - Supplemental Award

- Cave Creek Unified 007BRG
- Chino Valley Unified 007BRG
- Coolidge Unified 016BRG
- Crane Elementary 002BRG
- Crane Elementary 003BRG
- Crane Elementary 006BRG
- Douglas Unified 004BRG
- Flowing Wells Unified 002BRG
- Kingman Unified 007BRG
- Kirkland Elementary 006BRG
- Kirkland Elementary 007BRG
- Palominas Elementary 002BRG
- Paradise Valley Unified 001BRG
- Payson Unified 006BRG
- Round Valley Unified 003BRG
- Show Low Unified 006BRG
- Snowflake Unified 009BRG
- Sonoita Elementary 001BRG
- Yuma Union 004BRG

c. Consideration and possible vote to accept, reject or modify Building Renewal Grant Requests - Construction Award

- Antelope Union 005BRG
- Casa Grande Elementary 025BRG
- Clarkdale-Jerome Elementary 007BRG
- Cochise Elementary 001BRG
- Flagstaff Unified 006BRG
- Florence Unified 007BRG

- Hiillside Elementary 002BRG
- Lake Havasu Unified 028BRG
- Lake Havasu Unified 029BRG
- Mammoth-San Manuel Unified 006BRG
- Mesa Unified 023BRG
- Paradise Valley Unified 002BRG
- Ray Unified 004BRG
- Ray Unified 005BRG
- Sahuarita Unified 001BRG
- Tolleson Union 008BRG
- Tombstone Unified 007BRG
- Tuba City Unified 006BRG
- Tucson Unified 019BRG
- Tucson Unified 020BRG
- Valley Union 008BRG

d. Consideration and possible vote to accept, reject or modify Building Renewal Grant Requests - Design Award

- Ash Creek Elementary 006BRG
- Ash Creek Elementary 007BRG
- Lake Havasu Unified 030BRG
- Lake Havasu Unified 031BRG
- Prescott Unified 005BRG
- Sahuarita Unified 002BRG
- Toltec Elementary 004BRG
- Tucson Unified 018BRG

e. Consideration and possible vote to accept, reject or modify Emergency Deficiencies Correction Requests -Supplemental Award

- Balsz Elementary 001EP

f. Consideration and possible vote to accept, reject or modify Emergency Deficiencies Correction Requests - Construction Award

- Tuba City Unified 005EP
- Tuba City Unified 006EP

g. Consideration and possible vote to accept, reject or modify Emergency Deficiencies Correction Requests - Design Award

- St. Johns Unified 002EP

VIII. Future Agenda Items

IX. Public Comment

Members of the Board may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. 38-431.01(H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to the criticism or scheduling the matter for further consideration and decision at a later date.

X. Adjournment

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item IV.a.**

Subject:

Director's Report

Follow-up on Shingle Roofs vs. Metal Roofs Business Model Presentation

Phil Williams will provide an overview of the Business Model Discussion and process for developing a Standard Operating Procedure (SOP).

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item IV.b.**

Subject:

Director's Report
Discussion on Repair vs. Replace
Phil Williams will provide a brief overview of the topic and open the floor for discussion.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item V.a.**

Subject:

Reduction of Square Footage - Grade Re-configuration
Phoenix Elementary
Background
A.R.S. §15-341, subsection G reads: "Notwithstanding any other provision of this title, a school district governing board shall not take any action that would result in a reduction of pupil square footage unless the governing board notifies the school facilities board established by section 15-2001 of the proposed action and receives written approval from the school facilities board to take the action. A reduction includes an increase in administrative space that results in a reduction of pupil square footage or sale of school sites or buildings, or both. A reduction includes a reconfiguration of grades that results in a reduction of pupil square footage of any grade level…"

The district has requested a reconfiguration of the following schools from K-6 to K-6/7-8:

School	Old Capacity (K-6)	New Capacity	
		K-6	7-8
Edison	775	593	156
Emerson	637	487	129
Garfield	704	538	142
Shaw Montessori	773	591	156
Whittier	575	440	116
Total	**3,464**	**2,649**	**699**

The result is a net reduction of 815 K-6 student capacity. Reducing the district's K-6 capacity by 815 would yield a new student capacity of 7,573. The FY 14 ADM was 5,398. In the past five years, the district's ADM for K-6 has declined for most years resulting in 5-year annualized negative growth rates of -1.7%. According to provisional 100-day FY 15 ADM data provided by ADE on June 11, 2015, the district's ADM was 5,303 at the K-6 level (a decline of -1.8% from FY 14). The median age of the district's residents is significantly lower than the state average; however, the number of births has been on a declining curve during recent years. SFB staff projects that the district's K-6 ADM will experience moderate growth in the next eight years, particularly during the latter years. However, barring unforeseen circumstances, ADM is not projected to exceed the new capacity of 7,573 at the K-6 level within the analysis timeframe.

Staff Recommendation
Staff recommends approval of Phoenix Elementary's request to reconfigure schools as outlined above.

Board Action Requested:
Board approval of the staff recommendation of **Phoenix Elementary's** request to reconfigure schools as outlined above.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item V.b.**

Subject:

Reduction of Square Footage - Grade Re-configuration
Tempe Elementary
Background
A.R.S. §15-341, subsection G reads: "Notwithstanding any other provision of this title, a school district governing board shall not take any action that would result in a reduction of pupil square footage unless the governing board notifies the school facilities board established by section 15-2001 of the proposed action and receives written approval from the school facilities board to take the action. A reduction includes an increase in administrative space that results in a reduction of pupil square footage or sale of school sites or buildings, or both. A reduction includes a reconfiguration of grades that results in a reduction of pupil square footage of any grade level…"

The district has requested reconfiguration of Bustoz Elementary School from K-5 to District Administration. The district ceased to use this facility as a school in FY 11 and began to use it for professional development in FY 12. The facility consists of three buildings (including one portable) built between 1974 and 1994, with a total of 38,107 SF and student capacity for 448 K-5 students.

Reducing the district's K-5 capacity by 448 would yield a new student capacity of 10,373. The district's K-5 ADM in FY 14 was 7,706. Based on the provisional 100-day FY15 ADM data provided by ADE, SFB staff estimates that the K-5 ADM in FY 15 is approximately 7,754, a 0.6% increase from last year. Using 7,754 as a starting point, it would require an annual growth rate of 3.7% for the ADM to exceed 10,373 by FY 23. At this time, there are no indications that the district's K-5 ADM will experience that rate of growth. During FY 09 - FY 14, the K-5 ADM declined consecutively for the first four years and experienced an increase of 0.9% in FY 14, resulting in a five-year annualized negative growth rate of -1.3%. The district is projected to experience moderate growth during coming years at the K-5 level, but the ADM is not expected to exceed 10,373 within the analysis timeframe (by FY 23).

Staff Recommendation
Staff recommends approval of Tempe Elementary's request to reconfigure Bustoz Elementary School from K-5 to District Administration.

Board Action Requested:
Board approval of the staff recommendation for **Tempe Elementary's** request to reconfigure Bustoz Elementary School from K-5 to District Administration.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item VI.a.**

Subject:

Reduction of Square Footage - Square Footage Reduction
Cave Creek Unified
A.R.S. §15-341, subsection G reads: "Notwithstanding any other provision of this title, a school district governing board shall not take any action that would result in a reduction of pupil square footage unless the governing board notifies the school facilities board established by section 15-2001 of the proposed action and receives written approval from the school facilities board to take the action.

Background
The district has requested approval to sell and/or demolish the following **K-6** buildings:

School	Building No.	Square Footage	Student Capacity
Cave Creek Learning Center	1010	1,440	17
Cave Creek Learning Center	1011	1,440	17
Cave Creek Learning Center	1012	1,440	17
Desert Sun Elementary School	1008	1,440	17
Total K-6			**68**

The district has requested approval to sell and/or demolish the following **7-8** buildings:

School	Building No.	Square Footage	Student Capacity
Desert Arroyo Middle School	1013	1,440	14.4
Desert Arroyo Middle School	1014	1,440	14.4
Desert Arroyo Middle School	1015	1,440	14.4
Total 7-8			**43**

Reducing the district's K-6 capacity by 68 would yield a new student capacity of 4,281. Reducing the district's 7-8 capacity by 43 would yield a new student capacity of 2,272. In the past five years, the district's ADM for both K-6 and 7-8 has declined; the conversion of four district schools to district sponsored charter schools in FY 13 resulted in the plummeting of K-6 ADM. Since it is the intent of the legislature that district-sponsored charter schools converted prior to FY 14 revert to district schools by FY 17, the ADM of the four district sponsored charter schools is included in this analysis. During FY 09 – FY 14, the 5-year annualized growth rates were negative at -1.7% and -3.4% for K-6 and 7-8, respectively. According to provisional FY 15 data provided by ADE, the district's 100-day ADM is approximately 2,690 at the K-6 level and 839 at the 7-8 level, a decline of 1.0% and an increase of 2.9% from FY 14, respectively. The median age of the district's residents is significantly higher than the State average, and the number of births has been on a declining curve during recent years. Barring unforeseen circumstances, ADM is not projected to exceed the new capacity of 4,281 at the K-6 level or 2,272 at the 7-8 level within the next eight years.

Staff Recommendation
Staff recommends approval of Cave Creek Unified's request to remove the buildings listed above from the district's inventory.

Board Action Requested:
Board approval of **Cave Creek Unified's** request to remove the buildings listed above from the district's

inventory.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Bullhead City Elementary 022BRG
Background – Bullhead City Elementary (Bullhead City JHS – replace 10-ton HVAC unit)
Bullhead City Elementary has submitted a Building Renewal Grant request to replace the 10-ton HVAC unit that serves the administration/classroom Building 1001 at Bullhead City Junior High School (project number 080415130-1001-022BRG).

Bullhead City Elementary, located 200 miles northwest of Phoenix along the Colorado River, has seven schools. Bullhead City Junior High School is comprised of five buildings constructed between 1972 and 1988, totaling 75,468 square feet. Building 1001 was built in 1972, totaling 40,590 square feet.

The unit has failed and is beyond repair. The district received proposals to replace the unit; the lowest was $10,100.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Bullhead City Elementary (Bullhead City JHS – replace 10-ton HVAC unit)
Staff recommends that Bullhead City Elementary be awarded $14,000 in Building Renewal Grant funding to replace the 10-ton HVAC unit serving the administration/classroom Building 1001 at Bullhead City Junior High School (project number 080415130-1001-022BRG). This includes $1,500 for a structural analysis and $2,400 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Bullhead City Elementary** be awarded $14,000 in Building Renewal Grant funding to replace the 10-ton HVAC unit serving the administration/classroom Building 1001 at Bullhead City Junior High School (project number 080415130-1001-022BRG). This includes $1,500 for a structural analysis and $2,400 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Bullhead_City_ESD_022BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729163613-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Bullhead City Elementary**
BRG Project Number: **080415130-1001-022BRG** Mohave County
Project Description: **Replace 10-ton HVAC unit**
Architect of Record: n/a
Contractor: PMI Air, LLC

Executive Authority: 7/7/2015
Board ratification: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 10,100**
Contingency		**$ 2,400**
Architecture / Engineering (A&E) Fees		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 14,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 14,000**
Total Project Cost:		**$ 14,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/5/2015 11:36:11 AM **Application ID:** 2069

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Bullhead City Elementary District
Superintendent:	Riley Frie
Contact Person:	John Wawrzynek
Contact Phone Number:	928-444-7529
Contact Email:	jwawrzynek@bullheadschools.com
School Site:	Bullhead City Jr High School
Buildings:	1001 A1000

Application Title: 10 ton AC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

10 Ton AC unit has shorted compressor, and leak in coil, contactor burned.
Will need to have a roof survey done. Quotes attached.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

N/A

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Riley Frie
Superintendent Printed Name

Superintendent Signature 7/7/15
Date

P.M.I. AIR, LLC
P.O. Box 22103
Bullhead City, AZ 86439
928.234.9494 fax 928.577.0200

Proposal

To:	PHONE	DATE 6/24/215
B.C.S.D ATTN: Anthony Martinez	JOB NAME/LOCATION Bullhead City JR High 1062 Hancock Rd Bullhead City, AZ 86442	
	JOB NUMBER	FAX

We hereby submit specifications and estimates for:

To install:

1. One- 10-ton, R-410a, Gas pack unit, (Exact match to existing system).
2. One- 3 phase disconnect.
3. One- Digital, Programmable, thermostat. (Breaburn).
4. Re-connect ductwork and seal.
5. Crane service.
6. Permit.

Remove and discard old equipment.

Start-up systems for performance.

1 Year workmanship warranty.
Standard factory warranty.

We Propose hereby to furnish materials and labor - complete in accordance with the above specifications, for the sum of:

Ten thousand one hundred and 00---------- $10,100.00 tax included

Payment to be made as follows:

50 % at signing and balance at completion of work.

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration of deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Worker's Compensation Insurance.

Authorized Signature
Operations Manager

Note this Proposal may be withdrawn by us if not accepted within 30 days.

ACCEPTANCE OF PROPOSAL - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature

Signature

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Bullhead City Elementary 023BRG

Background – Bullhead City Elementary (Bullhead City JHS – replace two 5-ton HVAC units)

Bullhead City Elementary has submitted a Building Renewal Grant request to replace two 5-ton HVAC units serving the cafeteria Building 1004 at Bullhead City Junior High School (project number 080415130-1004-023BRG).

Bullhead City Elementary, located 200 miles northwest of Phoenix along the Colorado River, has seven schools. Bullhead City Junior High School is comprised of five buildings constructed between 1972 and 1988, totaling 75,468 square feet. Building 1004 was built in 1984, totaling 7,885 square feet.

Both HVAC units have failed and are beyond repair. The district received proposals to replace the units; the lowest was $9,700.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Bullhead City Elementary (Bullhead City JHS – replace two 5-ton HVAC units)
Staff recommends that Bullhead City Elementary be awarded $13,500 in Building Renewal Grant funding to replace two 5-ton HVAC units serving the cafeteria Building 1004 at Bullhead City Junior High School (project number 080415130-1004-023BRG). This includes $1,500 for a structural analysis and $2,300 in contingency that will only be used with SFB staff approval.

Board Action Requested:

Board ratification that **Bullhead City Elementary** be awarded $13,500 in Building Renewal Grant funding to replace two 5-ton HVAC units serving the cafeteria Building 1004 at Bullhead City Junior High School (project number 080415130-1004-023BRG). This includes $1,500 for a structural analysis and $2,300 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Bullhead_City_ESD_023BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729171443-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Bullhead City Elementary**
BRG Project Number: **080415130-1004-023BRG** Mohave County
Project Description: **Replace two 5-ton HVAC units**
Architect of Record: n/a
Contractor: PMI Air, LLC

Executive Authority: 7/7/2015
Board ratification: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 9,700**
Contingency		**$ 2,300**
Architecture / Engineering (A&E) Fees		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 13,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 13,500**
Total Project Cost:		**$ 13,500**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/5/2015 11:36:32 AM **Application ID:** 2070
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Bullhead City Elementary District
Superintendent: Riley Frie
Contact Person: John Wawrzynek
Contact Phone Number: 928-444-7529
Contact Email: jwawrzynek@bullheadschools.com
School Site: Bullhead City Jr High School
Buildings: 1004 A4000

Application Title: 2- 5 Ton units

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

both units have burned out compressors, will need contactors, fan motors, both units are flat on charge indicating a leak. Will need to do a roof survey.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

N/A

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Riley Frie
Superintendent Printed Name

Superintendent Signature 7/7/15
Date

P.M.I. AIR, LLC
P.O. Box 22103
Bullhead City, AZ 86439
928.234.9494 fax 928.577.0200

Proposal

To:	PHONE	DATE 6/24/215
B.C.S.D ATTN: Anthony Martinez Cafeteria	JOB NAME/LOCATION Bullhead City JR High 1062 Hancock Rd Bullhead City, AZ 86442	
	JOB NUMBER	FAX

We hereby submit specifications and estimates for:

To install:

1. Two- 5-ton, Heatpump, R-410a, PKG. (Nordyne).
   a. 14 SEER, 10 year factory warranty.
2. Two- Service disconnects, fused.
3. Two- Digital, programmable, thermostats. (Breaburn).
   a. Five year warranty.
4. Crane service.
5. Permit.

Remove and discard old equipment.

Start-up systems for performance.

1 Year workmanship warranty.
Standard factory warranty.

We Propose hereby to furnish materials and labor - complete in accordance with the above specifications, for the sum of:

Nine thousand seven hundred and 00---------- $9,700.00 tax included

Payment to be made as follows:

50 % at signing and balance at completion of work.

All material is guaranteed to be as specified. All work to be completed in a professional manner according to standard practices. Any alteration of deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Worker's Compensation Insurance.

Authorized Signature
Operations Manager

Note this Proposal may be withdrawn by us if not accepted within 30 days.

ACCEPTANCE OF PROPOSAL - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature

Signature

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Crane Elementary 007BRG
Background – Crane Elementary (Ronald Reagan Fundamental – replace three HVAC compressors)
Crane Elementary has submitted a Building Renewal Grant request to replace three HVAC compressors in the Main Building 1001 at Ronald Reagan Fundamental School (project number 140413104-1001-007BRG).

Crane Elementary, located in Yuma, has ten schools. Ronald Reagan Fundamental School is comprised of three buildings constructed between 1984 and 2000, totaling 54,623 square feet. Building 1001 was built in 1984, totaling 45,130 square feet.

The district received proposals to replace the compressors; the lowest was $2,724.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Crane Elementary (Ronald Reagan Fundamental – replace three HVAC compressors)
Staff recommends that Crane Elementary be awarded $3,000 in Building Renewal Grant funding to replace three HVAC compressors in the Main Building 1001 at Ronald Reagan Fundamental School (project number 140413104-1001-007BRG). This includes $276 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Crane Elementary** be awarded $3,000 in Building Renewal Grant funding to replace three HVAC compressors in the Main Building 1001 at Ronald Reagan Fundamental School (project number 140413104-1001-007BRG). This includes $276 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Crane_ESD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-728180924-0001.pdf	Documents	7/28/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Crane Elementary**
BRG Project Number: **140413104-1001-007BRG** Yuma County
Project Description: **Replace three HVAC compressors**
Consultant: n/a
Contractor: American Refrigeration Supplies, Inc.

Executive Authority: 7/10/2015
Board ratification: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 2,724**
Contingency		**$ 276**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 3,000**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 3,000**
Total Project Cost:		**$ 3,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2084

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Crane Elementary District

Superintendent: Robert Klee

Contact Person: Dale Ponder

Contact Phone Number: 928-373-3405

Contact Email: dponder@craneschools.org

School Site: Ronald Reagan Fundamental School

Buildings: 1001 Main Building 1

Application Title: HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

HVAC unit with failed compressor in West Kindergarten classroom; is not operable and does not cool the room.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Robert T Klee
Superintendent Printed Name

Robert T Klee 7-9-15
Superintendent Signature Date

Remit To: AMERICAN REFRIGERATION SUPPLIES,INC. ARS
P.O. Box 21127 Store(928)783-7819
Phoenix, AZ 85036 Corp(602)243-2792

QUOTATION
Order#: 3066956-00
Date: 07/07/15
Terms: Net 10thProx

Bill To: CRANE SCHOOL DISTRICT #13
4250 WEST 16TH ST
ATTN: ACCOUNTS PAYABLE
YUMA, AZ 85364-4031

PO: P028007
Inst:
FOB: ARS #3 - Yuma L083
Via: . Date:

Ship To: CRANE SCHOOL DISTRICT #13
WILL CALL SALES

Cust#: 4026

Ln#	Part Number/Description	UM	Qty Ord	Qty Ship	Qty B.O.	Price	Total
1	COM11232	each	1			899.32 *	899.32
	COMP 4.8 HP 460 3PH MO S R22 AC		SXE054B4BP				

1 Lines Total

Total	899.32
Taxes *	75.65
Invoice Total	974.97

Last Page

Remit To: AMERICAN REFRIGERATION SUPPLIES,INC. ARS
P.O. Box 21127 Store(928)783-7819
Phoenix, AZ 85036 Corp(602)243-2792

QUOTATION
Order#: 3066957-00
Date: 07/07/15
Terms: Net 10thProx

Bill To: CRANE SCHOOL DISTRICT #13
4250 WEST 16TH ST
ATTN: ACCOUNTS PAYABLE
YUMA, AZ 85364-4031

PO: P028007
Inst:
FOB: ARS #3 - Yuma L083
Via: . Date:

Ship To: CRANE SCHOOL DISTRICT #13
WILL CALL SALES

Cust#: 4026

Ln#	Part Number/Description	UM	Qty Ord	Qty Ship	Qty B.O.	Price	Total
1	COM11570	each	1			713.82 *	713.82
	COMP 5.0 HP 460 3PH MO S R22 AC						

1 Lines Total

Total	713.82
Taxes *	60.04
Invoice Total	773.86

Last Page

Remit To: AMERICAN REFRIGERATION SUPPLIES,INC. ARS
P.O. Box 21127 Store(928)783-7819
Phoenix, AZ 85036 Corp(602)243-2792

QUOTATION
Order#: 3066956-00
Date: 07/07/15
Terms: Net 10thProx

Bill To: CRANE SCHOOL DISTRICT #13
4250 WEST 16TH ST
ATTN: ACCOUNTS PAYABLE
YUMA, AZ 85364-4031

PO: P028007
Inst:
FOB: ARS #3 - Yuma L083
Via: . Date:

Ship To: CRANE SCHOOL DISTRICT #13
WILL CALL SALES

Cust#: 4026

Ln#	Part Number/Description	UM	Qty Ord	Qty Ship	Qty B.O.	Price	Total
1	COM11232	each	1			899.32 *	899.32
	COMP 4.8 HP 460 3PH MO S R22 AC	SXE054B4BP					

1 Lines Total

Total	899.32
Taxes *	75.65
Invoice Total	974.97

Last Page

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Gila Bend Unified 013BRG
Background – Gila Bend Unified (Gila Bend HS - replace HVAC fan motor)
Gila Bend Unified has submitted a Building Renewal Grant request to replace the fan motor on the 30-ton HVAC unit serving the gymnasium Building 1008 at Gila Bend High School (project number 070224002-1008-013BRG).

Gila Bend Unified, located 70 miles southwest of Phoenix, has two schools. Gila Bend High School is comprised of eight buildings constructed between 1949 and 1968, totaling 38,518 square feet. Building 1008 was constructed in 1949, totaling 14,332 square feet.

The district received the lowest responsible bid of $4,878.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Gila Bend Unified (Gila Bend HS – replace HVAC fan motor)
Staff recommends that Gila Bend Unified be awarded $5,000 in Building Renewal Grant funding to replace the fan motor on the 30-ton HVAC unit serving the gymnasium Building 1008 at Gila Bend High School (project number 070224002-1008-013BRG). This includes $122 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Gila Bend Unified** be awarded $5,000 in Building Renewal Grant funding to replace the fan motor on the 30-ton HVAC unit serving the gymnasium Building 1008 at Gila Bend High School (project number 070224002-1008-013BRG). This includes $122 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Gila_Bend_USD_013BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest_(1).pdf	District Funding Request	8/3/2015	Cover Memo
High_School_Motor_take_off.docx	Equiptment Take Off	8/3/2015	Cover Memo
Gila_bend_HVAC_Bid_awards.docx	Bid award	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Gila Bend Unified**
BRG Project Number: **070244002-1008-013BRG** **Maricopa County**
Project Description: **Replace HVAC fan motor**
Consultant: n/a
Contractor: Aquality

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 4,878**
Contingency		**$ 122**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 5,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 5,000**
Total Project Cost:		**$ 5,000**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/24/2015 2:45:59 PM **Application ID:** 2136

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Gila Bend Unified District

Superintendent: Dr. Anthony J. Perkins

Contact Person: Anna-Marie Perry

Contact Phone Number: 928-683-2225 xt 126

Contact Email: anna-mariep@gbusd.org

School Site: Gila Bend High School

Buildings: 1008 Building G

Application Title: Gym 30 ton

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

30 ton package unit has a bad fan motor

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Superintendent Printed Name

Superintendent Signature Date

High School Bid #2

Unit #16
Need Indoor Blower Motor
Carrier
Model # 50AW-03-D51
Serial # 4506U28262
Indoor ID Plate: 208/230/3 46.2/42.0 FLA 15HP 11.19 KW
A.O. Smith Motor:
Part: 07-850729-01-0J
Frame: S254T

Gila bend HVAC Bid awards

Kerry,
Bid Awards are as follows

Bid #1 High School units 15, 7, & 11 to AQuality in the amount of $21,074

Bid #2 High School replacement of Indoor blower motor to AQuality in the amount of $4878

Bid #3 Elementary School units 34, 50 & 54 to Uni-Tech in the amount of $18,345

Anna-Marie Perry
Business Manager
Gila Bend Unified School District
928-683-2225 ext 126
928-683-2671 Fax
928-200-5097 Cell

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Gila Bend Unified 014BRG
Background – Gila Bend Unified (Gila Bend ES - replace three HVAC units)
Gila Bend Unified has submitted a Building Renewal Grant request to replace three failed HVAC package units #34, #50 and #54 serving Buildings 1003 and 1007 at Gila Bend Elementary (project number 070244001-9999-014BRG).

Gila Bend Unified, located 70 miles southwest of Phoenix, has two schools. Gila Bend Elementary School is comprised of 10 buildings constructed between 1924 and 2010, totaling 72,295 square feet. Building 1003 was built in 1958, totaling 5,278 square feet and Building 1007 was constructed in 1963, totaling 7,482 square feet.

The district received the lowest responsible bid at $18,345 and requests an additional $4,000 for a structural analysis to complete this project.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation –Gila Bend Unified (Gila Bend ES – replace three HVAC units)
Staff recommends that Gila Bend Unified be awarded $24,000 in Building Renewal Grant funding to replace three HVAC package units #34, #50 and #54 serving Buildings 1003 and 1007 at Gila Bend Elementary School (project number 070244001-9999-014BRG). This includes $4,000 for a structural analysis and $1,655 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Gila Bend Unified** be awarded $24,000 in Building Renewal Grant funding to replace three HVAC package units #34, #50 and #54 serving Buildings 1003 and 1007 at Gila Bend Elementary School (project number 070244001-9999-014BRG). This includes $4,000 for a structural analysis and $1,655 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Gila_Bend_USD_014BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest_(5).pdf	District Funding Request	8/3/2015	Cover Memo
Elementary_Units_take_off.docx	Elementary Unit Take Off	8/3/2015	Cover Memo
Gila_bend_HVAC_Bid_awards.docx	Elementary HVAC Bid Award	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Gila Bend Unified**
BRG Project Number: **070244001-9999-014BRG** **Maricopa County**
Project Description: **Replace three HVAC units**
Consultant: n/a
Contractor: Uni-Tech

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 18,345**
Contingency		**$ 1,655**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 4,000
Testing & Inspection		$ -
Total Additional Cost:		**$ 4,000**
Total SFB Funded Project Cost:		**$ 24,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 24,000**
Total Project Cost:		**$ 24,000**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/24/2015 2:58:54 PM **Application ID:** 2139
Resubmittal Date: 7/31/2015 2:07:10 PM

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Gila Bend Unified District

Superintendent: Dr. Anthony J. Perkins

Contact Person: anna-mariep@gbusd.org

Contact Phone Number: 928-683-2225

Contact Email: anna-mariep@gbusd.org

School Site: Gila Bend Elementary

Buildings:

1003	Building J
1007	Building M

Application Title: Replace failed AC units at Elementary School

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Units 34, 54 and 50 have failed and need to be replaced, units are 15 years plus

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Not covered by Insurance

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Superintendent Printed Name

Superintendent Signature Date

Elementary Units

Unit # 34 J-5
ICP
Model# NPGAA42C1KA 3.5 ton
Serial# L961677259
Bad compressor 19 years old (Manufactured 1996)

UNIT #54
(this unit is in front of Gym area – North/east side)
Needs Compressor, dryer and run cap/new unit
ICP
Model # PGF090H16AA 7.5 ton
Serial # L002446858 15 years old
208/230 1 Phase

Unit # 50 M103
Need Compressor, dryer and run cap/new unit
ICP
Model #PGF060H100B 5 ton
Serial # L002532055 15 years old
208/230 3 phase

Gila bend HVAC Bid awards

Kerry,
Bid Awards are as follows

Bid #1 High School units 15, 7, & 11 to AQuality in the amount of $21,074

Bid #2 High School replacement of Indoor blower motor to AQuality in the amount of $4878

Bid #3 Elementary School units 34, 50 & 54 to Uni-Tech in the amount of $18,345

Anna-Marie Perry
Business Manager
Gila Bend Unified School District
928-683-2225 ext 126
928-683-2671 Fax
928-200-5097 Cell

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Gila Bend Unified 015BRG
Background – Gila Bend Unified (Gila Bend HS - replace three HVAC units)
Gila Bend Unified has submitted a Building Renewal Grant request to replace three failed HVAC units #7, #11 and #15 serving Buildings 1003, 1006 and 1008 at Gila Bend High School (project number 070244002-9999-015BRG).

Gila Bend Unified, located 70 miles southwest of Phoenix, has two schools. Gila Bend High School is comprised of eight buildings constructed between 1949 and 1968, totaling 38,518 square feet. Building 1003 was constructed in 1958, totaling 3,161 square feet; Building 1006 was constructed in 1950, totaling 3,425 square feet; and Building 1008 was constructed in 1949, totaling 14,332 square feet.

The district received the lowest responsible bid of $21,074 and requests an additional $4,000 for a structural analysis to complete this project.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Gila Bend Unified (Gila Bend HS – replace three HVAC units)
Staff recommends that Gila Bend Unified be awarded $27,000 in Building Renewal Grant funding to replace three HVAC units #7, #11 and #15 serving Buildings 1003, 1006 and 1008 at Gila Bend High School (project number 070244002-9999-015BRG). This includes $4,000 for a structural analysis and $1,926 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Gila Bend Unified** be awarded $27,000 in Building Renewal Grant funding to replace three HVAC units #7, #11 and #15 serving Buildings 1003, 1006 and 1008 at Gila Bend High School (project number 070244002-9999-015BRG). This includes $4,000 for a structural analysis and $1,926 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Gila_Bend_USD_015BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest_(4).pdf	District Funding Request	8/3/2015	Cover Memo
Gila_bend_HVAC_Bid_awards.docx	Bids	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Gila Bend Unified**
BRG Project Number: **070244002-9999-015BRG** **Maricopa County**
Project Description: **Replace three HVAC units**
Consultant: n/a
Contractor: AQuality

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 21,074**
Contingency		**$ 1,926**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 4,000
Testing & Inspection		$ -
Total Additional Cost:		**$ 4,000**
Total SFB Funded Project Cost:		**$ 27,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 27,000**
Total Project Cost:		**$ 27,000**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/24/2015 3:02:11 PM **Application ID:** 2140
Resubmittal Date: 7/31/2015 2:07:22 PM

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Gila Bend Unified District

Superintendent: Dr. Anthony J. Perkins

Contact Person: Anna-Marie Perry

Contact Phone Number: 928-683-2225 xt 126

Contact Email: anna-mariep@gbusd.org

School Site: Gila Bend High School

Buildings:

1003	Building B
1006	Building E
1008	Building G

Application Title: Replace Failed AC units at High School

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

A/C units #7,#11 and #15 have failed and need replacing The units are 15 + years old

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Not covered by insurence

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Superintendent Printed Name

Superintendent Signature Date

Gila bend HVAC Bid awards

Kerry,
Bid Awards are as follows

Bid #1 High School units 15, 7, & 11 to AQuality in the amount of $21,074

Bid #2 High School replacement of Indoor blower motor to AQuality in the amount of $4878

Bid #3 Elementary School units 34, 50 & 54 to Uni-Tech in the amount of $18,345

Anna-Marie Perry
Business Manager
Gila Bend Unified School District
928-683-2225 ext 126
928-683-2671 Fax
928-200-5097 Cell

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Lake Havasu Unified 022BRG

Background – Lake Havasu Unified (Smoketree ES – chiller repair)

Lake Havasu Unified has submitted a Building Renewal Grant request to repair the 300-ton chiller serving the administration/classroom/cafeteria Building 1001 at Smoketree Elementary School (project number 080201101-1001-022BRG).

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Smoketree Elementary School is comprised of two buildings constructed in 1969 and 1998, totaling 57,991 square feet. Building 1001 was built in 1998, totaling 50,714 square feet.

The chiller has oil leaks that require repairs. The district received proposals; the lowest was $13,684 to make the repairs.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Smoketree ES – chiller repairs)
Staff recommends that Lake Havasu Unified be awarded $17,290 in Building Renewal Grant funding to repair the 300-ton chiller serving the administration/classroom/cafeteria Building 1001 at Smoketree Elementary School (project number 080201101-1001-022BRG). This includes $3,606 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Lake Havasu Unified** be awarded $17,290 in Building Renewal Grant funding to repair the 300-ton chiller serving the administration/classroom/cafeteria Building 1001 at Smoketree Elementary School (project number 080201101-1001-022BRG). This includes $3,606 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_022BRG_Vertical_Sheet.xls	Vertical Sheet	8/10/2015	Executive Summary
img-729153304-0001.pdf	documents	7/29/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201101-1001-022BRG** Mohave County
Project Description: **Repair chiller**
Architect of Record: n/a
Contractor: Pueblo Mechanical

Executive Authority: 6/25/2015
Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 15,790**
Contingency ①		**$ 1,500**
Architecture / Engineering (A&E)		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 17,290**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 17,290**
Total Project Cost:		**$ 17,290**

① Contingency may only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 6/24/2015 3:08:00 PM **Application ID:** 2058
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District
Superintendent: Gail Malay
Contact Person: John Simpson
Contact Phone Number: 928-208-6457
Contact Email: jsimpson@havasu.k12.az.us
School Site: Smoketree Elementary School
Buildings: 1001 1

Application Title: Chiller Repair

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Oil Leak on 300 ton York Chiller. Installed in 1998

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

District does not have any insurance to cover this repair.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Gail Malay
Superintendent Printed Name

Gail Malay 6-25-15
Superintendent Signature Date

Pueblo
Mechanical &
Controls, Inc.
(800) 840-9170

PROPOSAL - Repair oil leak on Chiller

Mohave JOC
#14G-PMAC2-0903

PMC Proposal #:15-06-037

From: Pueblo Mechanical and Controls, Inc. **Date:** 06/24/2015

Attn: Shane Bolinger
Lake Havasu Unified School Dis
2200 Havasupai Blvd.
Lake Havasu City, AZ 86403-3798

Dear Kathie,

Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following scope for the not to exceed price to repair the oil leak on Chiller by replacing the oil filter assembly.

Scope of Work:

- Pump down the chiller and isolate charge into the condenser.
- Recover remaining refrigerant from evaporator and compressor.
- Replace the leaking oil filter block assembly.
- Replace the oil filters and Access valves on oil filter assembly.
- Pressure system with nitrogen to check for leaks.
- Put system in a vacuum.
- Open service valves and restart the chiller
- Weigh in the refrigerant charge to bring chiller back to full charge.
- Log the chiller and check operation.

We Exclude The Following:

- Repair or replacement of any existing device found to be inoperable.

Material, service, & labor subtotal:		**$**	**13,683.46**
AZDR Statute Compliance included Bonding:	**0.00%**	**$**	**0.00**
Total Cost:		**$**	**13,683.46**

All projects over $100,000 must be individually bonded, projects under this amount are at the discretion of the customer; if the project is under $100,000; by accepting this proposal you agree to waive bonding for this project. If you require bonding; please contact Pueblo Mechanical immediately and we will provide a quote for the bonding amount.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

Pueblo
Mechanical &
Controls, Inc.
(800) 840-9170

We look forward to providing this important service; please call if you have any questions.

Best Regards,

Bernie Popken
Service Manager
(520) 308-7209
Bernie@pueblo-mechanical.com

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Name	Signature	Date
[illegible]	JOHN Simpson	6-25-15

Due to the high cost of equipment and/or extended nature of this project progress billing may be required; if a purchase order is created for this project the owner agrees to accept progress billing for demonstrated and verifiable completed work and/or arrival of equipment items pending installation.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Lake Havasu Unified 023BRG

Background – Lake Havasu Unified (Oro Grande ES – replace HVAC unit in Rm 317)
Lake Havasu Unified has submitted a Building Renewal Grant request to replace the 5-ton gas pack unit in room 317 of Building 1001 at Oro Grande Elementary School (project number 080201106-1001-023BRG).

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Oro Grande Elementary School is a one building school constructed in 1981, totaling 47,273 square feet.

The HVAC unit has failed and is no longer repairable. The district received proposals for the replacement; the lowest was $7,840.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Oro Grande ES – replace HVAC unit in Rm 317)
Staff recommends that Lake Havasu Unified be awarded $10,790 in Building Renewal Grant funding to replace the HVAC unit in Room 317 of Building 1001 at Oro Grande Elementary School (project number 080201106-1001-023BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Lake Havasu Unified** be awarded $10,790 in Building Renewal Grant funding to replace the HVAC unit in Room 317 of Building 1001 at Oro Grande Elementary School (project number 080201106-1001-023BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_023BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-730162026-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201106-1001-023BRG** Mohave County
Project Description: **Replace HVAC unit in Rm 317**
Architect of Record: n/a
Contractor: Fayette A/C & Sheetmetal, Inc.

Executive Authority: 7/24/2015
Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 7,840**
Contingency ①		**$ 1,450**
Architecture / Engineering (A&E)		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 10,790**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 10,790**
Total Project Cost:		**$ 10,790**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date:

Resubmittal Date:

Application ID: 2109

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Oro Grande Elementary School

Buildings: 1001 1

Application Title: RM 317 HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Complete compressor failure, unit 20+ years

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance to cover this project

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise I Miner
Superintendent Printed Name

Denise I Miner 7-20-15
Superintendent Signature Date

Fayette A/C & Sheetmetal, Inc.
1971 Industrial Boulevard
Lake Havasu, AZ 86403
(928) 854-7766 Fax: (928) 453-5948
ROC 136206 & ROC 136207

Contract/Estimate

Date	Estimate #
7/15/2015	3469

Name / Address
Lake Havasu School District 2200 Havasupai Blvd Lake Havasu, AZ 86403-3798

Telephone #	Terms	Location
208-3531	Due on receipt	Oro Grande

Description	Qty	Rate	Total
Furnish and install 1-5 ton Carrier, 208-230V 3 phase roof top gas pack to include old equipment off, EPA and dispose of set new unit with Hail Guards and economizers with CO2 sensors, new disconnect and whip, start and adjust, crane service, RTU-6 (OroGrande School) Option 1: Carrier $7840. Option 2: York $7444. Option 3: Day & Night $6870.		0.00	0.00

1/2 down & final upon completion

Contract/Estimate signed and dated authorizes Fayette A/C & Sheetmetal, Inc to do work specified. Estimate is valid for 90 days. 3% SURCHARGE ON CREDIT CARDS. We accept Visa, Mastercard and Discover.

Total $0.00

Signature _____

Ambient Edge
Heating /Air Conditioning
& Refrigeration Inc.

QUOTE

DATE	INVOICE #	JOB #
7/13/2015	0000164072	0019854

Ambient Edge
3270 Kino Ave
Kingman AZ 86409
Phone: 928-718-1017
Fax: 928-692-1016
ROC 198597AZ, 0071575NV, 296317AZ

BILL TO

HAVASUPAI ELEMENTARY
880 CASHMERE DR
LAKE HAVASU CITY AZ 86404

JOB SITE

ORO GRANDE ELEMENTARY SCHOOL
1250 PAWNEE
LAKE HAVASU CITY AZ 86406

PO NUMBER	TERMS	SALESPERSON
	COD	Amy Johnson

QUANTITY	DESCRIPTION
	Desc: Replace unit #6
1.00	Equipment: Carrier 5ton 48TCDA06A2A5-OAOAO Nominal 5ton 13 Seer Puron R-410A Single Packaged Gas/ Elec Roof Top Units 460/3/60. Vertical Dry Bulb Economizers with Barometric relief , Louvered condenser coil hail guard. CO2/Space Temp . sensor without LCD display and no override.
1.00	Materials
1.00	Equipment: : G80046 Fused Disconnect
1.00	CRANE SERVICE
1.00	LABOR
1.00	LABOR: Tech start up

This quotation is subject to acceptance within 30 days.
TERMS: Net 30*

- This quotation does not include unless otherwise listed above: structural changes, painting or drywall, sheet metal other than ductwork shown on plans, high voltage electrical, gas piping, and connections to fire system
- Only includes material and labor shown.
- All orders subject to factory acceptance. No material will be accepted for return.

All material is guaranteed to be as specified. All work to be completed in workmen like manner according to standard practices. Any alterations or deviations from specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above estimate. All agreements contingent upon accidents or delays beyond our control.

Subtotal	$8,462.32
Sales Tax	$0.00
Total Amount	$8,462.32

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Lake Havasu Unified 024BRG

Background – Lake Havasu Unified (Nautilus ES – replace HVAC unit in Rm 604)

Lake Havasu Unified has submitted a Building Renewal Grant request to replace the 5-ton gas pack unit in room 604 of Building 1001 at Nautilus Elementary School (project number 080201105-1001-024BRG).

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Nautilus Elementary School is housed in one building constructed in 1981, totaling 47,273 square feet.

The HVAC unit has failed and is beyond repair. The district received proposals to replace the unit; the lowest is $7,840.

Criteria for Eligibility

Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Nautilus ES – replace HVAC unit in Rm 604)

Staff recommends that Lake Havasu Unified be awarded $10,790 in Building Renewal Grant funding to replace the HVAC unit in Room 604 of Building 1001 at Nautilus Elementary School (project number 080201105-1001-024BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

Board Action Requested:

Board ratification that **Lake Havasu Unified** be awarded $10,790 in Building Renewal Grant funding to replace the HVAC unit in Room 604 of Building 1001 at Nautilus Elementary School (project number 080201105-1001-024BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_024BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-730160159-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201105-1001-024BRG** Mohave County
Project Description: **Replace HVAC unit in Rm 604**
Architect of Record: n/a
Contractor: Fayette A/C & Sheetmetal, Inc.

Executive Authority: 7/24/2015
Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 7,840**
Contingency ①		**$ 1,450**
Architecture / Engineering (A&E)		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 10,790**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 10,790**
Total Project Cost:		**$ 10,790**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2110

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Nautilus Elementary School

Buildings: 1001 1

Application Title: Nautilus Rm 604 HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

There is no insurance to cover this project

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Complete compressor failure. Unit is 20+ years old

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise T Miner
Superintendent Printed Name

Denise T Miner 7-20-15
Superintendent Signature Date

Fayette A/C & Sheetmetal, Inc.
1971 Industrial Boulevard
Lake Havasu, AZ 86403
(928) 854-7766 Fax: (928) 453-5948
ROC 136206 & ROC 136207

Contract/Estimate

Date	Estimate #
7/15/2015	3470

Name / Address
Lake Havasu School District 2200 Havasupai Blvd Lake Havasu, AZ 86403-3798

Telephone #	Terms	Location
208-3531	Due on receipt	Nautilus School

Description	Qty	Rate	Total
Furnish and install 1-5 ton Carrier, 208-230V 3 phase roof top gas pack to include old equipment off, EPA and dispose of set new unit with Hail Guards and economizers with CO2 sensors, new disconnect and whip, start and adjust, crane service, RTU-1 Option 1: Carrier $7840. Option 2: York $7444. Option 3: Day & Night $6870.		0.00	0.00

1/2 down & final upon completion

Contract/Estimate signed and dated authorizes Fayette A/C & Sheetmetal, Inc to do work specified. Estimate is valid for 90 days. 3% SURCHARGE ON CREDIT CARDS. We accept Visa, Mastercard and Discover.

Total $0.00

Signature _____

LONDON BRIDGE AIR
SERVICES LLC
2739 Kiowa Blvd. N 102
Lake Havasu City, AZ
86404
LIC # ROC192642 K-39

Phone # (928) 854-1825 Fax # (928) 453-9731

Proposal

Date	Proposal #
7/15/2015	827

Lake Havasu Unified School District
2200 Havasupai Blvd.
Lake Havasu City, AZ 86404

Description	Project: Nautilus Elementary Total
Nautilus RTU-1. Installation of a Carrier 48TCDA06A2A5-0A0A0 unit, 5 ton 13 seer R-410A single packaged gas/electric. Includes fusable disconnect with fuses, hail guards, curb, drain line, modulating economizer with CO2 outside air control, new condensate, gas piping if required, new high voltage power whip, crane, and all labor to complete install. Installation to include: 1-Carrier 48TCDA06A2A5-0A0A0 unit 1-Hail Guard 1-modulating economizer with CO2 outside air control 1-fusable disconnect with fuses 1- condensate tieing into existing 1-new gas piping if needed 1-high voltage wiring with power whip 1-crane	7,728.29
Tax	452.10
Sales Tax	0.00
Subtotal	$8,180.39
Total	$8,180.39

Signature & Date _____

Signature & Date _____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Lake Havasu Unified 025BRG

Background – Lake Havasu Unified (Havasupai ES – replace HVAC unit in Rms 108/109)
Lake Havasu Unified has submitted a Building Renewal Grant request to replace the roof top 4-ton gas pack unit in room 108/109 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-025BRG).

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Havasupai Elementary School is comprised of eight buildings constructed between 1972 and 1981, totaling 53,100 square feet. Building 1001 was built in 1972, totaling 35,400 square feet.

The HVAC unit has failed and is no longer repairable. The district received proposals for the replacement; the lowest was $8,007.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Havasupai ES – replace HVAC unit in Rms 108/109)
Staff recommends that Lake Havasu Unified be awarded $10,957 in Building Renewal Grant funding to replace the HVAC unit in Room 108/109 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-025BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Lake Havasu Unified** be awarded $10,957 in Building Renewal Grant funding to replace the HVAC unit in Room 108/109 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-025BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_025BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-730164226-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201103-1001-025BRG** Mohave County
Project Description: **Replace HVAC unit in Rms 108/109**
Architect of Record: n/a
Contractor: London Bridge Air Services, LLC

Executive Authority: 7/24/2015
Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 8,007**
Contingency ①		**$ 1,450**
Architecture / Engineering (A&E)		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 10,957**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 10,957**
Total Project Cost:		**$ 10,957**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2111

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Havasupai Elementary School

Buildings: 1001 1

Application Title: Havasupi Rm 108/109 HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Complete compressor failure. unit is 20+ years

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance to cover this project

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise I Miner
Superintendent Printed Name

Denise I Miner 7-20-15
Superintendent Signature Date

LONDON BRIDGE AIR
SERVICES LLC
2739 Kiowa Blvd. N 102
Lake Havasu City, AZ
86404
LIC # ROC192642 K-39

Phone # (928) 854-1825 Fax # (928) 453-9731

Proposal

Date	Proposal #
7/17/2015	828

Lake Havasu Unified School District
2200 Havasupai Blvd.
Lake Havasu City, AZ 86404

Description	Project Havasupai Ele. Total
Havasupai RTU 4. The removal of existing air conditioning and heating system and the installation of one Carrier 4 ton 13 Seer Gas-Pak. This installation will include unit, curb/stand, new drain line above the roof line, new fusable disconnect with fuses, new high voltage power whip economizer, damper, hail guards, C02 kit , new gas piping if required, crane lift and all labor needed to complete the installation. Installation includes: 1-CarrieR 4 ton 13 seer gas pack 48TCDA05A2A6-0A0A0 1-Econimizer 1--damper 1-C02 1-Hail guards 1-disconnect and fuses 1-high voltage wiring 1-new gas piping if required 1-crane	7,564.00T
Tax Sales Tax	442.49 0.00
	Subtotal $8,006.49
	Total $8,006.49

Signature & Date _____

Signature & Date _____

Ambient Edge
Heating/Air Conditioning & Refrigeration Inc.

Ambient Edge
3270 Kino Ave
Kingman AZ 86409
Phone: 928-718-1017
Fax: 928-692-1016
ROC 198597AZ, 0071575NV, 296317AZ

QUOTE

DATE	ESTIMATE #	CUSTOMER ID
7/13/2015	0000164056	0019854

BILL TO
HAVASUPAI ELEMENTARY
880 CASHMERE DR
LAKE HAVASU CITY AZ 86404

SHIP TO
HAVASUPAI ELEMENTARY
880 CASHMERE DR
LAKE HAVASU CITY AZ 86404

P.O. NUMBER	TERMS	SALESPERSON
	COD	Amy Johnson

QUANTITY	ITEM CODE	DESCRIPTION
1.00		Desc: Replace unit #4 Equipment: Carrier 4ton 48TCDA005A2A6-OAOAO Nominal 4ton 13 Seer Puron R-410A Single Packages Gas/ Elec Roof Top Units 460/3/60. Vertical Dry Bulb Economizers with Barometric relief , Louvered condenser coil hail guard. CO2/Space Temp . sensor without LCD display and no override.
1.00		Materials
1.00	ELC-004	Disconnect: G80046 Fused Disconnect
1.00		CRANE SERVICE
1.00		LABOR
1.00		LABOR: Tech start up

This quotation is subject to acceptance within 30 days.
TERMS: Net 30*
• This quotation does not include unless otherwise listed above: structural changes, painting or drywall, sheet metal other than ductwork shown on plans, high voltage electrical, gas piping, and connections to fire system
• Only includes material and labor shown.
• All orders subject to factory acceptance. No material will be accepted for return.

All material is guaranteed to be as specified. All work to be completed in workmen like manner according to standard practices. Any alterations or deviations from specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above estimate. All agreements contingent upon accidents or delays beyond our control.

Subtotal	$8,235.48
Sales Tax	$0.00
Total Amount	$8,235.48

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Lake Havasu Unified 026BRG

Background – Lake Havasu Unified (Havasupai ES – replace HVAC unit in Rm 130)
Lake Havasu Unified has submitted a Building Renewal Grant request to replace the 4-ton gas pack unit in Room 130 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-026BRG).

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Havasupai Elementary School is comprised of eight buildings constructed between 1972 and 1981, totaling 53,100 square feet. Building 1001 was built in 1972, totaling 35,400 square feet.

The HVAC unit has failed and is no longer repairable. The district received proposals for the replacement; the lowest was $8,007.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Havasupai ES – replace HVAC unit in Rm 130)
Staff recommends that Lake Havasu Unified be awarded $10,957 in Building Renewal Grant funding to replace the HVAC unit in Room 130 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-026BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Lake Havasu Unified** be awarded $10,957 in Building Renewal Grant funding to replace the HVAC unit in Room 130 of Building 1001 at Havasupai Elementary School (project number 080201103-1001-026BRG). This amount includes $1,500 for a structural analysis and $1,450 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_026BRG_Vertical_Sheet.xlsx	Vertical Sheet	8/11/2015	Executive Summary
img-730170111-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201103-1001-026BRG** Mohave County
Project Description: **Replace HVAC unit in Rm 130**
Architect of Record: n/a
Contractor: London Bridge Air Services, LLC

Executive Authority: 7/24/2015
Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 8,007**
Contingency ①		**$ 1,450**
Architecture / Engineering (A&E)		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 10,957**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 10,957**
Total Project Cost:		**$ 10,957**

① Contingency may only be used with SFB staff approval.

School Facilities Board **BUILDING RENEWAL GRANT**

SFB BR 900-08 **Project Application Form**

Building Renewal Grant Application

Initial Submission Date:

Application ID: 2112

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Havasupai Elementary School

Buildings: 1001 1

Application Title: Havaupai Rm 130 HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

There is no insurance to cover this project

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Compressor failure. 20+ Years

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise J Miner

Superintendent Printed Name

Denise J Miner 7-20-15

Superintendent Signature Date

LONDON BRIDGE AIR
SERVICES LLC
2739 Kiowa Blvd. N 102
Lake Havasu City, AZ
86404
LIC # ROC192642 K-39

Phone # (928) 854-1825 Fax # (928) 453-9731

Proposal

Date	Proposal #
4/28/2015	813

Lake Havasu Unified School District
2200 Havasupai Blvd.
Lake Havasu City, AZ 86404

Description	Project Havasupai Ele. Total
Havasupai RTU 26. The removal of existing air conditioning and heating system and the installation of one Carrier 4 ton 13 Seer Gas-Pak. This installation will include unit, curb/stand, new drain line above the roof line, new fusable disconnect with fuses, new high voltage power whip economizer, damper, hail guards, C02 kit , new gas piping if required, crane lift and all labor needed to complete the installation. Installation includes: 1-Carrier 4 ton 13 seer gas pack 48TCDA05A2A6-0A0A0 1-Econimizer 1--damper 1-C02 1-Hail guards 1-disconnect and fuses 1-high voltage wiring 1-new gas piping if required 1-crane	7,564 00T
Tax Sales Tax	442 49 0 00
Subtotal	$8,006.49
Total	$8,006.49

Signature & Date _____

Signature & Date _____

Ambient Edge
Heating/Air Conditioning
& Refrigeration Inc.

Ambient Edge
3270 King Ave
Kingman AZ 86409
Phone: 928-718-1017
Fax: 928-692-1016
ROC 198597AZ, 0071575NV, 296317AZ

QUOTE

7/13/2015	0000164065	0019854

HAVASUPAI ELEMENTARY
880 CASHMERE DR
LAKE HAVASU CITY AZ 86404

HAVASUPAI ELEMENTARY
880 CASHMERE DR
LAKE HAVASU CITY AZ 86404

	COD	Amy Johnson

	Desc: Replace unit #26
1.00	Equipment: Carrier 4ton 48TCDA005A2A6-OAOAO Nominal 4ton 13 Seer Puron R-410A Single Packages Gas/ Elec Roof Top Units 460/3/60. Vertical Dry Bulb Economizers with Barometric relief , Louvered condenser coil hail guard. CO2/Space Temp . sensor without LCD display and no override.
1.00	Materials
1.00	Equipment: G80046 Fused Disconnect
1.00	CRANE SERVICE
1.00	LABOR
1.00	LABOR: Tech start up

This quotation is subject to acceptance within 30 days.
TERMS: Net 30*
• This quotation does not include unless otherwise listed above: structural changes, painting or drywall, sheet metal other than ductwork shown on plans, high voltage electrical, gas piping, and connections to fire system
• Only includes material and labor shown.
• All orders subject to factory acceptance. No material will be accepted for return.

All material is guaranteed to be as specified. All work to be completed in workmen like manner according to standard practices. Any alterations or deviations from specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above estimate. All agreements contingent upon accidents or delays beyond our control.

Subtotal	**$8,049.92**
Sales Tax	**$0.00**
Total Amount	**$8,049.92**

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Liberty Elementary 003BRG
Background – Liberty Elementary (Liberty ES – replace underground gas line)
Liberty Elementary has submitted a Building Renewal Grant request to replace the underground gas line system that has failed at Liberty Elementary School (project number 070425101-1002-003BRG).

Liberty Elementary, located 20 miles southwest of Phoenix, has five schools. Liberty Elementary School is comprised of 12 buildings constructed between 1910 and 2010, totaling 90,479 square feet.

The district has spent over $30,000 attempting to repair four leaks on this gas line and it still will not pass a pressure test. This underground gas line system needs to be replaced. The district received a proposal of $46,861 for the replacement.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Liberty Elementary (Liberty ES – replace underground gas line)
Staff recommends that Liberty Elementary be awarded $50,000 in Building Renewal Grant funding to replace the underground gas line system at Liberty Elementary School (project number 070425101-1002-003BRG). This includes $3,139 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Liberty Elementary** be awarded $50,000 in Building Renewal Grant funding to replace the underground gas line system at Liberty Elementary School (project number 070425101-1002-003BRG). This includes $3,139 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Liberty_ESD_003BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_app.pdf	Signed Application	8/2/2015	Cover Memo
Liberty_ESD_new_gas_line_revised.pdf	Contractor Quote	8/2/2015	Cover Memo
photo_liberty_gas_line.JPG	Photo	8/2/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Liberty Elementary**
BRG Project Number: **0704251001-1002-003BRG** Maricopa County
Project Description: **Replace underground gas line**
Architect of Record: n/a
Contractor: Midstate Mechanical

Executive Authority: 7/28/2015
Board approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 46,861**
Contingency ①		**$ 3,139**
Architecture / Engineering (A&E)		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 50,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 50,000**
Total Project Cost:		**$ 50,000**

① Contingency shall only be used with SFB staff approval

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2143

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Liberty Elementary District

Superintendent: Andrew Rogers

Contact Person: Kelley Baysinger

Contact Phone Number: 623-474-6613

Contact Email: kbaysinger@liberty.k12.az.us

School Site: Liberty Elementary School

Buildings: 1002 Gym Cafeteria

Application Title: Gas Line Replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Liberty Elementary School District 25 hereby requests funds for the replacement of underground gas line from the main meter to all buildings associated with the gas line. A quote for the replacement has already been submitted to the SFB for review. The District has been attempting to repair the underground gas line for the past two weeks and after identifying and repairing multiple leaks, the pipes continue to fail pressure tests. It is becoming apparent that the entire gas line may have exceeded its useful life and attempts to repair have been futile and continue to drain the district's resources. The district originally estimated to spend about $5,000 to repair the single leak and due to the new leaks being discovered, the costs continue to increase exponentially. Attached are pictures to indicate the state of the lines that have been uncovered. Records indicate that the gas line was installed with the campus gymnasium which was built in 1953. There is extreme urgency to repair the lines as the first day of school is August 5, 2015. There will be safety hazards for students with the exposed gas line and in addition the kitchen will be unable to prepare meals for the students.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Building Renewal Grant Application

The District does not have sufficient insurance coverage to remedy this problem as the repairs are not covered by The Trust. The District has no building renewal funds available. The District has already accrued a large bill due to multiple attempts to try to repair.

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Andrew L. Rogers
Superintendent Printed Name

Andy Rogers
Superintendent Signature

7/28/2015
Date

MIDSTATE Mechanical

1850 E. Riverview Drive ● Phoenix, Arizona 85034 ● 602.470.1920
www.midstatemechanical.com

July 28, 2015

Dave Brazil
Liberty Elementary School District
19871 West Freemont
Buckeye, AZ 85326

RE: Abandon existing natural gas piping and install new poly gas line piping. ***REVISED***

- Provide safety barrier for all areas of work. Saw cut existing concrete and asphalt, excavate trench for new piping. Set new poly gas line in place, pressure test prior to inspection and backfill. Backfill trench in lifts for compaction, make final connections at each building to be served by new gas line. Pour back of concrete and asphalt paving. Dispose of all asphalt and concrete removed. Permitted project through City municipality and Southwest Gas. Corporation Commission to inspect final install and pressure test. Gas piping feeds 5 buildings currently. New gas line is proposed as poly pipe gas rated for at least 60 psi.

Base bid price **$ 46,861.00**

Exclusions:

- Bond
- Fees; and engineering
- Gas equipment fixtures
- Interior gas line inspections or testing
- Temporary Water; Power and Heating
- Piping beyond what is listed
- Buy American Act

(Acceptance of this bid is contingent upon the execution of a contract with mutually acceptable contract language.)

This Project is quoted through **Mohave Educational Services Cooperative** under a JOC (Job Order Contract). Under JOC contracts performance and payment bonds are required, but may be waived by the owner for the projects under $100,000.00. Your acceptance of this quote (which does not include charges for such bonds) is you indication of agreement of said waiver.

Mohave Contract Number 14T-1205

We look forward to working with your team on this project. Should you have any questions regarding this proposal, please do not hesitate to contact us.

Sincerely,

Patrick Arthur
Service Projects
602-721-6366 cell
602-452-8720 direct
602-452-8791 fax
parthur@midstatemechanical.com



STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Mesa Unified 019BRG
Background – Mesa Unified (Taylor JHS – replace water heater)
Mesa Unified has submitted a Building Renewal Grant request to replace the 120-gallon water heater in Building 1001 at Taylor Junior High School (project number 070204258-1001-019BRG).

Mesa Unified has 90 schools. Taylor Junior High School is comprised of 10 buildings constructed between 1981 and 1996, totaling 149,143 square feet. Building 1001 was built in 1981 totaling 96,487 square feet.

The district received a proposal for the water heater in the amount of $7,075. Mesa staff will remove the old and install the new water heater.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Mesa Unified (Taylor JHS – replace water heater)
Staff recommends that Mesa Unified be awarded $7,575 in Building Renewal Grant funding for the replacement of the water heater in Building 1001 at Taylor Junior High School (project number 070204258-1001-019BRG). This includes $500 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Mesa Unified** be awarded $7,575 in Building Renewal Grant funding for the replacement of the water heater in Building 1001 at Taylor Junior High School (project number 070204258-1001-019BRG). This includes $500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mesa_USD_019BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Taylor_Junior_High_Signed_Grant_Application_for_Water_Heater.pdf	Signed Application	8/3/2015	Cover Memo
Taylor_Junior_High_Water_Heater_Quotes_and_Work_Order.pdf	Proposal for Materials	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mesa Unified**
BRG Project Number: **070204258-1001-019BRG** **Maricopa County**
Project Description: **Replace water heater**
Consultant: n/a
Contractor: ??

Board approval 8/12/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 7,075**
Contingency ①		**$ 500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 7,575**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 7,575**
Total Project Cost:		**$ 7,575**

① Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2060

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mesa Unified District

Superintendent: Dr. Michael Cowan

Contact Person: Todd Poer

Contact Phone Number: 928-595-1400

Contact Email: ftpoer@mpsaz.org bksylvester@mpsaz.org jrasmuss@mpsaz.org

School Site: Taylor Junior High School

Buildings: 1001 A1000

Application Title: Domestic Commercial Water Heater

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

This commercial domestic water heater was installed in 2007 in the kitchen of Taylor Junior High and is no longer under warranty. The tank has ruptured and cannot be repaired. We obtained 3 quotes and the lowest quote was $6,531.56. Mesa Public Schools will provide labor to install the water heater.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Failure is not due to theft, vandalism, or wind, therefore, it is not covered by insurance.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Michael B. Cowan
Superintendent Printed Name

Michael B. Cowan 7/6/15
Superintendent Signature Date

JUN 08 2015

SFB

mesa PUBLIC SCHOOLS

REQUEST FOR QUOTE

Please Respond By:_____

Delivery/Shipping Charge $_____

Lead Time:_____

Company Name:_____

Person Quoting:_____

Fax Back to: (480) 472-_____ Attention:_____

For questions cal

Attn: Karla Tennyson
Phone: 480-472-6114
Fax: 480-472-6115
kdtennyson@mpsaz.org
Zip Code: 85210

MATERIAL REQUISITION FORM

LINE #	QTY	UNIT	PART #	BRAND / MANUFACTURER	DETAILED DESCRIPTION	VENDOR PRICING PER UNIT	MPS USE ONLY FILLED	MPS USE ONLY B.O.
1				Rheem	1789221 Rheem E120-54-G			
2					408620 120 Gallon			
3					480/3 54 KW Elec			
4					comm water heater			
5								
6								
7								
8								
9								
10								

Comments or Special Instructions:_____

550 ☐ Insurance - Vandalism/Theft/Storm
Sec. Report #_____

6611 ☐ Supply - Repair or Replacement Parts
☐ Replace Existing or ☐ New Installation

6618 ☐ Capital - Project Supplies

6730 ☐ Capital - Power Tools and Equipment

_____ ☐ Other_____

Requested By:_____ S/T# 64

Approved By:_____

Date: 5-8-15

W.O. # 557630

Site: Taylor

Req # 887199

P.O. #_____

Quotation

528 HUGHES SUPPLY GILBERT AZ
1493 N TECH BLVD
GILBERT AZ 85233-1022
480-926-5696 Fax 480-926-5699

QUOTE DATE	QUOTE NUMBER
06/08/15	S145765851

QUOTED BY:	PAGE NO
528 HUGHES SUPPLY GILBERT AZ 1493 N TECH BLVD GILBERT AZ 85233-1022 480-926-5696 Fax 480-926-5699	1 of 1

Printed : 16:03:08 08 JUN 2015

QUOTE TO: 201132
MESA UNIFIED SCHOOL DIST 4 AP
549 N STAPLEY DR
MESA, AZ 85203-7297

SHIP TO :201132
MESA UNIFIED SCHOOL DIST 4 AP
555 S LEWIS ST
MESA, AZ 85210

480-472-0122

QUOTED FOR	CUSTOMER PURCHASE ORDER NUMBER	CUSTOMER RELEASE NUMBER	SALESPERSON
KARLA	REQ.# 887199		Michael H.

WRITER	SHIP VIA	TERMS	EXPIRATION DATE	FREIGHT ALLOWED
Michael H.	PLBG OUR TRUCK	NET 25TH PROX 1.5 SC 25	07/23/15	Yes

QUOTE QTY	OUR PART#	DESCRIPTION	Net Prc	Ext Prc
1ea	1789221	RHEEM E120-54-G 408620 120GAL 480/3 54KW ELEC COMM WTR HTR ********** LEAD TIME APPROX. 5-7 DAYS NO FREIGHT CHARGES ********** **TAXES NOT INCLUDED**	6531.556/ea	6531.56

Prices subject to change without notice. Orders for special material accepted with the distinct understanding that they are not subject to cancellation. Not responsible for delays by reason of strikes, accidents or causes beyond our control. We do not assume responsibility for quantities or descriptions. Prices contained in this quotation are subject to price in effect at time of shipment. Prices are also subject to typographical and clerical errors. Items quoted and quantities listed are our interpretation of material needed and should be checked against the plans and specifications. After expiration of this quotation, we reserve the right to review our prices before acceptance of any orders. We thank you for this opportunity of quoting.

Subtotal	6531.56
Bid Total	6531.56

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Karla Tennyson <kdtennyson@mpsaz.org>

Email Bid# B995838

1 message

Greg Johnson - 1002 PHOENIX <greg.johnson2@ferguson.com> Wed, Jun 10, 2015 at 4:53 AM
Reply-To: greg.johnson2@ferguson.com
To: kdtennyson@mpsaz.org

AS PER YOUR REQUEST

Price Quotation # B995838

FERGUSON ENTERPRISES #1002
3205 NORTH ARIZONA AVENUE
SUITE #8
CHANDLER, AZ 85225-7323
Phone : 480-899-7194
Fax : 480-899-8246

Bid No.....: B995838
Bid Date...: 06/08/15
Quoted By: GAJ
Customer.: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust Phone: 480-472-6124
Terms.....: NET 10TH PROX
Ship To.....: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust PO#..: TAYLOR

Job Name.: TAYLOR

Item	Description	Quantity	Net Price	UM	Total
RE12054G408620	120G 54KW 480V 3PH WHTR	1	7328.450	EA	7328.45

Subtotal:	$7328.45
Inbound Freight:	$0.00
Tax:	$571.62
Order Total:	$7900.07

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise. LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

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Karla Tennyson <kdtennyson@mpsaz.org>

Request for quote 887199 - No Substitutes please

KENDALL, CORINTHIA <CKENDALL@bestplumbingonline.com> Wed, Jun 10, 2015 at 4:57 AM
To: Karla Tennyson <kdtennyson@mpsaz.org>

This would be a no quote unless we could sub a different brand, but I thought it said no subs...

Thanks

Corinthia Kendall

Sales Associate

Best Plumbing Specialties, Inc
PO Box 30
Myersville, MD 21773
p. 800-448-6710 f. 800-700-2378
www.bestplumbingonline.com



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From: Karla Tennyson [mailto:kdtennyson@mpsaz.org]
Sent: Tuesday, June 09, 2015 5:42 PM
To: Karla Tennyson
Subject: Fwd: Request for quote 887199 - No Substitutes please

[Quoted text hidden]

Bill To: MESA UNIFIED SCHOOL DISTRICT #4

143 S. Alma School Road
Mesa, Arizona 85210-1096
DISTRICT FUNDS

PURCHASE ORDER

AUTOMATICALLY CANCELLED IF NOT DELIVERED PRIOR TO JUNE 30TH FOLLOWING DATE OF ORDER

REQUIRED: Packing Slips with LINE ITEM NUMBER Indicated.

This purchase order number MUST APPEAR on all invoices, packingslips and correspondence.

No. 511359

Proj. No.

Ship To: OPERATIONS WAREHOUSE
555 S LEWIS ST
MESA 85210-8523

Direct Inquiries to KARLA TENNYSON
480 472-6114 Tel.No

DELIVERY TO BE COMPLETED BY
3/13/15

DATE	PAGE
3/09/15	1

Vendor:

HUGHES SUPPLY
(PLUMBING)
1493 N TECH BLVD
GILBERT AZ 85233-2220

FORM OF QUOTATION: FIRM PRICING PER BID 10-66MB

PRICE DEVIATIONS MUST BE CLEARED THROUGH BUYER. NO SUBSTITUTION PERMITTED WITHOUT AUTHORIZATION.

INVOICE MUST BE IN DUPLICATE AND MUST BE ITEMIZED SHOWING LINE ITEM NUMBER, QUANTITY, UNIT PRICE AND TOTAL FOR EACH.

OUT OF STATE VENDORS: IF ARIZONA, MARICOPA COUNTY, AND/OR CITY OF MESA TAX IS ADDED TO YOUR INVOICE, PLEASE SHOW YOUR TAXPAYER IDENTIFICATION NUMBERS.

This Purchase Order is subject to the Terms and Conditions listed on the MPS WEBSITE: www.mpsaz.org/purchasing

LINE	QUAN.	UNIT	DESCRIPTION	UNIT PRICE	TOTAL PRICE
			****SPRING BREAK**** THE OFFICES & WHSE WILL BE CLOSED MARCH 19 AND 20, 2015 PLEASE SCHEDULE ALL DELIVERIES ACCORDINGLY ***		
1	1.00	EACH	1789221 RHEEM E120-54-G 408620 120 GAL 480/3 54KW ELEC COMM WATER HEATER MIKE THORPE ST-64 TAYLOR JR OP-545806 Q S145222506	5,724.440	5,724.44
			SUBTOTAL		5,724.44
			SALES TAX		446.51
			FREIGHT		
			TOTAL P/O		6,170.95

BY: Lauren Jaramillo
AUTHORIZED SIGNATURE

94-40-21-D (Rev. 4/05)

OP-557630

mps#4

OP-557630

TAYLOR JR ADMIN / KITCHEN / MEDIA /
705 S. 32nd St.

Mesa, AZ 85204-3943

WO Type: WEB - AUTO ASSIGNMENT
Subtype:
WO Placed On: Building
Primary Ph:
Requestor: Rick Bye
Requestor Ph: 602-799-3156
Repair Center: OPERATIONS
Acct No:
Building #: 258-1119 - TAYLOR JR ADMIN / KITCHEN / MEDIA /

Location ID:
Facility: TAYLOR JUNIOR HIGH
Building: TAYLOR JR ADMIN / KITCHEN / MEDIA /
Floor:
Department: MAINTENANCE
Priority: 1 - Normal
Completed:
Project: -
Supervisor: RICK BYE

Request #:
Reference #:
Status:
Requested: 06/08/2015 07:28
Est. Start:
Est. End:
Est. Hours:
Est. Costs: 0.00
Modified By: 64
Time: 06/17/2015 15:13
Total Hours: 2.00

Action Requested: The water heater for the kitchen needs to be replaced it is leaking.
Comments:
Svc. Interuption:

Task: SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE
Failure Code:
Failure Sub-Code:
Authorized By:
Contractor:
Trade: STEAMFIT/PLUMBER

Task Due Date:
Task Status:
Completion date:
Finished Date:
WO #: OP-557630

Schedule *(OP-557630:SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE)*

Technician	Trade	Start	Comment
64 Mike Thorpe	STEAMFIT/PLUMBER	06/08/2015 07:32	

Labor *(OP-557630:SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE)*

Technician	Trade	Start	Shift	Account #	Time Type	Charge Rate	Hours	Ext Charge
64 Mike Thorpe	STEAMFIT/PLUMBER	06/17/2015 15:13	FIRST SHIFT		RT	46.19	1.00	46.19
64 Mike Thorpe	STEAMFIT/PLUMBER	06/17/2015 15:13	FIRST SHIFT		RT	46.19	1.00	46.19
							Total	92.38

OP-557630: SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE	Labor	Materials	Other	Contractor	Total Charges
Total	92.38	0.00	0.00	0.00	92.38

WO Totals

Labor	Materials	Other	Contractor	Tax	Total Charges
92.38	0.00	0.00	0.00	0.00	92.38


Model Config Fail



STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Mesa Unified 020BRG
Background – Mesa Unified (Red Mountain Ranch ES – replace water heater)
Mesa Unified has submitted a Building Renewal Grant request to replace the 100-gallon water heater in Building 1001 at Red Mountain Ranch Elementary School (project number 070204148-1001-020BRG).

Mesa Unified has 90 schools. Red Mountain Ranch Elementary School is comprised of three buildings constructed between 1994 and 1999, totaling 71,734 square feet. Building 1001 was built in 1994, totaling 69,240 square feet.

The district received a proposal for the water heater in the amount of $5,595. Mesa staff will remove the old and install the new water heater.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Mesa Unified (Red Mountain Ranch ES – replace water heater)
Staff recommends that Mesa Unified be awarded $6,000 in Building Renewal Grant funding for the replacement of the water heater in Building 1001 at Red Mountain Ranch Elementary School (project number 070204148-1001-020BRG). This includes $500 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Mesa Unified** be awarded $6,000 in Building Renewal Grant funding for the replacement of the water heater in Building 1001 at Red Mountain Ranch Elementary School (project number 070204148-1001-020BRG). This includes $500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mesa_USD_020BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Red_Mountain_Ranch_Elementary_Signed_BRG_Application_for_Water_Heater.pdf	Signed Application	8/3/2015	Cover Memo
Red_Mountain_Ranch_Elementary_Water_Heater_Quotes_and_Work_Order.pdf	Proposal for Replacement	8/6/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mesa Unified**
BRG Project Number: **070204148-1001-0200BRG** **Maricopa County**
Project Description: **Replace water heater**
Consultant: n/a
Contractor: Ferguson Enterprises

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 5,500**
Contingency ①		**$ 500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 6,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 6,000**
Total Project Cost:		**$ 6,000**

① Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2115
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mesa Unified District

Superintendent: Dr. Michael Cowan

Contact Person: Todd Poer

Contact Phone Number: 928-595-1400

Contact Email: ftpoer@mpsaz.org bksylvester@mpsaz.org jrasmuss@mpsaz.org

School Site: Red Mountain High School

Buildings: 1007 A7000

Application Title: Commercial Domestic Water Heater

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

This commercial 52 gallon domestic water heater was installed in 2003 in the in 7000 building at Red Mountain High School and is no longer under warranty. The tank has ruptured and cannot be repaired. We obtained 3 quotes and the lowest quote was $1,633.93. Mesa Public Schools will provide labor to install the water heater.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Failure is not due to theft, vandalism, or wind, therefore, it is not covered by insurance.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Michael B. Cowan
Superintendent Printed Name

Michael B. Cowan 7/22/15

JUN 09 2015
SFB

mesa PUBLIC SCHOOLS

REQUEST FOR QUOTE

Please Respond By:_____

Delivery/Shipping Charge $_____

Lead Time:_____

Company Name:_____

Person Quoting:_____

Fax Back to: (480) 472-_____ Attention:_____

For questions cal

Attn: Karla Tennyson
Phone: 480-472-6114
Fax: 480-472-6115
kdtennyson@mpsaz.org
Zip Code: 85210

MATERIAL REQUISITION FORM

LINE #	QTY	UNIT	PART #	BRAND / MANUFACTURER	DETAILED DESCRIPTION	VENDOR PRICING PER UNIT	MPS USE ONLY FILLED	MPS USE ONLY B.O.
1	1			AO Smith	AO Smith DSE 120			
2					3 phase 480 volt 22 amps			
3					1 - 18,000 watt Element			
4								
5								
6								
7								
8								
9								
10								

Comments or Special Instructions:_____

550 ☐ Insurance - Vandalism/Theft/Storm
Sec. Report #_____

6611 ☐ Supply - Repair or Replacement Parts
☐ Replace Existing or ☐ New Installation

6618 ☐ Capital - Project Supplies

6730 ☐ Capital - Power Tools and Equipment

_____ ☐ Other_____

Requested By: _____ S/T# 68

Approved By:_____

Date: 6-9-15

W.O. # 557629

Site: Red Mtn Ranch

Req # 887211

P.O. #_____

Central Arizona Supply

Central Arizona Supply
208 S. Country Club Dr.
Mesa, AZ 85210
480-834-5817 Fax: 480-834-0432

QUOTE

Barcode		Order #
		2953028-00
Ship To / Contract		**Page #**
		1

Cust #: 1925

Ship To: MESA UNIFIED SCHOOL DIST 4 A/P
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Bill To: MESA UNIFIED SCHOOL DIS
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Correspondence To:
Central Arizona Supply, Inc.
208 S. Country Club Drive

Mesa, AZ 85210

Customer PO
887211

Instructions	Taken By	Job Name
	JMD	RED MTN RANCH

Ship Point	Ship Via	Request	Shipped	Invoiced
Central Arizona Supply - CD	Our Truck	06/09/15		

Line	Product #	Bin	Ordered	B / O	Shipped	Unit	Unit Price	Amount
1	DSE-100-18-480 A-O DSE-100 18kW 480V 3p COMM ELEC HEATER Non-Cancelable, Non-Returnable		1			each	5178.00	5178.00

Merch Ordered	5178.00
Taxes	416.83
Order Total	5594.83

This quote expires 30 days from 06/09/15.
Pricing is based on specifications provided and does not include any revisions or extras.
Return of non-stock items are subject to supplier's approval and restocking charges.

Total Lines	1	# of Lines Not Printed	0	Qty Ordered Total	1	Freight Charges		Amount Due	

	Contact	Approved By (Please Sign Below)	Date Approved

Printed on 06/09/15 @ 01:29 pr

MPSConnect
powered by Google apps

Karla Tennyson <kdtennyson@mpsaz.org>

Email Bid# B996425

1 message

Greg Johnson - 1002 PHOENIX <greg.johnson2@ferguson.com> Tue, Jun 9, 2015 at 12:01 PM
Reply-To: greg.johnson2@ferguson.com
To: kdtennyson@mpsaz.org

Price Quotation # B996425

FERGUSON ENTERPRISES #1002
3205 NORTH ARIZONA AVENUE
SUITE #8
CHANDLER, AZ 85225-7323
Phone : 480-899-7194
Fax : 480-899-8246

Bid No.....: B996425
Bid Date...: 06/09/15
Quoted By: GAJ
Customer.: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust Phone: 480-472-6124
Terms.....: NET 10TH PROX
Ship To.....: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust PO#..:

Job Name.: RED MTN RANCH

Item	Description	Quantity	Net Price	UM	Total
SP-ADSE1204803P18K	120G ELEC COMM WHTR 480V 3PH 18KW	1	5101.720	EA	5101.72
	**********				
	GOOD IN STOCK				
	**********				

Subtotal:	$5101.72
Inbound Freight:	$0.00
Tax:	$397.93
Order Total:	$5499.65

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise. LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

CANYON
Pipe & Supply Inc.

** Quotation **

Warehouse: 3
Canyon Pipe & Supply - Mesa - BR3
1250 S PIMA ROAD
MESA, AZ 85210
Fax # :
Phone # : 480-898-8888

S3903945 Page # 1
P/O-JOB: 887211
Ordered By: KARLA
Required : 06/09/15
Writer : ALFRED ARDENTE

Qte To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
MASTER ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096
Phone # : 480-472-0121

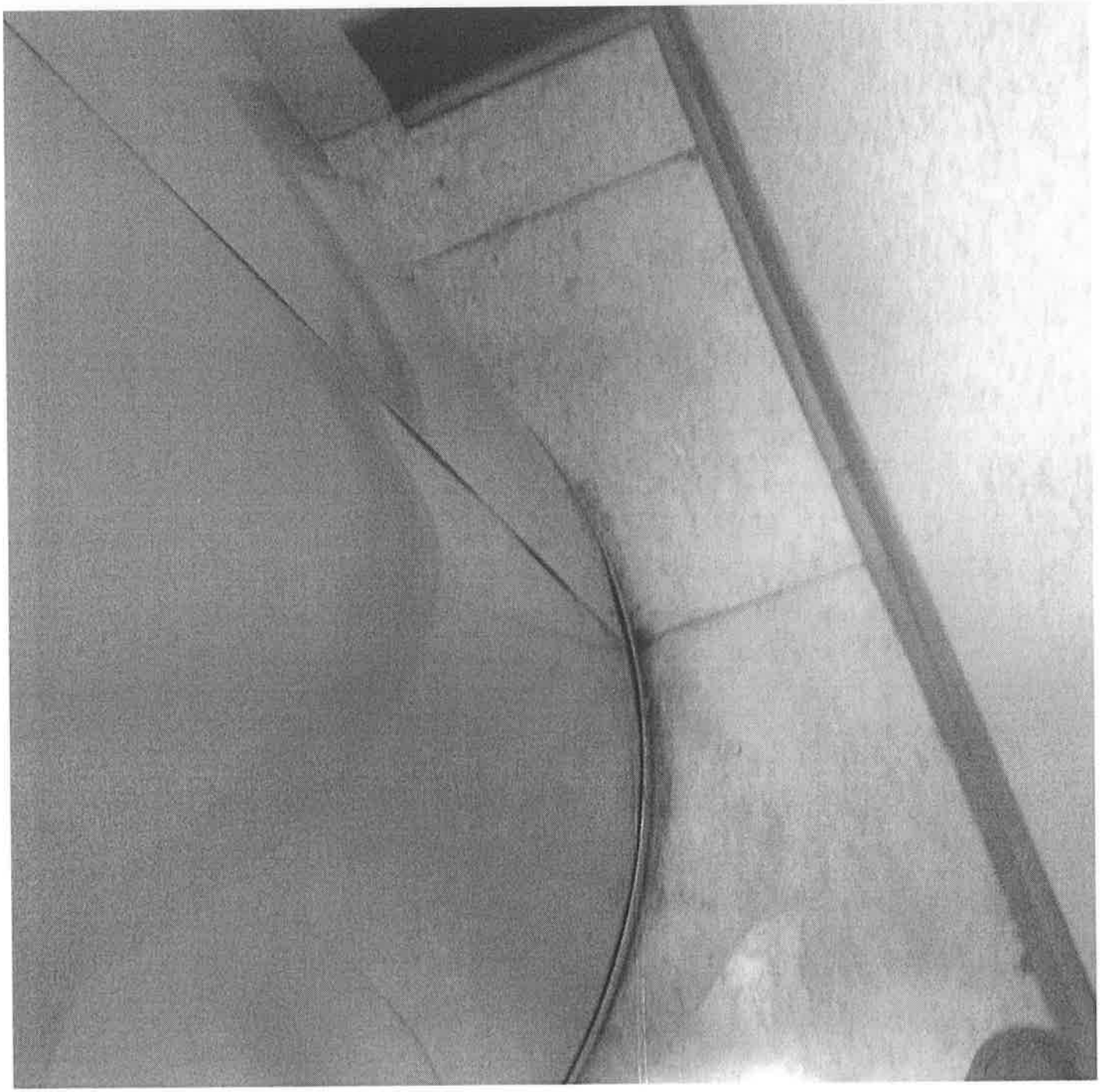
Ship To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
GENERAL ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096

Qte-Date	Expr-Date	Writer	Ship Via	Warehouse Shp	Warehouse Sale
06/09/15	07/24/15	ALFARD	BID	3	3

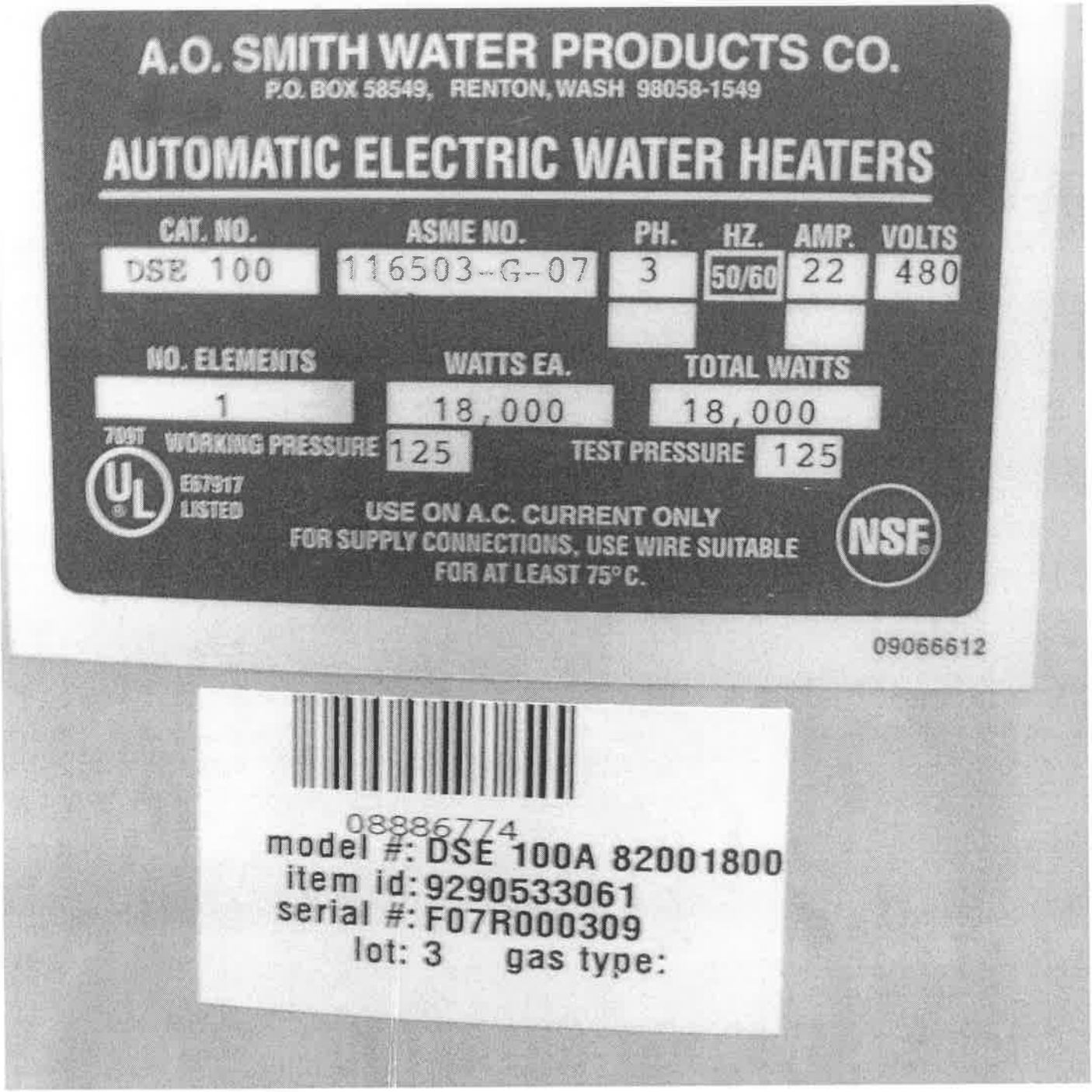
Qte-Qty		Unit Price	Net
1ea	____ 114128 AOS DSE-100 18KW 480V 3PH ASME HEATER ** 4-5WKS OUT - FFA	5294.955	5294.95

QUOTE TOTAL	5294.95
Sales tax	426.24
Quote Amount	5721.19

Our Quotations Are Subject To The Following Conditions:
Nicholas Consolidated Inc., Phoenix Wholesale Inc and Canyon Pipe & Supply, Inc. (hereinafter NCI) is classed as a material supplier and not a subcontractor. The material referenced in the quotation is our interpretation of the product needed and the contractor should check the product quoted against requirements of plans & specifications.No Purchase order will be accepted against this quotation which reads "in accordance with specs" or "as per plans & specifications" or the like. NCI is not responsible for delays due to strikes, accidents or causes beyond our control.Special orders are strictly non cancelable. NCI makes no warranties, expressed or implied including without limitation warranties of merchandiseability quantities or fitness for use. Any warranty affecting these goods is provided solely by the manufacturer, the terms of which will be furnished upon request. Neither party may claim consequential damages. Prices are subject to change without notice. NCI reserves the right to review the prices prior to the acceptance of any order.




PRODUCTS CO.
WATER HEATERS
7-07
AF/TP/RM


A.O. SMITH WATER PRODUCTS CO.
P.O. BOX 58549, RENTON, WASH 98058-1549
AUTOMATIC ELECTRIC WATER HEATERS
CAT. NO.
DSE 100
ASME NO.
116503-G-07
PH.
3
HZ.
50/60
AMP.
22
VOLTS
480
NO. ELEMENTS
1
WATTS EA.
18,000
TOTAL WATTS
18,000
709T
WORKING PRESSURE
125
TEST PRESSURE
125
E67917
LISTED
USE ON A.C. CURRENT ONLY
FOR SUPPLY CONNECTIONS, USE WIRE SUITABLE
FOR AT LEAST 75°C.
NSF
09066612
08886774
model #: DSE 100A 82001800
item id: 9290533061
serial #: F07R000309
lot: 3 gas type:

OP-557629

mps#4

OP-557629

RED MTN RANCH ADMIN / MPR / MEDIA
6650 E. Raftriver St.

Mesa, AZ 85215-9771

WO Type: WEB - AUTO ASSIGNMENT
Subtype:
WO Placed On: Area
Primary Ph:
Requestor: Steve
Requestor Ph: 480 472-7911
Repair Center: OPERATIONS
Acct No:
Area #: 148-1606-LSERRG - RESTROOM GIRLS LSERRG

Location ID: 148-1606-LSERRG - RESTROOM GIRLS LSERRG
Facility: RED MTN RANCH ELEMENTARY
Building: RED MTN RANCH ADMIN / MPR / MEDIA
Floor:
Department:
Priority: 1 - Normal
Completed:
Project: -
Supervisor: RICK BYE

Request #: 468747
Reference #:
Status:
Requested: 06/08/2015 07:18
Est. Start: 06/08/2015 07:29
Est. End:
Est. Hours:
Est. Costs: 0.00
Modified By: 68
Time: 06/10/2015 15:08
Total Hours: 4.00

Action Requested: Plumbers OR EMS: We had a little bit of a flood in the lower Custodial closet down stairs by the girl bathroom. No sign of were the water came from because water is not leaking from anywhere noticeable. Could we please get this checked on.
Comments:
Svc. Interuption:

Task: SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE
Failure Code:
Failure Sub-Code:
Authorized By:
Contractor:
Trade: STEAMFIT/PLUMBER

Task Due Date:
Task Status:
Completion date:
Finished Date:
WO #: OP-557629

Comments *(OP-557629:SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE)*

Last Modified	Modified By	Create Date	Created By	Comments
	20 Tim, Chavez	06/08/2015 15:05	20 Tim, Chavez	Leak was from water heater, not air handler. Given to steam fitters

Schedule *(OP-557629:SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE)*

Technician	Trade	Start	Comment
68 Robert Little	STEAMFITTER	06/08/2015 07:29	

Labor *(OP-557629:SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE)*

Technician	Trade	Start	Shift	Account #	Time Type	Charge Rate	Hours	Ext Charge
20 Tim Chavez	REFRIG	06/08/2015 15:04	FIRST SHIFT		RT	49.16	1.00	49.16
64 Mike Thorpe	STEAMFIT/PLUMBER	06/08/2015 15:11	FIRST SHIFT		RT	46.19	1.00	46.19
68 Robert Little	STEAMFITTER	06/08/2015 15:11	FIRST SHIFT		RT	46.19	1.00	46.19
68 Robert Little	STEAMFITTER	06/10/2015 15:07	FIRST SHIFT		RT	46.19	1.00	46.19
							Total	187.73

OP-557629: SF1060 - WATER HEATER, ELEC.- REPAIR / REPLACE	Labor	Materials	Other	Contractor	Total Charges
Total	187.73	0.00	0.00	0.00	187.73

WO Totals

Labor	Materials	Other	Contractor	Tax	Total Charges
187.73	0.00	0.00	0.00	0.00	187.73

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Mesa Unified 021BRG
Background – Mesa Unified (Red Mountain HS – replace water heater)
Mesa Unified has submitted a Building Renewal Grant request to replace the 52-gallon water heater in Building 1007 at Red Mountain High School (project number 070204275-1007-021BRG).

Mesa Unified has 90 schools. Red Mountain High School is comprised of 20 buildings constructed between 1971 and 2012, totaling 357,573 square feet. Building 1007 was built in 1986, totaling 13,610 square feet.

The district received a proposal for the water heater in the amount of $1,634. Mesa staff will remove the old and install the new water heater.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Mesa Unified (Red Mountain HS – replace water heater)
Staff recommends that Mesa Unified be awarded $2,000 in Building Renewal Grant funding for the replacement of the water heater in Building 1007 at Red Mountain High School (project number 070204275-1007-021BRG). This includes $366 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Mesa Unified** be awarded $2,000 in Building Renewal Grant funding for the replacement of the water heater in Building 1007 at Red Mountain High School (project number 070204275-1007-021BRG). This includes $366 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mesa_USD_021BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Mendoza_Elementary_School_Signed_Grant_Application.pdf	Signed Application	7/23/2015	Cover Memo
Red_Mountain_Water_Heater_Quotes.pdf	Proposal for Replacement	8/6/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mesa Unified**
BRG Project Number: **070204275-1007-021BRG** **Maricopa County**
Project Description: **Replace water heater**
Consultant: n/a
Contractor: Central Arizona Supply

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 1,634**
Contingency ①		**$ 366**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 2,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 2,000**
Total Project Cost:		**$ 2,000**

① Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2095

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mesa Unified District

Superintendent: Dr. Michael Cowan

Contact Person: Todd Poer

Contact Phone Number: 928-595-1400

Contact Email: ftpoer@mpsaz.org bksylvester@mpsaz.org jrasmuss@mpsaz.org

School Site: Mendoza Elementary School

Buildings:

1009	A9000
1010	A10000

Application Title: Commercial Domestic Water Heater

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

This commercial 120 gallon domestic water heater was installed in 2009 in the custodial storage closet in A9000 building at Mendoza Elementary School and is no longer under warranty. The tank has ruptured and cannot be repaired. We obtained 3 quotes and the lowest quote was $3,957.65. Mesa Public Schools will provide labor to install the water heater.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Failure is not due to theft, vandalism, or wind, therefore, it is not covered by insurance.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Michael B. Cowan
Superintendent Printed Name

Michael B. Cowan
Superintendent Signature

7/20/15
Date

JUL 20 2015

mesa PUBLIC SCHOOLS

REQUEST FOR QUOTE

Please Respond By:_____

Delivery/Shipping Charge $_____

Lead Time:_____

Company Name:_____

Person Quoting:_____

Fax Back to: (480) 472-_____

Attention:_____

For questions call (4

Attn: Karla Tennyson
Phone: 480-472-6114
Fax: 480-472-6115
kdtennyson@mpsaz.org
Zip Code: 85210

MATERIAL REQUISITION FORM

LINE #	QTY	UNIT	PART #	BRAND / MANUFACTURER	DETAILED DESCRIPTION	VENDOR PRICING PER UNIT	MPS USE ONLY FILLED	MPS USE ONLY B.O.
1	1			AO Smith	AO Smith DEN 52-			
2					480 volt 3 phase 4 Kw upper elem			
3					4 Kw Lower Ele. 8 Kw Total			
4								
5								
6								
7								
8								
9								
10								

Comments or Special Instructions:_____

550 ☐ Insurance - Vandalism/Theft/Storm
Sec. Report #_____

6611 ☒ Supply - Repair or Replacement Parts
☒ Replace Existing or ☐ New Installation

6618 ☐ Capital - Project Supplies

6730 ☐ Capital - Power Tools and Equipment

_____ ☐ Other_____

Requested By: Robert Little S/T# 68

Approved By: [signature]

Date: 7-20-15

W.O. # 561330

Site: Red Mtn High

Req # 887583

P.O. #_____

94-32-01 D (11/06)

Central Arizona Supply

Central Arizona Supply
208 S. Country Club Dr.
Mesa, AZ 85210
480-834-5817 Fax: 480-834-0432

QUOTE

Barcode		Order #
		2977342-00
Ship To / Contract		**Page #**
		1

Cust #: 1925

Ship To: MESA UNIFIED SCHOOL DIST 4 A/P
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Bill To: MESA UNIFIED SCHOOL DIS
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Correspondence To:
Central Arizona Supply, Inc.
208 S. Country Club Drive

Mesa, AZ 85210

Customer PO
887583

Instructions	Taken By	Job Name
IN STOCK	JMD	RED MTN HIGH

Ship Point	Ship Via	Request	Shipped	Invoiced
Central Arizona Supply - CD	Our Truck	07/20/15		

Line	Product #	Bin	Ordered	B / O	Shipped	Unit	Unit Price	Amount
1	DEN-52D A-O DEN-52D 52 GALLON COMM ELECT 208V 4.5KW		1			each	1440.00	1440.00
2	SE9003810005 A-O 9003810005 8KW 480V CONV KIT		1			each	72.20	72.20

Merch Ordered	1512.20
Taxes	121.73
Order Total	1633.93

This quote expires 30 days from 07/20/15.
Pricing is based on specifications provided and does not include any revisions or extras.
Return of non-stock items are subject to supplier's approval and restocking charges.

Total Lines	2	# of Lines Not Printed	0	Qty Ordered Total	2	Freight Charges		Amount Due	

	Contact	Approved By (Please Sign Below)	Date Approved
	:		

Printed on 07/20/15 @ 09:54 an

MPSConnect
powered by Google apps

Karla Tennyson <kdtennyson@mpsaz.org>

Email Bid# B012583

1 message

Greg Johnson - 1002 PHOENIX <greg.johnson2@ferguson.com> Mon, Jul 20, 2015 at 10:04 AM
Reply-To: greg.johnson2@ferguson.com
To: kdtennyson@mpsaz.org

Price Quotation # B012583

FERGUSON ENTERPRISES #1002
3205 NORTH ARIZONA AVENUE
SUITE #8
CHANDLER, AZ 85225-7323
Phone : 480-899-7194
Fax : 480-899-8246

Bid No.....: B012583
Bid Date...: 07/20/15
Quoted By: GAJ
Customer.: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust Phone: 480-472-6124
Terms.....: NET 10TH PROX
Ship To.....: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust PO#..:

Job Name.: RED MTN HIGH

Item	Description	Quantity	Net Price	UM	Total
PT-ADEN524KW480V	50G 4KW 480V WHTR SWI	1	1572.000	EA	1572.00
	**********				
	IN STOCK				

Subtotal:	$1572.00
Inbound Freight:	$0.00
Tax:	$122.61
Order Total:	$1694.61

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise. LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

CANYON
Pipe & Supply Inc.

** Quotation **

Warehouse: 3
Canyon Pipe & Supply - Mesa - BR3
1250 S PIMA ROAD
MESA, AZ 85210
Fax # :
Phone # : 480-898-8888

S3926349 Page # 1
P/O-JOB: 887583
Ordered By: KARLA
Required : 07/20/15
Writer : ALFRED ARDENTE

Qte To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
MASTER ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096
Phone # : 480-472-0121

Ship To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
GENERAL ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096

Qte-Date	Expr-Date	Writer	Ship Via	Warehouse Shp	Warehouse Sale
07/20/15	09/03/15	ALFARD	BID	3	3

Qte-Qty		Unit Price	Net
1ea	604642	1670.020	1670.02
	AOS DEN-52D 2 HOLE *COMMENT SPECS*		
	** 480V 3PH 4/4KW		
	*** CURRENT LOCAL VENDOR STOCK		

QUOTE TOTAL	1670.02
Sales tax	134.44
Quote Amount	1804.46

Our Quotations Are Subject To The Following Conditions:
Nicholas Consolidated Inc., Phoenix Wholesale Inc and Canyon Pipe & Supply, Inc. (hereinafter NCI) is classed as a material supplier and not a subcontractor. The material referenced in the quotation is our interpretation of the product needed and the contractor should check the product quoted against requirements of plans & specifications.No Purchase order will be accepted against this quotation which reads "in accordance with specs" or "as per plans & specifications" or the like. NCI is not responsible for delays due to strikes, accidents or causes beyond our control.Special orders are strictly non cancelable. NCI makes no warranties, expressed or implied including without limitation warranties of merchandiseability quantities or fitness for use. Any warranty affecting these goods is provided solely by the manufacturer, the terms of which will be furnished upon request. Neither party may claim consequential damages. Prices are subject to change without notice. NCI reserves the right to review the prices prior to the acceptance of any order.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Mesa Unified 022BRG
Background – Mesa Unified (Mendoza ES – replace water heater)
Mesa Unified has submitted a Building Renewal Grant request to replace the 120-gallon water heater in Building 1009 and 1010 at Mendoza Elementary School (project number 070204139-9999-022BRG).

Mesa Unified has 90 schools. Mendoza Elementary School is comprised of 19 buildings constructed between 1983 and 1995, totaling 67,353 square feet. Building 1009 was built in 1987, totaling 8,629 and Building 1010 was built in 1987, totaling 1,600 square feet.

The district received a proposal for the water heater in the amount of $3,958. Mesa staff will remove the old and install the new water heater.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Mesa Unified (Mendoza ES – replace water heater)
Staff recommends that Mesa Unified be awarded $4,258 in Building Renewal Grant funding for the replacement of the water heater in Buildings 1009 and 1010 at Mendoza Elementary School (project number 070204139-9999-022BRG). This includes $300 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratfication that **Mesa Unified** be awarded $4,258 in Building Renewal Grant funding for the replacement of the water heater in Buildings 1009 and 1010 at Mendoza Elementary School (project number 070204139-9999-022BRG). This includes $300 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mesa_USD_022BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Mendoza_Elementary_School_Signed_Grant_Application.pdf	BRG application	8/12/2015	Backup Material
Mendoza_Elementary_School_Quotes_for_Commercial_Domestic_Water_Heater.pdf	Material Quote	7/23/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mesa Unified**
BRG Project Number: **070204139-9999-022BRG** **Maricopa County**
Project Description: **Replace water heater**
Consultant: n/a
Contractor: Ferguson Enterprises

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 3,958**
Contingency ①		**$ 300**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 4,258**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 4,258**
Total Project Cost:		**$ 4,258**

① Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2095

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mesa Unified District

Superintendent: Dr. Michael Cowan

Contact Person: Todd Poer

Contact Phone Number: 928-595-1400

Contact Email: ftpoer@mpsaz.org bksylvester@mpsaz.org jrasmuss@mpsaz.org

School Site: Mendoza Elementary School

Buildings:

1009	A9000
1010	A10000

Application Title: Commercial Domestic Water Heater

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

This commercial 120 gallon domestic water heater was installed in 2009 in the custodial storage closet in A9000 building at Mendoza Elementary School and is no longer under warranty. The tank has ruptured and cannot be repaired. We obtained 3 quotes and the lowest quote was $3,957.65. Mesa Public Schools will provide labor to install the water heater.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Failure is not due to theft, vandalism, or wind, therefore, it is not covered by insurance.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Michael B. Cowan
Superintendent Printed Name

Michael B. Cowan
Superintendent Signature

7/20/15
Date

mesa PUBLIC SCHOOLS

D-15 F3

JUL 13 2015

REQUEST FOR QUOTE

Please Respond By:_____

Delivery/Shipping Charge $_____

Lead Time:_____

Company Name:_____

Person Quoting:_____

Fax Back to: (480) 472-_____ Attention:_____

For questions call (4

Attn: Karla Tennyson
Phone: 480-472-6114
Fax: 480-472-6115
kdtennyson@mpsaz.org
Zip Code: 85210

MATERIAL REQUISITION FORM

LINE #	QTY	UNIT	PART #	BRAND / MANUFACTURER	DETAILED DESCRIPTION	VENDOR PRICING PER UNIT	MPS USE ONLY FILLED	MPS USE ONLY B.O.
1	1			A O Smith	A O Smith DRE-120-30			
2					208 Volt 3 phase			
3					6 Element 5.0 KW			
4								
5								
6								
7								
8								
9								
10								

Comments or Special Instructions:_____

550 ☐ Insurance - Vandalism/Theft/Storm
Sec. Report #_____

6611 ☐ Supply - Repair or Replacement Parts
☐ Replace Existing or ☐ New Installation

6618 ☐ Capital - Project Supplies

6730 ☐ Capital - Power Tools and Equipment

____ ☐ Other_____

Requested By: [signature] S/T# 68

Approved By: [signature]

Date: 7-10-15

W.O. # 561420

Site: MENDORA

Req # 887484

P.O. #_____

94-32-01 D (11/06)

Central Arizona Supply

Central Arizona Supply
208 S. Country Club Dr.
Mesa, AZ 85210
480-834-5817 Fax: 480-834-0432

QUOTE

Barcode		Order #
		2974065-00
Ship To / Contract		**Page #**
		1

Cust #: 1925

Ship To: MESA UNIFIED SCHOOL DIST 4 A/P
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Bill To: MESA UNIFIED SCHOOL DIS
143 S. ALMA SCHOOL RD.

MESA, AZ 85210-1096

Correspondence To:
Central Arizona Supply, Inc.
208 S. Country Club Drive

Mesa, AZ 85210

Customer PO
887484

Instructions	Taken By	Job Name
	JMD	MENDOZA

Ship Point	Ship Via	Request	Shipped	Invoiced
Central Arizona Supply - CD	Our Truck	07/14/15		

Line	Product #	Bin	Ordered	B / O	Shipped	Unit	Unit Price	Amount
1	DRE-120-18-208 A-O *120GAL 18KW 208V COMM ELEC HEATER		1			each	3232.80	3232.80
2	SE9003339005 A-O 9003339005 30KW 208V CONV KIT		1			each	435.95	435.95

Merch Ordered	3668.75
Taxes	295.33
Order Total	3964.08

This quote expires 30 days from 07/14/15.
Pricing is based on specifications provided and does not include any revisions or extras.
Return of non-stock items are subject to supplier's approval and restocking charges.

Total Lines	2	# of Lines Not Printed	0	Qty Ordered Total	2	Freight Charges		Amount Due	

	Contact	Approved By (Please Sign Below)	Date Approved
	:		

Printed on 07/14/15 @ 10:47 ar

CANYON
Pipe & Supply Inc.

** Quotation **

Warehouse: 3
Canyon Pipe & Supply - Mesa - BR3
1250 S PIMA ROAD
MESA, AZ 85210
Fax # :
Phone # : 480-898-8888

S3923321 Page # 1
P/O-JOB: 887484
Ordered By: KARLA
Required : 07/14/15
Writer : ALFRED ARDENTE

Qte To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
MASTER ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096
Phone # : 480-472-0121

Ship To:
MESA UNIFIED SCHOOLS DIST #4 MESUNI
GENERAL ACCOUNT
143 S. ALMA SCHOOL RD.
MESA, AZ 85210-1096

Qte-Date	Expr-Date	Writer	Ship Via	Warehouse Shp 3	Warehouse Sale 3
07/14/15	08/28/15	ALFARD	BID		

Qte-Qty		Unit Price	Net
1ea	609627	4902.780	4902.78
	AOS DRE-120 6 HOLE 24KW-30KW		
	!!!COMMENT SPECS!!!		
	** 208V 3PH 30KW		
	** CURRENT LOCAL VENDOR STOCK		

QUOTE TOTAL	4902.78
Sales tax	394.68
Quote Amount	5297.46

Our Quotations Are Subject To The Following Conditions:
Nicholas Consolidated Inc., Phoenix Wholesale Inc and Canyon Pipe & Supply, Inc. (hereinafter NCI) is classed as a material supplier and not a subcontractor. The material referenced in the quotation is our interpretation of the product needed and the contractor should check the product quoted against requirements of plans & specifications.No Purchase order will be accepted against this quotation which reads "in accordance with specs" or "as per plans & specifications" or the like. NCI is not responsible for delays due to strikes, accidents or causes beyond our control.Special orders are strictly non cancelable. NCI makes no warranties, expressed or implied including without limitation warranties of merchandiseability quantities or fitness for use. Any warranty affecting these goods is provided solely by the manufacturer, the terms of which will be furnished upon request. Neither party may claim consequential damages. Prices are subject to change without notice. NCI reserves the right to review the prices prior to the acceptance of any order.

MPSConnect
powered by Google apps

Karla Tennyson <kdtennyson@mpsaz.org>

Email Bid# B010405

1 message

Greg Johnson - 1002 PHOENIX <greg.johnson2@ferguson.com> Tue, Jul 14, 2015 at 9:55 AM
Reply-To: greg.johnson2@ferguson.com
To: kdtennyson@mpsaz.org

AS PER YOUR REQUEST.

Price Quotation # B010405

FERGUSON ENTERPRISES #1002
3205 NORTH ARIZONA AVENUE
SUITE #8
CHANDLER, AZ 85225-7323
Phone : 480-899-7194
Fax : 480-899-8246

Bid No.....: B010405
Bid Date...: 07/14/15
Quoted By: GAJ
Customer.: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust Phone: 480-472-6124
Terms.....: NET 10TH PROX
Ship To.....: MESA PUBLIC SCHOOLS
555 SOUTH LEWIS
MESA, AZ 85210

Cust PO#..: MENDORD **Job Name.:** MENDORD

Item	Description	Quantity	Net Price	UM	Total
PT-ADRE12030KW208V	119G 30KW 208V WHTR SWI	1	3671.290	EA	3671.29
	**********				
	IN STOCK				
	**********				

Subtotal:	$3671.29
Inbound Freight:	$0.00
Tax:	$286.36
Order Total:	$3957.65

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise. LEAD LAW WARNING: It is illegal to install products

that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Miami Unified 007BRG
Background – Miami Unified (Miami HS – replace water heater)
Miami Unified has submitted a Building Renewal Grant request to replace the 100-gallon water heater that services Buildings 1002 and 1004 at Miami High School (project number 040240206-1004-007BRG).

Miami Unified, located 85 miles east of Phoenix, has six schools. Miami High School is comprised of eighteen buildings constructed between 1967 and 1981, totaling 138,143 square feet.

The district received a proposal for the replacement in the amount of $7,292.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Miami Unified (Miami HS – replace water heater)
Staff recommends that Miami Unified be awarded $7,792 in Building Renewal Grant funding for the replacement of the 100-gallon water heater that services Buildings 1002 and 1004 at Miami High School (project number 040240206-1004-007BRG). This includes $500 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Miami Unified** be awarded $7,792 in Building Renewal Grant funding for the replacement of the 100-gallon water heater that services Buildings 1002 and 1004 at Miami High School (project number 040240206-1004-007BRG). This includes $500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Miami_USD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_Application.pdf	Signed Application	8/3/2015	Cover Memo
Quote.pdf	Water Heater Quote for Replacement	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Miami Unified**
BRG Project Number: **040240206-1004-007BRG** **Gila County**
Project Description: **Replace water heater**
Consultant: n/a
Contractor: DJ's Companies

Board approval 8/12/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 7,292**
Contingency ①		**$ 500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 7,792**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 7,792**
Total Project Cost:		**$ 7,792**

① Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 6/9/2015 2:30:44 PM **Application ID:** 2041
Resubmittal Date: 6/18/2015 11:43:50 AM

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Miami Unified District

Superintendent: Dr. Sherry Dorathy

Contact Person: David Pastor

Contact Phone Number: 928-8812-0501

Contact Email: dpastor@miamiusd40.org

School Site: Miami High School

Buildings:

1002	C D E Building
1004	K Building

Application Title: Water heater replacemnt

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

100 gallon Water heater in back of Cafeteria is leaking, needs to be replaced, the District's capital budget is limited due to cuts. Heater runs hot water to cafeteria kitchen, student restrooms, District office and Administration office restrooms. Have received a quote of approximate cost of $7,291.25 for emplacement.

Project Category: Plumbing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

District does not have sufficient fund to cover costs of replacement, would put a strain on capital budget that has been cut do to budget restraints.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Sherry Dorathy
Superintendent Printed Name

Sherry Dorathy — 7-1-15

Superintendent Signature — Date

DJ's Companies Inc.

P.O. Box 1810
Claypool AZ, 85532
Office 928-425-0602
Fax 928-425-0332

Quote Number #1544

Miami Unified School District #40
P.O. Box 2070
Miami AZ .85539-0951

Received By: Dave Pastor
Date: 4/29/2015
Phone #: (928)812-0501

Qty	Description	Price per unit	Total
24 hrs	Plumber and helper to repair leaks, and replace a 100 gallon	$95.00 a hr	$2,280.00
	water heater at Miami High School **(Boiler Room)**		
20 lf	4" type L copper pipe	$31.70 alf	$634.00
4 ea	4" Copper Coupling with out dimple in center.	$36.77 ea	$147.08
2 ea	4" Copper 90 degree elbow	$74.59 ea	$149.18
1 ea	Rheem 100 Gallon Natural Gas water heater.	$3577.68 ea	$3,577.68
10 lf	2" type L copper pipe	$11.12 alf	$111.20
1 ea	2" street 45 degree elbow	$14.51 ea	$14.51
1 ea	2" brass ball valve sweat by sweat	$47.08 ea	$47.08
1 ea	2" copper 90 degree elbow	$13.14 ea	$13.14
1 ea	2" dialetric union	$22.39 ea	$22.39
1 ea	miscellanies parts	$200.00 ea	$200.00
Note:	This estimate is what it could possibly take to complete		
	this job, price may vary.		
	Subtotal		$7,196.26
	Gila County Tax	6.60%	$94.99
	TOTAL		$7,291.25

Respectfully submitted by:

Spiro (Speter) Jonovich

4-29-15
Date

Accepted by:

Signature

Printed name

Date

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Miami Unified 008BRG
Background – Miami Unified (Miami HS – replace HVAC compressor)
Miami Unified has submitted a Building Renewal Grant request to replace a 12 year old heat pump compressor that services Building 1004 at Miami High School (project number 040240206-1004-008BRG).

Miami Unified, located 85 miles east of Phoenix, has six schools. Miami High School is comprised of 18 buildings constructed between 1967 and 1997, totaling 138,143 square feet. Building 1004 was built in 1967, totaling 30,333 square feet.

The district received a proposal for the replacement in the amount of $2,510.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Miami Unified (Miami HS – replace HVAC compressor)
Staff recommends that Miami Unified be awarded $3,000 in Building Renewal Grant funding for the replacement of a heat pump compressor in Building 1004 at Miami High School (project number 040240206-1004-008BRG). This includes $490 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board ratification that **Miami Unified** be awarded $3,000 in Building Renewal Grant funding for the replacement of a heat pump compressor in Building 1004 at Miami High School (project number 040240206-1004-008BRG). This includes $490 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Miami_USD_008BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
PMC_Proposal_-_Miami_USD-_JR_SR_HS-_ACK1_Replace_Compressor.pdf	Proposal for Compressor Replacement	8/3/2015	Cover Memo
signed_application.pdf	Signed Application	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Miami Unified**
BRG Project Number: **040240206-1004-008BRG** **Gila County**
Project Description: **Replace HVAC compressor**
Consultant: n/a
Contractor: Pueblo Mechanical

Board approval 8/12/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 2,510**
Contingency ①		**$ 490**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 3,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 3,000**
Total Project Cost:		**$ 3,000**

① Contingency shall only be used with SFB staff approval.

Pueblo Mechanical & Controls, Inc.

(800) 840-9170

PROPOSAL - Miami USD- JR SR HS- ACK1 Replace Compressor

Mohave JOC #14G-PMAC2-0903

PMC Proposal #:15-02-066

From: Pueblo Mechanical and Controls, Inc. **Date:** 3/5/2015

Attn: David Pastor
Miami USD #40
4739 Ragus Rd
Miami, AZ 85539

Dear David,

Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following scope for Miami USD- JR SR HS- AC-K1 Replace Compressor.

Scope of Work:

- Disconnect power to equipment, Trane MN 2TTA2060A4000AA, SN 2212NLY3F.
- Recover refrigerant from unit.
- Remove and replace defective compressor, replace filter drier, contactor and fuses, clean acid out of system.
- Pressure system with nitrogen to check for leaks.
- Put system in a vacuum.
- Weigh in the charge of refrigerant.
- Start up and check operation.
- Provide applicable parts and labor warranty.

We Exclude The Following:

- Repair or replacement of any existing device found to be inoperable.

Complete material, service, and labor sub total:		**$**	**2,509.50**
AZDR Statute Compliance included			
Bonding:	**[n/a]**	**$**	**0.00**
Total Cost:		**$**	**2,509.50**

All projects over $100,000 must be individually bonded, projects under this amount are at the discretion of the customer; if the project is under $100,000; by accepting this proposal you agree to waive bonding for this project. If you require bonding; please contact Pueblo Mechanical immediately and we will provide a quote for the bonding amount.

We look forward to providing this important service; please call if you have any questions.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

6771 E. Outlook Drive, Tucson, AZ 85756 ● 11052 N. 24th Avenue, Phoenix, AZ 85029
Office - (800) 840.9170 ● Fax - (888) 473-4374
www.pueblo-mechanical.com
AZ LIC: K-39 # ROC176640 ● AZ LIC: B-01 # ROC173953 ● AZ LIC: K-74 # ROC260462

Best Regards,

Bill Blackert
Service Solutions
(520) 603-5187
Billb@pueblo-mechanical.com

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Name	Signature	Date

Due to the high cost of equipment and/or extended nature of this project progress billing may be required; if a purchase order is created for this project the owner agrees to accept progress billing for demonstrated and verifiable completed work and/or arrival of equipment items pending installation.

Building Renewal Grant Application

Initial Submission Date: 6/9/2015 10:03:03 AM **Application ID:** 2042

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Miami Unified District
Superintendent:	Dr. Sherry Dorathy
Contact Person:	David Pastor
Contact Phone Number:	928-425-3271 ex, 2401
Contact Email:	dpastor@miamiusd40.org
School Site:	Miami High School
Buildings:	1004 K Building

Application Title: HVAC

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

HVAC unit for this building is not working, needs acid cleaning as well as new compressor.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Unit is was installed in 1992, has finally failed. Repairman states need acid wash to clean up leaks, as well as new compressor.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Sherry Dorathy
Superintendent Printed Name

Sherry Dorathy 8-3-15
Superintendent Signature Date

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item a.•**

Subject:

BRG - $50K Executive Authority (construction)
Tonto Basin Elementary 006BRG

Background – Tonto Basin Elementary (Tonto Basin ES – replace walk-in freezer compressor)
Tonto Basin Elementary has submitted a Building Renewal Grant request to replace a compressor in the cafeteria walk-in freezer in Building 1002 at Tonto Basin Elementary School (project number 040333101-1002-006BRG).

Tonto Basin Elementary, located 90 miles north of Phoenix, has one school. Tonto Elementary School is comprised of five buildings constructed between 1980 and 2010, totaling 16,896 square feet. Building 1002 was built in 1992, totaling 1,632 square feet.

The lowest proposal recieved for the walk-in freezer compressor replacement was $4,261.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Tonto Basin Elementary (Tonto Basin ES – replace walk-in freezer compressor)
Staff recommends that Tonto Basin Elementary be awarded $4,761 in Building Renewal Grant funding for the replacement of the walk-in freezer compressor in Building 1002 at Tonto Basin Elementary School (project number 040333101-1002-006BRG). This includes $500 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tonto Basin Elementary** be awarded $4,761 in Building Renewal Grant funding for the replacement of the walk-in freezer compressor in Building 1002 at Tonto Basin Elementary School (project number 040333101-1002-006BRG). This includes $500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tonto_Basin_ESD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
signed_applicaiton.pdf	Signed Application	8/3/2015	Cover Memo
Proposal.pdf	Proposal for Materials	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tonto Basin Elementary**
BRG Project Number: **040333101-1002-006BRG** Gila County
Project Description: **Repair walk-in freezer compressor**
Architect of Record: n/a
Contractor: Service Plus, Inc.

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost (cost estimate provided by architect or contractor)		**$ 4,261**
Contingency		**$ 500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 4,761**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 4,761**
Total Project Cost:		**$ 4,761**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 2093

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tonto Basin Elementary District

Superintendent: Mr. Keith Greer

Contact Person: Gene Fry

Contact Phone Number: 928-479-2277

Contact Email: gfry@tontobasinschool.org

School Site: Tonto Basin Elementary School

Buildings: 1002 per Patty

Application Title: Compressor

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Walk-in compressor has a blown valve.

Project Category: Special Equipment

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Keith Greer
Superintendent Printed Name

Keith Greer
Superintendent Signature

7/14/15
Date

43417

SERVICE PLUS, INC

1305 W. RED BARON RD, SUITE 4 • PAYSON, AZ 85541
(928) 474-5664 • Fax: (928) 474-0069
1-888-399-PLUS

30 YEARS

BILL TO

NAME Tonto Basin School	CONTRACT #
STREET ADDRESS	CUSTOMER P.O.#
CITY, ZIP Tonto Basin, AZ	PHONE

EPA Data

RC Unit No _____ Refrigerant R-_____

Comments _____

_____# Recovered _____# Ref. Disposed

_____# Recycled _____# Old Ref. Charged

_____# Reclaimed _____# New Ref. Charge

SERVICE LOCATION

NAME Same	CONTACT
STREET ADDRESS	DATE 7-6-15
CITY	
PHONE	FAX
WORK TO BE PERFORMED/PROBLEM Walk in freezer	

EQUIPMENT DATA

MAKE

MODEL

SERIAL NUMBER

AGE IF KNOWN

QTY	MATERIALS & SERVICES	UNIT PRICE	AMOUNT
	REFRIGERANT R LBS		
	TOTAL MATERIALS		

DESCRIPTION OF WORK PERFORMED

*Walk in freezer down due to blown valves in compressor Getti. quotes on compressor change out and new condensing section.

COST OF TRIP TO DISTRICT TO GENERATE PROPOSAL

☑ COMPLETE ☐ INCOMPLETE TIME ARRIVED _____ TIME COMPLETED _____

DATE	REG.	O.T.	DBL	TECHNICIAN
7-6	1.0			Nicholos

RECOMMENDATIONS

TOTAL SUMMARY

TOTAL MATERIALS		
SERVICE CALL		
LABOR REG HRS@ 1.0 90	90	0
LABOR OT HRS@		
LABOR DBL HRS@		
MAINTENANCE		
RECOVERY CHARGE		
TRIP OTHER	191	8
SALES TAX		
PREF DISCOUNT	-9	0
TOTAL	272	8

TERMS: NET 10

I have the authority to order the work outlined above which has been satisfactorily completed. I agree that Seller retains title to equipment/materials furnished until payment is made. If payment is not made as agreed, seller can remove said equipment/materials at Seller's expense. Any damage resulting from said removal shall not be the responsibility of Seller.

CUSTOMER'S SIGNATURE _____ DATE 7-6-15

LIMITED WARRANTY: All Materials, parts and equipment are warranted by the manufacturers' or suppliers' written warranty only. All labor performed by the above named company is warranted for 30 days or as otherwise indicated in writing. The above named company makes no other warranties, express or implied, and its agents or technicians are not authorized to make any such warranties on behalf of above named company.

☐ CHARGE ☐ WARRANTY

☐ SERVICE CONTRACT ☐ COD

CK # _____ *Thank You*

Service Plus Inc.
200 West Aero Drive
Payson, AZ 85541

Service Plus Project Proposal

Date: 07/07/2015

JOB INFORMATION

Date	07/06/2015
Customer Name	Tonto Basin School
Billing Address	
Billing Phone #	
Service Address	
Service Location Phone #	
Service Location Contact	Jeannie
PO#	
Work To Be Performed/Problem	walk in freezer condensing unit
Proposed Start Date	07/06/2015
Job Duration	4 hours

PROPOSED EQUIPMENT

Part Number	condensing unit

PROPOSED EQUIPMENT (DETAIL)

Quantity	1
Description	
Price Each	2700
Extended Price	2700.00

Part Number	txv

PROPOSED EQUIPMENT (DETAIL)

Quantity	1
Description	
Price Each	225
Extended Price	225.00

Part Number	404a

PROPOSED EQUIPMENT (DETAIL)

Quantity	8
Description	
Price Each	30
Extended Price	240.00

SUMMARY

Parts Total	3165.00
Larbor Hours	4

Service Plus Inc.
200 West Aero Drive
Payson, AZ 85541

Service Plus Project Proposal

Date: 07/07/2015

Labor $/Hr	81
Total Labor	324.00
Travel Charge	191.80
Sub Total	3680.80
Tax Rate (%)	9.72
Tax	307.64
Total	3988.44

This is a proposal for immediate acceptance. It is based on our inspection and does not cover any additional parts or labor which may be realized after job is in progress. Because of this, the above total is not guaranteed unless stated.

CUSTOMER SIGNATURE Connie M. Clark

Customer Signature

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Cave Creek Unified 007BRG
Background – Cave Creek Unified (Fine Arts Center – replace underground HVAC heating loop)
On April 1, 2015, the Board awarded Cave Creek Unified $10,300 in Building Renewal Grant funding for a study of the underground heating loop from the Central Plant to Desert Arroyo Middle School and the Fine Arts Center (project number 07029302S-9999-007BRG).

The underground pipe assessment has been completed. The pipe system has failed and needs to be replaced. The engineer estimate for the replacement is $870,000, design and construction administration is $39,700.

Initial award 4/1/2015	
Engineering design	$10,300
Supplemental funding requested:	
Estimated construction cost	$870,000
Design/ Bid administration	$ 39,700
Contingency	$100,000
Total supplemental funding requested:	$1,009,700
Total project cost:	$1,020,000

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Cave Creek Unified (Fine Arts Center – replace underground heating loop)
Staff recommends that Cave Creek Unified be awarded an additional $1,009,700 in Building Renewal Grant funding for the replacement of the hot water loop system to the Fine Arts Center (project number 07029302S-9999-007BRG). This includes $100,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $1,020,000.

Board Action Requested:
Board approval of the staff recommendation that **Cave Creek Unified** be awarded an additional $1,009,700 in Building Renewal Grant funding for the replacement of the hot water loop system to the Fine Arts Center (project number 07029302S-9999-007BRG). This includes $100,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $1,020,000.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Cave_Creek_USD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Engineer_CA_proposal.pdf	Engineer CA proposal	8/3/2015	Cover Memo
CCUSD_HHW_underground_assesement_-	Engineer assessment and study	8/3/2015	Cover Memo

_KWA.pdf

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Cave Creek Unified**
BRG Project Number: **07029302S-9999-007BRG** Maricopa County
Project Description: **Replace underground HVAC heating loop**
Consultant: Kelly Wright & Associates (520-887-1919)
Contractor: TBD

Board approval: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 870,000**
Contingency		**$ 100,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 10,300
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 39,700
Testing & Inspection		$ -
Total Additional Cost:		**$ 50,000**
Total SFB Funded Project Cost:		**$ 1,020,000**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 1,020,000**
Total Project Cost:		**$ 1,020,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

KELLY · WRIGHT & ASSOCIATES · PC
HVAC · PLUMBING
FIRE PROTECTION

PROPOSAL

REVISED

Project Name:	Replacement of UG Heating Water Pipe from Cactus Shadows Central Plant to the Performing Arts Building and the DAMS Campus
Project Address:	5802 E. Dove Valley Road Scottsdale, Arizona
Job Number:	15058
Date:	August 3, 2015
Client:	Cave Creek Unified School District #93 33016 N. 60th Street Scottsdale, AZ 85266
Engineer:	Kelly, Wright & Associates, P.C.

Project Description:

Replacement of the existing failed underground heating water piping between the existing central plant north of Cactus Shadows HS to the existing Performing Arts Building and to the Desert Arroyo MS Campus. Refer to Option #1 as defined in the ***"Assessment of Underground Heating Hot Water Piping Serving: Desert Arroyo Middle School & Performing Arts Building for Cave Creek Unified School District #93"***, dated June 22, 2015 prepared by the Engineer.

Scope of Basic Services:

GENERAL:

- This project will be drawn in AutoCAD as 2D. 3D drawings are not included.
- Project specifications will be placed on the drawings (plan notes).
- Engineer will perform a minimum of one site visit to verify obvious existing conditions. Timing will be at Engineer's discretion and coordinated with Client.

Hydronic Piping:

- Design replacement system of underground heating water supply & return piping that extends from the existing central plant north of Cactus Shadows HS to the existing performing Arts Building.
- Design replacement system of underground heating water supply & return piping that extends from the existing central plant north of Cactus Shadows HS to the existing Desert Arroyo Middle School Campus.
- Design and detail connections to each termination point as required.

Plumbing & Fire Protection: NO SCOPE.

Construction Administration:

- Assist the District as needed in the preparation of a Bid Solicitation Document.
- Assist the District as needed in the preparation of a list of pre-qualified vendors to receive invitations to bid the project.
- Attend pre-bid walk at project location.
- Assist the District as needed in the evaluation of bids and selection of a Contractor.
- Up to three construction field observation visits with written reports are included. Engineer will perform visits based on Client requests.
- Review of mechanical Submittals.
- Review and response to RFI's.
- Record drawing documentation (drafting of contractor-provided as-built conditions in CAD).

Assumptions:

- Replacement pipe shall be sized based upon the size of the existing pipe being replaced. Calculating the heating loads of the existing campus buildings is not included.
- Existing above ground piping where connections are being made from the replacement UG piping is assumed to be code compliant, have adequate capacity, and in good condition for the anticipated reuse. The condition of the existing aboveground piping and downstream equipment will not be verified as part of this project.
- Life Cycle Reports, System Comparison Reports, Feasibility Studies, and similar documents are not included.

Deliverables:

The Engineer's instruments of service will be provided in electronic form. Hard copies are not included. Documents will be provided in PDF format. Copies of CAD files will be provided at the direction of Client.

Compensation for Basic Services:

The Engineer will be compensated for the basic services based on a fixed fee basis of thirty nine thousand, seven hundred dollars ($39,700).

Client's Responsibility:

- The Client shall make available to the Engineer full information on the Client's intent with regard to the project's requirements.
- The Client will keep the Engineer advised of any changes to the project requirements that may affect the Engineer's work.
- The Client shall provide architectural, civil, structural, electrical, and other consultant's drawings, design information, and/or documents to the Engineer for review and use during the project design.

Additional Services:

- Services and/or consultation not specified and/or in excess of those indicated in the Scope of Basic Services.
- Revisions to previously approved drawings and documents.
- Client requested field trips will be billed at one thousand, one hundred dollars ($1,100) per trip.

Reimbursable Expenses:

The Client will reimburse the Engineer for the direct cost of each of the following:

- Printing, reproduction, and duplication of documents not used for Engineer's own purposes.
- Postage and special delivery service.
- Any tax imposed on the Engineer's services shall be reimbursed at 100% of the actual cost.

Hourly Rates:

Engineering Director	$ 150.00	Designer	$ 75.00
Engineer	$ 100.00	Clerical	$ 30.00
Project Manager / Senior Designer	$ 85.00		

Other Conditions:

- This agreement entered into as of the date indicated on the first page.
- The laws of the State of Arizona shall govern this Agreement.
- The Engineer will not begin work on the project or perform any additional services without an executed Agreement.
- The terms and conditions set forth in the Agreement shall be in effect for a period not to exceed six (6) calendar months from the date of acceptance. In the event that terms and conditions of this Agreement have not been completed in that time, the terms of this Agreement shall become negotiable by both parties.
- The Engineer will invoice the Client monthly, based upon the percentage of completion, and/or at the time of submission of each phase of service. Payment is due upon presentation of the invoice unless a separate signed contract between the Client & Engineer establishes a different arrangement for payment.
- Interest may be charged on past due accounts at the rate of one and one half percent (1.5%) per month to accounts outstanding more than 30 days.
- The Engineer reserves the right to suspend the performance of services, without waiving any claim or right against the Client, and without liability whatsoever to the Client, if invoices have not been paid within 30 days.
- The Engineer shall not be responsible for the acts or omissions of the Client, Client's other consultants, Contractors, Subcontractors, their agents or employees, or other persons performing any of the Work. The Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Engineer from any liabilities, damages and costs (including reasonable attorney fees and cost of defense) to the extent caused by the negligent acts, errors or omissions or the Client, Client's other consultants, Contractors, Subcontractors, their agents or employees, or other persons performing any of the Work.

- Engineer is not responsible or liable for any hazardous materials found on the project site, job site safety, or construction means and methods. All hazardous materials encountered on the site are the responsibility of the owner(s). Job site safety and construction means and methods are the responsibility of the contractor(s).
- Cost estimates, life cycle reports, energy calculations, water consumption estimates, and similar calculations performed by the Engineer represent the Engineer's experience and best judgment and are not guarantees.
- The parties agree that there shall be no assignment of this contract unless mutually agreed upon in writing.
- The Agreement may be terminated by either party upon seven (7) calendar days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination. The Engineer shall be due compensation for services rendered up to date of notification of termination, reimbursable expenses and reasonable termination expenses.
- All disputes arising out of or related to this Agreement shall be submitted to non-binding mediation as a condition precedent to litigation. If any dispute that is submitted to mediation is not successfully resolved, the matter may be resolved through litigation in a court of competent jurisdiction in Pima County, Arizona.
- In the event of any litigation arising from or related to the services provided under this Agreement, the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, expert fees, attorney's fees, and other related expenses.
- Engineer is entitled to rely on the accuracy and completeness of information, documents, and/or designs provided by others. Engineer shall have no obligation to verify the information or design's correctness. Client and Owner shall waive all claims against Engineer relating to information, documents, and designs provided by others and shall indemnify Engineer for all losses, cost and damages incurred.
- Client shall obtain Engineer's prior written consent before making any changes to plans and specifications prepared by the Engineer. Client and Owner shall waive all claims against Engineer relating to unauthorized changes to plans and specifications prepared by the Engineer and shall indemnify Engineer for all losses, cost and damages incurred.
- Engineer shall retain ownership of the instruments of service and the information contained in them. Client & Owner shall not modify the instruments of service and/or reuse them in connection with any other project.
- ELECTRONIC FILES: Client agrees not to reuse electronic files, created by the Engineer, in whole or in part, for any purpose or project other than the project that is the subject of this Agreement. Client agrees not to transfer these electronic files to others without the prior written consent of Engineer. Client further agrees to waive all claims against Engineer resulting in any way from any unauthorized changes or reuse of these electronic files for any other project by anyone other than Engineer. Client is aware that differences may exist between the electronic files delivered and the printed hard copy construction documents. In the event of a conflict between the signed construction documents prepared by Engineer and electronic files, the signed and stamped or sealed hard copy construction documents shall govern. In addition, Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless Engineer, its officers, directors, employees, agents and subconsultants against all damages, liabilities or costs, including reasonable attorneys' fees, court costs and defense costs, arising from the use of the electronic files.

Please let us know if you wish additional information or clarification of our proposal. If you are in agreement with and wish to authorize us to proceed with the project as delineated herein, please sign one copy and return to our office. We sincerely appreciate your consideration of our firm. We look forward to helping you with this challenging and important project.

Sincerely,
Kelly, Wright & Associates, P.C.

Burton W. Wright, Jr., PE, FPE
Principal

Accepted By:
Cave Creek Unified School District #93

_____
Client Signature

_____
Printed Name and Title

Assessment of Underground Heating Hot Water Piping Serving:

Desert Arroyo Middle School & Performing Arts Building for Cave Creek Unified School District #93

Project Location:

6001 East Smokehouse Trail
Scottsdale, Arizona

June 22, 2015



KELLY · WRIGHT & ASSOCIATES · PC
HVAC · PLUMBING
FIRE PROTECTION

www.kwmech.com
KWA PROJECT NO. 15014

EXECUTIVE SUMMARY

The existing underground heating water piping serving two sites on this campus has failed. It is the recommendation of this report that the existing piping not be repaired, but replaced in some manner. Three options for replacement were evaluated in the preparation of this report. This report focuses on the like-for-like replacement option. A follow-up discussion with the stakeholders is required if other than a like-for-like replacement is to be evaluated.

Of the three options, this report includes a construction cost estimate for Option 1 only. Option 1 establishes a baseline construction cost for budgeting purposes. Refer to the *Proposed Correction* section for more info on the options. Here is a summary of each option:

1) Replace the underground piping with new underground piping. The location of the new would be in the same location (remove the existing) or similar location (abandon the existing).
    a. The Engineer's estimated probable mechanical cost of construction is $870,000. Refer to Appendix 1 for breakout of costs. It is assumed that the engineering design and construction administration fees for this option will be about $60,000. Therefore, the total project budget for this option is $930,000.
2) Abandon the underground piping and install new piping above grade to re-feed the buildings currently served by the system.
    a. It is assumed that this option will be more costly than Option 1 for several reasons including but not limited to: design fees; structural steel costs; insulation and jacketing on piping; installation costs of more trades.
3) Abandon the underground piping and existing boiler and install new gas fired boilers at each of the DAMS campus and the Performing Arts building.
    a. It is assumed that this option will be more costly than Option 1 for several reasons including but not limited to: design fees; equipment costs; possible building addition at each site; installation costs of more trades.

EXISTING CONDITIONS

The Desert Arroyo Middle School (DAMS) campus and the Performing Arts building are served by a single boiler in the central plant between the two facilities. Based on existing drawings provided by the District, we estimate the system to be over 25 years old. The boiler was recently replaced with a condensing type boiler. Each site is supplied with heating water via underground 4" pipes; each site can be isolated at the central plant. The existing underground piping system extends from the central plant to the Performing Arts building northeast of the plant and also to the Desert Arroyo Middle School Campus to the southeast of the plant. Much of the piping is installed below the paved fire lane (aka Smokehouse Trail per Google maps). Almost all of the piping on the DAMS campus is below concrete.

We were unable to find existing plans or specifications for the piping. Based on our observations of the piping, it is pre-insulated piping with a ductile iron carrier pipe with hub and spigot joints. The existing drawings do not show pipe expansion loops or expansion devices in the system to accommodate changes in temperature of this system.

PROBLEM DEFINITION AND APPROACH

At least one major leak exists in the underground heating water piping. According to district maintenance personnel present during this investigation, they have observed water bubbling up from the water main roadway valve box on the street where the 1st excavation was made. Refer to photos in Appendix 3. Although this leakage was concurrent with losses of water from the heating water system, the water did not continuously flow from the valve box. They indicated that they put color dye into the hot water system and confirmed that the water observed leaking from the water main roadway valve box was, in fact, leakage from the HWS/R system. When the hydronic system was last in service, water had backed up into the central plant, flooding the building. The water was entering the plant through the floor penetrations where the hydronic piping exits the building and goes underground. Water had also been observed bubbling up from the ground outside of the central plant. It was stated by facilities personnel that during

months prior to system shutdown, the heating water system was seeing over 2,000 gallons per month loss. Just prior to the system being shut down, it was stated that the makeup water system was not able to make up the loss from the heating water system indicating that a catastrophic failure had occurred underground.

Kelly, Wright & Associates performed two site visits to evaluate this piping system. The observations made during these visits were used to help formulate recommendations as to whether repair or replacement of the underground hydronic piping system should be considered. The first visit was on April 20th where Donovan Kelly (KWA) and Aaron Augustine (Encompass Inspections) located the underground piping using various pipe locating methods. The outcome of this first visit were as-found locations of the existing heating water piping as well as power, water, communications and waste piping near the heating water piping as crucial locations. The pipe locating information was drafted into CAD by KWA. Refer to Appendix 2. Based on the as-located piping plan, we determined where the piping should be exposed for inspection.

Pueblo Mechanical was hired to excavate in the two chosen locations. That work was completed during the week of May 11th, 2015. KWA's second site visit was performed on May 15th where Burton Wright (KWA) met with representatives of Pueblo Mechanical and their sub-contracted excavator to review the excavations that Pueblo Mechanical completed prior to Burt's arrival. Also present were Cave Creek USD staff Roy Price, Gregory Grafing, and John Muir. Refer to Appendix 3 for photos and narratives of the excavations.

PROPOSED CORRECTION

We believe that there are three possible solutions to the leaking heating water piping issue. We do not believe that the piping should be repaired due to age, the type of joints, and lack of means for expansion / contraction. The three options are defined below.

OPTION 1: Replace the piping in a like-for-like manner.

In this option, the piping could be replaced in the same location (existing piping would have to be removed) or new piping could be installed underground near the old piping (abandon the existing underground). Based on the discovery of the concrete-encased electrical in Excavation #1 (see Appendix 3) we assume that the new piping would be located near the existing, not in in the exact same location. That should also provide the opportunity for space to install expansion loops.

The downside of this option is that the new piping would again be underground which makes leak detection difficult. A significant amount of pavement and concrete would need to be removed and repaired. Coordination with a myriad of existing utilities crossing the route for the piping will make install difficult. Finally, the install of new underground heating water piping could obstruct the future replacement of the underground chilled water piping. Ideally, the chilled water piping would be replaced at the same time as the heating water.

There are many types of piping that could be used for a new underground piping installation. For this report, we have priced pre-insulated piping with a schedule 40 black steel carrier pipe with welded joints. This is similar to the existing and a very common product for this application.

In lieu of the pre-insulated steel piping, we also suggest Aquatherm be evaluated for this application. Aquatherm is constructed of polypropylene and offers several advantages over the steel option. Aquatherm piping does not require cathodic protection or expansion loops and it cannot rust. Aquatherm is an option since it is realatively new to this market and we would like to get approval from the District and SFB prior to specifying. We anticipate the cost of the Aquatherm to be similar to the cost of pre-insulated steel.

OPTION 2: New piping above ground.

This option would abandon the existing underground. All new piping would be installed above ground on new structures between the boiler room and the buildings. The key advantage of this option is that future leak detection will be obvious and space could be provided on the structures for addition of chilled water piping in the future. This option has several drawbacks. One key issue is the aesthetics of the new structures. Another issue will be crossing the fire lane roadway (typically requires overhead clearance of at least 14 feet). The structural engineering requirements of this option will increase the cost.

We anticipate that crossing the fire lanes with structures will not be allowed by the district and/or the fire department. In that case, some piping will be installed underground. If so, the piping discussion in Option 1 applies to this Option.

OPTION 3: New boiler at DAMS and Performing Arts

This option would install a new natural gas fired boiler at each "end" of the current system. The existing central boiler would be removed or possibly relocated to one of the new sites. The underground piping between the boiler room and the DAMS campus and Performing Arts would be abandoned (no longer required). The key advantage to this option is that the underground piping would be eliminated. The downside with this option is primarily cost. Construction complexity and time requirements are also of concern. Many factors would need to be investigated before this option could be considered viable. Fundamentally adequate space for the boiler room at each site must be available or the project cannot proceed. If there is not sufficient natural gas capacity to each site, this option is not viable. Additional concerns of aesthetics and overall project costs make this option more of an academic concept.

APPENDIX 1: CONSTRUCTION COST ESTIMATE

Cactus Shadows Central Plant, DAMS & Performing Arts

Repipe heating water piping below ground

Cave Creek Unified School District

Cave Creek, AZ

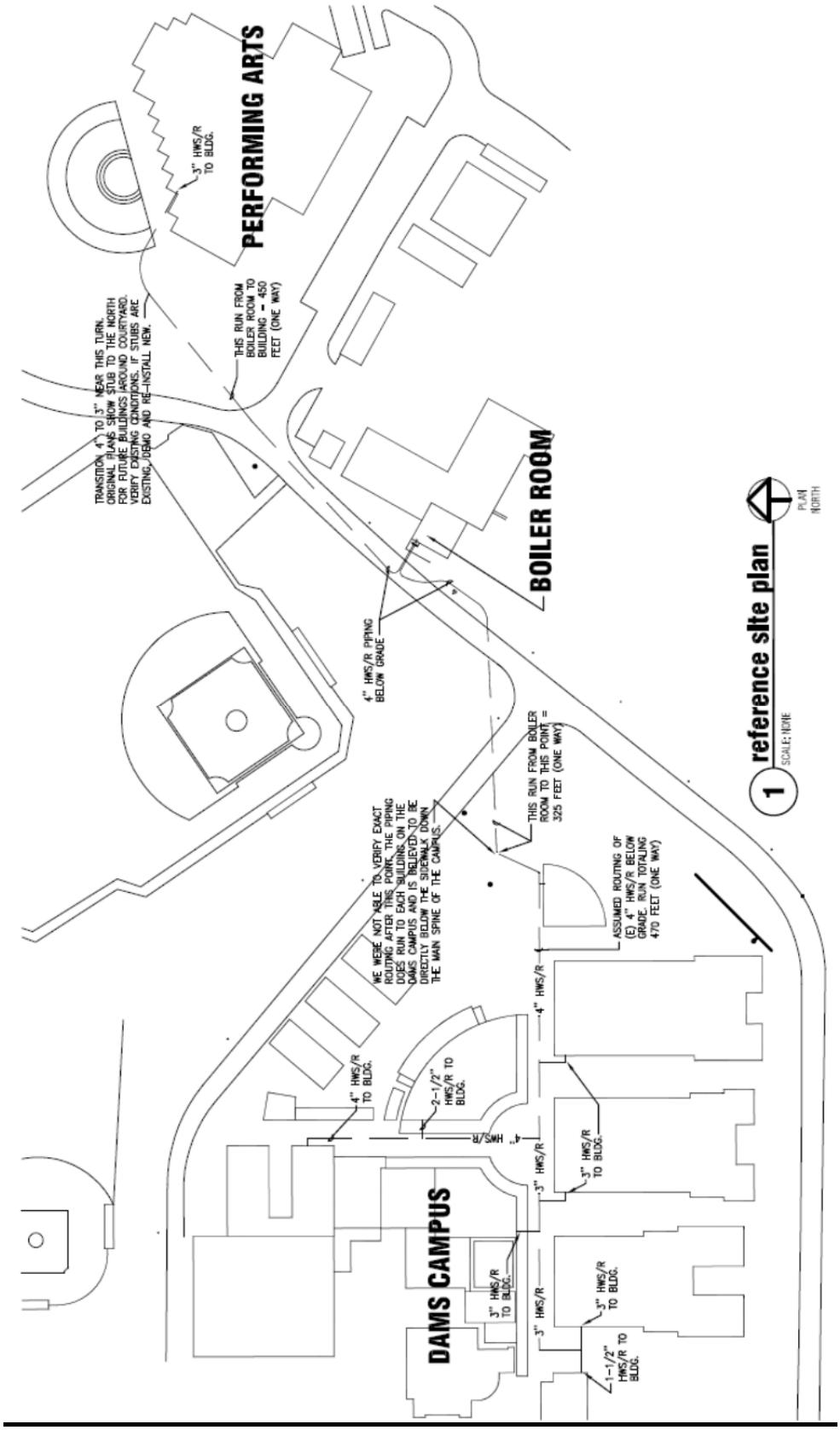
Pre-Design Estimate - June 2015

KELLY • WRIGHT & ASSOCIATES • PC
HVAC • PLUMBING FIRE PROTECTION

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
1	4" pre-insulated HWS/R piping, sch40 steel, welded fittings (Boiler room to Performing Arts)	900.0	LF	$ 242	$ 217,800
2	4" pre-insulated HWS/R piping, sch40 steel, welded fittings (Boiler rm to DAMS and on campus)	1120.0	LF	$ 242	$ 271,040
3	3" pre-insulated HWS/R piping, sch40 steel, welded fittings (on DAMS campus)	500.0	LF	$ 144	$ 72,000
4	4" insulated steel piping, grooved, in boiler room	1.0	LS	$ 5,200	$ 5,200
5	trenching and backfill, 12" wide by 36" deep	2520.0	LF	$ 1.25	$ 3,150
6	bedding and compaction	315.0	CY	$ 37.50	$ 11,813
7	underground piping thrust blocks	14.0	EA	$ 220	$ 3,080
8	underground piping expansion loops	8.0	EA	$ 5,500	$ 44,000
9	concrete and asphalt repair	4800.0	SF	$ 6.50	$ 31,200
10	Misc butterfly valves for building isolation	16.0	EA	$ 870	$ 13,920
11	Miscellaneous architetectural demolition and repair and painting	1.0	LS	$ 2,000	$ 2,000
12	Flushing, passivation and chemical water treatment	1.0	LS	$ 5,000	$ 5,000
13	detectable pipe warning tape for underground piping	2520.0	LF	$ 0.55	$ 1,386
14					
A.	SUBTOTAL CONSTRUCTION COST				$ 681,589
B.	Contingency	10.0%		of Line A	$ 68,159
C.	General Conditions, project management	5.0%		of Line A+B	$ 37,487
D.	Tax	8.10%		of Line A+B+C	$ 63,766
E.	Insurance	1.0%		of Line A+B+C+D	$ 8,510
F.	SUBTOTAL CONSTRUCTION COST INCLUDING MARK-UPS				$ 859,511
G.	Bond	1.25%		of Line F	$ 10,744
H.	TOTAL CONSTRUCTION COST ESTIMATE				$ 870,255

This estimate represents the engineer's opinion of a rough order of magnitude of construction costs and shall not be construed as being related to the actual cost of construction in any way. The Engineer has no control over market conditions, costs or availability of labor, bidding procedures, contractor's bids, etc. This estimate does not constitute a guarantee that actual costs will not exceed estimated costs.

APPENDIX 2: REFERENCE SITE PLAN



APPENDIX 3: PHOTOS



Photo 1: Excavation site #1: Located south of the roadway intersection between the Performing Arts to the northeast and the central plant.

In the photo above, a water valve roadway box with lid set at the pavement surface is visible in the upper right portion of the photo. The roadway box extends down to a valve on a fire main which was not uncovered during this excavation effort. According to CCUSD maintenance staff at the site, the underground water valve had been replaced several years ago. It is our assumption that at the time that the valve replacement occurred, the PVC jacket and insulation around the heating water piping nearest to the valve was damaged. It was obvious that the damage inflicted on the pipe jacketing was old and did not occur during this excavation. It was also apparent that the damage caused during that repair/replacement work was not repaired before the excavation was backfilled. The damage to the jacketing and insulation did not appear to be contributing to the leakage of heating water from the hydronic system however it did allow us to observe the piping & insulation material within the PVC jacketing.



Photo 2: Excavation #1 showing exposed heating water pipes and a portion of one chilled water pipe (deeper into hole). The HWS/R and CHWS/R piping were all located below a concrete encasement of what is presumed to be electrical conduits.

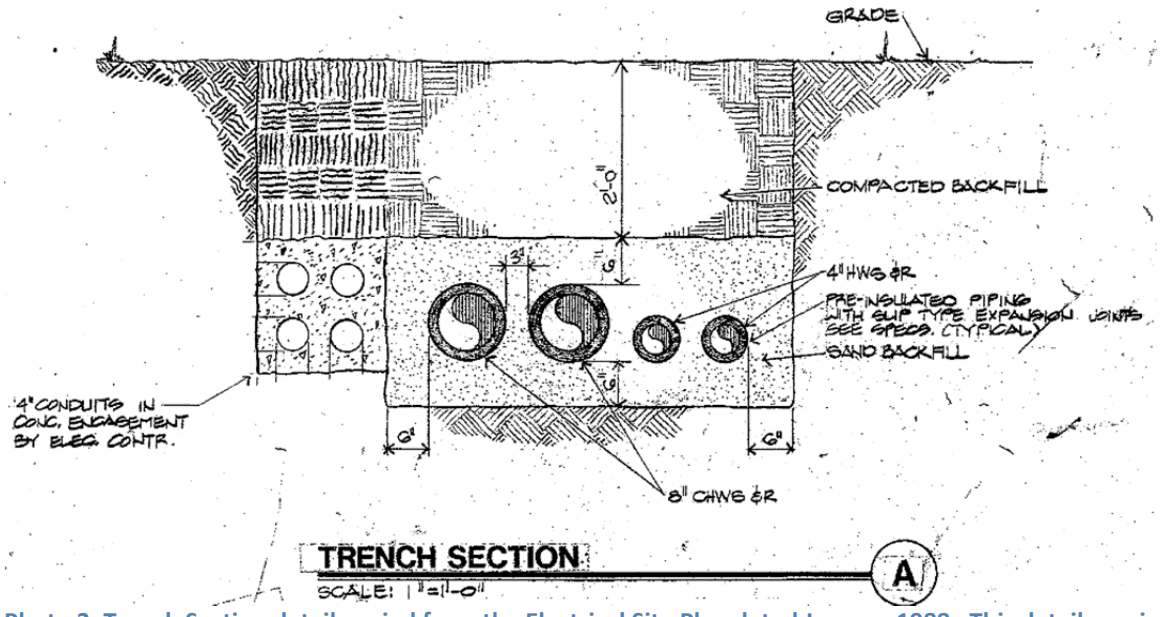


Photo 3: Trench Section detail copied from the Electrical Site Plan dated January 1988. This detail was intended to apply to the piping in Excavation #1. It schematically depicts the relationship of the hydronic piping and conduits although the observed relationship was different (electrical crossing over top of piping).



Photo 4: Excavation #1: Close-up of damaged piping jacketing described in Photo 1. Note that broken pieces of jacketing were not found in the trench indicating that the damage was done in a previous excavation and not repaired.



Photo 5: Excavation #1: Both the CHWS/R and HWS/R piping was bedded in sand (which is recommended). The sand was saturated with water in this excavation even though the heating water system had been shut down for quite some time. This saturation was observed to continue both upstream (toward the central plant) and downstream toward Performing Arts.



Photo 6: Typical piping joint observed in both Excavations. Hub and spigot type with gland seals provided as part of the pre-insulated piping system. It is assumed that the piping slips back and forth due to the expansion and contraction of the piping due to temperature changes. The movement inside this fitting is likely causing leaks at each fitting. Even in a new condition, these fittings are allowed some leakage per the manufacturer. The lack of insulation and jacketing over the coupling is believed to be in accordance with the pre-insulated piping manufacturer's installation requirements. Note that the shrink tubing apparently had no adhesion qualities thus it was not a watertight connection to the jacket or to the ends of the ductile iron pipe. Lack of a watertight seal is will degrade the insulation performance and allow corrosion to the piping. Significant corrosion was observed on all exposed exterior surfaces of the ductile iron pipe



Photo 7: Excavation #2: Looking south. Located near the light pole at the intersection of the road behind the central plant and the road west between DAMS and the baseball field. The piping observed in this trench was consistent with that found in the Excavation #1. Note that both trenches were found to have sand backfill (which is recommended).

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Chino Valley Unified 007BRG

Background – Chino Valley Unified (Chino Valley HS – replace fire alarm system)
On October 14, 2014, the Board awarded Chino Valley Unified $5,800 in Building Renewal Grant funding for an engineering study to assist in finding a solution to the State Fire Marshall inspection report at Chino Valley High School (project number 130251203-9999-007BRG).

After evaluating various alternative bid designs/options, the district is requesting approval of the proposal from their in-house service vendor.

Initial award 10/14/2014	
Engineering study	$ 5,800
Supplemental funding requested:	
Fire alarm repairs	$ 69,425
Estimated permit fees	$ 1,610
Contingency	$ 8,500
Total supplemental funding requested:	$ 79,535
Total project cost:	$ 85,335

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Chino Valley Unified (Chino Valley HS – replace fire alarm system)
Staff recommends that Chino Valley Unified be awarded an additional $79,535 in Building Renewal Grant funding for repairs to the fire alarm system at Chino Valley High School (project number 130251203-9999-007BRG). This brings the total project cost to $85,335.

Board Action Requested:
Board approval of the staff recommendation that **Chino Valley Unified** be awarded an additional $79,535 in Building Renewal Grant funding for repairs to the fire alarm system at Chino Valley High School (project number 130251203-9999-007BRG). This brings the total project cost to $85,335.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Chino_Valley_USD_007BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-729174123-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Chino Valley Unified**
BRG Project Number: **130251203-9999-007BRG** Yavapai County
Project Description: **Replace fire alarm system**
Consultant: RL Design Associates (928-759-3402)
Contractor: FSEC

Executive Authority: 10/14/2014
Board Approval Date: 11/12/2014
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 69,425**
Contingency ①		**$ 8,500**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 5,800
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 1,610
Testing & Inspection		$ -
Total Additional Cost:		**$ 7,410**
Total SFB Funded Project Cost:		**$ 85,335**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 85,335**
Total Project Cost:		**$ 85,335**

① Contingency shall only be used with SFB staff approval.

FSEC

Fire Security Electronics & Communications, Inc.

17621 North 25th. Avenue • Phoenix, Arizona 85023 • Phone (602) 564-7770 • FAX (602) 564-7776
2015 W. Ruthrauff Rd. Suite 143 • Tucson, Arizona 85705 • Phone (520) 505-4171 • FAX (520) 989-0438
www.fsec.net • email: sales@fsec.net • ROC# 086767 L-67, 272085 L-16

Proposal

June 19, 2015

Fire Alarm upgrade for Chino Valley High School — ES#7375 rev061915

To: Chino Valley USD
760 E Center Street
Chino Valley, AZ 86323
ATTN: Malcolm Ross
FAX/E-Mail: mross@chinovalleyschools.com

FIRE SECURITY ELECTRONICS & COMMUNICATIONS INC. hereby proposes to supply and install a fire alarm system upgrade for the Chino Valley High School located at 760 E. Center Street, Chino Valley, Arizona. The upgrade shall consist of installing new analog addressable smoke detectors in buildings 12, 13, 15, and 18. By doing so this will eliminate the need of duct smoke detectors in the air handler units of the referenced buildings. Using the new analog addressable smoke detectors in each of these buildings as area smoke coverage we are able to now shut down the air handler unit upon activation of a smoke detector in a specific building (12, 13, 15, or 18). FSEC will remove the existing duct detectors in the 12, 13, 15, and 18 buildings. Once the detectors have been removed FSEC will use approved duct tape to seal off the penetrations in the duct work. The upgraded portion of this proposal shall consist of 120 analog addressable smoke detectors, 3 single-ended beam detectors, 3 remote test stations, 14 addressable relay modules, one lot of conduit raceways, boxes, and hardware, and one lot of FPLP cable installed on listed cable hangers.

Proposed System Price: $69,424.27
Plus *estimated* State Fire Marshal Permit Fees: $1,610.00

Scope of Work

Included:

1 Supply and installation of all fire alarm system field devices except duct smoke detectors
2 Removal of existing duct detectors in buildings 12, 13, 15, and 18.
3 Supply and installation of all fire alarm cable and open wire cable hangers
4 Project Submittals & Shop Drawings
5 AHJ Submittals
6 System programming & pre-inspection
7 AHJ Inspection
8 O&M Manuals & End User O&M Training
9 Sales taxes

Not Included:

1 Supply and installation of any raceways, all raceways, stub outs, and rough-in installation of special equipment enclosures and As-Built cabinet supplied by FSEC are the responsibility of the electrical contractor.
2 Supply and installation of any required electrical circuits, the electrical contractor shall supply a dedicated 20A, 120VAC power circuit with a circuit breaker lockout for the FACP and the NAC power supplies.
3 Third party testing of the shutdown procedures is the responsibility of the owner.
4 Estimated Permit fees, as listed above are not included the Proposed Price

Special Conditions:

1 Shop Drawings, Prior to the start of any shop drawings, FSEC will require an electronic background of the building with room identification in AutoCAD 2000 format.

2 Project documentation:
   1 Equipment Submittals; FSEC will provide one set of hard copy documentation and one electronic file in printable PDF format. See item 4 below for additional documentation charges.
   2 AHJ submittals, FSEC will provide three hard copy sets of AHJ submittals, upon approval by the AHJ, one set will be retained by the AHJ, one set will be filed at the office of FSEC, and one set is to remain on the jobsite.
   3 Closeout Documents; FSEC will provide two hard copy and two electronic sets of O&M manuals and AS-built drawings. One set is to be retained within the As-Built Cabinet at the facility and one set will be turned in to the general contractor for distribution. Electronic files will be printable PDF and AutoCAD 2000 formats.
   4 If additional copies are required, copy charges will be as follows:
      8-1/2 X 11 Color Pages: $0.25 each
      8-1/2 X 11 B&W Pages: $0.10 each
      Binding Charges: $25.00 per set
      Drawings Sheets: $10.00 each
      Electronic File on CD or DVD: $20.00 each
      Electronic File E-Mailed: No Charge
3 Additional AHJ Requirements; our price is based on the requirements of the IBC, IFC, IMC, and NFPA code requirements but the local authority having jurisdiction has the final call on what is required for any particular installation. Any additional devices or equipment deemed necessary by the AHJ during plan review or inspection will be considered as a change order. Until the general contractor or a representative of the owner has approved a change order, FSEC will not proceed with any additional installation pertaining to the AHJ comments and will not be held responsible for any delay of the project and or any liquated damages.
4 Redundant site trips; FSEC is dependent upon the general contractor, the electrical contractor, and other trades for coordination of scheduling. If we are called to the jobsite to provide our contracted services and the conditions will not allow us to proceed because of circumstances beyond our control, we will charge out the unproductive time plus round trip travel time from our facility at our regular service rate of $95.00 per hour.
5 Smoke Detector Installation; Per NFPA 72, 2002 Edition, Chapter 5, Paragraph 5.7.1.11, "Detectors shall not be installed until after the construction clean-up of all trades is complete and final". If smoke detectors are installed prior to final clean up of the facility, FSEC will void the warranty on the system until such time that the contaminated smoke detectors have been replaced and tested. The replacement of the smoke detectors will be considered a change order.

Addenda:

FSEC acknowledges the receipt of the following addenda for this project:

No addenda have been received.

The proposed price does not include any applicable sales or usage taxes.

SEE THE ATTACHED TERMS AND CONDITIONS

Do not accept this proposal without reading all the attached pages

Proposed By: _____ Date: 6/16/15

Curt Thurman *Fire Security Electronics & Communications, Inc.*

Accepted By: _____ Date: _____

Signature

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Coolidge Unified 016BRG
Background – Coolidge Unified (Coolidge HS – replace two 10-ton compressors)
On March 4, 2015, and April 1, 2015, the Board awarded Coolidge Unified $15,000 and $37,586 for the repair of the HVAC system for Building 1007 at Coolidge High School (SFB project number 110221007-1007-016BRG).

After repair of one unit and replacement of another on this building, the remaining units have now failed or have repair needs. A thorough assessment shows the units are beyond their end of life age (20 years), and found to be in danger of imminent failure.

The district received a proposal of $22,905 for professional design services for the replacement of all the units. The construction costs have been estimated at $295,858.

Initial Award 3/4/2015	
Compressor Replacement	$11,000
Contingency	$4,000
Total	$15,000

Supplemental funding to replace one unit 4/1/2015:	
Restocking Charge (10% Estimated)	$600
Professional Services	$10,000
Estimated Construction Cost	$21,986
Construction funding previously awarded	($5,500)
Asbestos Survey (estimate)	$2,500
Asbestos Oversight (estimate)	$3,000
Asbestos Remediation (estimate)	$5,000
Total supplemental funding requested:	$37,586

2nd supplemental request to replace remaining units:	
Professional design services	$22,905
Construction estimate	$295,858
Contingency	$31,937
Total	$350,700

Total project cost:	$403,286

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Coolidge Unified (Coolidge HS – replace two 10-ton compressors)

Staff recommends that Coolidge Unified be awarded an additional $350,700 in Building Renewal Grant funding for the replacement of the remaining HVAC units for Building 1007 at Coolidge High School (project number 110221007-1007-016BRG). This brings the total project cost to $403,286.

Board Action Requested:
Board approval of the staff recommendation that Coolidge Unified be awarded an additional $350,700 in Building Renewal Grant funding for the replacement of the remaining HVAC units for Building 1007 at Coolidge High School (project number 110221007-1007-016BRG). This brings the total project cost to $403,286.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Coolidge_USD_016BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
7-27-2015_CHS_HVAC_Revised_Fee_Letter.pdf	Architect Proposal	7/31/2015	Cover Memo
Cost_Est.pdf	Cost Estimate	7/31/2015	Cover Memo
COOLIDGE_HIGH_SCHOOL_CAFETERIA_HVAC_DEFICENCIES.docx	HVAC Inventory	7/30/2015	Cover Memo
7-8-2015_CHS_Cafeteria_HVAC_Replacement_Meeting_Notes.pdf	HVAC assessment	7/30/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Coolidge Unified**
BRG Project Number: **110221007-1007-016BRG** Pinal County
Project Description: **Replace two 10-ton compressors**
Architect of Record: n/a
Contractor: A Quality HVAC (623-853-1482)

Board approval: 3/4/2015
Supplemental award: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost: (cost estimate provided by architect or contractor)		**$ 331,444**
Contingency		**$ 35,937**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 32,905
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ 3,000
Total Additional Cost:		**$ 35,905**
Total SFB Funded Project Cost:		**$ 403,286**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 403,286**
Total Project Cost:		**$ 403,286**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

July 27, 2015

Mr. Michael Schmitt, Director of Plant Operations
Coolidge Unified School District No. 21

Re: **Coolidge Unified School District No. 21**
CHS Cafeteria SFB HVAC Replacement

Dear Mr. Schmitt:

Pursuant with your request, we have prepared the following revised fee proposal for your review and consideration for the replacement of HVAC Units at the Cafeteria as outlined in the meeting notes attached to this letter.

PROJECT DESCRIPTION

LOCATION: Coolidge Unified School District No. 21

SITE: Coolidge High School Cafeteria Building

BUDGET: To Be Determined. Estimated cost of the work is included with this fee letter

SCHEDULE: To Be Determined

PROFESSIONAL FEE

Construction Documents, Bidding/Permitting, Contract Administration:

1.	Architectural	$7,450.00
2.	Structural	$2,300.00
3.	Mechanical	$7,530.00
4.	Electrical	$8,625.00

SUBTOTAL **$ 22,905.00**

FEE CLARIFICATIONS

- This fee includes an analysis of the existing structure to determine if it is able to support the weight of the new units.
- This fee includes a concept cost estimate but does not include formal cost estimates during design.

110 N Tucson Blvd Tucson AZ 85716
tel 520 / 721 7897 fax 520 / 721 7700
www.mcsaia.com

ARCHITECTURE & PLANNING
MERRY CARNELL SCHLECHT INC

Thank you for this opportunity to be of service. We are looking forward to working with you on this exciting project!

If you should have any questions, please do not hesitate to contact me to discuss.

Yours, Very Sincerely and Respectfully,



William B. Carnell, AIA, President

110 N Tucson Blvd Tucson AZ 85716
tel 520 / 721 7897 fax 520 / 721 7700
www.mcsaia.com

ARCHITECTURE & PLANNING
MERRY CARNELL SCHLECHT INC

	DESCRIPTION OF WORK	COST	
1	Demolition	$35,000.00	
2	Substructure	$0.00	
3	Superstructure	$0.00	
4	Exterior closure	$500.00	Caulking
5	Roofing	$500.00	Patch only where damage from demo occurs
6	Interior Construction	$0.00	
7	Building Specialties	$0.00	
8	Equipment	$0.00	
9	Furnishings	$0.00	
10	Special Construction	$0.00	
11	Conveying Systems	$0.00	
12	Plumbing	$7,500.00	new gas and condensate lines and supports
13	Fire Protection	$0.00	
14	H.V.A.C.	$120,000.00	
15	Electrical	$58,000.00	
33	Subtotal Building Construction	$221,500.00	
34			
35	Site Work	$0.00	
36			
37	Subtotal	$221,500.00	
38			
39	Estimating Contingency	$15,505.00	
40	General Conditions	$35,550.75	
41	Contractor's Fee	$20,441.68	
42	Bonds and Insurance	$5,859.95	
43	Tax (Included in Direct Costs	$0.00	
44	Total	**$298,857.38**	

COOLIDGE HIGH SCHOOL CAFETERIA HVAC DEFICENCIES

Pictured is the cafeteria for the Coolidge High School. It is the main commissary for all the District's cafeterias as well as providing daily nutrition for the students at Coolidge High School and Hohokam Middle School. These HVAC units have exceeded their expected useful life span (they are over 20 years old) and have begun to fail on a regular basis. In the last three months we have replaced one 10 ton compressor on unit numbered 4 and have been approved to replace an entire 20 ton unit because of an unrepairable coil. In the last 45 days because of the excessive heat and age of these units we have had six compressors fail and one unit has a TXV valve currently with a restriction. Based on the current situation it is recommended that we replace these units as one project in order to realize cost savings by having a larger scope of work and competitively biding it out.

1. 15 ton unit both compressors have failed
   Recent Maintenance and condition
   - 2 blown compressor
   - 2 fan motor replace
   - 2 contactors replace
   - Alertron control BAD
2. 10 ton unit one compressor running one failed
   Recent Maintenance and condition
   - 2 compressor blown 5 ton each
   - 2 Fan motors replaced
   - 1 contractors & cap replace
   - 1 leak in compressor/comd amp 0
3. 20 ton unit unrepairable coil approved for replacement by SFB
   Recent Maintenance and condition
   - 1 compressor blown
   - 1 condenser coil blown
   - 1 contactor replace
   - 2 condenser motor replace
   - Alextron control bad
4. 20 ton unit compressor replaced by SFB two months ago. Other compressor recently failed.
   Recent Maintenance and condition
   - 2 compressor replace
   - 2 contactor replace
   - AMP 8.07, 8.47, 3.06
5. 15 ton unit one compressor running one failed.
   Recent Maintenance and condition
   - 1 compressor blown
   - 2 contactors replaced
   - 1 blown bearing going out
   - 1 fan motor
   - 2 caps replace

6. 7 ton unit one compressor running one failed
   Recent Maintenance and condition
   - Contactors replace
   - 2 compressors replace
   - Belts replace
   - Blower motor replace
   - 1 compressor blown
7. 4 ton unit TXV restriction
   Recent Maintenance and condition
   - Compressor blown
   - Evaporator leaking
   - Fan motor replace
   - Blower motor replace
   - Contactor replace
8. 15 ton unit currently running.
   Recent Maintenance and condition
   - 1 compressor blown
   - 2 contactor replace
   - 1 blower motor
   - 1 condenser motor

CUSD CHS Cafeteria HVAC Replacement **7-8-2015**
Scope Definition meeting

1. Met on site with David Kennon (SFB) Mike Schmitt, Director of Transportation Services and David Daniels, HVAC Technician (CUSD) Ken Weyker (KC Mechanical Engineering) and Bill Carnell (MCS Architects) at 6:00 am at the Cafeteria to review the scope of work for the project for the purpose of preparing a fee proposal for design and Limited Construction Phase services, all based on the following scope of work outlined below.

2. SCOPE OF WORK:
    a. Work Description:
        1) **Remove and replace all existing (8 verify) HVAC units** in their entirety with new units of the same size / capacity. No sizing or outside air calculations will be necessary to determine if the new units will need to be upsized to comply with current code requirements. The District has no preference for unit manufacturer. 13 SEER rating is acceptable.
        2) All new units shall be designed to **have economizers. Plasma air devices are desired,** but SFB will advise if they want these specified.
        3) **Existing supply and return ductwork** shall be cut no lower than 6" above the roof or curb surface and new ductwork shall be installed between that point and the new unit for side discharge units. For down discharge units, maintain same duct sizing and location..
        4) **A sequence of operation is not required**. All control work will be executed by McKinstry, the Districts EMS contractor, who will also provide CO2 sensors for each unit.
        5) All **gas piping** shall be repaired where practical and replaced where necessary. All defective gas valves shall be removed and replaced with new and redundant valves shall be removed. All gas lines shall be properly supported on the roof. The District shall be responsible for painting gas piping.
        6) All **condensate piping** shall be repaired where practical and replaced where necessary. All condensate piping terminated in VTR's shall be rerouted to the existing roof drains. All condensate lines shall be properly supported on the roof. The District shall be responsible for painting condensate piping.
        7) **All control cabling, conduit accessories, and conductors** shall be disconnected and left on the roof. The Districts EMC Contractor shall remove and be responsible for the installation of all new components required for installation.
        8) Remove existing return grilles in the south east corner of the kitchen and replace with a filter frame unit. All other air devices to remain as is.
        9) All **electrical conduit, conduit accessories, and conductors** shall be repaired where practical and replaced where necessary. Conductors and breakers shall be checked for adequate size and ampacity. Existing electrical disconnects shall be removed and new disconnects shall be furnished with the units from the factory.

10) The **roofing membrane** shall be repaired and coated in any damaged areas resulting from demolition of existing equipment or service lines.

b. District Responsibilities:
   1) Coordinate with Arizona Public Service to perform a duct pressure integrity test on all ductwork served by the units being replaced prior to the start of design.
   2) Prepare and submit to the SFB a maintenance log of all preventative maintenance and repair work conducted on all units to date.

c. SFB Responsibilities:
   1) Provide the A/E with a template fee letter no later than 7-10-2015.

d. A/E Responsibilities:
   1) Coordinate with the design team to prepare a fee for design.
   2) Coordinate with the structural engineer that did the evaluation on the roof framing from the recent reroofing project. Provide a certification from the structural engineer attesting that he has reviewed the existing structure and found it structurally capable of supporting the load of the new HVAC equipment. The name of the engineer and can obtained from Paul Holland at HDA Architects.
   3) The mechanical and electrical engineer shall be one selected by the Architect to best prepare the documents.
   4) Prepare an as-built roof plan showing all conditions. No existing plans exist for the school according to the District.
   5) Coordinate with CUSD and their EMS vendor for mechanical unit control under the District EMS System.
   6) Coordinate with the SFB to ensure that all design meets their requirements.
   7) A cost estimate is not required.
   8) Evaluation of the existing units is not required. The District and the SFB have addressed that.
   9) Design is defined as preparation of construction document suitable for bidding and construction. This will also involve preparing the documents to the 90% stage for both District and SFB review, uploading the document s to the cloud for initial bidder distribution and attendance at a Pre Bid meeting on site at which the bidders will have the opportunity to review the scope of work and ask any questions that they may have, incorporating all input form reviews and the Pre Bid meeting and uploading a 100% complete set to the cloud for final bidding and construction. Upon receipt of responsible and responsive bids, the design phase shall be completed.

3. MCS to submit their proposal along with a schedule of activities related to the preparation of the document package to Mike Schmitt. Once delivered, it will be forwarded to Dave Kennon who will take it to the board for an EA and attempt to get the funding allocated.

4. Next Meeting: To Be Determined

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Crane Elementary 002BRG

Background – Crane Elementary (Crane MS – replace grease trap and sewer line)
On April 1, 2015, the Board awarded Crane Elementary $4,950 for professional services to provide an evaluation and construction bid documents to replace and repair the kitchen grease trap and sewer line in Building 1001 at Crane Middle School (project number 140413003-1001-002BRG

Staff has visited the school, reviewed the video of the sewer line and confirms the grease trap and sewer line has failed. The design approach is to re-line the existing sewer pipe and replace the grease trap. The re-lining will provide a greater compressive strength higher than the original pipe installed. The district has submitted proposal costs and estimates as outlined below:

Previous Award	
Design 4/1/2015	$4,950
Supplemental funding requested:	
Construction Administration	$6,749
Sewer Line Construction (estimate)	$185,000
Asbestos Survey (estimate)	$3,000
Asbestos Oversight (estimate)	$5,000
Asbestos Remediation (estimate)	$15,000
Contingency	$20,000
Total supplemental funding requested:	$234,749
Total Project Cost:	$239,699

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Crane Elementary (Crane MS – replace grease trap and sewer line)
Staff recommends that Crane Elementary be awarded an additional $234,749 in Building Renewal Grant funding for replacement of the grease trap and sewer line repairs on Building 1001 at Crane Middle School. This includes $20,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $239,699.

Board Action Requested:
Board approval of the staff recommendation that **Crane Elementary** be awarded an additional $234,749 in Building Renewal Grant funding for replacement of the grease trap and sewer line repairs on Building 1001 at Crane Middle School. This includes $20,000 in contingency that will only be used with SFB staff approval and

brings the total project cost to $239,699.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Crane_ESD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
CRANE_MIDDLE_SCHOOL_-_WASTE_LINE_CIPP_REV_1.pdf	Bid Document Package	7/22/2015	Cover Memo
C_A_-_Cafeteria_Waste_Line.pdf	Construction Administration Proposal	7/22/2015	Cover Memo
RTC_-_Crane_Middle_School_-_Prelim_Budget.pdf	Preliminary Budget by Engineer	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Crane Elementary**
BRG Project Number: **140413003-1001-002BRG** Yuma County
Project Description: **Replace grease trap and sewer line**
Consultant: Red Tree Consulting Group (602-989-2433)
Contractor: TBD

Board Approval Date: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 200,000**
Contingency		**$ 20,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 4,950
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 14,749
Testing & Inspection		$ -
Total Additional Cost:		**$ 19,699**
Total SFB Funded Project Cost:		**$ 239,699**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 239,699**
Total Project Cost:		**$ 239,699**

Contingency shall only be used with SFB staff approval.

CRANE MIDDLE SCHOOL
CIPP BID PACKAGE



For

Crane Middle School
4450 West 32nd Street
Yuma, Arizona 85364

Crane Elementary District # 13
4250 West 16th Street
Yuma, Arizona 85364

6/3/15

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INVITATION TO BID

Crane Elementary School District # 13 (CESD), as agent for owner (hereinafter referred to as “owner”) is requesting proposals from qualified firms that would be interested in installation of cured in place pipe (CIPP) at the Crane Middle School.

It will be necessary that all work meet the requirements of **all** local regulatory agencies.

Limited construction drawings are available for the Crane Middle School and can be obtained, if necessary, by request to the owner. All quantities for bid proposal purposes are to be field verified by qualifying contractor prior to submitting bid proposal. Questions regarding project scope, quantities and/or general questions can be directed in writing to:

Fred Verdugo	Michael Crow	Todd A. Budzik, PE
CESD	RedTree Consulting Group	RedTree Consulting Group
928.373.3490	602.424.3468	602.424.3468
fverdugo@craneschools.org	mcrow@redtreeco.com	tbudzik@redtreeco.com

The owner reserves the right to accept or reject any or all proposals or parts thereof in the interest of the owner. They may reject all proposals and rebid should they find it to be in their best interest. The owner may also waive any technicality in their specifications or proposals received that would be in their best interest.

The owner may for any reason, not award any portion of the proposal or may cancel the project entirely.



Overview photograph of Crane Middle School

SCOPE OF WORK – WASTELINE

A licensed, bonded and insured contractor to:

- Selected contractor will be required to have at a minimum one of the following active Arizona Registrar of Contractor licenses: B-01, B-02, KB-1 or KB-2. Please provide a copy of current license with Bid Proposal.

- Follow and adhere to all items, qualifications and guidelines referenced in the project specification, attached herein (pp. 11 – 12). Project is turn-key, all related building codes to be followed by contractor and contractor to be responsible for all necessary permitting including all fees.

- All potential contractors are invited to attend the pre-bid walkthrough on _____at _____. Contractors to meet at _____. Contractors will have complete access to all facilities and will be allowed to endoscope camera the identified waste line.

- Bid Proposals will be due on_____. Contractors to submit hard copies as per state procurement code. Proposals to include all other requested documentation required (bid bond, performance bond, etc.)

BASE BID

- Contractor shall provide a complete installation, inclusive of:

    - All necessary permits, licenses and fees. Contractor to be in accordance with applicable codes, laws, and manufacturer's recommendations. Furnish all major and miscellaneous material(s) for the cure in place pipe project.

    - Furnish all major and miscellaneous material(s) for the cure in place project as defined herein.

    - All labor associated with installation, receiving, handling, storage and transporting all materials.

    - Miscellaneous handling & equipment. Handling shall be inclusive of shipping, receiving, transporting, etc. Equipment shall be inclusive of dumpsters, storage trailers, construction trailers, etc., when required.

    - Contractor responsible for all required demolition to complete project. Contractor responsible for all put-back of demolition materials. Material put back to be like for like replacement including but not limited to existing finish (concrete, Terrazo flooring, etc.).

    - Tracking and documenting all work performed with regular (weekly) updates.

    - Proper demolition and disposal of existing systems and equipment (unless requested to be turned over to the Owner). Contractor shall coordinate all disposal and recycling efforts with the Owner.

    - All training of facility personnel in the proper operation and maintenance of installed systems & equipment. Training of facility personnel must be documented including a dated sign-in sheet.

- Contractor to provide pre and post CIPP documentation via DVD (endoscope camera/CCTV).

- Contractor will provide at a minimum, a two (2) year contractor workmanship and ten (10) year manufacturer material warranty. Contractor to also provide sample warranty information with bid proposal.

- The attached CIPP specification is provided for reference only.

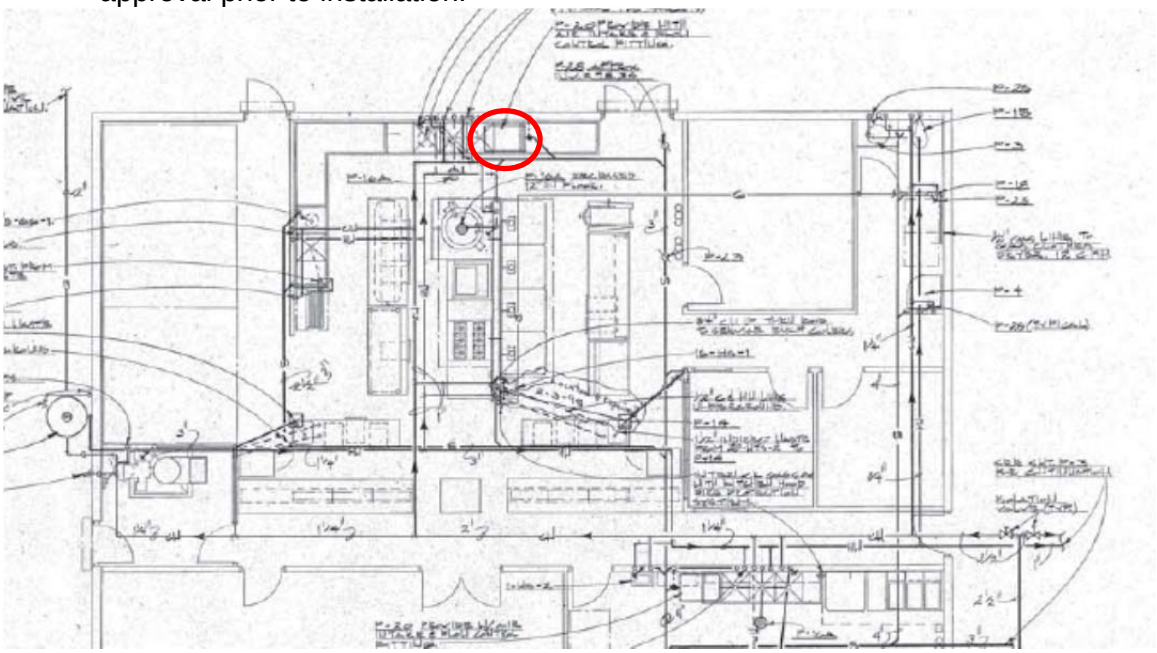
- Potential CIPP contractor to meet or exceed all CIPP product manufacturer installation certification requirements for product warranty.

- Contractor to fill out provided bid proposal form, contained herein on page 16, and attach to contractor bid proposal prior to submittal. All proposals shall include bid bond, performance bond, taxes and insurance.

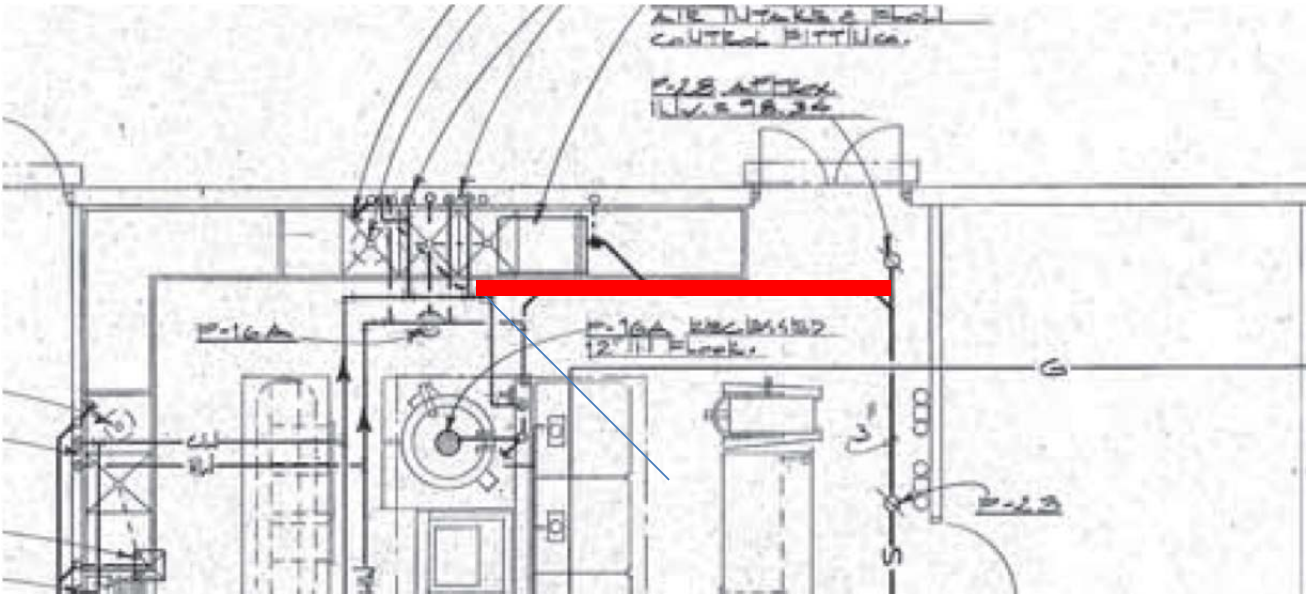
- At completion of the CIPP project, the awarded contractor is to provide all product manufacturer specifications, warranties and MSDS sheets to the owner in a closeout manual format including digital copy.

- All asbestos containing material (ACM) identified will be removed prior to construction by the Owner.

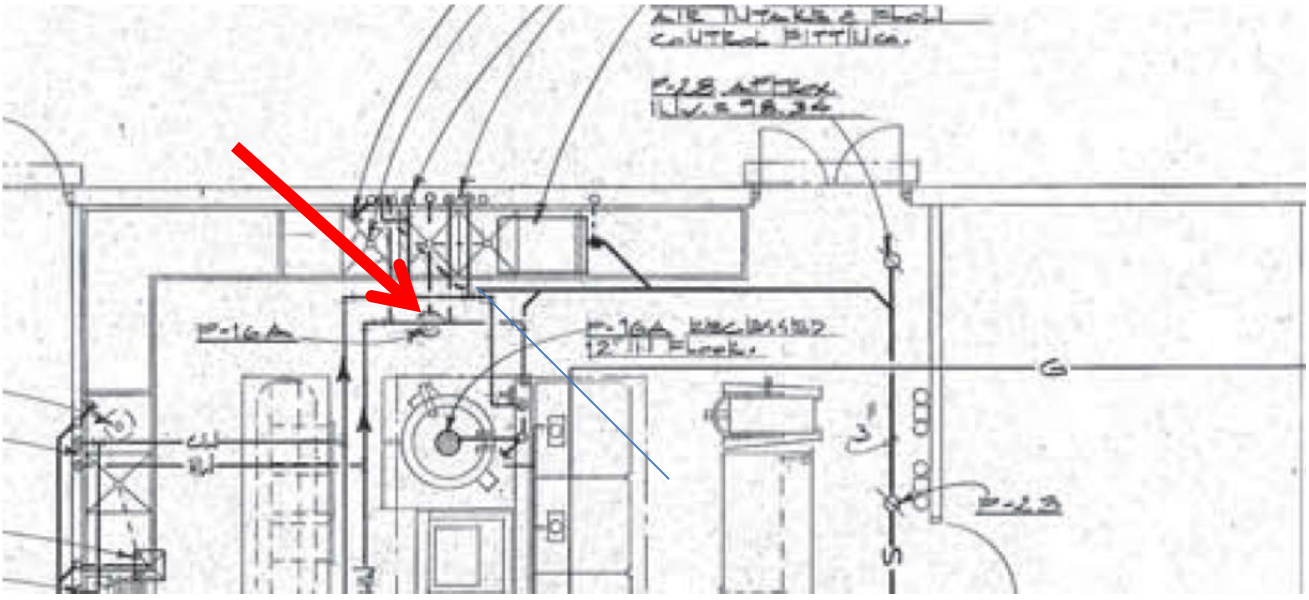
- Remove and discard existing grease trap. Install a new like for like replacement grease trap/interceptor in compliance with the most recent edition of the Plumbing and Drainage Institute (PDI) Standard G101 with a nameplate rating of 35GPM flow and 70lb grease retention capacity (SEE REPAIR PHOTO #1, #2, and #3). The revised installation will include the interceptor, flow control device (if applicable), drain & vent pipe and fittings, cleanouts, covers as well as any other required devices or sundry items to complete the installation. The cover or interceptor lid shall be set flush and even with the floor so as not to present a slip/trip hazard or area of accumulated debris. Grease trap to meet all national, state and local building codes. Contractor to submit product grease trap data and cut sheet with proposal and will require the owner's licensed mechanical engineer approval prior to installation.



REPAIR PHOTO #1: Remove and replace existing grease trap highlighted in red inside the Middle School Kitchen. Install new like for like replacement. Above photograph taken from drawing P5 in APPENDIX 1.

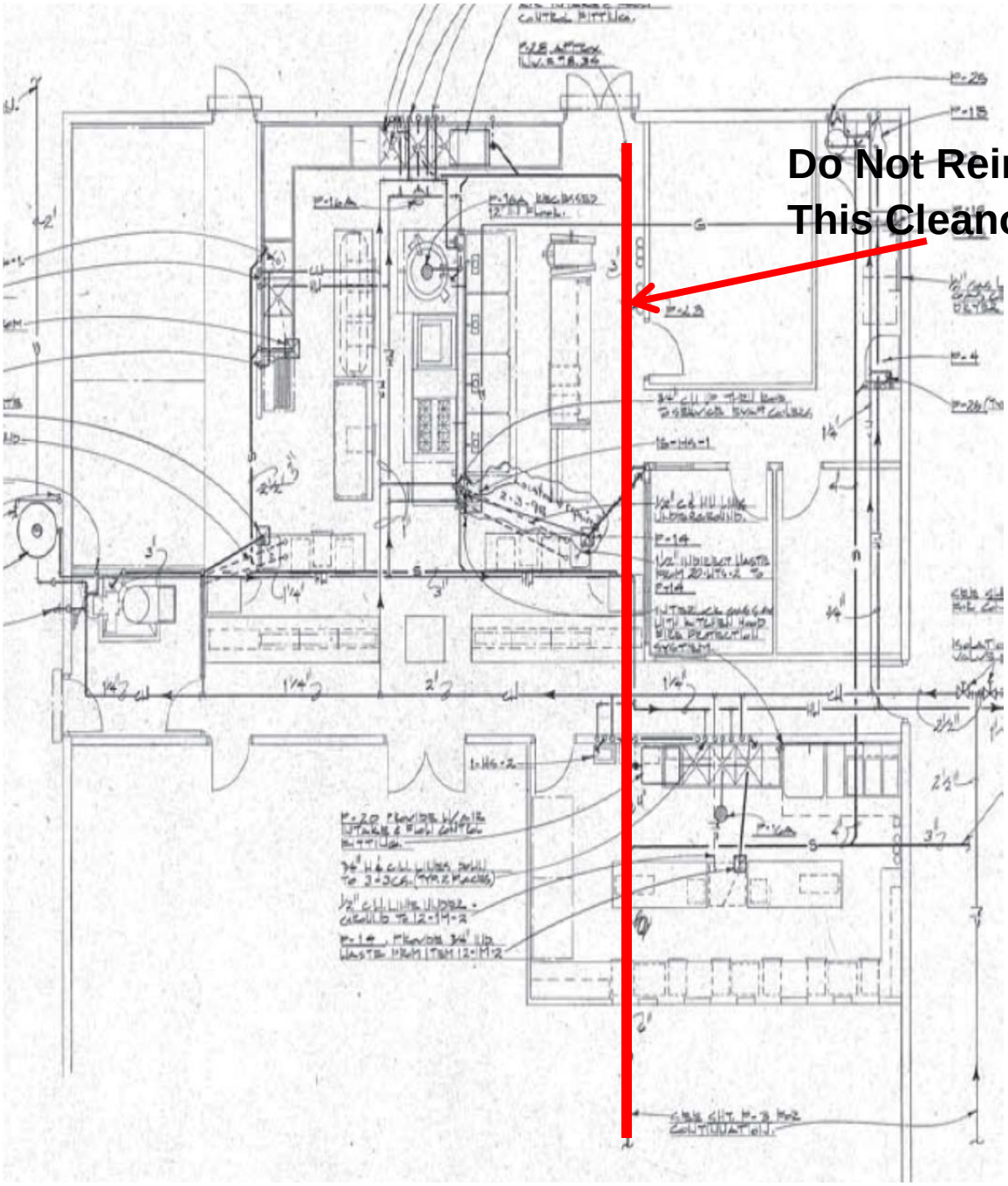


REPAIR PHOTO #2: New piping as highlighted in red in the above repair photograph is to be code compliant ABS piping installed per local building code. Above photograph taken from drawing P5 in APPENDIX 1.

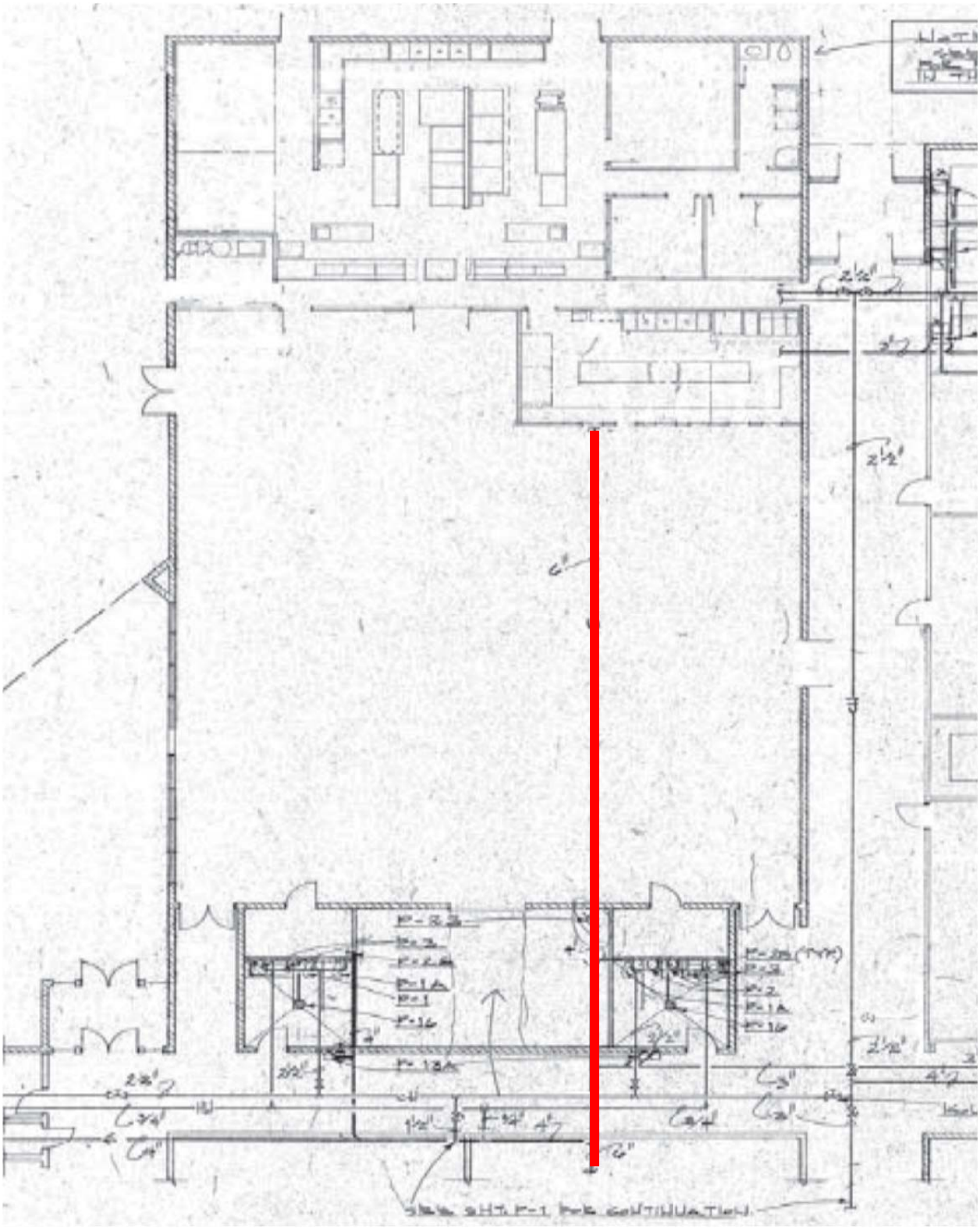


REPAIR PHOTO #3: Remove and replace existing floor drain with like nominal code compliant floor drain. Above photograph taken from drawing P5 in APPENDIX 1.

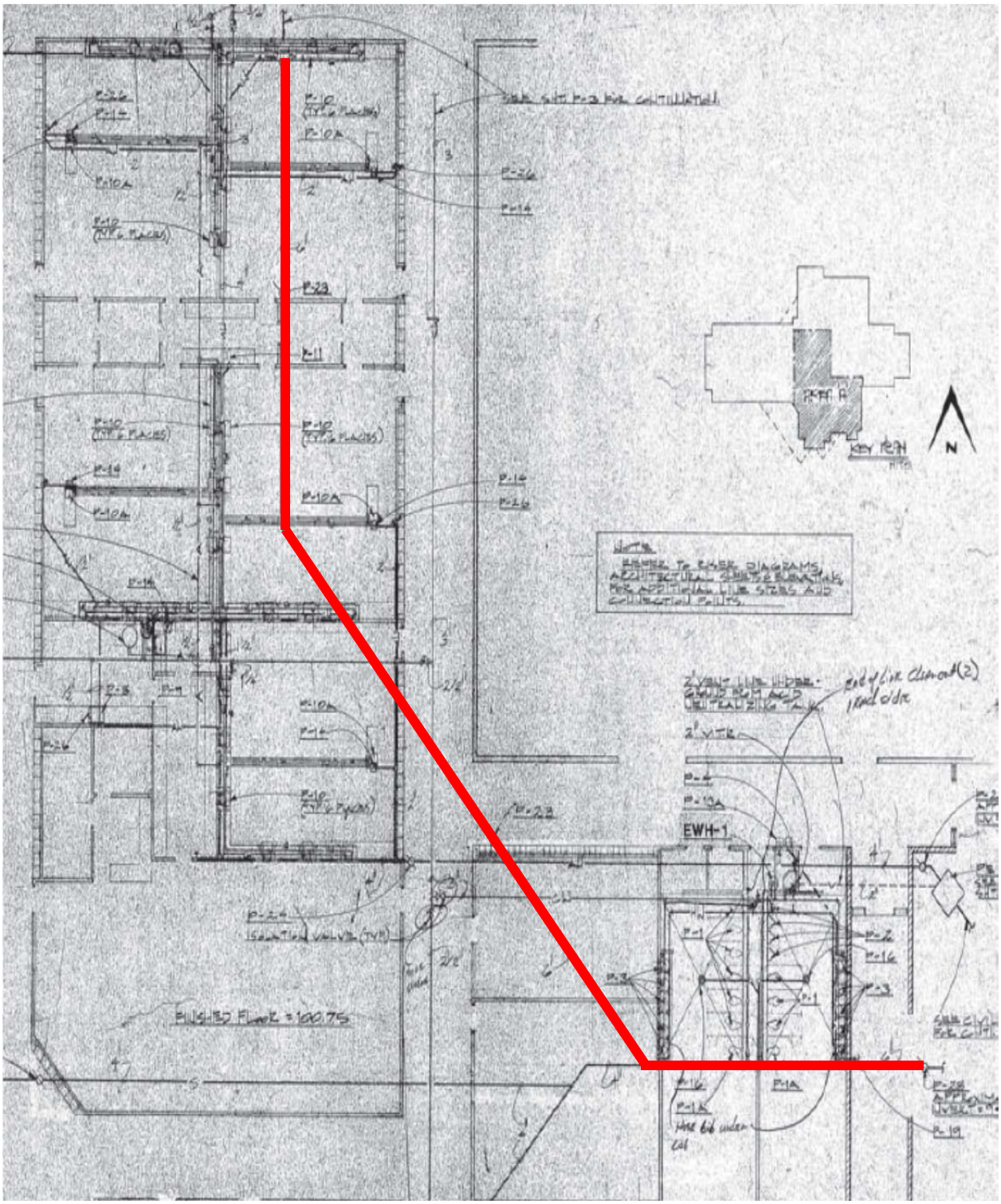
- Install cured in place pipe throughout the identified waste lines, as defined in REPAIR PHOTO's #4, #5, #6 and #7. Installation to include but not limited to, all necessary preparation work for pipe to receive CIPP. Contractor responsible for removal and replacement of any concrete and flooring necessary to install CIPP. All materials removed will be replaced with like approved materials matching existing finishes. Contractor will follow all cure in place pipe manufacturer recommendations and follow all specifications listed herein. Contractor responsible for all quantifications.



REPAIR PHOTO # 4: Install CIPP as identified by the red highlighted waste line. Above photograph taken from drawing P5 in APPENDIX 1.



REPAIR PHOTO # 5: Install CIPP as identified by the red highlighted waste line. Above photograph taken from drawing P3 in APPENDIX 1.

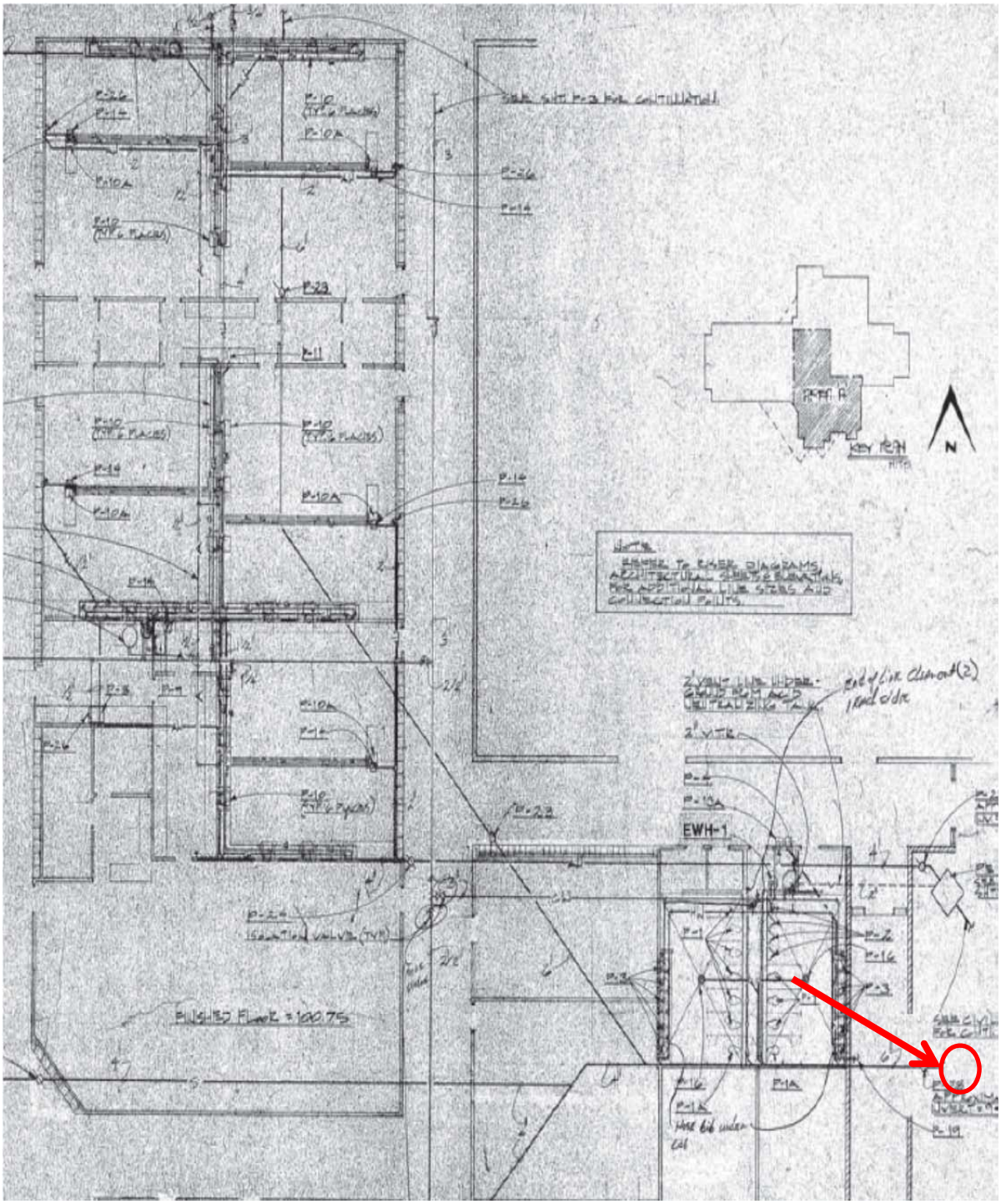


REPAIR PHOTO # 6: Install CIPP as identified by the red highlighted waste line. Above photograph taken from drawing P1 in APPENDIX 1.



REPAIR PHOTO # 7: Red highlighted line indicating approximate location of waste line identified for rehabilitation.

- Install new code compliant two (2) way clean out to the northeast side of building at termination as indicated in REPAIR PHOTO # 8 below.



REPAIR PHOTO # 8: Install new code compliant two (2) way clean out at northeast end of building (exterior). Red circle indicating approximate area of installation in above photograph. Above photograph taken from drawing P1 in APPENDIX 1.

Installation Specifications for Cured in-Place Lateral Lining

(as provided by LMK Enterprises via NASSCO)

1. INTENT

It is the intent of this specification to provide materials and a standard practice for installing a cured-in-place pipe to renew a sewer service lateral that enters a collector pipe through means of minimal or no excavation.

2. GENERAL

The reconstruction will be accomplished using a non-woven fabric tube of particular length and a thermo-set resin with physical and chemical properties appropriate for the application. The tube is vacuum-impregnated with the resin within a translucent bladder and then inserted a mobile launching device. The mobile launching device shall rotate on its axis from the 6 O'clock to the 12 O'clock position and shall include a camera port for viewing the liner during inversion and visually verifying the liner has been fully deployed and open ended. Access to an upstream end of the service lateral is achieved by use of an existing clean out or by a small excavation.

The mobile launching device is aligned with the access point of the service lateral pipe (manhole, excavated pit, inside clean out or outside clean out). When the mobile launching device is properly positioned, the resin-saturated tube and inflation bladder are inverted as an assembly with air pressure accomplishing a one-step inversion. The inversion is complete when the liner/bladder assembly is fully extended within the lateral pipe. A camera port shall be used to insert a lateral camera during inversion allowing visual verification that the end of the lining tube is fully deployed, open ended and that the liner has not extended into the municipal main pipe. Once the tube/resin composite is cured, the inflation bladder and the mobile launching device are removed.

The composite of the materials above will, upon installation inside the host pipe, exceed the minimum test standards specified by the ASTM F1216-07.

3. MATERIAL

The fabric tube will consist of one or more layers of flexible needled felt, knitted tube or an equivalent non-woven material. The tube is constructed by longitudinal stitching and thermal tape seal bonding. The tube will be capable of conforming to bends, offset joints, bells, and disfigured pipe sections. A hydrophilic O-ring shall be positioned at the lower end of the tube providing a compression gasket seal.

The thermo-set resins will be polyester, vinyl ester, silicate or epoxy with proper catalysts as designed for the specific application.

The translucent bladder and the liner within enable visual inspection of resin impregnation. This allows for a one-step controlled inversion while keeping the liner inflated and pressurized against the host pipe until final cure.

The composite of the materials above, will upon installation inside the host

Pipe, exceed the minimum test standards specified in ASTM F1216-07.

Test Standards for CIPP

FLEXURAL STRENGTH (ASTM D-790) ---------- 4,500PSI
FLEXURAL MODULUS (ASTM D-790) ---------- 250,000 PSI

4. INSTALLATION PROCEDURE

(ASTM F 1216-07) Standard practice for the Installation of Cured In-Place Pipe by Inversion Lining.

4.1 If a cleanout does not exist, the Installer will excavate an access pit or install an outside clean out at the appropriate location to gain access to the lateral pipe.

4.2 Installer shall clean and inspect, by means of CCTV recorded and saved, the lateral line immediately prior to rehabilitation and determine the overall structural condition of the pipeline. All roots, debris, and protruding service connections should be removed prior to inserting the liner.

4.3 The tube is inspected for torn or frayed sections. The tube in good condition will then be vacuum impregnated with a thermo-set resin. All resin will be contained within a translucent bladder during vacuum impregnation and insertion. Installer shall ensure that no public property is exposed to contamination by liquid resin compounds or components.

4.4 The resin impregnated tube within the inflation bladder will be inserted into the mobile launching device. The mobile launching device is positioned at the clean out or pipe opening. The resin and tube are completely protected during the placement. The resin shall not be contaminated or diluted by exposure to dirt, debris, or water during the placement.

4.5 The liner/bladder assembly shall be inverted out of the mobile launching device by controlled air pressure. The inversion shall be complete when the tube is fully deployed and terminates short of the municipal main pipe. The tube is held tightly in place against the wall of the host pipe until the cure is complete in accordance with ASTM F1216-07 Section 7.4.2 Using Air Pressure—The inversion air pressure should be adjusted to be of sufficient pressure to cause the impregnated tube to invert from point of inversion to point of termination and hold the tube tight to the pipe wall, producing dimples at side connections. Care should be taken during the inversion so as not to overstress the woven and nonwoven materials. Section 7.4.3 Required Pressures—Before the inversion begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage the tube. Once the inversion has started, the pressure shall be maintained between the minimum and maximum pressures until the inversion has been completed. Should the pressure deviate from within the range of the minimum and maximum pressures, the installed tube shall be removed from the existing conduit.

4.6 When the curing process is complete, the pressure is released and the inversion bladder is reverted back into the mobile launching device. The mobile launching device

is then removed from the clean out or the excavation pit. No barriers, coatings, or any material other than the cured tube/resin composite, specifically designed for desirable physical and chemical resistance properties, is to be left in the host pipe. Any materials used in the installation other than the cured tube/resin composite are to be removed from the pipe by the installer.

4.7 Any cured liner that protrudes into the municipal main pipe will be robotically trimmed flush.

4.8 A second CCTV inspection is performed to verify the proper cure of the material, the proper trim of service connection, and the integrity of the seamless pipe. Owner will receive a video recording of the inspections and a written report documenting the project.

4.9 Any necessary excavations are restored and the lateral pipe returned to normal service.

5. CLEAN-UP

The site will always be left clean and the property returned to original condition.

6. PAYMENT

Payment for the work will be in accordance with the prices as set forth in the proposal for the scope of work performed. All payment applications must be submitted to owner on an AIA G702 – G703 form.

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LMK Enterprises, Inc.

PROPOSAL

This proposal contains all labor, equipment, and materials for a complete project and includes all insurance, permits, taxes, fees, and lien releases for same. No request for additional compensation will be made. The person signing this proposal verifies that he/she has visited the job site and understands its condition. This sheet (proposal) is to be completed and attached with any provided estimate. All specification product data requested also to be attached to estimate.

BASE BID - CIPP Waste Line Repair : $ _____

Remove and replace cast iron pipe. Includes all demolition and put back of like materials. Cost per lineal foot (LF) is all inclusive. $ _____ / LF

After Authorization to start, weeks needed to complete project: _____ Weeks

Contact Person :_____

Contact Person Email :_____

Company Name :_____

Company Address :_____

_____

_____

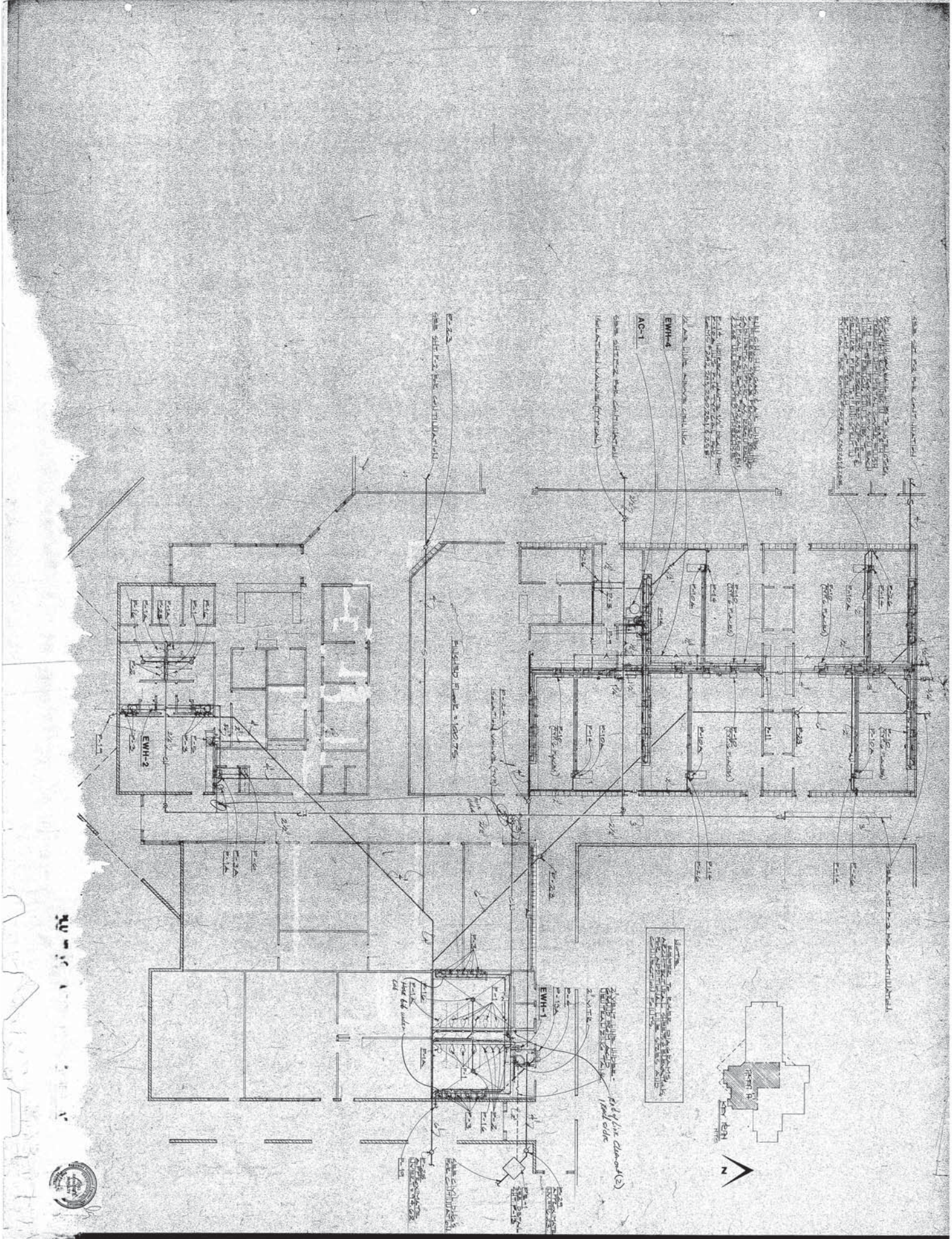
Phone :_____

Signed :_____

Date :_____

Company Seal:

APPENDIX 1



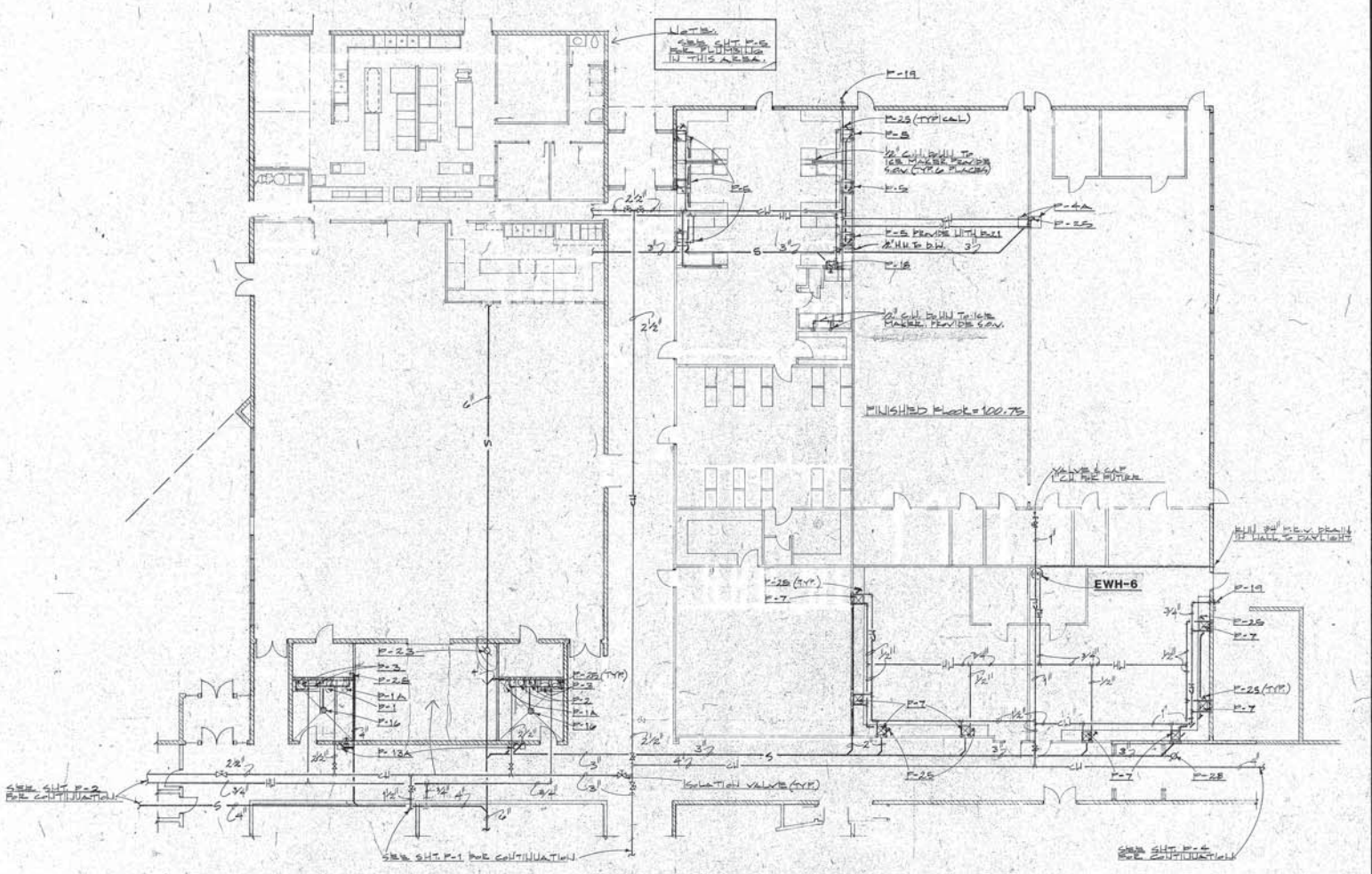
augustus f. keck & assoc.
architects
30 west twenty-fourth street suite 104
yuma, arizona 85364
phone: 602-726-9400

A NEW JUNIOR HIGH SCHOOL
FOR
CRANE SCHOOL DISTRICT NO. 13

design: G.S.
drawn: G.S.
checked: R.M.
date: 5-5-84
revised:

A NEW JUNIOR HIGH SCHOOL
FOR
CRANE SCHOOL DISTRICT NO. 13

PLUMBING FLOOR PLAN "AREA B"



PLUMBING FLOOR PLAN "AREA C"

SCALE 1/8" = 1'-0"



MENULTY & ASSOCIATES, INC.
MECHANICAL ENGINEERS

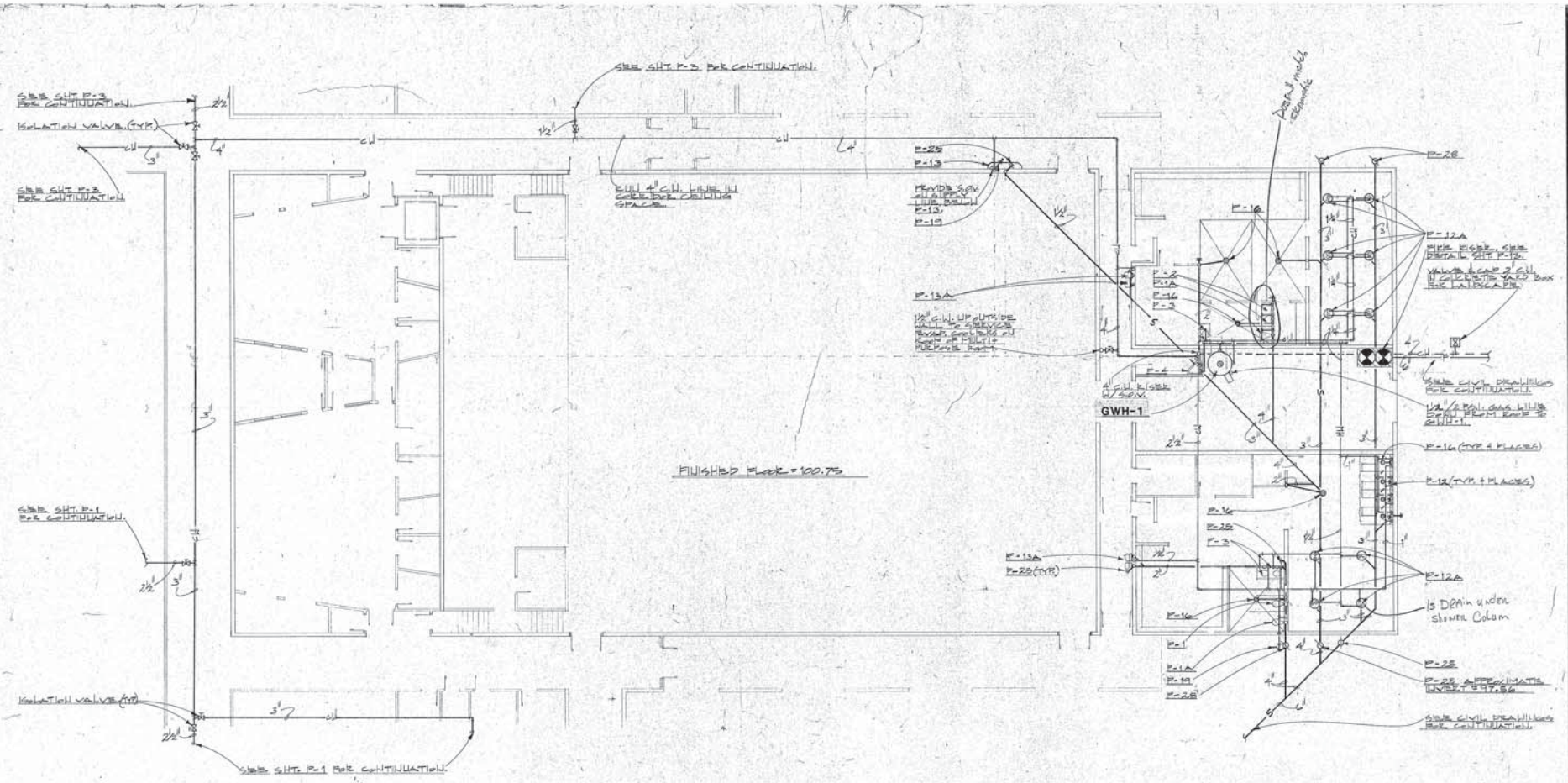
A NEW JUNIOR HIGH SCHOOL
FOR
CRANE SCHOOL DISTRICT NO. 13

PARTIAL FLOOR PLAN AREA "C"

design: C.S.
drawn: C.S.
checked: R.M.
date: 5-5-86
revised:

augustus f. keck & assoc.
architects
20 west twenty-fourth street
yuma, arizona
phone:

50



PLUMBING FLOOR PLAN "AREA D"

SCALE 1/8" = 1'-0"

A NEW JUNIOR HIGH SCHOOL
FOR
CRANE SCHOOL DISTRICT NO. 13

design: C.G.
drawn: C.G.
checked: R.M.
date: 5-5-86
revised:

augustus f. keck & assoc.
architects
25 west twenty-fourth street suite 54
yuma, arizona 85364
phone: 602/726-9850

job no. 8550

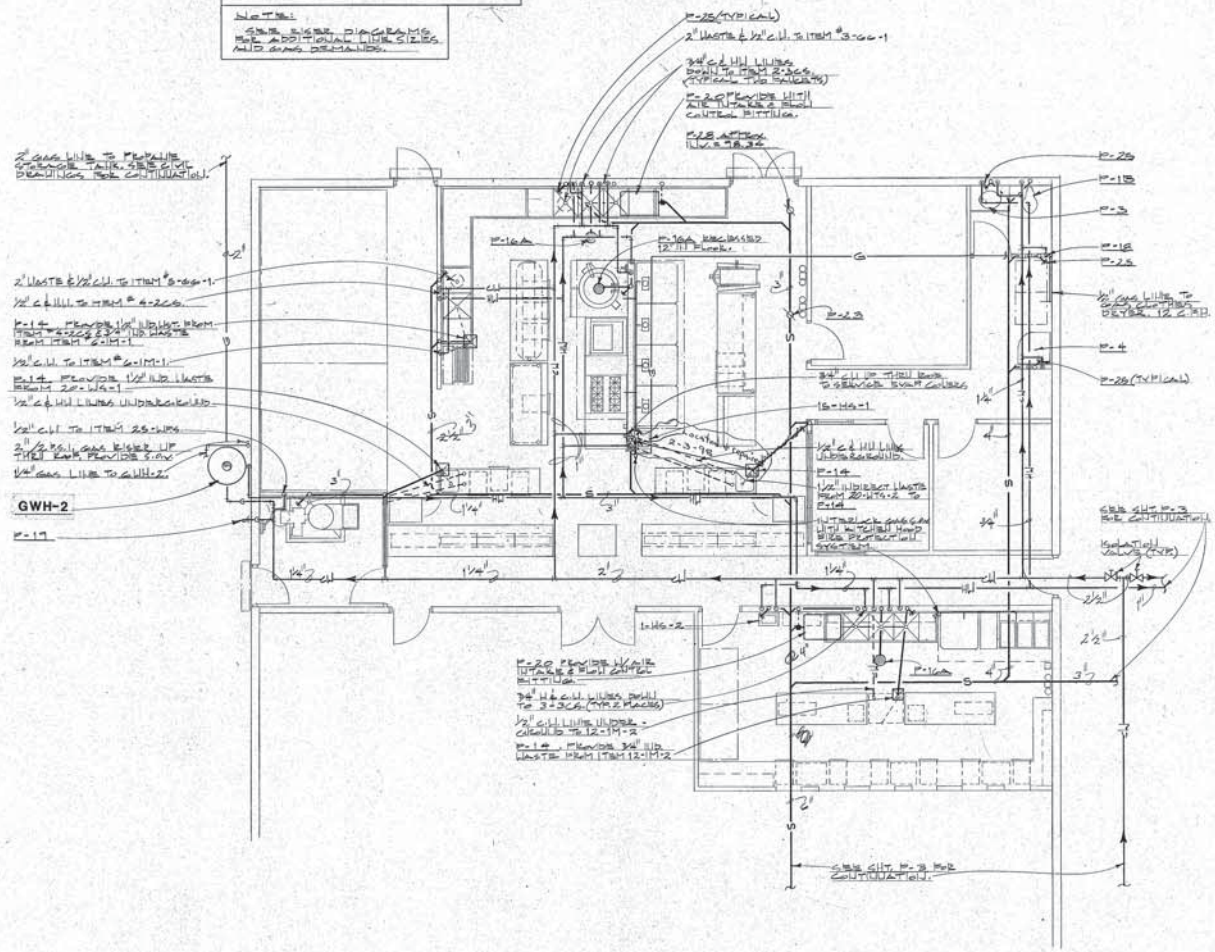
P 1

NOTE:

PROPANE TANK SUPPORTS AND CONTROL SYSTEMS TO BE AS REQUIRED BY LOCAL DELIVERSHIP AND IN ACCORDANCE WITH ALL FIRE CODES AND REGULATIONS. TANK TO BE ABOVE GROUND AND SIZED FOR ONE WEEKS SUPPLY BASED UPON CIRH CALCULATIONS. SEE SHT. P-13) SHOP DRAWINGS OF SYSTEM TO BE SUBMITTED TO ARCHITECT FOR REVIEW. PRESSURE LEAVING TANK TO BE 2 P.S.I.

NOTE:

SEE RISER DIAGRAMS FOR ADDITIONAL LINE SIZES AND GAS DEMANDS.



KITCHEN PLUMBING FLOOR PLAN

SCALE 1/4"=1'-0"

A NEW JUNIOR HIGH SCHOOL
FOR
CRANE SCHOOL DISTRICT NO. 13

design:
drawn:
checked:
date: 5-5-86
revised:

augustus f. keck & assoc.
architects
29 west twenty-fourth street suite 104
yuma, arizona 85364
phone: 602-726-9650

8550

RedTree
CONSULTING

June 16, 2015

Mr. Dale Ponder, CPPB
Director of Finance
Crane Elementary District No. 13
4250 West 16th Street
Yuma, Arizona 85364

RE: **Crane Middle School**
Cafeteria / Kitchen

Mr. Ponder,

Below are the proposed consulting fees for the proposed cure in place pipe project inside the Cafeteria/Kitchen.

DESCRIPTION	**ESTIMATED FEE**
RTC to perform construction administration services for the CIPP repair project inside the Kitchen at Crane Middle School. Architectural/Engineering services include but are not limited to: • Responding to Contractor's Requests for Information • Issuing of any Architect's/Engineer Supplemental Instructions • Processing any shop drawings and submittals • Processing any change orders • Reviewing and certifying contractor's application for payment • Reviewing any material test reports • Recording any changes to the contract documents • Providing substantial and final completion services Proposal includes an allowance of (3) project site visits for project progress review with owner representation and contractor(s) (**expenses included**). Proposal includes an additional eight (8) administrative hours. Any additional time required to complete the construction administration for the referenced project will be billed at $185 per hour with prior owner approval. Additional site visits are invoiced at eight (8) licensed mechanical engineer labor hours plus mileage/expenses ($ 1,756.30/trip).	$ 6,748.90

Reimbursable expenses for reprographic work, etc are at cost plus 10%. Mileage is reimbursed at current IRS mileage rate at the time of work. Additional work is at standard hourly rates and will be defined and approved in writing by Owner prior to commencement of work.

Thank you for allowing Red Tree Consulting Group the opportunity to provide these services to you. We look forward to providing you a comprehensive solution. Red Tree will confirm any change to the above scope of work prior to executing any additional services. If you have any questions regarding this estimated fee proposal, please feel free to contact me at your convenience.

Thank you,



Michael L. Crow
Managing Partner
602.989.2433
mcrow@redtreeco.com

6/16/15

Crane Middle School

To: Mr. Dale Ponder, CPPB
Director of Finance
Crane Elementary District No. 13
4250 West 16th Street
Yuma, Arizona 85364

RE: Crane Middle School
Grease Trap / Pipe Rehabilitation

RedTree CONSULTING
Michael Crow
Principal
Managing Partner

2942 N 24th Street
Suite 114-436
Phoenix, AZ 85016

Ph 602.424.3468 x1
mcrow@redtreeco.com

Mr. Ponder,

After review of the problematic waste line conditions observed during our investigation RedTree Consulting recommended the following repair / renovation items inside our report dated June 3, 2015:

- Remove and replace the identified grease trap inside the Kitchen
- Remove and replace all associated piping (clean outs, covers, drain and vent pipes as well as any other devices or sundry items to complete installation) extending to the cleanout.
- Install cured in place pipe (CIPP) throughout the identified waste line extending to outside the building.
- Install new code compliant two (2) way cleanout at CIPP termination outside the building.
- Includes all concrete and flooring removal and replacement.
- Does not include any Asbestos/Lead testing or abatement.

Estimated Cost: **$ 185,000.00**

- RedTree Consulting to perform construction administration services for the CIPP repair project inside the Kitchen at Crane Middle School.

Cost: **$ 6,748.90**

The preliminary budget for the recommended repairs, the additional engineer testing and construction administration services is **$ 191,748.90**.

If you have any questions or concerns, please contact me at your convenience. Thank you for allowing RTCG the opportunity to provide you with our consulting services.

Thank you,



STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Crane Elementary 003BRG

Background – Crane Elementary (Rancho Viejo ES – replace kitchen hood extinguishing system)

On May 6, 2015, the Board awarded Crane Elementary $6,200 in Building Renewal Grant funding to replace the kitchen hood extinguishing system at Rancho Viejo Elementary School (project number 140413002-1002-003BRG).

The kitchen hood extinguisher has been installed, but failed the City's inspection. The necessary adjustments were made to the hood which is now ready for a second inspection. The second inspection test costs $650.

Initial award 5/6/2015	
Construction	$ 5,893
Contingency	$ 307
Total awarded:	$ 6,200

Supplemental funding requested:	
Second inspection cost	$ 650
Contingency (credit)	$ 307
Total supplemental funding requested	$ 343

Criteria for Eligibility

Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Crane Elementary (Rancho Viejo ES – replace kitchen hood extinguishing system)

Staff recommends that Crane Elementary be awarded an additional $343 in Building Renewal Grant funding for the second inspection of the kitchen hood extinguishing system at Rancho Viejo Elementary School (project number 140413002-1002-003BRG). This brings the total project cost to $6,543.

Board Action Requested:

Board approval of the staff recommendation that **Crane Elementary** be awarded an additional $343 in Building Renewal Grant funding for the second inspection of the kitchen hood extinguishing system at Rancho Viejo Elementary School (project number 140413002-1002-003BRG). This brings the total project cost to $6,543.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Crane_ESD_003BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-730150355-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Crane Elementary**
BRG Project Number: **140413002-1002-003BRG** Yuma County
Project Description: **Replace kitchen hood extinguishing system**
Consultant: n/a
Contractor: FireMaster (800-522-7150)

Board Approval: 5/6/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 6,236**
Contingency ①		**$ 307**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 6,543**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 6,543**
Total Project Cost:		**$ 6,543**

① Contingency shall only be used with SFB staff approval.

12728 Shoemaker Ave.
Santa Fe Springs Ca. 90670
Office (562) 405-3800
Fax (562) 926-8541
Cell (714) 863-0434
Email: ameraz@firemaster-mpc.com

FireMaster
MASTER PROTECTION CORPORATION

July 29, 2015

Project **CRANE ELEMETARY SCHOOL-RANCHO VIEJO**
930 SOUTH AVENUE C
YUMA, AZ. 85364

J Michael Wicks
Support Service Center

This is a change order for an additional test with (AHJ) Fire Inspector not included in original contract. The test performed after the installation did not pass do to electrical and fire alarms not tied in to fire suppression system this is outside our scope of work. We would to have this change order approved prior to scheduling and returning for the second test. Please let us know if you will provide a separate PO for this amount or we can add cost to existing contract PO # 29349.

Additional Fire System Test (re-inspection)

$ 650.00 ***(Total $650.00 Six Hundred Fifty Dollars)***

Approval by: _____

Date: _____

Respectfully,
Abraham G. Meraz

Firemaster,
Project Coordinator

INSPECTION WORKSHEET (MECH-073583-2015)

City of Yuma: Inspections

Case Number:	CMCH-022150-2015	**Case Module:**	Permit
Inspection Date:	07/24/2015	**Inspection Status:**	Disapproved
Inspector:	Rick Parr	**Inspection Type:**	Mechanical Final
Job Address:	930 S AVENUE C YUMA, AZ 85364	**Parcel Number:**	66316035

Contact Type	Company Name	Name
Tenant/Business Owner		[Crane Elementary School District] Wicks, Mike
Contractor		[Firemaster]

Checklist Item	Passed	Comments
Building Safety Comments - Building Safety Comments	NO	1. Make up air did not work when system was tripped 2. The alarm was a not tied into the system 3. A junction box for the alarm connections is to be located outside of the ansel system box 4. The electrical plugs behind the hood did not go off when the system was tripped

Parr, Rick (Inspector)

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Crane Elementary 006BRG
Background – Crane Elementary (Gary A. Knox ES – replace roof)
On June 3, 2015, the Board awarded Crane Elementary $259,684 in Building Renewal Grant funding for the replacement of the roof on Building 1001 at Gary A. Knox Elementary School (project number 140413108-1001-006BRG).

Crane Elementary bid this project and the bid results were higher than what was originally estimated by the design team. The district is requesting additional funding to cover the shortfall.

Initial award 6/3/2015	
Design/CA/Structural/CA	$9,065
Roof Construction (estimate)	$205,000
Asbestos Survey	$619
Asbestos Oversight (estimate)	$10,000
Asbestos Remediation (estimate)	$15,000
Contingency	$20,000
Initial award:	$259,684
Supplemental funding requested:	
Additional construction costs	$52,800
Total project cost:	$312,484

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Crane Elementary (Gary A Knox ES – replace roof)
Staff recommends that Crane Elementary be awarded an additional $52,800 in Building Renewal Grant funding for the roof replacement on Building 1001 at Gary A. Knox Elementary School (project number 140413108-1001-006BRG). This brings the total project cost to $312,484.

Board Action Requested:
Board approval of the staff recommendation that **Crane Elementary** be awarded an additional $52,800 in Building Renewal Grant funding for the roof replacement on Building 1001 at Gary A. Knox Elementary School (project number 140413108-1001-006BRG). This brings the total project cost to $312,484.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Crane_ESD_006BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-729155747-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Crane Elementary**
BRG Project Number: **140413108-1001-006BRG** Yuma County
Project Description: **Replace roof**
Consultant: Orcutt/Winslow (602-257-1764)
Contractor: Progressive Roofing

Board Approval: 6/3/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 272,800**
Contingency ①		**$ 20,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 9,065
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 619
Testing & Inspection		$ 10,000
Total Additional Cost:		**$ 19,684**
Total SFB Funded Project Cost:		**$ 312,484**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 312,484**
Total Project Cost:		**$ 312,484**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phone: (602) 542-6501
FAX: (602) 542-6529

Gerry Breuer

From: Dale Ponder [DPonder@craneschools.org]
Sent: Thursday, July 09, 2015 9:43 AM
To: Gerry Breuer
Subject: RE: Building Renewal Grants - Roofing Projects
Attachments: Classic Roofing Bid.pdf; Progressive Roofing Bid_Complete file.zip; Roofing Southwest Bid.pdf

Gerry,

I am in receipt of your voicemail and have attached the proposals to this email for your review and initiation of the request for additional funds to cover the work at Gary A. Knox Elementary.

Thanks,
Dale

From: Dale Ponder
Sent: Thursday, July 9, 2015 8:14 AM
To: Gerry Breuer
Cc: Pat Cruse
Subject: Building Renewal Grants - Roofing Projects

Good morning Gerry,

Yesterday afternoon, we conducted the bid opening for the 3 roofing projects that the School Facilities Board awarded, and following is the tabulation.

Awarded projects of June 3, 2015:
- Building Renewal Grant Award 140413107-1001-004BRG – Centennial Middle School
- Building Renewal Grant Award 140413130-1001-005BRG – Mesquite Elementary School
- Building Renewal Grant Award 140413108-1001-006BRG – Gary A. Knox Elementary School

BID PROPOSALS	MESQUITE ELEMENTARY SFB Award for Construction: $395,000 Bid Project Totals - MQ	GARY A. KNOX ELEMENTARY SFB Award for Construction: $220,000 Bid Project Totals - GAK	CENTENNIAL MII SFB Award for Construc $315,000 Bid Project Totals -
Progressive Roofing	$359,700.00	$257,800.00	$198,200.00
Classic Roofing	$384,200.00	$292,400.00	$233,300.00
Roofing Southwest	$378,032.00	$395,267.00	No bid

The actual construction proposal for Gary A. Knox Elementary School came in a little above the estimate, but the work at Mesquite and Centennial came in well below what was projected. In total, these projects came in $114,300 less than what was projected.

Orcutt|Winslow is currently reviewing the proposals to ensure that the submittals meet the design requirements and specifications. They are to provide confirmation of that by close of business today. Assuming that they meet the requirements, we will be recommending to our Governing Board on Tuesday, July 14th that they award all three projects to Progressive Roofing, who was the lowest responsive and responsible bidder for each school.

as the Owner shall determine that Work progress has been delayed by conditions beyond the Control of the Contractor.

8. Undersigned agrees that Bid Form may be deposited, withdrawn or modified as stated in Instructions to Bidders, subject to conditions stated herein.

9. Enclosed herewith is cashier's check or Bid Bond made payable to the Owner which is not less than 10% of the total amount of the Bid. Undersigned further agrees that said check or bid bond shall be forfeited as liquidated damages (not as a penalty) if undersigned fails to enter into Contract on the basis of this Bid, after requested to do so by the Owner.

10. Undersigned acknowledges receipt of the following Addenda:

Addendum No.	1	Dated	7-1-15	Addendum No.	_____	Dated	_____
Addendum No.	2	Dated	7-7-15	Addendum No.	_____	Dated	_____
Addendum No.	_____	Dated	_____	Addendum No.	_____	Dated	_____

11. This Bid is valid for fourteen (14) calendar days following the date for receiving Bids.

12. Qualified Bids shall not be accepted.

13. Undersigned is a (sole proprietor, partnership, corporation incorporated in the State of). **Delete non-applicable terms.**

14. Undersigned proposes to enter into Contract for the following amounts:

15. Undersigned understands that all amounts shall be in words, as well as in figures. (IN THE EVENT OF A DIFFERENCE BETWEEN WORDS AND FIGURES, THE AMOUNT STATED IN WORDS SHALL GOVERN) A response of "NO BID" may be considered a non-responsive bid.

The undersigned agrees to provide all Labor, Materials, Equipment and Services necessary to construct and complete the scope of work as indicated on the Drawings and as specified herein, for the total lump sum price of (whole dollars only).

Bids need to be submitted as three (3) Base Bids, per campus:

Base Bid for Gary A. Knox Elementary School	Dollar	($ 257, 800,00)	Two hundred fifty-seven thousand eight hundred
Base Bid for Mesquite Elementary School	Dollar	($ 357, 700,00)	Three hundred fifty-seven thousand seven hundred
Bid for Centennial Middle Schools	Dollar	($ 198, 200,00)	one hundred ninety-eight thousand two hundred

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Douglas Unified 004BRG

Background – Douglas Unified (Ray Borane MS – repair masonry wall cracks)

On April 1, 2015, and June 24, 2015, the Board awarded Douglas Unified $6,526 and $4,500 in Building Renewal Grant funding for the investigation and assessment of several cracks in the masonry walls at Ray Borane Middle School (project 020227108-9999-004BRG).

As the investigation proceeds, an analysis is required to establish the sub-soil conditions and basement wall reinforcement. The district received a proposal of $7,400 for the analysis.

Previous Awards	
Design 4/1/2015	$6,526
Design 6/25/2015	$4,500
Total	$11,026

Supplemental funding requested:	
Soil / reinforcement analysis	$7,400

Total project cost: $18,426

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.
Staff Recommendation – Douglas Unified (Ray Borane MS – repair masonry wall cracks)
Staff recommends that Douglas Unified be awarded an additional $7,400 in Building Renewal Grant funding for the soil and reinforcement analysis at Ray Borane Middle School. This brings the project cost-to-date to $18,426.

Board Action Requested:
Board approval of the staff recommendation that **Douglas Unified** be awarded an additional $7,400 in Building Renewal Grant funding for the soil and reinforcement analysis at Ray Borane Middle School. This brings the project cost-to-date to $18,426.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Douglas_USD_004BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
PG15636Borane_RAMM_proposal.pdf	Soil Proposal	8/6/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Douglas Unified**
BRG Project Number: **020227108-9999-004BRG** Cochise County
Project Description: **Repair masonry wall cracks**
Architect of Record: Robert Polcar Architects, Inc. (480-675-9760)
Contractor: TBD

Board approval: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E)		$ 6,526
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 4,500
Testing & Inspection		$ 7,400
Total Additional Cost:		**$ 18,426**
Total SFB Funded Project Cost:		**$ 18,426**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 18,426**
Total Project Cost:		**$ 18,426**

Contingency shall only be used with SFB staff approval

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

RICKER • ATKINSON • McBEE • MORMAN & ASSOCIATES, INC.
Geotechnical Engineering • Construction Materials Testing

R·A·M·M

Felten Group
18325 North Allied Way, Suite 200
Phoenix, Arizona 85054

July 20, 2015

Attn: Ken Mulder, Vice President of Forensic Investigations (ken.mulder@feltengroup.com)

Re: Proposal for Geotechnical Engineering Services
Borane Middle School Building Distress
840 East 12th Street
Douglas, Arizona

RAMM Proposal No. PG15636

Ricker, Atkinson, McBee, Morman & Associates, Inc. is pleased to submit this proposal to conduct Geotechnical Engineering Services for the above-referenced project.

If this proposal meets with your approval, please sign, date and return one copy of the enclosed Attachment "A", which outlines project description, our scope of services, completion time and fee to perform services.

If there are any questions regarding the proposed scope of work, please call. Thank you for considering our firm for this project.

Respectfully submitted,

RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.

Kip E. Reese, P.E.
Project Engineer

/ker

2105 South Hardy Drive, Suite 13, Tempe, AZ 85282 Telephone (480) 921-8100 • Facsimile (480) 921-4081
www.rammeng.com

RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.

ATTACHMENT "A" Proposal for Geotechnical Engineering Services
For: Felten Group
RAMM Proposal No. PG15636

PROJECT: Borane Middle School Building Distress
840 East 12th Street
Douglas, Arizona

DESCRIPTION:

We understand that the high-bay gymnasium building with half-depth basement and the two-story classroom building with full depth basement has undergone distress in the form of wall cracks. The gymnasium and classroom buildings were built in 1909 and an addition to the classroom building was completed in 1935.

SCOPE OF SERVICES:

1. Test borings will be performed to determine subsurface conditions and obtain representative samples for laboratory analyses. Three test borings 30 feet in depth or prior auger refusal are proposed near the existing buildings at locations accessible to a two-wheel drive, truck-mounted drill rig and clear of overhead and underground utilities/obstructions and one hand excavated test boring 10 feet in depth or prior hand auger refusal is proposed near the gymnasium building. Arizona Blue Stake (Arizona 811) will be contacted and right-of-access, utility clearance and field exploration will be coordinated with the Felten Group.
2. Ground penetrating radar (GPR) services will be provided by Phoenix National Laboratories, Inc. The GPR will be utilized to establish the presence/absence of reinforcing steel within the basement walls at two areas per building (Four wall areas total).
3. Laboratory analyses of representative samples will include:

   Moisture Content and Dry Density
   Compression
   Direct Shear
   Swell
   Minus No. 200 Sieve and Plasticity Index

4. The field and laboratory data will be used in engineering evaluation and analyses to formulate our geotechnical recommendations.
5. An Engineer's report will be provided presenting the results of the field, GPR and laboratory testing and recommendations for possible causes of the distress and for remediation measures. Occasionally the results are not conclusive and the recommended remediation focuses on treating the symptoms which may not correct the underlying cause.

RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.

ATTACHMENT "A" Proposal for Geotechnical Engineering Services
For: Felten Group
RAMM Proposal No. PG15636

PROJECT: Borane Middle School Building Distress
840 East 12th Street
Douglas, Arizona

COMPLETION TIME:

Final report approximately 4 to 6 weeks after authorized to proceed. Completion time is contingent upon utility clearance and field exploration coordination.

FEE: $ 7,400.00

The undersigned agrees to the forgoing Scope and Fee.

RICKER • ATKINSON • MCBEE • MORMAN & ASSOCIATES, INC.

By: _____
Kip E. Reese, P.E., Project Engineer

Client: _____

By: _____

Date: _____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Flowing Wells Unified 002BRG
Background – Flowing Wells Unified (Flowing Wells JHS – exterior reseal and structural repairs)
On November 12, 2014, and April 1, 2015, the Board awarded Flowing Wells Unified $6,000 and $297,000 in Building Renewal Grant funding for exterior reseal and structural repairs of all buildings at Flowing Wells Junior High School (project number 100208170-9999-002BRG).

During construction, after the buildings were power washed, more extensive repairs became apparent. This will require more material sealer than initially believed to maintain the manufacturer's warranty. Additional funds are required to apply the sealer to the level required so the manufacturer can issue a warranty for the project.

Initial award 11/12/2014		
Design	$6,000	
District contribution		$6,000
Total		$12,000
Supplemental funding 4/1/2015:		
Construction Administration		$2,500
Estimated Construction Cost		$269,500
Contingency		$25,000
Total supplemental funding:		$297,000
2nd supplemental funding request:		
Additional materials required		$73,455
Total project cost:		$382,455
District contribution		-$6,000
Total SFB contribution:		$376,455

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Flowing Wells Unified (Flowing Wells JHS –exterior reseal and structural repairs)
Staff recommends that Flowing Wells Unified be awarded an additional $73,455 in Building Renewal Grant funding for the additional materials needs for the exterior reseal and structural repairs on all buildings at Flowing Wells Junior High School (project number 100208170-9999-002BRG). This brings the total project cost to $382,455.

Board Action Requested:
Board approval of the staff recommendation that **Flowing Wells Unified** be awarded an additional $73,455 in

Building Renewal Grant funding for the additional materials needs for the exterior reseal and structural repairs on all buildings at Flowing Wells Junior High School (project number 100208170-9999-002BRG). This brings the total project cost to $382,455.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Flowing_Wells_USD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Bollard_Email.pdf	Warranty Emial	7/22/2015	Cover Memo
Flowing_Wells_Jr_High_Crack_fill_Change_Order_07012015.pdf	Change Order Cost	7/22/2015	Cover Memo
SKMBT_C30015070817070.pdf	Change Order Backup	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Flowing Wells Unified**
BRG Project Number: **100208170-9999-002BRG** Pima County
Project Description: **Exterior reseal and structural repairs**
Consultant: Swaim Associates (520-326-3700)
Contractor: TBD

Board approval: 11/12/2014
Supplemental award: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 342,955**
Contingency		**$ 25,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 6,000
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 2,500
Testing & Inspection		$ -
Total Additional Cost:		**$ 8,500**
Total SFB Funded Project Cost:		**$ 376,455**
District or Local Funds:		$ 6,000
SFB Board Approved Amount:		**$ 376,455**
Total Project Cost:		**$ 382,455**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Dan Demland

From: Scheller, Dan [Dan.Scheller@fwusd.org]
Sent: Friday, July 10, 2015 10:04 AM
To: Dan Demland
Subject: FW: FWJH CMU Coating Project

From: Scheller, Dan
Sent: Friday, July 10, 2015 9:55 AM
To: 'Kerry Campbell'
Subject: FW: FWJH CMU Coating Project

Kerry,

This is the justification from our architect related to the necessary change order.

Thank you

Dan Scheller

From: Scheller, Dan
Sent: Thursday, July 09, 2015 1:20 PM
To: Mark Bollard
Subject: Re: FWJH CMU Coating Project

thank you. I would concur with this.

Sent from my Verizon Wireless 4G LTE DROID

Mark Bollard <mbollard@swaimaia.com> wrote:

Hello Dan, after reviewing the field conditions today I have the following observations:

1. After the buildings were power washed a significant quantity of small cracks and pockets in the cmu mortar joints appeared. To maintain the warranty from Tremco additional repairs and product is recommended. The products outlined in the proposal are required to meet this goal.
2. It is very apparent that the concrete fascia panels require additional product. The 1.5 gallons per square specified are not adequate to cover the coarse texture of the panels. Tremco has been monitoring the application. To complete the project correctly Tremco recommends an additional 1.5 gallons/sq and the proposal includes the correct product.

Please let me know if you have any questions. Thanks

Mark

Mark Bollard, AIA

swaim
ASSOCIATES LTD
ARCHITECTS AIA
7350 E SPEEDWAY 210
TUCSON, ARIZONA 85710
o 520.326.3700
c 520.603.0224

Gryphon
Roofing & Remodeling
Service Reigns™

Change Order

Rep: Josh Hipps **Cell:** 480-577-3401 **Date:** 06-30-2015

Submitted to: Flowing Wells School District	Phone: 520 696 8800
Street Address: 1556 W. Prince Rd.	Job Name: Flowing Wells JR. High Fascia Painting
City, State, Zip: Tucson, AZ. 85705	Job Address: 4545 N. La Cholla Tucson, AZ. 85705

Scope of Work: This proposal applies to the application of additional sealant, caulk and primer do to unseen cracks in block and expansion joints, Solargard Hy-build fascia coating .

1. Erect and maintain GCI's fall protection system as per O.S.H.A requirements and erect a controlled access zone for the protection of the public or tenants of the building.
2. Install additional backer rod and Tremco Tremseal HP sealant on an additional 325ln ft of expansion joint over and above the original specified amount. Tremseal HP (7) kits in addition to associated labor, shipping, material costs, mileage, fuel, sundries, hotel and subsistence.
   Tremseal HP 7kits x $122.82 =
   Labor / Burden
   Freight / shipping, taxes, equipment rental, refuse disposal fees, tools/equipment, mileage, fuel, sundries, hotel and subsistence.

3. Install additional Tremco Tremseal D to fill additional large cracking discovered after power washing the buildings. Tremseal D (1) case in addition to associated labor, shipping, material costs, mileage, fuel, sundries, hotel and subsistence.
   Tremseal D 1 x $262.50
   Labor / Burden
   Freight / shipping, taxes, refuse disposal fees, tools/equipment, mileage, fuel, sundries, hotel and subsistence.

4. Install additional Tremco Acrylic Sealant to fill additional smaller cracking discovered after power washing the buildings. Tremseal Acrylic Sealant (7) buckets in addition to associated labor, shipping, material costs, mileage, fuel, sundries, hotel and subsistence.
   Tremseal Acrylic Sealer 7buckets x $340.75 =
   Labor / Burden
   Freight / shipping, taxes, refuse disposal fees, tools/equipment, mileage, fuel, sundries, hotel and subsistence.

5. Install additional Tremco Solargard masonry primer to fill additional small cracking and porosity discovered after power washing the buildings. Solargard masonry primer (30) buckets in addition to associated labor, shipping, material costs, mileage, fuel, sundries, hotel and subsistence.
   Tremco Solargard Masonry Primer 30buckets $238.90ea =

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Labor / burden
Freight / shipping, taxes, equipment rental, refuse disposal fees, tools/equipment, mileage, fuel, sundries, hotel and subsistence.

6. Spray-apply and back roll an additional 1.5gal/sq. of Tremco Solargard Hy-build tinted to the Sandalwood Beige color to the concrete fascia per the architect request from Amanda Spear Swaim Associates per 1423.02 additional bid request.
   Solargard Hy-Build coating 265gal x $43.16/gal =
   Labor / burden
   Freight / shipping, taxes, equipment rental, refuse disposal fees, tools/equipment, mileage, fuel, sundries, hotel and subsistence.

Costs plus 15% change order.

Exclusion:

- Any structural damage to the structure is excluded from the proposal.
- Any item or system not included in the proposal is excluded from the proposal.
- Noise, debris, and dust are a normal part of the construction process. Any nominal debris within and or without the building are the not the responsibility of GRI to clean. All reasonable efforts will be made to ensure a clean and safe work environment.
- Anything not listed in the proposal is excluded from the proposal.

Warranty:

Provide manufactures material warranty.

Contract Amount:

We **shall** furnish material & labor (complete in accordance with above specifications) for the sum of:

Proposed: $73,455.00

Payment to be made as follows:
Schedule of values based on materials received and product applied.

Total: $73,455.00

Acceptance of Proposal: These prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance _____ Customer Signature _____ Authorized Signature _____

*Signature manifests customer's understanding and assent to Gryphon Companies, Inc.'s terms and conditions (included)

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Roofing & Remodeling
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PROPOSAL TERMS AND CONDITIONS

1. The Buyer can cancel this contract within three (3) days of signature date without penalty. If Buyer cancels after three (3) days, a penalty will be assessed of 10% of contract amount. However, if work has begun or materials have been ordered, contract cannot be canceled. Gryphon Co., Inc. can cancel at anytime without cause before work begins.

2. Gryphon Co. Inc. will not be required to start or to proceed with the work if there are delays in delivery or impeding weather conditions or any other causes beyond their control constricting the work. If workers are not able to access the work site at the pre-arranged scheduled time, there will be an additional rescheduling fee of $75.00.

3. Owner shall furnish water, electricity, and adequate access to building, if available. Owner should be aware of loud noise/ vibration, possible dust/debris in skylights/fans/ducts, and trash in the yard during construction (thorough clean-up will be performed by Gryphon Companies, Inc. at completion of job). Precautions should be taken by the owner to keep children, pets, valuables, and cars away from "hazard zone" of 10 to 20 foot perimeter around the house, and to remove or protect hanging or loose items inside the building. Dumpster may be placed on driveway for duration of job.

4. Weights, thicknesses, color, blend, or other amounts quoted are approximate & shall be subject to normal industry variation.

5. Due to changing material and labor prices, this proposal may be withdrawn by Gryphon Co. Inc. if not accepted within sixty (60) days from issue date.

6. This proposal when signed by the Buyer and the authorized representative shall become a contract under the laws of the state and will thereby be a binding contract. This proposal & contract shall be the entire agreement between the parties. Any changes in this proposal and contract must be approved in writing. Any alteration or deviation from the specifications on reverse involving extra cost of material or labor except visibly rotten wood (see wood schedule below) will be executed only upon written orders for the same, & will become an extra charge over the sum mentioned in this contract. No work other than that specified herein is contemplated in this proposal.

7. If amounts invoiced are unpaid 30 days after billing, a late penalty of 10% of the amount unpaid and finance charges of 1.5% per month will be assessed after 30 days and each subsequent 30 days thereafter. In such case, proceedings may be commenced, such as filing of lien to secure or enforce the payment of any portion of the agreed price. Buyer agrees to pay Gryphon Co., Inc., without special demand, reasonable attorney's fees & legal costs in such proceedings.

8. Gryphon Co., Inc. will not be responsible for determining the existing condition of air conditioning units, swamp coolers, duct work and stands that support same, structural framing, poor drainage, decking, chimney caps, stucco, parapet walls, condensation lines, water lines, electric lines, antenna wires or cables. However, should any defect in any of the above mentioned be discovered, Gryphon Co. Inc. will, of course, notify the signer of this proposal. Gryphon Co., Inc. will not be responsible for water, electric, sewer, thermostat, or other existing items that are currently out of code. Gryphon Co., Inc. will not be responsible for condition of satellite dishes, pest control devices, or tree trimming which may be necessary for work to be done.

9. Please note that even a microscopic crack in stucco may cause a significant leak because of the osmotic pressure and surface tension of the water. We are not responsible for stucco leaks unless specifically addressed in the proposal.

10. Upon completion of work the Buyer shall have the opportunity to inspect such work. If the Buyer believes such work is incomplete or unsatisfactory in some manner, the Buyer may inform Gryphon Co. Inc. at that time. Otherwise, such work shall be deemed accepted. No formal written acceptance need be issued by the Buyer to constitute acceptance. Final payment or failure by Buyer to inspect work within five (5) days of completion shall automatically constitute acceptance.

11. The warranty is solely for the benefit of the named building owner upon payment in full, but may be transferred under certain conditions. Other terms & conditions are noted on reverse of warranty. Contact a Gryphon Co., Inc. representative for details.

12. We accept VISA, MasterCard, American Express and Discover for payment of services. However, there will be a 3% additional charge on total bill if over $1000.

13. Gryphon Co., Inc. is complying with the new EPA regulation regarding RRP and lead paint containment. Therefore, if your house was built prior to 1978, a Gryphon representative may be scheduled, before contracted work begins, to check for lead paint in any materials on your property that will be disturbed during the contracted work. **If** the disturbed materials test positive for lead paint **and** your property meets certain other parameters, then additional charges may apply to properly remove and dispose of the lead-contaminated debris.

14. All work will be performed in a professional manner, making a sincere effort, and will be a best efforts attempt to repair problems. All labor required to complete scope of work is included in agreement price, including on- and off-the-job-site time, travel time and loading time. This proposal is based on a complete job, and any surplus material remains the property of Gryphon Co. Inc. and will be removed by Gryphon Co. Inc.

Roofing Proposals Only: **Wood Schedule** (remove and replace – assumes roofing is already removed – paint not included): Prices subject to change without written notice. **Minimum charge of $50, plus** standard length wood pieces of:

1X4 plank	$ 3.50 /linear foot	1/2" cdx plywood /osb	$ 2.00 /square foot	2X6 fascia	$ 8.00 /linear ft
1X6 plank	$ 3.75 /linear foot	5/8" cdx plywood/ osb	$ 3.50 /square foot	2X8 fascia	$ 9.00 /linear ft
1X8 plank	$ 4.00 /linear foot	3/4" cdx plywood/ osb	$ 4.50 /square foot	2X10 fascia	$10.00 /linear ft
Plywood under unit	$ 6.00 /square foot	1/2" acx plywood	$ 3.00 /square foot	Trim board	$ 2.50 /linear ft

Gryphon
Roofing & Remodeling
Service Reigns™

The property owner has the right to file a written complaint with the registrar for an alleged violation of section 32-1154, subsection A, within the time period set forth in section 32-1155, subsection A. For more infor-mation, call the AZ Registrar of Contractors at 602.542.1525, or go to www.azroc.gov.

Additional Terms & Conditions

In the spirit of good communication Gryphon Companies, Inc. (GCI) would like to note the following terms and conditions, which are also included in the proposal attached hereto:

1. NESHAP: Owner is responsible for current NESHAP report per Maricopa County Air Quality Department.

2. Asbestos: Unless otherwise stated, asbestos testing, asbestos abatement, and NESHAP notification (needed for asbestos abatement) is not included in this proposal.

3. Mold: GCI is not responsible for indoor air quality, including the growth of mold.

4. Interior Pre-Site: GCI reserves the right to walk the interior structure of re-roofing areas and to document, via photography, any pre-existing interior damage, A/C damage, and/or structural integrity; so as to avoid GCI's being liable for interior damage prior to our roof job.

5. Fall Protection: GCI will use fall protection systems as per O.S.H.A requirements and erect a controlled access zone for the protection of the public or tenants of the building.

6. Tenant Preparation: Due to extreme pounding and vibration in the roof removal process, GCI recommends for tenants to remove all valuables from walls and ceilings prior to roof work.

7. Access to Job: Customer shall provide proper access to job so as not to impede safety or cause delays in the work to be performed.

8. Property Damage: Customer is responsible for the protection of the interior contents of the building upon which roofing work is being performed. GCI is not liable for incidental or consequential damages. Furthermore, if conditions to reside inside of the dwelling or structure prove unsafe, or become unsafe during the roofing project, through no gross negligence of GCI, all costs associated with transportation and temporary hotel accommodations shall be at the full expense of the Customer.

9. Fumes and Vapors: GCI shall not be liable for damages caused by fumes and vapors related to the roofing work to be performed.

10. HVAC: GCI may need to move A/C units during the roof job. Any damage caused from moving units that is not caused by gross negligence of GCI will be at owner's expense. Owner may want to hire a licensed HVAC Contractor and insure all conduit and wires running to existing HVAC related units are in good condition prior to roof job. Slight movement of units should not cause malfunction or wires or conduit to break.

11. No Electrical Conduit: The proposed price is based upon the existence of no electrical conduit in the roofing assembly. The existence of electrical conduit will require The Customer to obtain a licensed electrical contractor, and may result in an additional charge for the roofing work.

12. Wood Replacement & Structural Repair: Unless otherwise stated, wood replacement and structural repair are not included in this proposal. Normally, the amount of bad wood cannot be determined correctly until after existing roof removal. GCI is not responsible for the existing structural integrity of the building upon which roof work is being performed and is not liable for damage that may occur due to structural defects or inadequacies. However, GCI will notify Customer if any such defects or inadequacies are present upon discovery. If the services of a structural engineer are needed, they will be at the full expense of the Customer.

13. Ponding Water: Ponding of water on existing roof will not be corrected by installing above roof system. GCI will provide a price to decrease ponding (i.e. improve drainage) upon owner's request. Minimal ponding is acceptable by Arizona Registrar of Contractors.

14. Work Stoppage for Non-Payment: If payment or any of the progress payments are not made as agreed upon, Gryphon Companies, Inc. shall have the right to stop work without recourse by Customer until paid in full or progress payments are brought current.

Flowing Wells (Wall coating project) Change order
Tucson, AZ.

Description	Unit Type	Units	Mat/Unit	Total Mat	Lab/ Unit	Tot Labor	Total Cost	Notes
Tremseal HP	kit	7	$ 122.82	$ 859.74		$ -	$ 859.74	
fuel	gal	5	$ 2.69	$ 13.45		$ -	$ 13.45	
equip	each	1	$ 40.00	$ 40.00		$ -	$ 40.00	
hotels	day	2	$ 65.00	$ 130.00		$ -	$ 130.00	
labor + burden	ln ft	345		$ -	$ 5.00	$ 2,294.25	$ 2,294.25	
taxes	ea	1	$ 86.00	$ 86.00		$ -	$ 86.00	
sundries	ea	1	$ 15.00					
dump fees	ea	1	$ 5.00					
tools	ea	1	$ 10.00					
per diem	day	5	$ 50.00	$ 250.00		$ -	$ 250.00	
shipping	ea	1	$ 225.00					
Tremseal D	case	1	$ 262.50	$ 262.50		$ -	$ 262.50	
fuel	gal	3	$ 2.69	$ 8.07		$ -	$ 8.07	
equip	each	1	$ 40.00	$ 40.00		$ -	$ 40.00	
hotels	day	1	$ 65.00	$ 65.00		$ -	$ 65.00	
labor + burden	ln ft	810		$ -	$ 2.00	$ 2,154.60	$ 2,154.60	
taxes	ln ft	1	$ 27.00	$ 27.00		$ -	$ 27.00	
sundries	each	1	$ 25.00	$ 25.00				
dump fees	each	1	$ 5.00	$ 5.00				
tools	each	1	$ 10.00	$ 10.00				
per diem	day	3	$ 50.00	$ 150.00		$ -	$ 150.00	
shipping	each	1	$ 65.00	$ 65.00				
Acrylic Sealer	bucket	7	$ 340.75	$ 2,385.25		$ -	$ 2,385.25	
fuel	gal	15	$ 3.00	$ 45.00		$ -	$ 45.00	
equip	each	1	$ 40.00	$ 40.00		$ -	$ 40.00	
hotels	day	6	$ 65.00	$ 390.00		$ -	$ 390.00	
labor + burden	ln ft	6		$ -	$ 112.00	$ 893.76	$ 893.76	

taxes	ln ft	1	$ 239.00	$ 239.00		$ -	$ 239.00	
sundries	each	1	$ 15.00	$ 15.00				
dump fees	each	1	$ 5.00	$ 5.00				
tools	each	1	$ 10.00	$ 10.00				
per diem	day	12	$ 50.00	$ 600.00		$ -	$ 600.00	
shipping	each	1	$ 250.00	$ 250.00				
Primer	buckets	30	$ 238.90	$ 7,167.00		$ -	$ 7,167.00	
fuel	gal	15	$ 2.69	$ 40.35		$ -	$ 40.35	
equip rental	each	150	$ 15.00	$ 2,250.00		$ -	$ 2,250.00	
hotels	day	5	$ 65.00	$ 325.00		$ -	$ 325.00	
labor + burden	sq ft	15000		$ -	$ 0.13	$ 2,593.50	$ 2,593.50	
taxes	each	1	$ 840.00	$ 840.00		$ -	$ 840.00	
sundries	each	1	$ 250.00	$ 250.00		$ -	$ 250.00	
dump fees	each	1	$ 50.00	$ 50.00		$ -	$ 50.00	
tools	each	1	$ 10.00	$ 10.00		$ -	$ 10.00	
per diem	day	20	$ 50.00	$ 1,000.00		$ -	$ 1,000.00	
shipping	each	1	$ 950.00	$ 950.00		$ -	$ 950.00	
Topcoat	gal	265	$ 43.16	$ 11,437.40		$ -	$ 11,437.40	
fuel	gal	80	$ 3.00	$ 240.00		$ -	$ 240.00	
equip	each	150	$ 25.00	$ 3,750.00		$ -	$ 3,750.00	
hotels	day	25	$ 65.00	$ 1,625.00		$ -	$ 1,625.00	
labor + burden	sq	148		$ -	$ 70.77	$ 13,929.38	$ 13,929.38	
taxes	each	1	$ 1,143.00	$ 1,143.00		$ -	$ 1,143.00	
sundries	each	1	$ 350.00	$ 350.00		$ -	$ 350.00	
dump fees	each	1	$ 35.00	$ 35.00		$ -	$ 35.00	
tools	ea	1	$ 150.00	$ 150.00		$ -	$ 150.00	
per diem	day	55	$ 50.00	$ 2,750.00		$ -	$ 2,750.00	
shipping	ea	1	$ 3,000.00					
	ea							
	each			$ -	$ -	$ -	$ -	
	gal			$ -		$ -	$ -	
	sq			$ -		$ -	$ -	

	each		$ 65.00	$ -		$ -	$ -	
	each		$ 20.00	$ -		$ -	$ -	
Misc materials	each		$ 1.00	$ -	$ 1.50	$ -	$ -	jacks
Mileage--crew vehicles	miles	1050	$ 0.55	$ 577.50		$ -	$ 577.50	All jobs must have this

Total Job Costs			$ 40,956.26		$ 21,865.49	$ 62,436.75
Additional non-margined expenses:						
BOND	1					
				$ -		
Total Adt'l Expenses						$ -
	Total Margin	15.0%	**Overhead**	15.0%	$ 11,018.25	
			Profit	0.0%	$ (0.00)	
					$ 11,018.25	
	Labor Burden	33.00%	(in labor total)		**Total Price**	**$ 73,455.00** Contract Amount
NOTES for Spreadsheet:						
					per sq	$ 73,455.00
					squares	1

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Kingman Unified 007BRG
Background – Kingman Unified (Kingman HSN – replace water heater and storage tanks)
On November 12, 2014, the Board awarded Kingman Unified $13,800 in Building Renewal Grant funding for engineering services to replace the hot water and storage tank system at Kingman High School-North (project number 080220202-1001-007BRG).

The engineer's assessment has been completed and includes a proposal for design and construction bid documents and cost estimates for construction, a structural analysis and an asbestos survey.

Initial award 11/12/2014	
Engineering assessment	$ 13,800
Supplemental funding requested:	
Engineering design/bid	$ 10,625
Construction cost	$ 203,479
Structural analysis	$ 5,000
Asbestos survey	$ 6,500
Contingency	$ 21,000
Total supplemental funding requested:	$ 246,604
Total project cost	$ 260,404

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation Kingman Unified (Kingman HSN – replace water heater and storage tanks)
Staff recommends that Kingman Unified be awarded an additional $246,604 in Building Renewal Grant funding to replace the water heater and storage tank system at Kingman High School-North (project number 080220202-1001-007BRG). This includes $5,000 for structural analysis, $6,500 for asbestos survey and $21,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $260,404.

Board Action Requested:
Board approval of the staff recommendation that **Kingman Unified** be awarded an additional $246,604 in Building Renewal Grant funding to replace the water heater and storage tank system at Kingman High School-North (project number 080220202-1001-007BRG). This includes $5,000 for

structural analysis, $6,500 for asbestos survey and $21,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $260,404.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Kingman_USD_007BRG_Vertical_Sheet.xls	Vertical Sheet	8/11/2015	Executive Summary
img-812110540-0001.pdf	backup	8/12/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Kingman Unified**
BRG Project Number: **080220202-1001-007BRG** Mohave County
Project Description: **Replace water heater and storage tanks**
Architect of Record: Pearson Engineering Associates, Inc. (602-264-0807)
Contractor: TBD

Executive Authority: 10/8/2014
Board Approval: 11/12/2014
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost (cost estimate provided by architect or contractor)		**$ 203,479**
Contingency ①		**$ 21,000**
Architecture / Engineering (A&E) Fees		$ 24,425
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 11,500
Testing & Inspection		$ -
Total Additional Cost:		**$ 35,925**
Total SFB Funded Project Cost:		**$ 260,404**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 260,404**
Total Project Cost:		**$ 260,404**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

PEARSON ENGINEERING ASSOCIATES, INC.

ELECTRICAL
MECHANICAL
PLUMBING

August 4, 2015

Re: Kingman High School
Domestic Hot Water Heating System Upgrade
Construction Administration Proposal
PEA No P15-204

Attn: Mr. David Kennon
School Facilities Board

Good Morning:

Pearson Engineering Associates (PEA) proposes to provide Construction Administration services for the project known as Domestic Hot Water Heating System Upgrade at Kingman High School in Kingman, AZ. Pearson Engineering previously provided design and construction documents services to the School Facilities Board for the removal and replacement of the existing inefficient Domestic Hot Water Boilers and leaking hot water storage tank with new high efficiency equipment.

Construction Administration services will include: Plumbing and Electrical Submittal Review, Plumbing and Electrical RFI review/response, (3) Plumbing Field Inspections including reports, and (2) Electrical Field Inspections including reports.

PARTNERS

D. Pearson, PE

D. Doyle, PE

J. Mostajabi, PE, RCDD

J. Ruthstrom, PE

ASSOCIATES

S. Harris, IAEI

A. Mondragon

M. Olson, FASPE

L. Robertson, ICCEI

C. Seymour, CPD

Engineering Fee:

Pearson Engineering Associates, Inc. offers to provide the above described services for the lump sum fee of Ten Thousand Six Hundred Twenty-Five Dollars ($10,625). This proposal is valid for thirty (30) days from date submitted

Please sign and return one (1) copy of this proposal. Written Authorization / Approval is required prior to start of this project.

Very truly yours,

David S. Pearson, PE
President
Pearson Engineering Associates, Inc.

(Name)_____

(Title)_____

Accepted: _____ Date _____

8825 N 23rd Ave
Suite 11
Phoenix, AZ 85021
T. (602) 264-0807
F. (602) 274-7542

Pueblo
Mechanical &
Controls, Inc.

(800) 840-9170

PROPOSAL - Kingman High School Domestic HHW Upgrades ***HARD BID***

PMC Proposal #:15-07-008

From: Pueblo Mechanical and Controls, Inc. **Date:** 07/29/2015

Attn: David Oder
Kingman Unified School District # 20
3033 Macdonald Ave
Kingman, AZ 86401

Dear David,

Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following scope for Kingman High School Domestic HHW Upgrades based on design booklet produced by Pearson Engineering, dated 05/29/2015.

Scope of Work:

- Demolition of existing boiler, storage tank, and associated hot water piping to be completed by owner.
- Coordinate with district to schedule for shutdown of gas service. Valve off and shut down gas service.
- Remove ceiling tile/grid and sections of hard lid ceiling as needed per plumbing plans dated 05-29-2015 for installation of new hot water return piping.
- Remove and dispose sections of existing gas supply to boiler room per the demolition plans dated 05-29-2015.
- Provide and install new gas piping and valves per plans dated 05-29-2015.
- Provide and install (11) new instantaneous water heaters in mechanical room per plans date 05-29-2015. Work to be completed in two phases. Duration of work to be coordinated with school district.
  - RINNAI model RU981
  - Low NOX design for low nitrous oxide emissions
  - Condensate Neutralization Kit
- Provide and install (3) new circulating pumps per plumbing plans dated 05-29-2015.
  - CP-1, Grundfos model UP 2699BF, 7GPM @ 28TDH, 120V/1PH
  - CP-2, Grundfos model UPS 32-160/2, 8GPM @ 40 TDH, 120V/1PH
  - CP-3, Grundfos model UPS 32-160/2, 12GPM @ 40 TDH, 120V/1PH
- Provide and install (3) new expansion tanks per plumbing plans date 05-29-2015.
  - EX-1, Watts model DETA100, 45 gallon potable ASME rated tank
  - EX-2, Watts model DETA80, 35 gallon potable ASME rated tank
  - EX-3, Watts model PLT5, 2 gallon potable ASME rated tank
- Provide and install new hot water supply and return piping per plumbing plans dated 05-29-2015. Connect to existing piping where indicated on plans.
- Provide and install new balancing valves in new hot water return piping per plumbing plans dated 05-29-2015.
- Insulate all new hot water supply and return piping per plumbing plans dated 05-29-2015.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

- Provide and install new 18"x18" access panels in locations where hard lid ceiling was removed for installation of new piping. For area access of valves and piping. Paint access panel to match ceiling.
- Remove existing solenoid valves and install spool pieces per plumbing plans dated 05-29-2015.
- Disconnect and remove existing electrical conduit and wiring from existing water heater/boiler equipment.
- Provide and install new 100A, 3/o panel board "AL5A" per electrical plans dated 05-29-15.
- Provide and install new electrical breakers, conduit and wire from existing electrical panel to new sub panel labeled "AL5A" from existing panel "AL5" per electrical plans dated 05-29-15.
- Provide and install new breakers, conduit, and wire from new sub panel to (11) new 120V, 20A circuits for new water heaters.
- Provide and install new breakers, conduit, and wire from new sub panel to (3) new 120V, 20A circulating pumps.
- Provide and install new control wiring per plans for EMCS controls.
- Chlorination of system. 2 trips max.
- Startup and test operation.
- Provide owner training as necessary.
- Provide operation and maintenance manuals.
- Provide 2 year warranty on parts and labor.

We Exclude The Following:

- Fees and permits, utility tap fees, site utilities, meters, and fire protection.
- There is a 3.2% fee associated with our accepting credit cards for payment.
- Repairs or replacement of existing gas piping not included in scope per plumbing plans date 05-29-2015.
- Davis Bacon / Prevailing wages.
- Buy Americas / American act.
- Engineering, permits and fees
- Fire or fire/smoke dampers.
- Motor starters, unless they are an integral part of the equipment we are furnishing.
- Kitchen equipment.
- Fire suppression systems.
- Poured or formed concrete work, including housekeeping pads.
- Architectural demolition and patching of roof, walls or ceiling.
- Architectural louvers.
- Seismic restraints.
- BIM or other CAD related modeling or drawings of any kind.
- Repair or replacement of any existing device to be found inoperable.
- Any work not included in scope of work listed above.
- Formal Commissioning or commissioning assist.
- Asbestos abatement, testing, reporting.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

Pueblo
Mechanical &
Controls, Inc.
(800) 840-9170

Complete material, service, and labor sub total:	**$**	**197,669.84**
MRRA AZDR Statute Compliance included		
Bonding (Bonding at School Districts Discretion):	**$**	**1,976.70**
Total Base Cost:	**$**	**199,646.54**

Alternate Add # 1:

- Provide and install controls as necessary for (11) new instantaneous water heaters and (3) circulation pumps.

Complete material, service, and labor sub total:	**$**	**3,794.38**
MRRA AZDR Statute Compliance included		
Bonding (Bonding at School Districts Discretion):	**$**	**37.94**
Total Base Cost:	**$**	**3,832.32**

We look forward to providing this important service; please call if you have any questions.

Best Regards,

Dan Moon
Pre Construction Manager
Business: (800) 840-9170 Ext: 111
Cellular: (520) 668-5144
dan@pueblo-mechanical.com

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Name	Signature	Date

Due to the high cost of equipment and/or extended nature of this project progress billing may be required; if a purchase order is created for this project the owner agrees to accept progress billing for demonstrated and verifiable completed work and/or arrival of equipment items pending installation.

SUMMA
MECHANICAL
2222 W. Grant Street • Phoenix, Arizona 85009 • (602) 254-2165 Office • (602) 254-9409 Fax

ARIZONA CONTRACTOR'S LICENSES:
ROC070721 (A) ROC070724 (C-77)
ROC070722 (B-01) ROC070725 (C-79)
ROC070723 (C-4) ROC108380 (CR-45)

July 29, 2015

Kingman Unified School District
3033 MacDonald Avenue
Kingman, Arizona 86401

Attention: David Oder

REF.: Domestic Hot water Heating System Upgrades

Dear Mr. Oder:

Summa Mechanical Contractors, Inc. is pleased to offer this proposal for the above referenced project. This proposal is complete and in accordance with the plans and specifications. Included are the following:

1. All work as shown on the plans and specifications
2. Sales tax
3. Payment and performance bonds
4. Permit costs – allowance of $1,400

Not included:

1. Control work. We were told the controls would be by Kingman Unified School District and to exclude them

TOTAL LUMP SUM PRICE.....$ 261,948

Please see the attached schedule.

Summa Mechanical Contractors, Inc. looks forward to working on this project with the Kingman Unified School District. Please call if you have any questions.

Very truly yours,
SUMMA MECHANICAL CONTRACTORS, INC.

John A. Summa

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Kirkland Elementary 006BRG

Background – Kirkland Elementary (Kirkland ES – repair domestic water system)
On November 12, 2014 and May 6, 2015, the Board awarded Kirkland Elementary $5,970 and $291,085 (total: $297,055) in Building Renewal Grant funding for the engineering investigation, design, permitting, construction administration and an estimated construction cost to repair the domestic water system at Kirkland Elementary School (project number 130323001-9999-006BRG).

The funding awarded this project was to repair the system. Since that time, the age of the well has been determined (100 years) and the engineer has recommended replacement at a cost of $520,658, which includes the addition of a water storage tank. Currently, the school does not have a storage tank. If the well were to lose electricity, the school would be without water without a storage tank. The cost to replace the existing system exceeds the estimated repair design/construction award of $280,585 by $240,073.

Initial award 11/12/2014	
Engineering investigation	$5,970
Supplemental award 5/6/2015	
Design/permitting/construction administration	$ 48,510
Estimated construction (repair)	$ 232,075
Contingency	$ 10,500
Total award:	$ 297,055
Supplemental funding requested:	
Construction cost (replace)	$520,658
Funding previously awarded - $280,585	
Total supplemental funding requested	$240,073
Total project cost:	$537,128

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Kirkland Elementary (Kirkland ES – repair domestic water system)
Staff recommends that Kirkland Elementary be awarded an additional $240,073 in Building Renewal Grant funding for the construction of a new well, storage tank, booster station, disinfection

system and connection to the existing distribution system to repair the domestic water system at Kirkland Elementary School (project number 130323001-9999-006BRG). This brings the total project cost to $537,128.

Board Action Requested:
Board approval of the staff recommendation that **Kirkland Elementary** be awarded an additional $240,073 in Building Renewal Grant funding for the construction of a new well, storage tank, booster station, disinfection system and connection to the existing distribution system to repair the domestic water system at Kirkland Elementary School (project number 130323001-9999-006BRG). This brings the total project cost to $537,128.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Kirkland_ESD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729162805-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Kirkland Elementary**
BRG Project Number: **130323001-9999-006BRG** Yavapai County
Project Description: **Repair domestic water system**
Architect of Record: n/a
Contractor: Fluid Solutions (602-707-7777)

Board approval: 11/12/2014
Supplemental award: 5/6/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 472,148**
Contingency ①		**$ 10,500**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 5,970
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 48,510
Testing & Inspection		$ -
Total Additional Cost:		**$ 54,480**
Total SFB Funded Project Cost:		**$ 537,128**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 537,128**
Total Project Cost:		**$ 537,128**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Fluid Solutions
Water • Wastewater • Engineering • Environmental Services

July 17, 2015

Ms. Michelle Perey
Kirkland Elementary School District #23
PO Box 210
Kirkland, Arizona 85332

Transmitted via e-mail

RE: Kirkland Elementary School #23, 14200 Kirkland-Highland Road, Kirkland, AZ 86332
New Water Plant – Design/Build Option

Dear Ms. Perey:

This letter is Fluid Solutions' proposal to provide professional services to the Kirkland Elementary School District (KESD) for improvements to the existing water system at the Kirkland Elementary School. Our understanding is that this system is currently experiencing contamination problems with multiple present samples indicating presence of coliform requiring frequent disinfection of the well. The investigation into this has led to the conclusion that the best course of action is to replace the existing well, install a disinfection system, and install a storage tank to ensure adequate contact time for the disinfectant.

This proposal provides for a Design/Build approach with Fluid Solutions acting as the Design Engineer and the General Contractor.

Design Effort

The design effort will be preparation of drawings for construction and permitting through Arizona Department of Environmental Quality (ADEQ) and Yavapai County for the improvements. The accessory items to be designed included a storage tank and booster system to provide adequate contact time for disinfectant to meet viral and bacterial inactivation requirements, and a disinfectant system (storage, metering pump, and injector). Electrical design will be needed to provide electrical power to the motors, sensors, and alarms associated with the project.

Permitting

The following permits (issuing authority) are anticipated to be needed for this project:

1. Approval to Construct (ADEQ): well modification, storage tank, disinfection system, booster station, and hydropneumatic tank.
2. Electrical (Yavapai County): Power to improvements
3. Approval of Construction (ADEQ): well modification, storage tank, disinfection system

NOTE: Permit fees for these items are not included in Fluid Solutions' fees under this proposal but listed for budgetary purposes. All permits are technically owned by the School and should be issued against a school check.

Construction

Engineering services during construction include the review of proposed equipment for installation and preparation of final Record Drawings for submittal to regulatory agencies requiring close-out submittals. Coordination and observation of the work in progress will be conducted to assure that the workmanship is meeting the standards established in the construction documents.

Construction services will be provided in two stages. The first is the well replacement. This work will include:

- Drilling new well;
- Development of new well; and,
- Abandonment of old unused well.

The second stage of work will include:

- Installation of well pump, well head hydraulic control, and piping to storage;
- Installation of new 10,000 gallon storage tank with level controls to operate well pump;
- Install a disinfection system capable of meeting the regulatory virus and pathogen inactivation requirements to ensure required contact time is achieved to protect users;
- Installation of a booster station and bladder tank to maintain system pressures on the existing distribution system. Booster station and bladder tank will be installed in a small building to protect it from freezing; and,
- Installation of a 2-inch main line from the new booster station to the existing point of connection to the school distribution system.

Exclusions

Water quality is not expected to require treatment; however, if a treatment plant is required to remove contaminates that exceed safe drinking water standards, the design and construction of the treatment facilities are not included. Design and construction of such facilities cannot be evaluated or considered until water samples are taken and analyzed.

Additional exclusions include:

- Special Use permit if necessary;
- Combining parcels for County permitting;
- Formal site survey beyond minimal needs for improvements; and,
- Regulatory permit fees. Fees are listed for your budget but should be paid on a School check.

Schedule

The well will be drilled first. We will make every attempt to complete drilling activities in a manner that will not impede classroom activities. After drilling development of the well will occur for a continuous 24 hour period. At the end of the period, we will collect water samples to prove the water meets drinking water quality in accordance with State and Federal standards. We expect to have results of the water quality signifying the end of this phase of work by the end of September.

Installation of the storage tank, booster station, disinfection and main line extension will follow after the well is drilled. The booster station and disinfection will be housed inside a small building (Tuffshed) to keep piping from freezing in the winter.

Permitting will likely cause the project to extend into December prior to your ability to use the new system legally. The following schedule summarizes our estimate of the project progress as dictated by drilling and permitting.

Major Task	Permitting Timeline					
	July	August	September	October	November	December
Drill and Develop Well	Drill Well. Pull New Source Water Samples for permitting	Waiting for Laboratory Results on water samples	Submit New Source Permit Application for Drinking Water	Receive New Source Approval from ADEQ		
Build Water Plant		Design and Initiate Construction of Water Plant		Construction Continues Submit for Approval to Construct (AtC)	Construction Continues Receive AtC from ADEQ Submit for Approval of Construction (AoC)	Receive AoC from ADEQ Connect New System to School Project Complete

Fees

Task	Estimated Cost
Well Drilling and Development	$ 167,300
Water Plant Design, Permitting & Construction	$ 336,358
Taxes	$ 17,000
Total	**$ 520,658**

NOTE: Fees do not include permitting costs from any regulatory agency. Estimated cost for ADWR is $300; for ADEQ is $3,200; and, for Yavapai County is $300 for a total permit cost of $3,800

Fluid Solutions proposes to complete this Design/Build project for a fee of Five Hundred Twenty Thousand, Six Hundred Fifty Eight and Zero One-Hundredths Dollars ($520,658.00).

Attached to this proposal are Fluid Solutions' "Standard Terms and Conditions for Service" and "Standard Schedule of Charges", which are made a part of this proposal and agreement. Fluid Solutions is ready to begin working to resolve the issues with the Kirkland Elementary School water system.

Return of one copy of this proposal signed by an authorized agent of Kirkland Elementary School District or issuance of a Purchase Order referencing this proposal will be considered the "Notice to Proceed" for this project.

Sincerely,
Fluid Solutions

Norm Fain, PE
Member/Principal Engineer

Acceptance:
Kirkland Elementary School District #23

_____
Authorized Signature
Michelle Perey, Administrator
Printed Name and Title

_____
Date

cc: Gerry Breuer, Arizona School Facilities Board

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Kirkland Elementary 007BRG

Background – Kirkland Elementary (Kirkland ES – IT room HVAC)

On January 7, 2015, the Board awarded Kirkland Elementary $3,350 in Building Renewal Grant funding for the design to provide appropriate HVAC for the IT room in the Main Building 1001 at Kirkland Elementary School (project number 130323001-1001-007BRG).

The district received proposals for the construction; the lowest was $5,850.

Initial award 1/7/2015
Design $3,350

Supplemental funding requested:
Construction cost $5,850
Asbestos testing $1,500
Structural analysis $1,800
Contingency $1,350
Total supplemental funding requested: $10,500

Total project cost: $13,850

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Kirkland Elementary (Kirkland ES – IT room HVAC)
Staff recommends that Kirkland Elementary be awarded an additional $10,500 in Building Renewal Grant funding for the IT room HVAC in the Main Building 1001 at Kirkland Elementary School (project number 130323001-1001-007BRG). This includes $1,500 for asbestos testing, $1,800 for a structural analysis and $1,350 in contingency that will only be used with SFB staff approval and brings the total project cost to $13,850.

Board Action Requested:
Board approval of the staff recommendation that **Kirkland Elementary** be awarded an additional $10,500 in Building Renewal Grant funding for the IT room HVAC in the Main Building 1001 at Kirkland Elementary School (project number 130323001-1001-007BRG). This includes $1,500 for asbestos testing, $1,800 for a structural analysis and $1,350 in contingency that will only be used with SFB staff approval and brings the total project cost to $13,850.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Kirkland_ESD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary

img-728155315-0001.pdf	backup docs	7/28/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Kirkland Elementary**
BRG Project Number: **130323001-1001-007BRG** Yavapai County
Project Description: **IT room HVAC**
Architect of Record: Otwell Associates Architects (928-445-4951)
Contractor: TBD

Board approval: 1/7/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 5,850**
Contingency ①		**$ 1,350**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 3,350
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 1,500
Testing & Inspection		$ 1,800
Total Additional Cost:		**$ 6,650**
Total SFB Funded Project Cost:		**$ 13,850**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 13,850**
Total Project Cost:		**$ 13,850**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

TDK Comfort Systems, Inc.
Heating & Air Conditioning

1940 S. HWY 89 STE. D CHINO VALLEY, AZ 86323
Phone: 928-636-0846 FAX: 928-636-2183
License # 154061

HVAC PROPOSAL / KIRKLAND SCHOOL I.T. UPGRADE

REVISED
July 22, 2015

OTWELL ASSOCIATES ARCHITECTS
121 E. GOODWIN
PRESCOTT, AZ. 86303
PHONE 445-4951
bill@otwell-architects.net

The Undersigned proposes to furnish all the materials, equipment, and perform all the labor necessary to complete the following per the plans by Tiglas Eng. dated 3/30/15:

1. UNIT: Provide and install the specified Samsung ductless mini split heat pump unit with the included wireless remote control and condensate pump. Condensate piping included. The refrigerant line sets are insulated and include the interlocking wiring to power the indoor section. Outdoor section mounted on the roof on a fabricated stand and vibration isolators as specified with any roof seal at our roof penetrations included. Complete roof mounting.

2. Line voltage wiring as shown on page E1 is included.

EXCLUSIONS: Permits, Taxes, Painting, Patching. Any structural or framing members required to support the units. General or architectural sheet metal. Assuming the work can be done during normal business hours.

All of the above work to be performed in a substantial and workmanlike manner for the sum of Five thousand five hundred dollars.....$5,500.00 + $349.25 sales tax =$5,849.25

_____ _____
Proposal Acceptance *Acceptance Date*

Payment to be made as follows: Payment will be based on Monthly Progress. The entire amount of the invoice shall be paid within (10) days of Invoice date. Any invoice or balance left unpaid after thirty (30) days of Invoice date will have a Service Charge of 1 ½% per month basis. All reasonable costs for collection of unpaid and past-due balances shall be the responsibility of the party authorizing the work. All materials remain the property of TDK Comfort Systems until Paid in full.

Warranty on this proposed work will be as required by the Arizona Registrar of Contractors Standards for licensed contactors or as required by specifications. This warranty excludes damage to abuse, modification by others, inadequate maintenance, improper operation or normal wear and tear.

*Any alteration or deviation from the above specifications involving extra cost of material or labor will only be executed upon written orders for same, and will become an extra charge over the sum mentioned in this contract. All agreements must be made in writing. This written proposal is good for **30 days** from the date of this proposal.*

The undersigned agrees to carry Workmen's Compensation and public Liability Insurance and Unemployment Compensation taxes as required by the United States Government and the State of Arizona.

Respectfully Submitted, Bill F

Bill Fisher

ACCEPTANCE

The above prices, specifications and conditions are satisfactory and are hereby accepted. TDK Comfort Systems Inc. is authorized to do the work as specified. Payment will be made as outlined above.

*Date of Acceptance*_____ _____

Authorized Signature

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Palominas Elementary 002BRG

Background – Palominas Elementary (Valley View ES – correct drainage issues)

On May 6, 2015, the Board awarded Palominas Elementary $21,490 in Building Renewal Grant funding for the investigation and design to mitigate the drainage issues at Valley View Elementary School (project number 02034900S-9999-002BRG).

The Architect has completed the design and provided an estimate of $76,322 for the construction of the mitigation.

Initial award 5/6/2015	
Professional assessment	$ 21,490
Supplemental funding requested:	
Estimated construction cost	$ 76,322
Contingency	$ 7,678
Total supplemental funding requested:	$ 84,000
Total project cost:	$ 105,490

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.
Staff Recommendation – Palominas Elementary (Valley View ES – correct drainage issues)
Staff recommends that Palominas Elementary be awarded an additional $84,000 in Building Renewal Grant funding for the correction of drainage issues at Valley View Elementary School. This includes $7,678 in contingency that will only be used with SFB staff approval and brings the total project cost to $105,490.

Board Action Requested:
Board approval of the staff recommendation that **Palominas Elementary** be awarded an additional $84,000 in Building Renewal Grant funding for the correction of drainage issues at Valley View Elementary School. This includes $7,678 in contingency that will only be used with SFB staff approval and brings the total project cost to $105,490.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Palominas_ESD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
CostEstimate_070615.pdf	Architect Estimate	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Palominas Elementary**
Project Number: **02034900S-9999-002BRG** Cochise County
Project Description: **Correct drainage issues**
Architect of Record: Robert Polcar Architects, Inc. (480-675-9760)
Contractor: TBD

Board approval: 5/6/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 76,322**
Contingency		**$ 7,678**
Architecture / Engineering (A&E) Fees		$ 21,490
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 21,490**
Total SFB Funded Project Cost:		**$ 105,490**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 105,490**
Total Project Cost:		**$ 105,490**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

7/6/2015

Valley View Elementary
Hereford, AZ

Site Drainage

	Unit Price	Unit	Qty	Total
Remove asphalt	$5.00	SY	360	$1,800.00
Remove extg drains	$4.00	LF	240	$960.00
Replace sidewalk	$6.00	SF	481	$2,886.00
New asphalt	$20.00	SY	338	$6,760.00
Valley gutter	$4.50	SF	720	$3,240.00
Catch Basin	$1,500.00	EA	2	$3,000.00
18" Drain Pipe	$28.00	LF	414	$11,592.00
Replace Driveway	$20.00	SY	36	$720.00
Modify Brick boarder	$500.00	LS	1	$500.00
Water jet scuppers	$500.00	LS	1	$500.00
Earthwork	$5,000.00	LS	1	$5,000.00
Riprap	$9.00	SF	960	$8,640.00
24" drain line	$1,600.00	EA	3	$4,800.00
Subtotal				$50,398.00
Markups (23%)				$11,591.54
Total Base Bid				$61,989.54
Bonds (2.6%)				$1,611.73
Total				$63,601.27
Contingency (20%)				$12,720.25
Grand Total				$76,321.52

ROBERT POLCAR ARCHITECTS, INC ARCHITECTURE PLANNING INTERIORS
4226 N. 84th Place Scottsdale, AZ. 85251 P (480) 675-9760 C (602) 363-4096

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Paradise Valley Unified 001BRG
Background – Paradise Valley Unified (Palomina II IS– replace cooling tower)
On April 1, 2015, the Board awarded Paradise Valley Unified $15,850 in Building Renewal Grant funding for the engineering services to replace the cooling tower that serves the HVAC units at Palomina II Intermediate School (project number 070269151-9999-001BRG).

The district received proposals for the replacement; the lowest was $157,699.

Initial award 4/1/2015
Engineering services, including design,
bid and construction administration $8,850

Supplemental funding requested:
Construction cost $157,699
District contribution ($7,000)
Contingency $20,000
Total supplemental funding requested: $170,699

Total project cost: $186,549

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.
Staff Recommendation – Paradise Valley Unified (Palomina II IS – replace cooling tower)
Staff recommends that Paradise Valley Unified be awarded an additional $170,699 in Building Renewal Grant funding to replace the cooling tower at Palomina II Intermediate School (project number 070269151-9999-001BRG). This includes $20,000 in contingency and brings the total project cost to $186,549. The district is contributing $7,000 to the cost of the project.

Board Action Requested:
Board approval of the staff recommendation that **Paradise Valley Unified** be awarded an additional $170,699 in Building Renewal Grant funding to replace the cooling tower at Palomina II Intermediate School (project number 070269151-9999-001BRG). This includes $20,000 in contingency and brings the total project cost to $186,549. The district is contributing $7,000 to the cost of the project.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Paradise_Valley_USD_001BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary

img-730122801-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Paradise Valley Unified**
Project Number: **070269151-9999-001BRG** Maricopa County
Project Description: **Replace cooling tower**
Architect of Record: Johnston Engineering Company (480-443-8773)
Contractor: Pueblo Mechanical & Controls

Board approval: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 150,699**
Contingency ①		**$ 20,000**
Architecture / Engineering (A&E) Fees		
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 8,850
Testing & Inspection		$ -
Inspection, Evaluation and Oversight		$ -
Total Additional Cost:		**$ 8,850**
Total SFB Funded Project Cost:		**$ 179,549**
District Share (Local Funds):		$ 7,000
SFB Board Approved Amount:		**$ 179,549**
Total Project Cost:		**$ 186,549**

① Contingency shall only be requested and applied to unknown conditions.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Pueblo Mechanical & Controls, Inc. (800) 840-9170

PROPOSAL - Palomino II Intermediate School Fluid Cooler ***HARD BID***

PMC Proposal #:15-07-014

From: Pueblo Mechanical and Controls, Inc. **Date:** 07/20/2015

Attn: Joe Haggerty
Paradise Valley Unified School District #69
20621 N 32nd Street
Phoenix, AZ 85050

Dear Joe,

Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following scope for Palomino II Intermediate School Fluid Cooler based on design booklet produced by Johnston Engineering Company, dated 07/14/2015.

Scope of Work:

- Isolate fluid cooler and drain water for removal.
- Disconnect existing electrical supply to existing fluid cooler fans and make safe for removal.
- Disconnect existing vibration cutout switch for tower fans.
- Disconnect existing electrical supply for cooler spray pump and make safe for removal.
- Disconnect existing fluid cooler controls for removal.
- Disconnect existing condenser water supply/ return and makeup water piping for removal of fluid cooler.
- Disconnect existing chemical treatment piping connections for removal of fluid cooler. Remove and dispose existing chemical controller and coupon rack.
- Remove and dispose existing fluid cooler.
- Provide and install new BAC fluid cooler, Model FXV-1218B-23Q-O, induced draft, cross flow cooling tower.
    - (1) 30HP and (1) 15HP premium efficient inverter duty fan motors, 460V/3PH
    - (1) 10HP premium efficient spray pump motor, 460V/3PH
    - G235 Galvanized steel panels and structural
    - Galvanized steel, full circuit coil BFW coil connections
    - Low sound axial fan with steel fan guards
    - Mechanical float valve assembly
    - Mechanical vibration cutout switch
    - External service platform with ladder and safety gate, internal walkway
- Route new 2" drain piping from fluid cooler to nearest existing floor drain.
- Route new 3" overflow piping from fluid cooler to nearest existing floor drain.
- Reconnect existing makeup water piping to new fluid cooler. Provide piping and fittings as necessary for new connection.
- Reconnect existing condenser water supply and return piping to new fluid cooler. Provide piping and fittings as necessary for new connections.
- Provide and install new Lakewood chemical controller.
- Provide and install new ¾" Belimo bleed valve.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

- Provide and install new 2-station coupon rack for chemical treatment.
- Replace existing seal-tight and reconnect existing electrical supply to new spray pump motor. Re-use existing electrical disconnect.
- Replace existing seal-tight and reconnect existing electrical supply to fan motors. Re-use existing electrical disconnects.
- Reconnect existing conductors from starter to new vibration cutout switches. Provide and install new flexible seal-tight as necessary.
- Reconnect existing controls to new fluid cooler.
- Provide startup and test operation
- Provide crane and rigging as necessary for installation of new fluid cooler.
- Provide Operation and Maintenance manuals.
- Provide 2 year warranty on parts and labor.

We Exclude The Following:

- Backflow prevention for tower makeup water piping.
- New electrical disconnects. Existing to be re-used.
- Repair or replacement of any existing device found to be inoperable.
- Engineering, permits and fees.
- Asbestos abatement, testing, reporting.
- Any work not included in scope of work listed above.

Base Scope:		
Complete material, service, and labor sub total:		**$ 155,751.17**
MRRA AZDR Statute Compliance included		
Bonding (Bonding at School Districts Discretion):	**[1.25%]**	**$ 1,946.89**
Total Base Cost:		**$ 157,698.06**

Alternate Add #1:

- Provide and install complete 304 stainless steel construction fluid cooler in lieu of galvanized.
- Cold water basin fully welded with 5-year leak free warranty.

Complete material, service, and labor sub total:		**$ 56,461.86**
MRRA AZDR Statute Compliance included		
Bonding (Bonding at School Districts Discretion):	**[1.25%]**	**$ 705.77**
Alternate Add #1 Total Cost:		**$ 57,167.64**

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

HACI Service, LLC
2108 West Shangri-La Road
Phoenix, AZ 85029-4812
Phone: 602-944-1555
Fax: 602-678-0266

Since 1972

ROC B-01 # 257479, ROC # 200617
ROC # 200618, ROC # 200619, ROC # 200620

Replacement of the fluid cooling tower & VFD addition - per plans & specs

The undersigned proposes to furnish, install and service under warranty the work hereinafter outlined, upon the terms and conditions and in accordance with the following specifications.

JOB NAME:	Palomino II Elementary School	Date:	7/21/2015
JOB ADDRESS:	15815 N. 29th St.	Attn:	Richard Bishop
	Phoenix, AZ. 85032	phone:	602-717-1686
HACI BID #:	15-S-1084	email:	rbishop@pvlearners.net

DEMO:
Demo & remove the existing cooling tower
Demo & remove the existing piping not being re-used

EQUIPMENT:
Furnish and install (1) B.A.C. #FXV-1218B fluid cooling tower as follows;
Induced draft, crossflow
460V - 3 phase
G235 galvanized steel construction
Integral spray pump
External service platform w/ ladder & safety gate
Internal walkway & ladder

PIPING:
Furnish and install new 8" sch. 40 steel pipe & fittings where necessary, connecting to the connecting to the existing tower piping. Re-use existing pipe & fittings when possible.
Furnish and install new mechanical fitting gaskets for all connections
Furnish and install (extend) the existing 1 1/4" copper make up water line to the new connect point of the tower. Piping to be mounted to the tower structure.
Furnish and install new type "L" copper drain & overflow piping for the new tower. The piping to be installed onto the existing stands and terminate at the existing floor sink.

ELECTRICAL:
Demo existing electrical for the cooling tower
Furnish and install (1) new service disconnect for the new tower
Furnish and install new conduit, fittings, wire, etc. for the tower circuit modifications
Furnish and install conduit, wire, fittngs, etc. for vibration swict on new tower
Terminate all wiring for a fully functional system

CONTROLS:
Provide controls system modifications as follows;
Cooling tower fan start/stop/VFD
Condenser water pumps start/stop/VFD
Existing DX-9100 with new XP Module controller installed in the pump room for local control

MISC. INCLUSIONS:
Startup & Test Operation
Test & Balance
Two (2) year parts & labor warranty - complete project
Three (3) year parts & labor warranty - VFD's
Five (5) year parts extended warranty (mechanical rotating parts & basin) - cooling tower
Crane & rigging service
Haul off of demo'd materials
Epoxy paint for new/re-used condenser water piping - match existing
Materials sales tax

MISC. EXCLUSIONS:

Permits, Fees, Bond
Engineering & plan development
EMS Controls (*) except as stated above
Painting, Prime or Finish (*) except as stated above
Concrete, Poured or formed
Any item not specifically included above
Quick ship costs
Delays by others
Premium (overtime) labor

CLARIFICATIONS:

Proposal is valid for (90) days
HACI reserves the right to review material cost prior to the acceptance of any fixed price contract over 90 days
We assume this proejct to be done during normal business hours
There is a 6 week lead time for the new tower as of 7/16/15
HACI to provide (3) copies of the equipment O&M in a format TBD
We are not removing or modifying the existing housekeeping pad or steel supports

WARRANTY SERVICE:

1. After installation, our qualified representative will start, test and provide instruction on use of the equipment.
2. All equipment, materials and labor furnished by us will bear a one year warranty from the date of start-up. Copies of the manufactures warranties will be supplied upon installation of the equipment.
3. Service under this warranty will be provided promptly by us during normal working hours. Warranty service does not include maintenance such as filter or fuse replacement.

Base bid TOTAL:	**$169,527.00**
ADD/ALT. for pump VFD's:	**$23,335.00**
Includes (2) new ABB VFD's & pump motor replacements	
ADD/ALT. for all stainless steel tower:	**$55,456.00**
This add is for a tower with all stainless steel construction	

ACCEPTANCE OF PROPOSAL

The enclosed pricing, terms, & conditions are satisfactory and are hereby accepted.
You are authorized to perform the work as specified.

Customer Name: _____ Date: _____

Customer Signature: _____ PO #: _____

Thank you for the opportunity to offer a quote for this project. If you have any questions, or need further clarification, please contact me @ 602-803-5107.

Sincerely,

Kevin D. Flores

Project Manager
HACI SERVICE

2226 W. PARKSIDE LN.
PHOENIX, AZ 85027
OFFICE (623) 344-1458
FAX (623) 344-1529
www.hmcc.com

HARRIS MECHANICAL

July 20th, 2015

Paradise Valley School District
Palomino II Elementary School
15815 N. 29th Street
Phoenix, AZ 85032

Attn: Ms. Sandy Waddell

Regarding :Palomino II Elementary School – Fluid Cooler Updgrade
Harris bid # :**200675**

Dear Ms. Waddell,

We are pleased to provide a Proposal for the HVAC work for the above referenced project.

Our Scope of work with exceptions noted includes the following:

Plans	:	Prepared by Johnston Engineering
Sheets	:	M0.1, M0.2, M2.1, E0.1, and E1.1
Dated	:	7-14-2015 Engineering Changes
Specifications	:	Prepared by Johnston Engineering
Amendments	:	None

PLUMBING, HEATING, VENTILATION, AND AIR CONDITIONING

HVAC SCOPE:

1. Provide demolition of HVAC systems to include the following:
   - One fluid cooler
   - Make-up water piping
   - Fluid cooler drain piping
   - Condenser water piping as needed.
2. Furnish & install one new BAC fluid cooler per the mechanical drawings.
3. Re-pack the existing grout under the existing steel beams. Note: no new vibration isolation will be provided.
4. Furnish & install copper drain and overflow piping for the new fluid cooler.
5. Furnish & install copper make-up water piping to the new fluid cooler.
6. Re-connect the existing water treatment ports as needed.
7. Provide replacement of existing water treatment components, equipment, and interconnecting piping.
8. Provide initial start-up chemicals for the system.
9. Provide electrical disconnection and removal as needed for installation of new cooling tower and new variable frequency drives.
10. Furnish & install new conduit and wiring.
11. Furnish & install new disconnect switches as indicated.
12. Provide wire brushing and painting of new condenser piping installed.

13. Furnish & install DDC controls connections for the new VFD drives and the cooling tower vibration switches into the existing Johnson Controls system.
14. Provide start-up of all mechanical systems furnished by HMSW.
15. Provide balancing of the existing condenser water pumps and fluid cooler.
16. Provide a two-year warranty on all parts and labor provided by HMSW.

HEATING, VENTILATION, AND AIR CONDITIONING - PRICING

Total Mechanical Proposal..... $218,888.00

Sales Taxes..... $15,306.00

ALTERNATE PRICING:

Add Condenser Pump VFD Drives

1. Furnish & install two variable frequency drives for the condenser water pumps.
2. Furnish & install new electrical wiring and conduit as shown for the new drives.
3. Provide controls modifications on the existing Johnson Controls system.
4. Provide start-up and verification of the new drives and controls.

Total Mechanical Alternate Pricing..... $15,475.00

Sales Taxes..... $664.00

Provide fluid cooler construction of stainless steel upper and lower sections.

1. Provide an all stainless steel fluid cooler per the construction drawings. Note: This option includes a 5 year leak free warranty from the manufacturer.

Total Mechanical Alternate Pricing..... $47,899.00

Sales Taxes..... $4,215.00

Perform work after hours

1. Perform the removal and installation of the fluid cooler during off hours or on the weekend to not interrupt normal service of the building.

Total Mechanical Alternate Pricing..... $5,000.00

EXCLUSIONS TO HVAC PROPOSALS:

1. Note#1 on sheet M2.1 (Replace existing vibration isolators between concrete pad and I-Beams) There is no vibration isolation installed. Only dry pack grout at these locations.
2. Sound or Acoustic Caulking
3. Concrete for equipment pads
4. Sales taxes – See Alternate Pricing
5. Saw Cutting or Penetrations other than Core Drills

6. Permits or Bond Premiums
7. Overtime labor costs
8. Architectural louvers
9. 120 volt power for controls
10. Fire Alarm panels or fire alarm interlocks
11. Temporary Cooling/Heating
12. Smoke Detectors

For questions regarding this proposal please contact the following:

Adam C. Tilley
Senior Estimator
Harris Mechanical SW
623-344-1480 Office
602-397-1846 Cell
atilley@hmcc.com

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Payson Unified 006BRG
Background – Payson Unified (Rim Country MS – replace heater unit)
On April 1, 2015, the Board awarded Payson Unified $5,700 for professional services (including construction administration) to replace the original heater in Building 1001 at Rim Country Middle School (project number 040210102-1001-006BRG)

Staff has reviewed the construction bid documents and agrees with the scope of work. The district has submitted cost estimates as outlined below:

Previous Award	
Design 4/1/2015	$5,700
Supplemental funding requested:	
Construction (estimate)	$17,755
Contingency	$3,000
Total supplemental funding requested:	$20,755
Total Project Cost:	$26,455

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Payson Unified (Rim Country MS – replace heater unit)
Staff recommends that Payson Unified be awarded an additional $20,755 in Building Renewal Grant funding for the replacement of the heater unit on Building 1001 at Rim Country Middle School. This includes $3,000 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Payson Unified** be awarded an additional $20,755 in Building Renewal Grant funding for the replacement of the heater unit on Building 1001 at Rim Country Middle School. This includes $3,000 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Payson_USD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	Grant Application	8/3/2015	Cover Memo
15085-Misc-150717-rh-Cost_Estimate.pdf	Preliminary Budget by Engineer	7/22/2015	Cover Memo
p15023-00-RH-SFB-PUSD_Unit_Heater_Replacement_unlocked.pdf	Construction Administration Proposal	7/22/2015	Cover Memo
15085-150630-100_percent_Mechanical.pdf	Construction Bid Documents	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Payson Unified**
Project Number: **040210102-1001-006BRG** Gila County
Project Description: **Replace heater unit**
Architect of Record: Arizona Pinnacle Engineering, LLC (623-594-0949)
Contractor: TBD

Board approval: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost (cost estimate provided by architect or contractor)		**$ 17,755**
Contingency		**$ 3,000**
Architecture / Engineering (A&E) Fees		$ 5,700
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 5,700**
Total SFB Funded Project Cost:		**$ 26,455**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 26,455**
Total Project Cost:		**$ 26,455**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 3/5/2015 10:41:58 AM **Application ID:** 1868

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Payson Unified District

Superintendent: Dr. Greg Wyman

Contact Person: Brent Bailey

Contact Phone Number: (928) 472-2024

Contact Email: brent.bailey@pusd.com

School Site: Rim Country Middle School

Buildings: 1001 Gymnasium

Application Title: Rim Country Middle School Unit Heater Replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Arizona Pinnacle Engineering, LLC contacted and Proposal for Mechanical and Electrical Engineering Services received at a sum of $5,700.00 + $800.00 per man-trip if additional trips are required. Proposal forwarded to Pat Cruse. Scope of Work and pricing have yet to be performed in lieu of approval of grant.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

District does not have the funding for replacement of unit.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Superintendent Printed Name

Superintendent Signature Date

ESTIMATE OF PROBABLE CONSTRUCTION COST

ARIZONA PINNACLE ENGINEERING
2222 WEST PINNACLE PEAK ROAD, SUITE 290
PHOENIX, AZ 85027

ESTIMATE OF PROBABLE CONSTRUCTION COST				ESTIMATE: 100%	
PROJECT NAME: RIM COUNTRY MIDDLE SCHOOL IN-LINE DUCT HEATER REPLACEMENT				AZPE JOB NO: 15085	
DESCRIPTION: **MECHANICAL/ELECTRICAL SYSTEMS**		PREP. BY : R HILLIS		DATE: 07/17/15	
ITEM NO.	DESCRIPTION	EST. QTY.	UNIT	UNIT COST*	TOTAL COST*
1	DEMO - IN-LINE DUCT HEATER	1	EA	$500.00 /EA.	$500.00
2	DEMO - DUCT, FLEX, PIPING, ETC	1	LOT	$500.00 /LOT	$500.00
3	225 MBH IN-LINE DUCT HEATER	1	EA	$4,500.00 /EA.	$4,500.00
4	RETURN GRILLE	1	EA	$50.00 /EA.	$50.00
5	DUCTORK	150	LBS	$26.00 /LB	$3,900.00
6	DUCT LINER	180	SF	$8.30 /SF	$1,494.00
7	LP GAS PIPING	1	LOT	$200.00 /LOT	$200.00
8	6" DIAMETER CONCENTRIC FLUE	1	LOT	$200.00 /LOT	$200.00
9	10" DIAMETER FLEX DUCT	6	FT	$10.00 /FT	$60.00
10	MOTORIZED DAMPER	2	EA	$200.00 /EA.	$400.00
11	CO2 CONTROLS, WIRING, CONDUIT	1	LOT	$1,500.00 /LOT	$1,500.00
12	NEW VOLUME DAMPERS	2	EA	$100.00 /EA.	$200.00
13	ELECTRICAL DEMOLITION	1	LOT	$200.00 /LOT	$200.00
14	ELECTRICAL DISC/WIRING/ETC	1	LOT	$500.00 /LOT	$500.00
SUBTOTAL					$14,204.00
CONTINGENCY WITH OUT OF TOWN PREMIUM				25%	$3,551.00
TOTAL PROBABLE COST					**$17,755.00**

* INCLUDING SUBCONTRACTOR'S OVERHEAD & PROFIT

ARIZONA PINNACLE ENGINEERING, LLC
Mechanical and Electrical Consulting Engineers
Steven F Durand, P.E. △ Rodney L Hillis, P.E. △ Eudjen Savu, P.E. △ Scott E Woods, P.E.

January 30, 2015

Payson Unified School District #10
902 West Main Street
P.O. Box 919, Payson, Arizona 85547

Attn: Mr. Brent Bailey

Re: Unit Heater Replacement at Payson High School
Proposal for Mechanical and Electrical Engineering Services P15023

Dear Mr. Bailey:

Arizona Pinnacle Engineering, LLC (AZPE), is pleased to propose the following Agreement for mechanical (plumbing), electrical, and structural engineering services for the replacement of the failing unit heater at Payson High School in Payson, Arizona.

This proposal is valid for a period of sixty (60) calendar days from the date of its issuance. If this proposal is not accepted within the stipulated time period, we reserve the right to cancel this Agreement or to renegotiate the fees. If signed and returned, or if not rejected but accepted by our proceeding with the work upon your request, this document shall constitute a contractual Agreement between us.

PARTIES TO CONTRACT

This Agreement is made between the Payson Unified School District #10, hereinafter referred to as the Client, and Arizona Pinnacle Engineering, LLC, hereinafter called the Engineer, and each is bound to the Agreements outlined herein. Neither party may assign, sublet, or transfer its interest in this Agreement without written consent of the other party.

SCOPE OF BASIC ENGINEERING SERVICES

For the purpose of this contract "Basic Engineering Services" shall include the following:

General

1. The mechanical, electrical, and structural engineering services to be provided under this Agreement will include a Verification of Existing Site Conditions Phase, a Construction

Documents Phase, a Pre-Bid Phase, a Shop Drawing Review Phase, a Construction Support and Observation Phase, a Final Punch Phase, and a Records Drawing Phase.

2. AZPE will visit the jobsite at the beginning of the project to verify the existing mechanical, electrical, and structural conditions.

3. AZPE will transcribe the existing architectural, mechanical and electrical drawings to electronic documents including any revisions to the area discovered by the site verification phase.

4. AZPE will provide a site plan showing the general area of construction.

5. Original drawings and specifications in electronic PDF format will be issued as the evidence of the completed design.

6. AZPE will attend one Pre-Bid Meeting.

7. AZPE will coordinate with the Client or the Contractor on any clarification of the mechanical and electrical plans or specifications during construction.

8. AZPE will review shop drawings for the new mechanical and electrical equipment solely for conformance with the Engineer's design intent and instruments of service.

9. AZPE will visit the project upon the request of the Client during construction of the mechanical and electricall systems to become generally familiar with the progress and quality of the Contractors' work and to determine if the work is proceeding in general conformance with the Contract Documents.

10. Upon completion of construction, AZPE will prepare a set of Mechanical and Electrical Record Documents conforming to the marked-up prints, drawings, and other data furnished to the Engineer by the Contractor. The Record Documents will show the reported location of the work and significant changes made during construction. AZPE will submit the Record Documents in hard copy and electronic media.

11. AZPE will exercise due and reasonable diligence to complete the services described herein within a mutually agreed upon time frame. If AZPE discerns that the schedule will not be met for any reason, the Client will be notified as soon as practically possible.

<u>Heating, Ventilating and Air Conditioning (HVAC)</u>

1. AZPE will prepare heating and cooling load calculations in accordance with ASHRAE methodology.

2. AZPE will prepare ventilation calculations in accordance with local code requirements.

3. AZPE will design and specify a new sealed combustion type unit heater for this project.

4. AZPE will design and specify revisions to the existing ductwork and flue vent piping as required to install the new unit heater.

5. AZPE will design and specify revisions to the existing combustion air louver grille as required to accommodate the current combustion air requirements and to blank off unused portions of the grille.

6. AZPE will design and specify revisions to the existing return ductwork to provide a new return duct to serve the adjacent classroom.

7. AZPE will design and specify new control linkages and sequences of control for the new unit heater.

8. AZPE will coordinate the design features of the HVAC system with other A/E disciplines.

Plumbing

1. AZPE will design and specify modifications to the existing gas piping as required to install the new unit heater.

2. AZPE will coordinate the design features of the plumbing system with the other Engineering disciplines.

Electrical

1. AZPE will prepare electrical load calculations in accordance with NEC requirements.

2. AZPE will design and specify branch circuits to all new mechanical equipment. Note: The new electrical design will be based on the assumption that the existing electrical S.E.S. will accommodate this new equipment.

3. AZPE will design and specify modifications to the existing electrical panels as required by the new mechanical equipment.

4. AZPE will coordinate the design features of the electrical systems with other Engineering disciplines.

Structural

1. AZPE and its Structural Consultant will prepare structural calculations to determine if the existing structure can accommodate the new unit heater. The Structural Consultant will

provide a letter documenting the capacity of the existing structure. If structural improvements are required, then the structural design will be an additional service.

2. AZPE and its Structural Consultant will coordinate the design features of the structural systems with other A/E disciplines.

EXCLUSIONS

The following items shall be excluded from AZPE's Scope of Basic Engineering Services:

1. Printing or reproduction costs for plan review or bid documents.
2. Cost of obtaining any permits.
3. Cost of hiring a locator service to determine the location of existing concealed utilities.
4. Detailed comparisons of various mechanical, electrical, or structural systems or special components.
5. Preparation of short circuit, arc flash analysis and protective device coordination study.
6. 3D or 4D building information modeling (BIM) of the mechanical or electrical systems.
7. Commissioning of the project whereby AZPE conducts detailed tests to verify the proper operation of the various mechanical and electrical systems and components. This is normally the responsibility of the installing contractor(s), but can be verified by AZPE.

CLIENT RESPONSIBILITIES

The Client shall be responsible for the following items:

1. Provide access to the project area during normal business hours and a ladder, as required.
2. Furnish existing mechanical, electrical, and structural plans for coordination purposes.
3. At project completion, provide the Engineer with one set of final plans and specifications.

ENGINEERING FEES

Task	Fees
Verification of Existing	$800.00
Construction Documents	$1,500.00
Allowance for Structural Verification of Existing	$1,000.00
Pre-Bid Meeting	$600.00
Shop Drawing Review	$100.00
Substantial Competition Site Observations*	$800.00
Final Punch**	$800.00
M, E, & S Record Documents	$100.00
TOTAL	**$5,700.00**

*Includes up to one (1) mechanical man-trip as a substantial completion.
**Includes up to one (1) mechanical man-trip as a final punch.

Any additional construction observations will be performed on a man-trip basis for a fee of **$800.00** per man-trip including travel time, report writing, and follow-up.

Certain costs shall be considered “reimbursable costs”, namely, multiple copies of documents for review, bidding, or construction; and Client-requested express courier charges. Fees and permits for measuring static pressure at nearby water mains shall also be considered as reimbursable costs. Reimbursable costs will be billed to the Client at our cost.

AZPE will provide one set of reproducible documents in electronic PDF format for Owner/Client review upon the completion of major milestones, e.g., at the 60% and 100% submittal phases. Additional sets of plots of large format drawings will be billed at $4.00 per plot.

We will bill monthly based on percentage of work completed. We reserve the right to charge 1.5% per month interest on any unpaid balance after 30 days of invoice date.

ADDITIONAL SERVICES

If during the performance of the work you require that Arizona Pinnacle Engineering, LLC, provide services that are not included in our Scope of Basic Engineering Services, we will initiate an Additional Services Letter that will require your signature prior to completing such "Additional Services". Additional Services are available on an hourly or lump sum fee basis, depending on task. We are enclosing our Hourly Billing Rate Schedule for your reference.

Review of Contractor-prepared shop drawings that depict a design scheme significantly different than that shown on the Contract Documents can be performed on an hourly fee basis, as an additional service.

Additional Services during construction include items such as substitution of materials due to delivery schedules after shop drawing approval, working out any solutions or alterations to Contractor-generated problems, working out any conflicts due to lack of coordination by the General Contractor or Subcontractors, or any Owner/Architectural-generated changes. This includes letters, phone calls, investigations, etc., caused by the above. If the time spent by us is a result of our own errors or omissions, it is understood such time will not be billable.

LIMITS OF RESPONSIBILITY

The services to be performed by the Engineer under this Agreement are intended solely for the benefit of the Client. Nothing contained herein shall confer any rights upon or create any duties on the part of the Engineer toward any person or persons not a party to this Agreement including, but not limited to any consultant, sub-consultant, or the agents, officers, employees, insurers, or sureties of any of them.

The Client and the Engineer waive all rights for damages, each against the other and against the sub-consultants, agents, and employees of the other, but only to the extent covered by property insurance during or after the performance of the work described herein except such rights as they may have to the proceeds of such insurance.

CESSATION OF WORK

Arizona Pinnacle Engineering, LLC, reserves the right to cease work, without legal penalty if payment for services is not received by AZPE within 15 days of the date that the Client receives payment from the Owner.

TERMINATION OF CONTRACT

This contract shall be terminated if either of the following conditions exists:

1. Immediately upon written notice that the Prime Agreement has been terminated.

2. Upon seven (7) days written notice should either party fail to perform in accordance with the articles of this Agreement. In the event of termination of this Agreement for reasons beyond the control of Arizona Pinnacle Engineering, LLC, the Engineer shall be compensated for all costs and expenses incurred in connection with the production of the project, based upon a pro-rata portion of the engineering work completed.

MEDIATION

Any claim or dispute arising out of, or related to, this Agreement shall be subject to mediation as a condition precedent to arbitration or the institution of legal or equitable proceedings for either party. The parties shall endeavor to resolve claims or disputes between them by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. The parties shall share the mediators fees and filing fees equally. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

ARBITRATION

All claims or disputes arising out of, or related to, this Agreement shall be subject to arbitration. Claims or disputes between the parties that are not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with the applicable law in any court having jurisdiction thereof.

OFFER AND ACCEPTANCE

We have made an extra effort to be competitive on this proposal. If there is any item in the scope of work that you would like us to omit or add, please call.

We appreciate the opportunity of working with you again and know it will be mutually beneficial.

Sincerely,
ARIZONA PINNACLE ENGINEERING, LLC

Rodney L. Hillis, P.E.
Managing Member

If the terms of this Agreement are acceptable, please indicate your acceptance and return a copy to our office. A signed Agreement is required prior to our commencing work.

_____

Client Signature / Title Date

ARIZONA PINNACLE ENGINEERING, LLC
Mechanical and Electrical Consulting Engineers
Steven F Durand, P.E. △ Rodney L Hillis, P.E. △ Eudjen Savu, P.E. △ Scott E Woods, P.E.

HOURLY RATE SCHEDULE

All work which is authorized as Hourly Services will be charged at the following hourly billing rates:

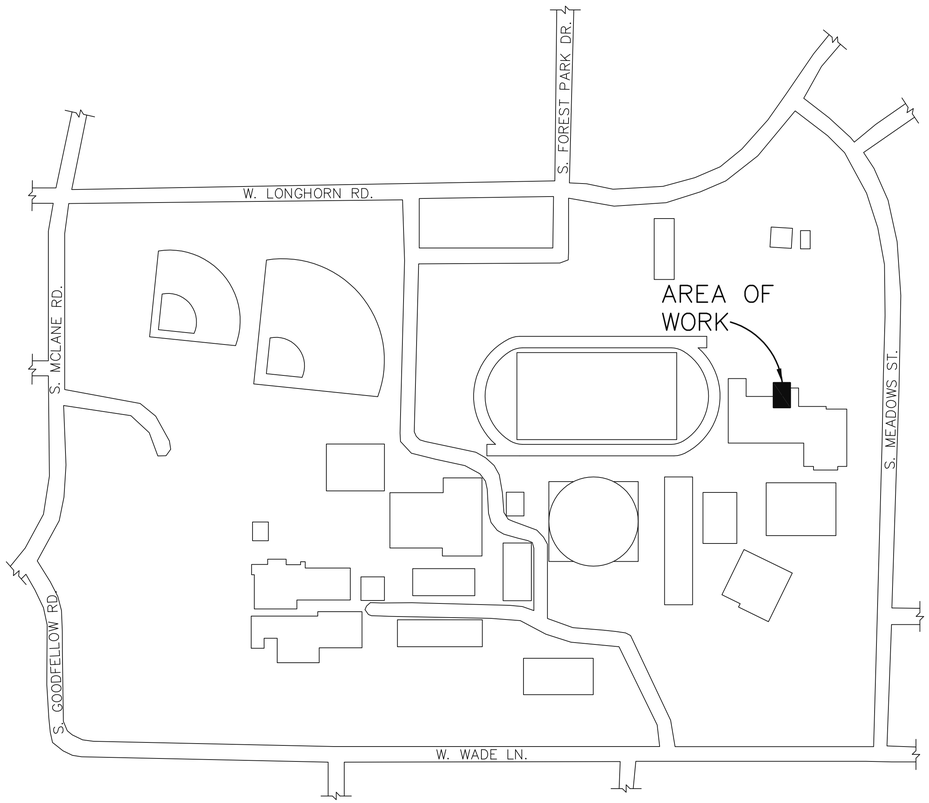
Manager	$175.00
Engineer	$160.00
Senior Designer	$115.00
Designer	$105.00
Drafter	$85.00
Clerical	$75.00

The above rates are valid through December 31, 2015.

2222 West Pinnacle Peak Road, Suite 290 △ Phoenix, AZ 85027 △ Phone: (623) 594-9049 △ Fax: (623) 594-9072

RIM COUNTRY
MIDDLE SCHOOL
UNIT HEATER REPLACEMENT
PAYSON UNIFIED SCHOOL DISTRICT #10

SITE PLAN



SITE PLAN
NTS

VICINITY PLAN



VICINITY MAP
NTS

SITE ADDRESS: 304 SOUTH MEADOW, PAYSON, AZ 85541

SHEET INDEX

M1.0 MECHANICAL DEMOLITION PLAN
M2.0 MECHANICAL PLAN
M3.0 MECHANICAL SCHEDULES AND DETAILS

GOVERNING BOARD

PRESIDENT:	Barbara Underwood
VICE–PRESIDENT:	Jim Quinlan
MEMBERS:	Shirley Dye Sheila Deschaaf Angie Prock
SUPERINTENDANT:	Greg Wyman
DIRECTOR OF CONSTRUCTION:	Brent Bailey

PROJECT TEAM

MECHANICAL ENGINEER

ARIZONA PINNACLE ENGINEERING, LLC
2222 WEST PINNACLE PEAK ROAD, SUITE 290
PHOENIX, ARIZONA 85027
(623) 594–9049 FAX (623) 594–9072

ELECTRICAL ENGINEER

ARIZONA PINNACLE ENGINEERING, LLC
2222 WEST PINNACLE PEAK ROAD, SUITE 290
PHOENIX, ARIZONA 85027
(623) 594–9049 FAX (623) 594–9072

STRUCTURAL ENGINEER

BEAUCHAMP ENGINEERING, INC.
7201 N. DREAMY DRAW DRIVE, SUITE 100
PHOENIX, ARIZONA 85020
(602) 943–1895 FAX (602) 943–6777

Registered Professional Engineer (Mechanical) CERTIFICATE NO 25040 RODNEY L HILLS Date Signed 04/20/17 ARIZONA U.S.A.

EXPIRES 3/31/18

ARIZONA AZPE PINNACLE ENGINEERING

ARIZONA PINNACLE ENGINEERING, LLC
Mechanical & Electrical Consulting Engineers AZPE Job # 15085
2222 W. Pinnacle Peak Road, Suite 290 Phoenix, AZ 85027
Phone: (623) 594-9049 Fax: (623) 594-9072

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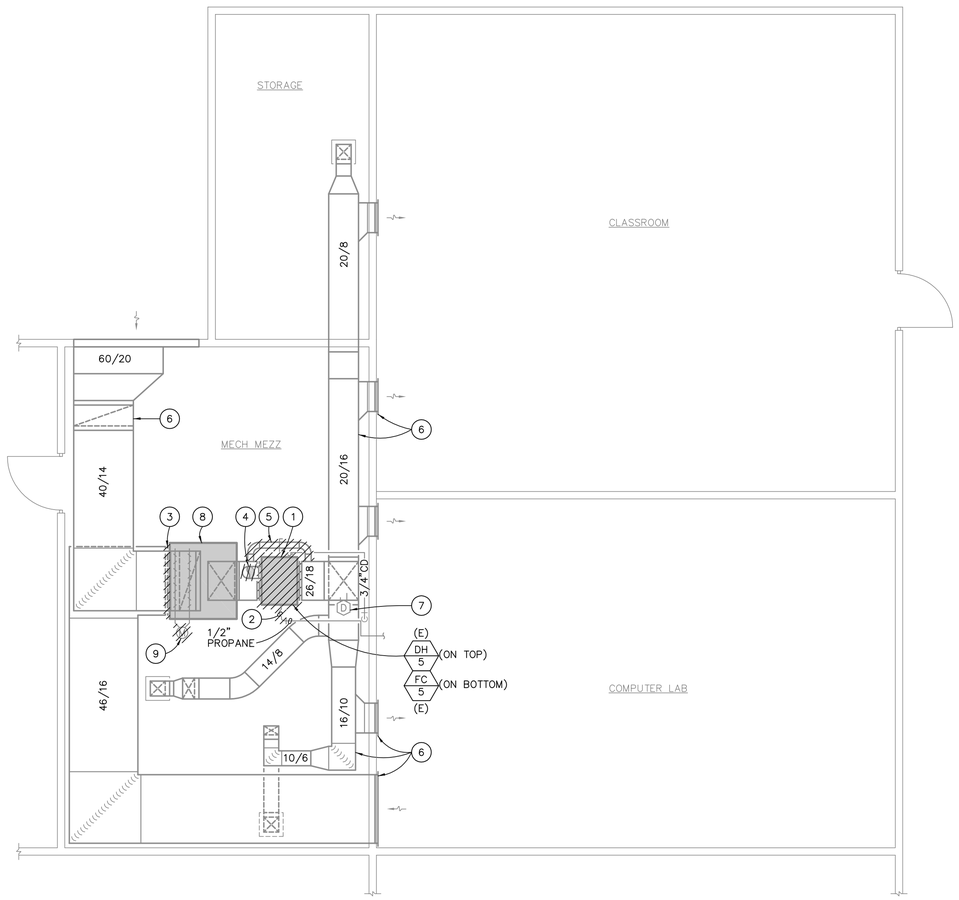

MECHANICAL DEMO PLAN

SCALE: 1/4" = 1'-0"

GENERAL NOTES

A. ALL EQUIPMENT, DUCTWORK, AND PIPING SHOWN ON THIS SHEET IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

B. ALL EXISTING SYSTEMS ARE TO REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL SYSTEM SHUTDOWNS WITH OWNER.

KEY NOTES

1. REMOVE EXISTING DUCT HEATER AS INDICATED.
2. REMOVE EXISTING 1/2" PROPANE CONNECTION AS INDICATED.
3. REMOVE EXISTING FLEX CONNECTION WHERE 46/16 RETURN DUCT CONNECTS TO MIXING BOX, AS INDICATED.
4. REMOVE EXISTING 8" FLUE UP THRU ROOF AS INDICATED.
5. REMOVE EXISTING 4/16 BYPASS DUCT AS INDICATED.
6. EXISTING DUCTWORK, GRILLES, DIFFUSERS, AND REGISTERS TO REMAIN.
7. EXISTING DUCT MOUNTED SMOKE DETECTOR TO REMAIN.
8. EXISTING HV-1 TO REMAIN.
9. REMOVE EXISTING OUTSIDE AIR/RETURN AIR DAMPER ACTUATOR AND CORRESPONDING LINKAGE.

2 0 2 4 8 FT

Revisions Date

ARIZONA PINNACLE ENGINEERING
ARIZONA PINNACLE ENGINEERING, LLC
AZPE Job # 15085
Mechanical & Electrical Consulting Engineers
2222 W. Pinnacle Peak Road, Suite 290 Phoenix, AZ 85027
Phone: (623) 594-9049 Fax: (623) 594-9072

PAYSON UNIFIED SCHOOL DISTRICT #10
UNIT HEATER REPLACEMENT
902 WEST MAIN STREET
P.O. BOX 919, PAYSON, ARIZONA 85547

Seal

Registered Professional Engineer (Mechanical)
CERTIFICATE NO.
25040
RODNEY L HILLIS
Date Signed 03/31/18
ARIZONA U.S.A.

EXPIRES 3/31/18

Project Number
15085
Date
June 30
Drawn By
EW
Checked By
RH
Scale
AS NOTED
Sheet Title

MECHANICAL
DEMO PLAN

Sheet Number

M1.0

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BEAUCHAMP ENGINEERING

7201 N. DREAMY DRAW DR, STE 100
PHOENIX, ARIZONA 85020
PHONE: (602) 943-1895

June 29, 2015

Mr. Rod Hillis
Arizona Pinnacle Engineering, LLC
2222 West Pinnacle Peak Road, Suite 290
Phoenix, AZ 85027

Re: Rim Country Middle School – Heater Replacement
Payson, AZ

Dear Mr. Hillis:

At your request, on June 22, 2015 we performed on-site observations of the roof framing at the location of the heater replacement in a mechanical room located on the left side of stage while facing into the gym. We observed light gage Zee purlins spanning approximately 30 feet between structural steel frames. The existing roof Zee purlins were found to support the existing heater unit that will be replace by a new heater unit weighing approximately 350 lbs. and will be hung from the existing support structure.

We found no deficiencies in the existing construction and the existing construction was found acceptable to support the new heater unit.

The only observations made of the existing roof system were in the location of the heater unit replacement. Additional roof observations were not included in our scope of services and were not performed.

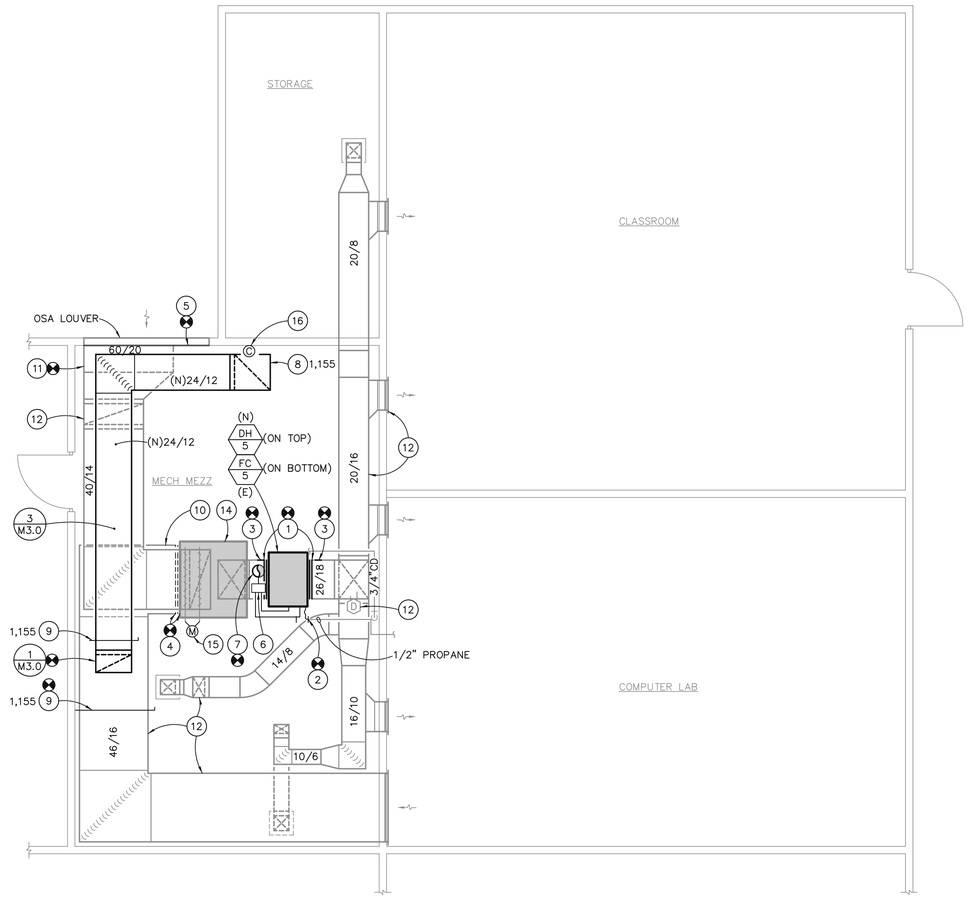
Please call me if you have any questions or comments.

Sincerely,
BEAUCHAMP ENGINEERING, INC.

Registered Professional Engineer (Mechanical) CERTIFICATE NO. 26251 MARK R. BEAUCHAMP 6/22/15 Date Signed ARIZONA, U.S.A.

Expires 6/30/2016

Mark R. Beauchamp, P.E.
President



MECHANICAL PLAN

SCALE: 1/4" = 1'–0"

GENERAL NOTES

A. ALL EQUIPMENT, DUCTWORK, AND PIPING SHOWN ON THIS SHEET IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

B. ALL EXISTING SYSTEMS ARE TO REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL SYSTEM SHUTDOWNS WITH OWNER.

C. RE–SEAL ALL DUCTWORK IN MECHANICAL EQUIPMENT ROOM. SEE GENERAL SPECIFICATIONS ON MECHANICAL SHEET M3.0 FOR SEALANT.

D. ATTAIN THE SERVICES OF AN ELECTRICAL CONTRACTOR TO DISCONNECT EXISTING DUCT HEATER AND RECONNECT NEW DUCT HEATER AFTER INSTALLATION. REUSE EXISTING DISCONNECT SWITCH AND WIRING.

E. DISTRICT WILL PROVIDE/CONDUCT ALL DEMOLITION MATERIAL TESTING FOR ASBESTOS. MECHANICAL/ELECTRICAL CONTRACTOR MUST ASSUME ALL SHEET ROCK JOINT COMPOUND AND TEXTURE TO BE HAZARDOUS MATERIAL AND SHALL BE ABATED AS PER FEDERAL REQUIREMENTS.

F. THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL FURNISHED BY HIM AND ALL WORKMANSHIP UNDER THIS CONTRACT FOR A PERIOD OF TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE OF WORK UNDER THIS CONTRACT.

G. ALL NEW CONTROL WIRING TO BE RUN IN EMT CONDUIT.

KEY NOTES

1. NEW DUCT HEATER, DH–5. TRANSITION AND CONNECT TO EXISTING SUPPLY DUCTWORK WITH NEW FLEX CONNECTIONS.
2. CONNECT NEW 1/2" PROPANE PIPING TO NEW DUCT HEATER.
3. PATCH EXISTING SUPPLY DUCTWORK WITH MATCHING SHEETMETAL AND INSULATION.
4. NEW 46/16 FLEX CONNECTION (VERIFY EXACT SIZE) LOCATED WHERE RETURN DUCTWORK CONNECTS TO MIXING BOX.
5. SEAL ALL OPENINGS IN OUTSIDE AIR LOUVER WITH SHEETMETAL CAP SEALED WATER TIGHT, PAINTED FLAT BLACK ON THE OUTSIDE FACE AND THE INSIDE FACE COVERED WITH 1" THICK RIGID INSULATION.
6. NEW CONCENTRIC ADAPTER.
7. CONNECT NEW 6" COMBUSTION AIR AND 6" SINGLE WALL FLUE TO NEW CONCENTRIC ADAPTER. ROUTE NEW 8" CONCENTRIC VENT PIPING FROM CONCENTRIC ADAPTER TO EXISTING 8" HOLE THRU ROOF. SEE DETAIL#2 & #4 ON SHEET M3.0.
8. NEW 24/24 RETURN DUCT DOWN THRU FLOOR. TERMINATE IN CLASSROOM CEILING BELOW WITH 24"x24" RG–1. BALANCE TO CFM SHOWN.
9. NEW MANUAL VOLUME DAMPER. BALANCE TO CFM INDICATED.
10. BALANCE EXISTING OSA MANUAL VOLUME DAMPER TO 690 CFM.
11. SEAL OPENING IN BOTTOM OF EXISTING 60X20 OUTSIDE AIR DUCT. EXTEND AND CONNECT TO EXISTING LOUVER GRILLE.
12. EXISTING DUCTWORK, GRILLES, DIFFUSERS, AND REGISTERS TO REMAIN.
13. EXISTING DUCT MOUNTED SMOKE DETECTOR TO REMAIN.
14. EXISTING HV–1 TO REMAIN.
15. PROVIDE NEW BELIMO DAMPER ACTUATOR TO REPLACE EXISTING ACTUATOR (VERIFY VOLTAGE). PROVIDE NEW LINKAGES TO OPERATE OUTSIDE AIR INTAKE DAMPER AND RETURN AIR DAMPER SIMULTANEOUSLY. TIE NEW CO2 CONTROL INTO EXISTING DAMPER ELECTRICAL CIRCUIT. SEE DETAIL 6/M3.0.
16. NEW CO2 SENSOR ON WALL BELOW CEILING IN CLASSROOM. TIE INTO NEW CONTROLS.

2 0 2 4 8 FT

Revisions Date

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PAYSON UNIFIED SCHOOL DISTRICT #10
UNIT HEATER REPLACEMENT
902 WEST MAIN STREET
P.O. BOX 919, PAYSON, ARIZONA 85547

Seal

Registered Professional Engineer (Mechanical) CERTIFICATE NO. 25040 RODNEY L HILLIS Date Signed 3/31/15 ARIZONA, U.S.A.

EXPIRES 3/31/18

Project Number
15085
Date
June 30
Drawn By
EW
Checked By
RH
Scale
AS NOTED
Sheet Title

MECHANICAL PLAN

Sheet Number
M2.0

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GENERAL SPECIFICATIONS

1. MECHANICAL CONTRACTOR SHALL VISIT THE PROJECT SITE BEFORE BIDDING AND COMMENCEMENT OF WORK TO DETERMINE THE EXTENT OF THE HVAC WORK.
2. MECHANICAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS BEFORE COMMENCEMENT OF WORK. REPORT ANY DEVIATIONS TO ENGINEER.
3. PROVIDE AS NECESSARY ALL MECHANICAL SYSTEM INSPECTION REPORTS AS REQUIRED BY REGULATORY AGENCIES AT PROJECT LOCATION. RECOMMENDATIONS OF UL, NBFU, AND ASHRAE SHALL BE RIGIDLY FOLLOWED.
4. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR TO ASSURE ELECTRICAL HOOKUP FOR ALL MECHANICAL EQUIPMENT.
5. THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL FURNISHED BY HIM AND ALL WORKMANSHIP UNDER THIS CONTRACT FOR A PERIOD OF TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE OF WORK UNDER THIS CONTRACT.
6. SUBMIT TO OWNER A FINAL HVAC BALANCING REPORT PREPARED IN ACCORDANCE WITH NEBB OR AABC BALANCING AGENCY ACCURATELY DESCRIBING ACTUAL ENVIRONMENTAL CONDITIONS. SUBMIT: FOR EACH OUTLET– REQUIRED CFM AND TEST RESULTS; FOR EACH AIR CONDITIONING UNIT– DESIGN AND ACTUAL AMPS, CFM, ENTERING AIR CONDITIONS, LEAVING AIR CONDITIONS.
7. SUBMIT EQUIPMENT WARRANTIES AND OPERATING AND MAINTENANCE MANUALS TO OWNER UPON PROJECT CLOSE–OUT.
8. DUCTWORK SHALL BE CONSTRUCTED FROM NEW HOT–DIPPED GALVANIZED SHEET IRON OR STEEL, ASTM A–120, IN ACCORDANCE WITH IMC STANDARDS FOR GAGE AND REINFORCEMENT. CONSTRUCT AND ERECT DUCTWORK IN ACCORDANCE WITH LATEST ISSUES OF IMC AND SMACNA STANDARDS AND ASHRAE HANDBOOKS. CONSTRUCT LONGITUDINAL SEAMS USING BUTTON PUNCH SNAP LOCK OR PITTSBURG LOCK TYPE SEAMS. UNLESS OTHERWISE INDICATED, CONSTRUCT SUPPLY DUCTWORK FOR 1" (POSITIVE) WG, RETURN DUCT FOR 1" (NEGATIVE) WG, OUTSIDE AIR AND EXHAUST DUCTWORK FOR 1" (POSITIVE OR NEGATIVE) WG TO SUIT LOCATION.
9. SEAL ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS WITH A WATER–BASED, FLEXIBLE, ADHESIVE SEALANT, RESISTANT TO UV LIGHT WHEN CURED, UL 723 LISTED, AND COMPLYING WITH NFPA REQUIREMENTS FOR CLASS 1 DUCTS.
10. DUCT SIZES ON DRAWING ARE "CLEAR INSIDE." INCREASE SHEET METAL SIZE ACCORDINGLY FOR LINED DUCTWORK.
11. INTERNALLY INSULATE RECTANGULAR SHEET METAL SUPPLY AND RETURN DUCTWORK WITH SEMI–RIGID GLASS FIBER DUCT LINER, 1.5 PCF, FLAME SPREAD RATING OF 25 (OR LESS) AND A SMOKE DEVELOPED RATING OF 50 (OR LESS), COMPLIANT WITH NFPA–90A. EXPOSED INTERNAL SURFACE OF A THICK COAT OF BLACK FIRE RESISTANT COATING TO BIND THE SURFACE FIBERS TIGHTLY TO AVOID ANY LOOSE FIBER AND PROVIDE A SMOOTH AIR FLOW SURFACE. PROVIDE 1.5" THICK, MINIMUM R–5.0 LINER IN DUCTWORK WITHIN THE INSULATED BUILDING ENVELOPE AND 2" THICK, MINIMUM R–8.0 LINER IN DUCTWORK OUTSIDE THE INSULATED BUILDING ENVELOPE.
12. GRILLES, REGISTERS, AND DIFFUSERS SHALL BE AS LISTED ON THE DRAWINGS OR EQUAL BY ANEMOSTAT, CARNES, KRUEGER, METALAIRE, NAILOR, PRICE, TITUS, OR TUTTLE & BAILEY.
13. GAS PIPING SHALL BE ASTM A 53/A 53M; TYPE E OR S; GRADE B SCHEDULE 40; BLACK STEEL WITH MALLEABLE–IRON THREADED FITTINGS.

SEQUENCES OF OPERATION

HEATING AND VENTILATING UNIT HV–1:

1. THE UNIT SHALL BE CONTROLLED VIA THE EMS.
2. HEATING AND VENTILATING UNIT HV–1 SHALL BE TIED INTO THE EMS. THE SUPPLY FAN TO BE ENERGIZED TO RUN CONTINUOUS DURING THE OCCUPIED MODE. THE COOLING COIL (AND CORRESPONDING OUTDOOR CONDENSING UNIT) SHALL BE CYCLED AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE OF 75°F (ADJUSTABLE) DURING THE COOLING SEASON. THE EXISTING BYPASS DAMPERS TO BE CLOSED TO FORCE THE AIR FLOW THRU THE COOLING COIL. THE HEATING FURNACE TO BE CYCLED IN STAGES AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE OF 70°F (ADJUSTABLE) DURING THE HEATING SEASON. THE EXISTING BYPASS DAMPERS TO BE OPEN TO FORCE THE AIR FLOW THRU THE NEW DUCT HEATER DH–1 DURING THE UNOCCUPIED MODE THE SUPPLY FAN TO CYCLE WITH THE HEATING FURNACE FUME AS REQUIRED TO MAINTAIN THE "NIGHT SET–BACK" MODE SPACE TEMPERATURE OF 60°F (ADJUSTABLE) DURING THE HEATING SEASON. DURING THE UNOCCUPIED MODE THE SUPPLY FAN SHALL BE CYCLED AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE OF 85°F (ADJUSTABLE) DURING THE COOLING SEASON. THE OUTSIDE AIR INTAKE DAMPER TO BE CLOSED AND THE RETURN AIR MOTORIZED DAMPER TO BE OPENED DURING THE UNOCCUPIED AND MORNING WARM UP MODES. THE OUTSIDE AIR INTAKE/RETURN AIR DAMPERS TO BE ENABLED TO BE MODULATED BY THE CO2 SENSOR DURING THE OCCUPIED MODES. NOTE: TIE NEW DH–5 INTO EXISTING SPACE THERMOSTAT IN CLASSROOM.
3. CO2 CONTROL: PROVIDE THE CONTROL COMPONENTS LISTED BELOW, OR APPROVED EQUAL AND ALL WIRING AND ACCESSORIES TO ACHIEVE THE CO2 SEQUENCE LISTED BELOW. CONTRACTORS OPTION TO TIE INTO THE EXISTING RELIABLE CONTROLS EMS IN LIEU OF USING STAND ALONE CONTROLS. ANY EXPOSED WIRING TO BE RUN IN EMT CONDUIT.
   A. THE CO2 SENSOR/CONTROLLER TO SENSE THE CO2 CONCENTRATION IN THE SPACE. ANYTIME THE CO2 CONCENTRATION EXCEEDS 800 PPM ABOVE THE AMBIENT OUTSIDE AIR CO2 LEVELS, THEN THE RELAY IN THE CONTROLLER SHALL CLOSE, POWERING THE OUTSIDE AIR DAMPER OPEN TO 510 CFM. THE CONTROLLER SHALL AUTOMATICALLY RECALIBRATE EVERY 7 DAYS TO DETERMINE THE AMBIENT OUTDOOR AIR CO2 LEVELS. ANYTIME THE CO2 CONCENTRATION DROPS BACK BELOW 800 PPM ABOVE THE AMBIENT OUTSIDE AIR CO2 LEVELS, THEN THE RELAY IN THE CONTROLLER SHALL OPEN, REMOVING POWER FROM THE OUTSIDE AIR DAMPER ALLOWING THE SPRING RETURN TO CLOSE THE OUTSIDE AIR.
   B. THE FREEZE STAT SHALL BE SET TO OPEN ITS INTEGRAL RELAY WHEN THE MIXED RETURN AIR TEMPERATURE DROPS BELOW 50°F WHICH WILL REMOVE POWER FROM THE OUTSIDE AIR DAMPER. THE DAMPER WILL CLOSE TO PROTECT THE FURNACE FROM LOW ENTERING AIR TEMPERATURES.
4. THE EXISTING DUCT MOUNTED SMOKE DETECTOR TO DE–ENERGIZED THE HV–1 SUPPLY FAN UPON DETECTION OF SMOKE. THE SUPPLY FAN SHALL RETURN TO THEIR PREVIOUS STATE OF OPERATION WHEN THE DUCT MOUNTED SMOKE DETECTOR ALARM IS RESET.

COMMISSIONING:

1. VERIFY THAT THE EMS CONTROL SENSORS HAVE BEEN FACTORY CALIBRATED AND THAT THEY ARE IN WORKING ORDER. VERIFY THAT THE FRONT END SOFTWARE AND GRAPHICS HAVE BEEN INSTALLED AND ARE PROPERLY CONTROLLING THE CORRESPONDING HVAC EQUIPMENT IN BOTH THE COOLING MODE AND HEATING MODE. VERIFY THAT EACH CONTROLLER AND SENSOR ETC. IS OPERATING AS SPECIFIED IN THE SEQUENCE OF CONTROL. VERIFY THAT THE SPACE TEMPERATURE SENSOR IS PROPERLY CONTROLLING THE CORRESPONDING HVAC EQUIPMENT IN BOTH THE VENTILATION MODE AND HEATING MODE. VERIFY THAT THE CO2 SENSOR IS PROPERLY CONTROLLING THE OUTSIDE AIR DAMPER AS REQUIRED TO MAINTAIN A CO2 CONCENTRATION BELOW 800 PPM. VERIFY THE FREEZE STAT IS PROPERLY CONTROLLING THE OUTSIDE AIR DAMPER. VERIFY THAT EACH PIECE OF HVAC EQUIPMENT HAS BEEN INSTALLED PROPERLY AND IS OPERATING PROPERLY. VERIFY THAT THE TESTING AND BALANCING HAS BEEN COMPLETED AS REQUIRED BY THE SPECIFICATIONS. PROVIDE ALL CLOSE–OUT DOCUMENTS TO THE OWNER.

GAS FIRED DUCT HEATER SCHEDULE (DH)

MARK	MANUF.	MODEL	CFM	PD (IWG)	FUEL TYPE	INPUT (MBH)	OUTPUT (MBH)	MIN. EFFIC.	FLA	VOLT/ø	WEIGHT (LBS)	REMARKS
DH–5	REZNOR	SC–225	3,000	0.16	PROPANE	225	180	80%	1.9	120/1	300	PROVIDE WITH PROPANE ORIFICE

*THIS DUCT HEATER IS CONNECTED TO FAN–COIL, FC–5.
**THIS DUCT HEATER IS SIZED AT 1,100 FT ASL, AND INSTALLED AT 5,000 FT ASL.

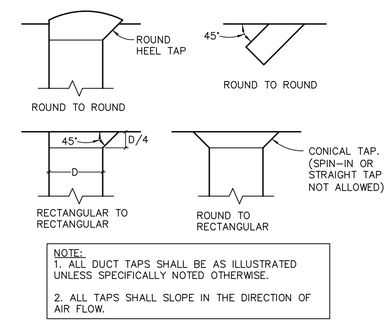
GRILLE, REGISTER & DIFFUSER SCHEDULE

MARK	MANUF.	MODEL	DESCRIPTION	FRAME	FINISH	MATERIAL	DAMPER	MAX NC	REMARKS
RG–1	TITUS	355RL	RETURN GRILLE	SURFACE MOUNT	WHITE	STEEL	–	30	HEAVY DUTY GRILLE WITH 14 Ga. BLADES AND 18 GAUGE FRAME.

OUTSIDE AIR CALCULATIONS

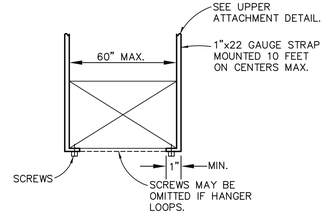
ROOM #	AREA SERVED	AREA SQFT	EST. MAX. OCC. LOAD OR PPL/1000 SQ.FT.	MIN. REQ'D VENTILATION (CFM/SQFT)	MIN. REQ'D VENTILATION (CFM/PPL)	OSA CALCULATION (SQFT X CFM/SQFT) (PPL X CFM/PPL)	OSA CFM REQUIRED	OSA CFM PROVIDED	VENTILATION SERVED BY
–	CLASSROOM	910	32 PPL	0.12	10	910 X 0.12 = 110 32 X 10 = 320	430	430	FC–5
–	COMPUTER LAB	566	14 PPL	0.12	10	566 X 0.12 = 68 14 X 10 = 140	208	210	FC–5
–	CORRIDOR	224	–	0.06	–	224 X 0.06 = 14	14	15	FC–5
–	OFFICE	103	1 PPL	0.06	5	103 X 0.06 = 6 1 X 5 = 5	11	15	FC–5
–	STORAGE	156	–	0.12	–	156 X 0.12 = 19	19	20	FC–5

REFER TO ASHRAE TABLE 6–1 MINIMUM VENTILATION RATES IN BREATHING ZONE FOR OUTSIDE AIR CALCULATION STANDARDS



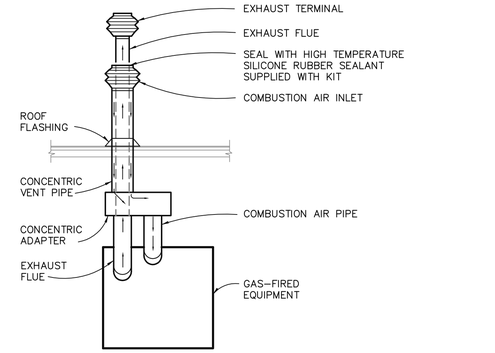
NOTE:
1. ALL DUCT TAPS SHALL BE AS ILLUSTRATED UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ALL TAPS SHALL SLOPE IN THE DIRECTION OF AIR FLOW.

1 DUCT TAP DETAIL
NTS

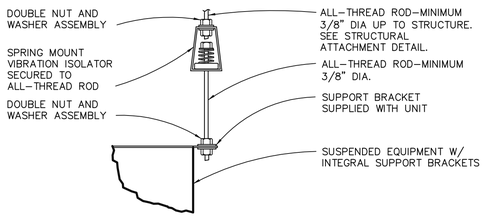


RECTANGULAR DUCT

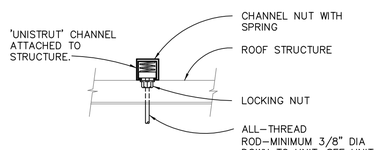
3 DUCT SUPPORT DETAIL
NTS



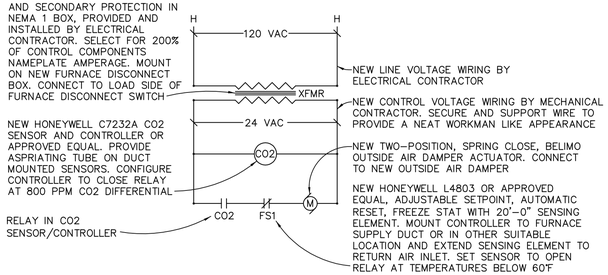
2 CONCENTRIC VENT DETAIL
NTS



4 SUSPENDED EQUIPMENT MOUNTING DETAIL
NTS



5 STRUCTURAL ATTACHMENT DETAIL
NTS



6 CO2 CONTROL DETAIL
NTS

MECHANICAL SYMBOL LEGEND

SYMBOL	ABBR.	DESCRIPTION
		ROUND OR RECTANGULAR DUCTWORK
		EXPANDED NECK DUCT TAKE–OFF ('A' DIMENSION = 125% OF 'B' DIMENSION)
		CURVED RADIUS ELBOW OR RECTANGULAR ELBOW WITH TURNING VANES (CENTERLINE RADIUS = 1.5x'A')
		FLEXIBLE DUCTWORK (8' MAXIMUM LENGTH)
		CONICAL TAKE–OFF WITH MANUAL VOLUME DAMPER
	FD	FIRE DAMPER
	FSD	COMBINATION FIRE/SMOKE DAMPER
	MOD	MOTORIZED DAMPER
	MVD	MANUAL VOLUME DAMPER
CFM	CD	SUPPLY AIR GRILLE/REGISTER/DIFFUSER–BALANCE TO AIR FLOW INDICATED
CFM	RG, RR TG, TR	RETURN/TRANSFER AIR GRILLE/REGISTER–BALANCE TO AIRFLOW INDICATED
CFM	EG, ER	EXHAUST AIR GRILLE/REGISTER–BALANCE TO AIRFLOW INDICATED
	SA	SUPPLY DUCT PERPENDICULAR TO SHEET (IN, OUT)
	RA	RETURN/TRANSFER DUCT PERPENDICULAR TO SHEET (IN, OUT)
	EA	EXHAUST DUCT PERPENDICULAR TO SHEET (IN, OUT)
		SUPPLY, RETURN, EXHAUST DUCT PENETRATION OF FLOOR OR ROOF ABOVE
		FLEXIBLE DUCT CONNECTION
	(E)	EXISTING DUCTWORK/PIPING/EQUIPMENT TO REMAIN
	(N)	NEW DUCTWORK/PIPING/EQUIPMENT
		DUCTWORK/PIPING/EQUIPMENT TO BE REMOVED
T		THERMOSTAT
C		CO2 SENSOR
D		DUCT MOUNTED SMOKE DETECTOR
CD		PIPING (CONDENSATE DRAIN)
CI		PIPE DROP
		PIPE RISE
		BALL VALVE
		REDUCER
		DIRECTION OF FLOW
		PIPE SLOPES IN DIRECTION OF ARROW
EF 1		EQUIPMENT NUMBER DESIGNATION (EF–1) SEE EQUIPMENT SCHEDULES
DETAIL NUMBER ON PAGE		DETAIL CALLOUT–SEE DETAIL ON PAGE INDICATED
		POINT OF CONNECTION–NEW TO EXISTING

ABBREVIATIONS

ABV	ABOVE	KW	KILOWATT
AFF	ABOVE FINISH FLOOR	LAT	LEAVING AIR TEMPERATURE
BFV	BUTTERFLY VALVE	MAX	MAXIMUM
BLW	BELOW	MECH	MECHANICAL
BLDG	BUILDING	MFR	MANUFACTURER
CAP	CAPACITY	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	MVD	MANUAL VOLUME DAMPER
CLG	CEILING	NC	NORMALLY CLOSED
DN	DOWN	(N)	NEW
ENT	ENTERING	NO	NORMALLY OPEN
ESP	EXTERNAL STATIC PRESSURE	OBD	OPPOSED BLADE DAMPER
EAT	ENTERING AIR TEMPERATURE	OSA	OUTSIDE AIR
(E)	EXISTING	PD	PRESSURE DROP
FLA	FULL LOAD AMPS	PSI	POUNDS PER SQUARE INCH
FLEX	FLEXIBLE	RA	RETURN AIR
FLR	FLOOR	RPM	ROTATIONS PER MINUTE
FSD	FIRE/SMOKE DAMPER	SA	SUPPLY AIR
FT	FEET	SD	DUCT SMOKE DETECTOR
HD	HEAD	SST	SATURATED SUCTION TEMPERATURE
HP	HORSEPOWER	TYP	TYPICAL
IWG	INCHES WATER GAUGE	WB	WET BULB TEMPERATURE

Revisions Date

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PAYSON UNIFIED SCHOOL DISTRICT #10
UNIT HEATER REPLACEMENT
902 WEST MAIN STREET
P.O. BOX 919, PAYSON, ARIZONA 85547

Seal
Registered Professional Engineer (Mechanical) CERTIFICATE NO. 25040 RODNEY L HILLS Date Signed 03-30-18 ARIZONA U.S.A.
EXPIRES 3/31/18

Project Number
15085
Date
June 30
Drawn By
EW
Checked By
RH
Scale
AS NOTED
Sheet Title
MECHANICAL SCHEDULES AND DETAILS

Sheet Number
M3.0

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Round Valley Unified 003BRG
Background – Round Valley Unified (Round Valley HS – correct electrical issues)
On December 10, 2014, the Board awarded Round Valley Unified $13,667 for the electrical evaluation and design to develop construction bid documents to repair/replace the gym LED lighting on Building 1002 at Round Valley High School (project number 010210210-1002-003BRG).

The district hired a contractor to install new LED gym lighting prior to 2013 and was replaced in 2014. An engineer was contracted to review the electrical system and power quality for the gym. The study recommended several requirements to ensure the life of the lighting meets its end life. The lighting retrofit costs are outlined below:

Initial Award 12/10/2014	
Electrical Evaluation/Design	$13,667
Supplemental funding requested:	
Construction Administration (Partial)	$3,222
Estimated Construction Cost	$32,982
Contingency	$3,000
Total	$39,204
Total project cost:	$52,871

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Round Valley Unified (Round Valley HS – correct electrical issues)
Staff recommends that Round Valley Unified be awarded $39,204 in Building Renewal Grant funding for professional and construction services for the correction of electrical issues on Building 1002 at Round Valley High School. This includes $3,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $52,871.

Board Action Requested:
Board approval of the staff recommendation that **Round Valley Unified** be awarded $39,204 in Building Renewal Grant funding for professional and construction services for the correction of electrical issues on Building 1002 at Round Valley High School. This includes $3,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $52,871.

ATTACHMENTS:

File Name	Description	Upload Date	Type

Round_Valley_USD_003BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
PR2014-234_fee_Round_Valley_Unified_School_District_LED_Gym_Lighting_Study.pdf	Engineering Proposal	7/24/2015	Cover Memo
15046-LSW_Round_Valley_USD_Gymnasium_Electrical_Analysis_-_Combined_2015-07-23.pdf	Engineers Report and Estimate	7/24/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Round Valley Unified**
BRG Project Number: **010210210-1002-003BRG** Apache County
Project Description: **Correct electrical issues**
Consultant: LSW Engineers (602-249-1320)
Contractor: TBD

Board Approval: 12/10/2014
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 32,982**
Contingency		**$ 3,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 13,667
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 3,222
Testing & Inspection		$ -
Total Additional Cost:		**$ 16,889**
Total SFB Funded Project Cost:		**$ 52,871**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 52,871**
Total Project Cost:		**$ 52,871**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

LSW Engineers
ARIZONA, INCORPORATED

September 29, 2014

Round Valley Unified School District
P.O. Box 610
Springerville, Arizona 85938

Attn: Mr. Voight Lesueur, Business Manager
vlesueur@elks.net
1-928-333-6780

Re: Electrical Analysis and Design Remediation at
Round Valley High School for the Gymnasium LED Lighting System
LSW Proposal No. PR2014-234

Mr. Lesueur:

We are pleased to offer our engineering services for an analysis and design remediation of the existing LED lighting system within the High School Gymnasium located at 550 N. Butler Street, Springerville, Arizona 85925.

PROJECT UNDERSTANDING

This project is understood to include an analysis and documentation of the existing High School Gymnasium previously retrofitted LED lighting system. The project includes the review of the serving utility power quality and remedial recommendation(s) via design implementation to improve the electrical distribution system, verify code compliance, and acceptable power quality.

We also understand that there may be issues with improperly protected and grounded legacy electrical conductors within the Gymnasium. We have been informed that in 2012 the existing lighting system was upgraded to LED fixtures. During the summers of 2012 and 2013, multiple fixtures have failed. It has been observed, that an unknown quantity of LED lighting fixtures don't properly operate. We understand a sample of the failed LED fixture drivers have been sent to the manufacturer for review. Information from the manufacturer indicates that due to electrical power surges and insufficient grounding within the building, the drivers are failing. New conductors with code compliant grounding, surge protection, and power conditioning may be required, as well as replacement of the LED lighting fixtures, once design parameters have been established.

SCOPE OF WORK

Our engineering services for this project will consist of the following. Services not indicated below are considered outside of our basic scope and will be provided upon request as an additional service.

Electrical

A. The electrical analysis component for this project is anticipated to include:

1. Conduct a thirty (30) day meter recording via a certified testing agency, of the utility electrical power at the existing service entrance section currently serving the Gymnasium. Load readings will be provided by a third party contractor and billed at cost plus 15% for administration, interpretation of results and directing the testing agency where testing is to occur. The utility metering report will identify at a minimum, peak power demand consumption, power factor per phase, total kVAR, and voltage per phase at thirty (30) minute intervals.

2. Review and documentation of the entire electrical distribution system serving the existing Gymnasium.

3. Document the electrical installation with digital photographs indicating the relevant existing conditions.

4. Provide recommendations and design documents to minimize the possibility of future Gymnasium LED lighting electrical failures which are currently ongoing including utility power quality along with presently undiscovered contributing factors involving the electrical system.

GENERAL

Our scope will include the following general engineering services for the project:

A. Provide the site investigation to observe the systems associated with this project (site investigation is limited to accessible areas only).

B. Attend up to one meeting via teleconference to review the written report results with you and the SFB.

C. LSW's estimated time to complete the electrical analysis after completion of the site investigation with receipt of the testing agency metering results, and design completion is four weeks.

D. One final set of signed and sealed drawings provided in electronic portable document format (PDF).

E. One final set of signed and sealed specifications typed in your format and provided in electronic portable document format (PDF).

F. Review shop drawings and submittals, and office time during construction.

G. One construction field observation will be conducted at the completion of construction.

H. A general cost estimate indicated as a lump sum value, will be provided based on our recommendations to correct the current power distribution and/or power quality issues.

I. O & M Manual Review.

J. Record Drawings:

1. Review of AutoCAD or redlined drawings created by the Contractor. No verification of accuracy is included and documents will not be signed and sealed.

PROFESSIONAL FEE

Our fee for the work outlined above is a lump sum amount as follows:

Site Investigation	$1,815.
Analysis of Electrical System	1,960.
Construction Documents	5,952.
Submittal Review, Office Time, and Field Observation	3,222.
Subtotal	$12,949.
Estimated Reimbursable Expenses - Mileage	$440.
Estimated Reimbursable Expenses – Testing Agency	$3,500.
Total	$16,889.

NOTE: This fee includes all travel expenses incurred within the metropolitan Phoenix area. Travel outside the metropolitan Phoenix area will be billed as a reimbursable expense including, but not limited to, travel, rentals, meals, lodging, and reasonable incidental expenses.

This fee is quoted on a lump sum basis. The breakdown of the fee into phases or tasks is for your convenience. The fee will be billed 100% at the end of the project, unless the scope of the project is changed by written agreement.

CLIENT SERVICES

Services requested of the Client and/or Owner include the following:

A. Provide the following, as required, to assist us in the site investigation of existing conditions: facility access and an escort; ladders or other means to access overhead systems and equipment; and authorization for the use of cameras.

B. Provide copies of the existing construction documents.

C. Provide access to the building maintenance staff to answer questions.

EXCLUSIONS

A. Detailed cost estimating.

B. Life cycle cost analysis.

A. Functional testing or commissioning services.

B. Litigated services.

C. Utility Company energy rebate data collection and/or submission.

D. Value engineering services or changes after 50% completion of the associated documents.

E. Any design services caused by scope changes.

F. Work in relation to the delinquency or insolvency of the Contractor(s).

G. While LSW is in favor of Project Partnering, it is not included as part of our basic scope. If Partnering is anticipated, please alert our office to have us include this within the scope of services.

ADDITIONAL SERVICES

Additional services will be performed on an hourly basis at our standard billing rates as follows:

2014:	Senior Engineer	$165./ hour
	Engineer	$140./ hour
	Field Observer	$105./ hour
	Senior Designer	$110./ hour
	Designer	$90./ hour
	CAD Operator	$80./ hour
	Clerical	$70./ hour
	Outside Services	Our cost plus 10%

Our rates will remain the same for the duration of this project, assuming the project is completed according to the original project schedule. This proposal is effective for not more than 90 days.

LSW accepts the AIA B201 contract and requests that you prepare this document reflecting the terms and conditions of this proposal for our mutual execution prior to our beginning work.

We appreciate this opportunity and look forward to working with your firm on this project.

Regards,

LSW ENGINEERS ARIZONA, INC.

Mark D. Ralston, P.E., LEED AP
Vice President

MDR:sm

Please indicate your acceptance of this proposal by signing and returning one copy of this letter for our files.

APPROVED: _____ DATE: _____

YOUR PROJECT / REFERENCE NO.:_____

F:\MKT\PROPOSAL\2014\PR2014-234 fee Round Valley Unified School District LED Gym Lighting Study.docx

LSW Engineers
ARIZONA, INCORPORATED

ELECTRICAL ANALYSIS & POWER QUALITY REPORT

for

ROUND VALLEY UNIFIED SCHOOL DISTRICT
ROUND VALLEY HIGH SCHOOL GYMNASIUM LIGHTING

550 N. BUTLER STREET
EAGER, ARIZONA



LSW Project No. 2015-046.00

JULY 23, 2015

2333 W Northern Ave, #9 . Phoenix, Arizona 85021-9334 . Telephone 602.249.1320 . Facsimile 602.336.3276

Round Valley Unified School District
Round Valley High School Gymnasium Lighting Analysis

Electrical Analysis and Recommendation Report for the
Existing Gymnasium Lighting System
550 N. Butler Street Eager, Arizona

A. Project Overview:

1. We have been tasked to investigate the power quality for the existing high school Gymnasium LED lighting system at the Round Valley High School located in Eager, Arizona.

2. We have reviewed the issues associated with the premature failure of the existing Gymnasium LED lighting system as well as the existing control system, condition of the existing branch circuit wiring and potential grounding concerns discovered during our site investigation. We understand that drivers have been replaced during the last 20 to 24 months and are again prematurely failing. Previous to the start of our analysis, we received status reports of the individual LED lighting fixtures shutting down and not restarting after control systems initiate the 'ON' command.

3. We understand the District has sent a sample of failed lighting fixture drivers to the manufacturer for analysis. The manufacturer has verified that the drivers were "burnt out". The manufacturer didn't acknowledge any if any abnormal operational tendencies existed as well as any indication of over or under voltage conditions that may have contributed to the failures. At the time of this report the driver manufacturer has replaced numerous drivers on at least two separate occasions under warrantee. Unfortunately, each time replacement drivers are required an electrical contractor must access the fixture, remove and then replace the individual drivers. This work is not covered under the driver warrantee.

4. The serving electrical utility is Navopache Electric. The existing Gymnasium Service Entrance Section (SES) is monitored by Navopache Electric meter #12743297. The Navopache Electric distribution network is fed underground and supplies the Gymnasium SES from a medium voltage system, and transforms the medium voltage to 120/240V-1Phase, 3Wire system. There is no indication of local voltage regulation provided by Navopache Electric.

5. We coordinated the installation of a thirty day power quality metering (05/20/2015 – 06/24/2015) of the distribution feeder to existing Panel GLPA, originating at the existing SES. This Gymnasium SES is an 800A 120/240V-1Phase, 3Wire system, located at the exterior in a NEMA-3R enclosure. Existing panels fed from the SES are; MR1, GLPA, GLPB, GLPC, an unknown load, and a spare switch. Each of these

fusible switches are labeled as one through six as main disconnecting means. There is no single main disconnecting means.

6. Existing panel board GLPA distributes power to the existing lighting branch circuits within the Gymnasium. We have also reviewed the original as-built design documents which indicate a total of eight 20A/1P branch circuits serving the Gymnasium LED lighting system. The total current draw of the existing replacement LED lighting fixtures is far less than the original 400W (460W actual) metal halide, High Intensity Discharge (HID) fixtures.

B. Description of Lighting System:

1. The existing Gymnasium LED lighting consists of twenty (20) fixtures arranged in four (4) rows and five (5) columns. The existing lighting fixtures were installed at the same location as where the original HID fixtures were removed. There are eight existing branch circuits serving the Gymnasium lighting system. None of these branch circuits contain ground conductors. The original installation was completed in 1990 at which time allowed the use of the conduit as the ground path. The sole requirement at the time was that compression connectors are used.

2. Our site observations indicate that the eight branch circuit conduit systems are installed with set-screw connectors. There are eight corresponding manual, toggle style, lighting control switches which are mounted adjacent existing Panel GLPA. The switches are grouped under two four gang cover plates. The existing lighting control and lighting branch circuits were not revised as part of the previous replacement project. It also appears that the existing branch circuits were maintained and not revised during the LED replacement project.

3. Each Gymnasium LED lighting fixture is a 2' x 4' troffer, high bay style, which has two LED illuminator modules mounted centerline, spaced approximately 24" apart with a specular aluminum reflector system, and a clear acrylic screw on lens. Exposed wiring to each of the two modules can be seen through the lens. The LED illuminator module drivers are mounted behind the reflector assembly within the fixture housing. Each fixture is suspended via angled chains to beam clamps at four locations and are installed relatively level and perpendicular to the Gymnasium floor. The fixture elevations follow the structural 'A' frame of the building. Each fixture is fed from an adjacent junction box as part of the branch circuit distribution with a flexible conduit whip to the top of the fixture. There does not appear to be any protection from objects that may potentially hit the fixture lens or enclosure, causing vibration shock to the components.

C. 30 Day Meter Information:

1. In order to begin the investigation to better understand if any electrical power quality issues exist, we have subcontracted with Cx Testing Services for an on-site electrical 30 day meter analysis of the existing Gymnasium SES Panel GLPA feeder. An electrical meter recorder was installed within the SES Switchboard, which indirectly feeds Panel GLPA. Reference the attached Cx Testing Services meter

monitoring report for detailed information recorded and recommendations to correct recorded issues.

2. The following are summaries of the recorded information:

   i. The meter was installed at the SES equipment on May 20, 2015 and removed June 24, 2015. The Gymnasium SES voltage is 120/240V-1Ph,3W. The meter recorded low power consumption time frame noted, but still recorded various abnormalities which require correction in order to protect sensitive equipment and/or devices.

   ii. The active power maximum value was 44.34kW on 07-17-2014. The apparent power maximum value was 91.97kVA on 07-17-2014. The reactive power maximum value was 58.20kVAR on 07-17-2014. The leading power factor minimum value was 0.730 on 05-21-2015 with a total average value lagging power factor of 0.992. The minimum phase voltage imbalance was measured was 0.0% with an average voltage imbalance 0.030%. The voltage average is approximately 126.5V on 05-30-2015. This value is within (+/- 5%) and is acceptable. However, the neutral showed signs of current load on various occasions which is indicative of circuit imbalance and/or grounding deficiencies.

   iii. The Total Harmonic Distortion (THD) on each of the phase legs A & B regarding the 1st, 3rd, $5^{th,}$,$7^{th,}$ 9th through the 16th harmonic values are higher than would normally be expected. High harmonic values directly affecting the power quality within the facility. The potential to affect the longevity of operating equipment, including lighting systems is higher when large THD values are indicated. Refer to the Cx Testing Services Report for a full indication of the various THD values.

   iv. Refer to the Solutions Table within the Cx Testing Services Report which indicates the majority of the electrical system disturbance issues are found within the Type I – Transients under the P1159 Category - Impulsive and Oscillatory.

D. <u>Reported problems with the Gymnasium LED Lighting:</u>

1. During the summer of 2012, approximately 50% of the twenty LED lighting fixtures failed either partially or completely. Since the original installation in 2012, a sample of failed drivers, were sent to the manufacture (Thomas Research Products). Each fixture is equipped with two drivers with each supplying power to an LED illuminator module. The LED driver was determined to be “burning up” due to over voltage and/or a high current inrush conditions. Grounding issues were also listed as a possible contributing factor by the manufacturer. Since the initial failures in the summer of 2012, numerous additional lighting fixtures have failed based on unknown conditions. The affected lighting fixtures have been repaired several times. The latest repair was conducted in October, 2014. There are no records indicating the exact quantity of component failures or specific dates of the failures, other than noted above.

2. The original lighting fixtures (driver and illuminator components only) are still within the normal 50,000 operational hours for LED components. The lighting fixture assemblies should normally operate for a period of 12 to 13 years based on an average of 3,600 hours of operation per year.

3. The LED lighting fixtures are not U.L. Listed. We spoke with Troy Dunkin of Maricopa Electric and he stated that the lighting fixtures were assembled on site, with independent components (housing, lens, illuminator modules, drivers, and wiring). The LED drivers have a five year manufacturer's warrantee. It is unclear if any of the illuminator modules have failed or are currently under warrantee.

4. During our site observation visit on April 30, 2015, several volleyballs were witnessed wedged between the main structure & conduits. Discussion with school staff indicated that soccer practice is also conducted within the Gymnasium. It is unclear whether the LED fixtures are being affected by the potential impact shock of the soccer and/or volleyballs during practice. Out of the existing twenty lighting fixtures, one fixture was noted as completely failed. Eight additional lighting fixtures indicated only a single illuminator module operating (50%). This is a reduction of approximately 25% from the LED replacement original design.

E. Recommendations:

1. Install new branch circuit conductors and grounding conductors within the eight LED lighting branch circuit conduits and and home runs from Panel GLPA and terminate at each of the twenty LED lighting fixtures.
2. After rewiring of the eight branch circuits, test branch circuit voltage at each of the twenty LED lighting fixtures to verify 120V +/- 3% is being delivered.
3. Remove and replace all forty (40) LED drivers in the twenty (20) lighting fixtures with more robust system parameters.
4. Install a Surge Protection Device (SPD) at the Gymnasium SES, fed via the existing spare 100A/3P fusible switch with 30A LPN-RK fuses. Eaton #SPV-300-240S-3-N.
5. Install a Surge Protection Device (SPD) at Panel GLPA, fed via a new 30A/2P circuit breaker. Eaton #SPV-200-240S-2-K.

F. Probable Construction Cost with Installation:

Provide and Install New Branch Circuits	$11,950.
Provide and Install New Drivers(40)	5,595.
Provide and Install New SPD at SES	4,430.
Provide and Install New SPD at Panel GLPA	3,950.
Misc. Materials	1,560.
Subtotal	$27,485.
OH & P, Bond & Insurance (20%)	5,497.
Total	**$32,982.**

Attachment A

Photos:

Photo No.1 – Gymnasium SES



Photo No.2 – Gymnasium SES Navopache Meter



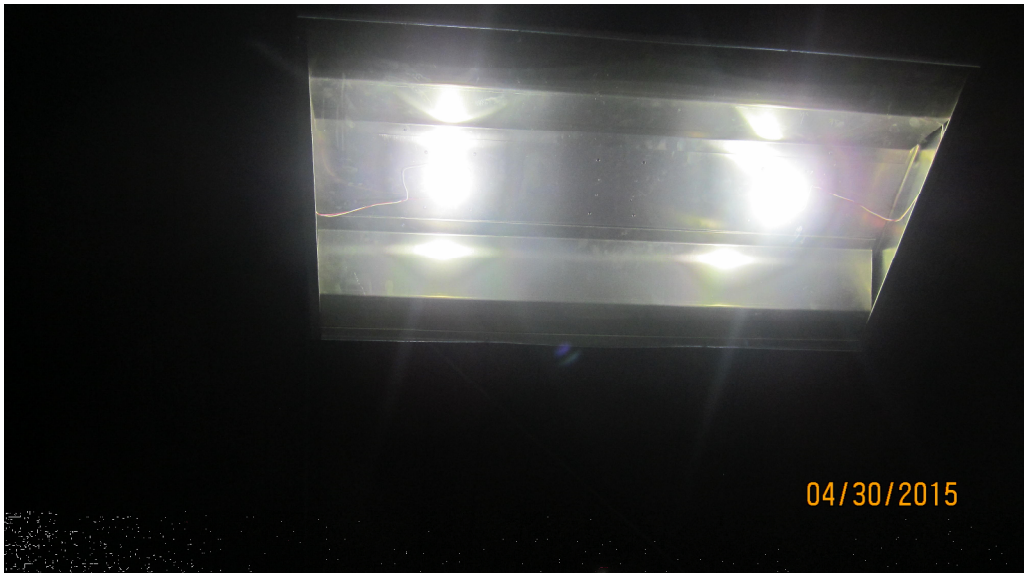
Photo No.3 – Gymnasium SES Distribution



Photo No.4 – Gymnasium Panel GLPA



Photo No.5 – Gymnasium LED Lighting Fixture



Attachment B

Square-D SPD Cut Sheet

Surge Protection (SPD) & Power Conditioning Products

Contents

Surge Protection (SPD) & Power Conditioning Products

Surge Protection Products—SPD

Facility-Wide Protection **34.1-1**
Integrated Surge Protection **34.1-3**
Integrated Panelboard SPD **34.1-4**
SPD Series Sidemount Units **34.1-6**
Sidemount Surge Protective Device for Commercial and Light Industrial Applications **34.1-16**
CVX050/100 . . . . . **34.1-18**
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AEGIS Powerline Filters **34.1-22**

Power Conditioning Products

Sag Ride Through (SRT) **34.1-27**
Electronic Voltage Regulator (EVR) **34.1-30**

Specifications

See Eaton's *Product Specification Guide*, available on CD or on the Web.

CSI Format:	1995	2010
SPD Series	**Section 16671A**	**Section 26 43 13**
AEGIS Powerline Filter	**Section 16671B**	**Section 26 43 13.11**

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Power Protection & Conditioning Products Family

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Facility-Wide Protection

A Facility-Wide Protection Approach Should be Employed to Address Power Quality Issues

Why Coordinated (Cascaded) Facility-Wide Protection?

As recommended in the *IEEE® Emerald Book*, a cascaded or staged protection approach should be employed to reduce external/internal impulse waveforms to harmless levels. An SPD filter should be installed at the main service entrance and key distribution or branch panelboards to eliminate ringing and impulse disturbances, as well as high frequency EMI/RFI noise.

All SPD Series units are coordinated to work on a "system basis." SPD Series units installed at each level in the system work together to isolate and remove external/internal generated disturbances, creating superior facility-wide performance and reliability. Integrated SPD units are available in switchboards, switchgear, panelboards, MCCs, automatic transfer switches and retrofit.

Benefits of SPD Series Facility-Wide Protection

- High amplitude lightning impulses reduced to negligible levels
- The electrical distribution's noise attenuation is significantly enhanced

The coordinated design ensures effective current sharing between main and branch SPD devices.

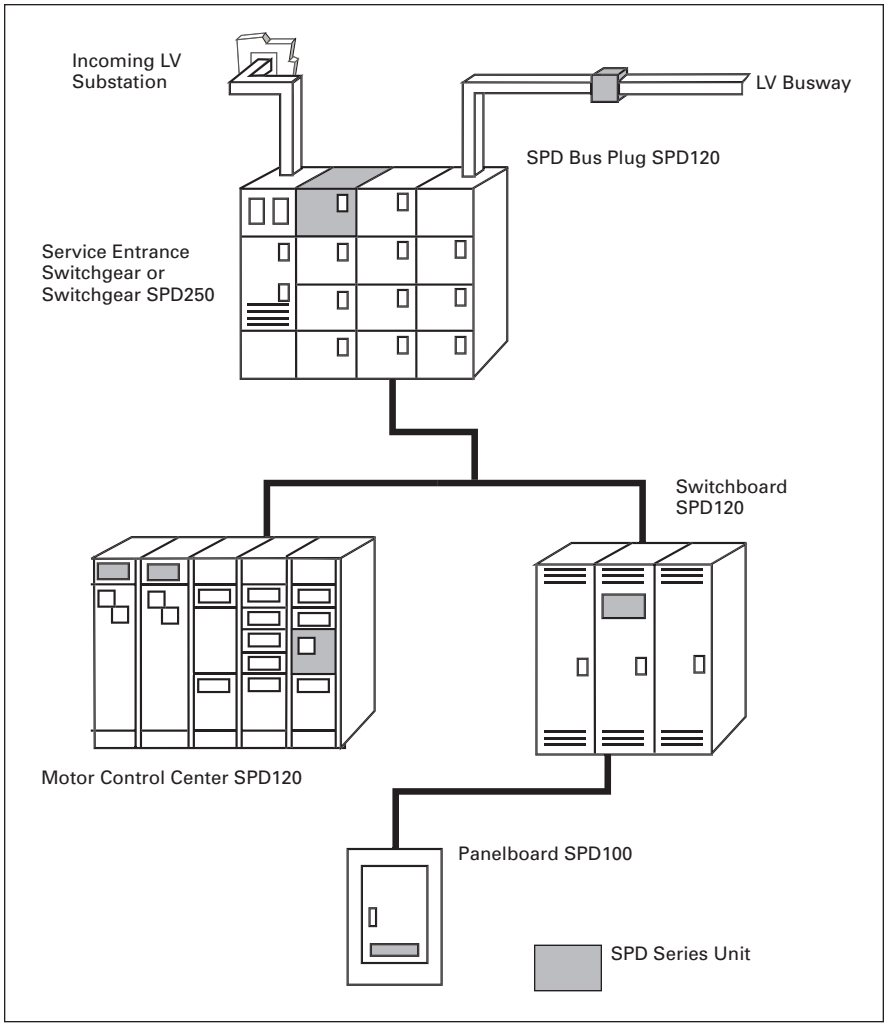


Figure 34.1-1. Cascaded Performance

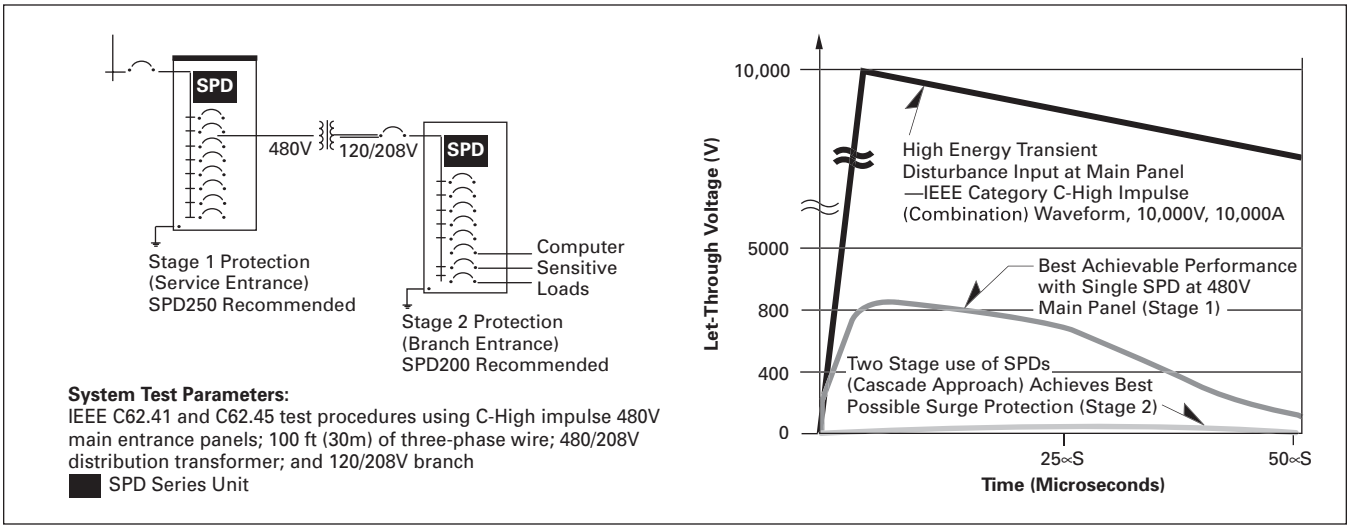


Figure 34.1-2. *IEEE Emerald Book* Recommends a Cascaded (or Two-Stage) Approach

System Application

The SPD applications covered under this section include distribution and branch panel locations, busway, motor control centers (MCC), switchgear and switchboard assemblies. All SPDs shall be tested and demonstrate suitability for application within ANSI/IEEE C62.41 Category C, B and A environments.

Surge Current Capacity

The minimum surge current capacity that the device is capable of withstanding shall be as shown in **Table 34.1-1**.

SPD Type

All SPDs installed on the line side of the service entrance disconnect shall be Type 1 SPDs. All SPDs installed on the load side of the service entrance disconnect shall be Type 1 or Type 2 SPDs.

Table 34.1-1. Surge Current Capacity

Minimum Surge Current Capacity Based on ANSI/IEEE C62.41 Location Category			
Category	**Application**	**Per Phase**	**Per Mode**
C	Service entrance locations (switchboards, switchgear, MCC, main entrance)	250 kA	125 kA
B	High exposure roof top locations (distribution panelboards)	160 kA	80 kA
A	Branch locations (panelboards, MCCs, busway)	120 kA	60 kA

Features

Table 34.1-2. Eaton Surge Protection Model Feature Table

Product Series	L to N Protection Mode	L to G and N to G Protection Modes	Per Phase kA Range	EMI/RFI Filtering Attenuation	Nominal Discharge Current (I_n)	Alarm Contacts Available	Surge Counter Available	Warranty (Years)	Enclosure Options (NEMA Types)	Integrated Mounting
SPD	Yes	Yes	50–400	50 dB	20 kA	Yes	Yes	10	1, 4 and 4X	Yes
SPV	Yes	Yes	50–200	40 dB	10 kA	Yes	No	10	1 and 3R	No
CVX	Yes	Yes—100 kA No—50 kA	50–100	No	10 kA	No	No	5	4X	No
SP1	Yes	No	50 only	No	20 kA	No	No	2	4	No

Integrated Surge Protection

Eaton was the first to introduce the "Direct-On™ bus bar" connect SPD that provides customers with the lowest system let-through voltage at the bus bar when compared to traditional cable connected surge protectors.

By using a direct bus bar connection, the SPD Series achieves the industry's lowest let-through voltage—effectively suppressing both high and low energy transient events providing protection for all connected electronic loads. This design provides superior suppression ratings and eliminates poor performance that results from cable connections and/or long lead lengths.

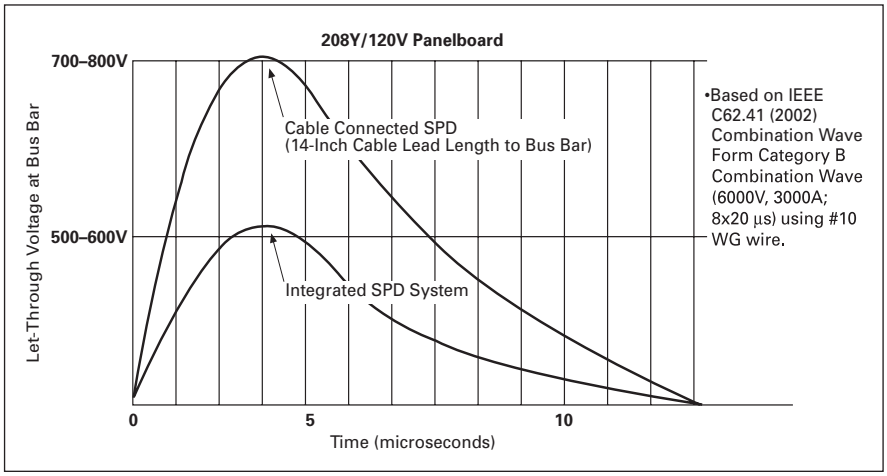


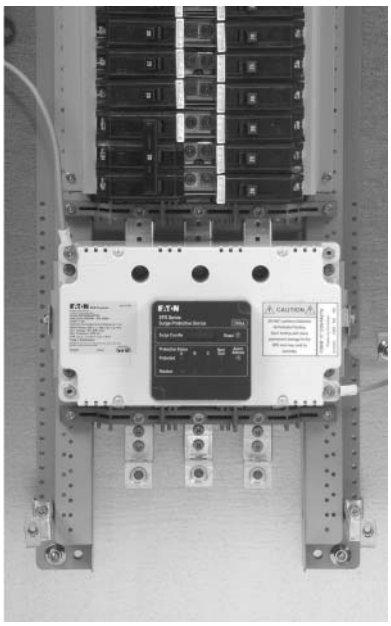
Figure 34.1-3. 120V/208Y Panelboard—Integrated SPD vs. Cable Connected

Other Products

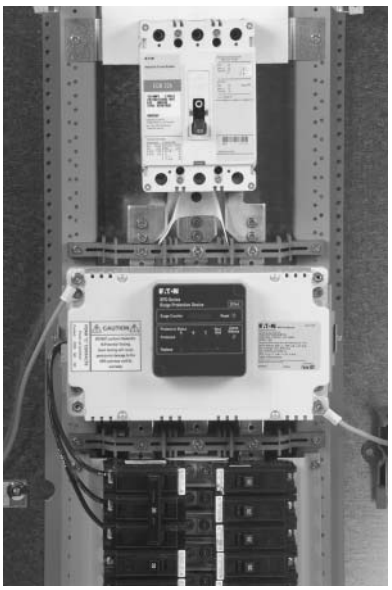
Other surge suppressor manufacturers' measurements are made at the SPD module or the suppressor's terminals, not at the electrical distribution equipment's bus bar. The distance between module or suppressor terminals and the distribution equipment bus bar is often 14.00 inches (355.6 mm) or more. The impedance associated with cabling required to connect the surge suppressor to the electrical distribution equipment (also referred to as lead length) significantly effects the overall performance of the surge suppressor and results in an increase in let-through voltage.



SPD Series Unit Integrated Within an Eaton Pow-R-Line 1a Panelboard



In this installation, the SPD Series is mounted directly to the panelboard's bus bars. This type of installation will provide the best possible surge protection by minimizing the connected lead length.



The SPD Series is also available as an integrated unit interfaced via a circuit breaker resident in the electrical assembly. This installation keeps connected lead lengths short while providing a means of disconnecting power to the unit quickly and easily.

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Integrated Panelboard SPD

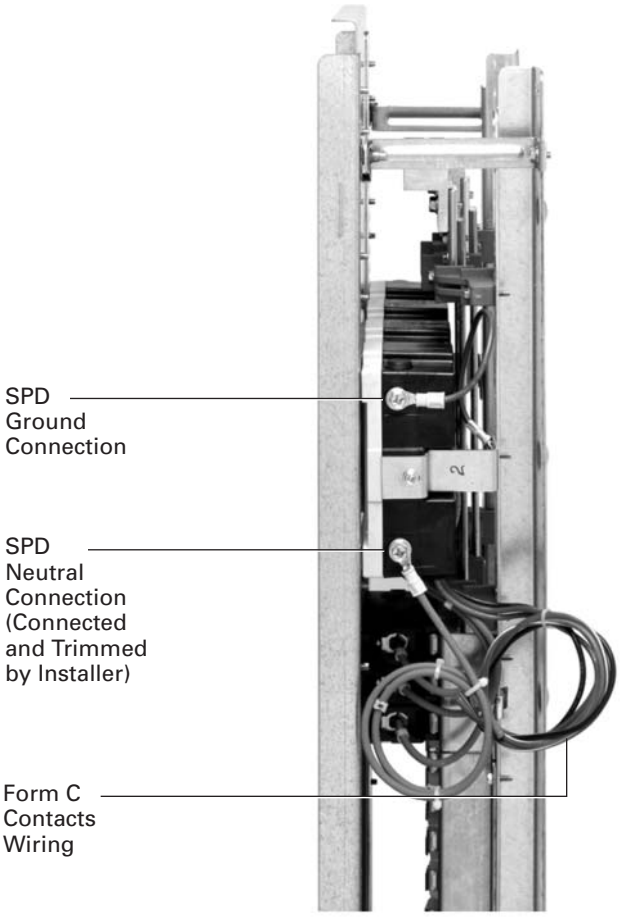


Integrated SPD Series Unit in PRL1a Panel (Shown with Option SPD Integral Disconnect)

Integral Disconnect Option—For PRL1a, 2a, 3a, and 3E panelboards.

For applications where load interruptions are intolerable, an internal dedicated SPD circuit breaker disconnect option is available. SPD is cable connected via a three-pole 30A circuit breaker. (Breaker rating and type dependent on panel type.)

Note: The addition of the SPD circuit breaker adds 100V to the published SPD let-through voltage ratings. See **Page 34.1-5**.



Direct Bus Mounted SPD Series Unit in a PRL1a Panel

Another distinct advantage that Eaton integrated SPDs offer is the availability of neutral and ground connections on both sides of the unit. This enables both the neutral and ground wires to be kept as short as possible. Only one neutral and ground connection is required, with the connection point chosen for each being the one that is in closest proximity to the neutral and ground bars.

In a sidemount installation, either the neutral or ground wire connection will be very long, decreasing the installed performance of the unit. When a sidemount SPD is installed, its wires enter on one side of the panel. If that point of entry is closest to the panel's ground bar, the ground wire is short and the neutral wire must stretch to the opposite side of the panel where the neutral bar is located. If the SPD's wires enter on the side of the panel where the neutral bar is located, the neutral wire is kept short but the ground wire will be much longer.

The presence of neutral and ground connections on both sides of an integrated unit keeps both leads as short as possible, increasing the installed performance of the unit.

Retrofit Installation Recommendations to Reduce Let-Through Voltage

When installing a surge suppressor in a retrofit environment, it is important to mount the suppressor as close to the electrical equipment as possible, keep the wiring (lead length) between the electrical equipment and the suppressor as short as possible (less than 14.00 inches (355.6 mm) is recommended), and twist/wire tie the conductors to reduce inductive effects.

As shown in **Figure 34.1-4** below, installation lead length reduces the performance of any surge suppressor. For each inch of wiring (installation lead length), add 15 to 25V to the surge suppressor's published let-through value (e.g., suppressor let-through at 400V and installation of 3 ft (0.9m) of cable = 1000V installed rating).

The SPD uses 10 AWG wire for connecting to the distribution system. The wires require protection by using a 30A circuit breaker that ensures protection against fault current and fire.



Sidemount Installation Recommendations



SPD Series Sidemount Unit

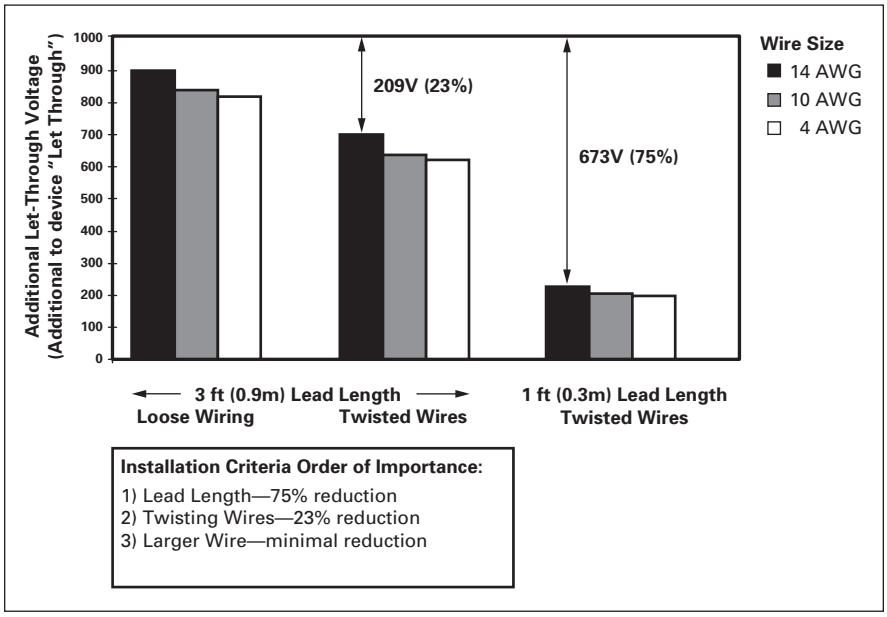


Figure 34.1-4. Let-Through Graph

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SPD Series Sidemount Units



SPD Series Sidemount Units

General Description

Eaton's SPD Series surge protective devices are the latest and most advanced UL® 1449 3rd Edition certified surge protectors. Units are available integrated within Eaton electrical assemblies, including panelboards, switchboards, motor control centers, switchgear, automatic transfer switches and bus plugs.



SPD Series Integrated Units

A complete offering of sidemount units designed for mounting external to electrical distribution equipment is also available. Application of SPD Series units throughout a facility will ensure that equipment is protected with the safest and most reliable surge protective devices available. SPD Series units are available in all common voltages and configurations and also in a variety of surge current capacity ratings from 50 through 400 kA. Three feature package options are also available to choose from, ensuring the proper unit is available for a variety of applications.

Features, Benefits and Functions

- Uses thermally protected metal oxide varistor (MOV) technology
- Three feature package options
- True protection status indicators report the status of the protection elements, not the status of the applied power
- Available integrated within the following Eaton electrical assemblies: panelboards, switchboards, motor control centers, switchgear, automatic transfer switches and bus plugs
- 10-year warranty (15-year with registration)

Safety Features

- All units use thermally protected metal oxide varistor technology (MOV) as their core surge suppression component. Usage of this technology ensures safe operation when the unit is subjected to abnormal conditions such as temporary overvoltage or high fault current conditions. Under such conditions, the thermally protected MOVs are removed from the circuit quickly and safely before a potentially unsafe condition can occur
- SPD Series units contain no replaceable parts such as surge modules, fuses, or surge counter memory backup batteries. This prevents potential arc flash and shock hazards, as the units require no periodic service or user intervention after installation
- Integrated versions of the unit are factory installed and sidemount versions are factory sealed. These important safety measures further enhance user safety

Three Feature Package Options Available

The SPD Series provides users with the option of selecting between three feature packages. These feature packages are the basic, standard and standard with surge counter. The proper feature package can be selected based on the requirements of the application or specification. A side by side comparison of the individual features found in each package is below.

Basic Feature Package
The basic feature package is perfect for applications where basic, cost-effective, safe and reliable surge protection is required, but budgets don't allow for extra, additional features. Rather than sacrifice performance or safety due to cost, SPD Series units with the basic feature package provide you with high-performing surge protection without sacrificing safety or reliability. The basic feature package provides the same level of surge protection and safety provided by the standard and standard with surge counter feature packages minus some of the features found in them. The package contains dual-colored protection status LEDs that report the true status of the protection in each phase/mode. All four-wire plus ground units also contain an additional set of dual-colored protection status LEDs that report the status of the protection in the neutral/ground mode.

Standard Feature Package
The standard feature package includes all of the features found in the basic feature package, plus an audible alarm with silence button, EMI/RFI filtering, and a Form C relay contact that can be used for remote annunciation of the SPD's status. The audible alarm activates and the Form C relay contact changes state when any loss of protection is detected or a fault condition exists with the unit. Should such a condition occur, the audible alarm can be silenced by pressing the silence button. The EMI/RFI filter provides up to 50 dB of noise attenuation over the range of 10 kHz through 100 MHz.

Standard with Surge Counter Feature Package

The standard with surge counter feature package includes all of the features found in the standard feature package plus a six-digit surge counter with a reset button. The surge counter indicates the ongoing count of the number of surges the unit has been exposed to and stores them in nonvolatile memory. Should power to the SPD Series unit be completely interrupted, the surge counter will recall and display the surge count prior to the interruption when power is restored. Unlike many surge protectors, the SPD Series' surge counter memory feature does not require a backup battery that would require periodic replacement in order to achieve its memory functionality.

Table 34.1-3. Side-By-Side Comparison of the SPD Series' Available Feature Packages

Feature Package Comparison	Basic	Standard	Standard with Surge Counter
Surge protection using thermally protected MOV technology	■	■	■
Dual-colored protection status indicators for each phase	■	■	■
Dual-colored protection status indicators for the N-G protection mode	■	■	■
Audible alarm with silence button	—	■	■
Form C relay contact	—	■	■
EMI/RFI filtering, providing up to 50 dB of noise attenuation from 10 kHz to 100 MHz	—	■	■
Surge counter with reset button	—	—	■

Standards and Certifications

- Integrated versions of the unit are UL 1449 3rd Edition recognized components for the United States and Canada, covered by Underwriters Laboratories certification and follow-up service
- Sidemount versions are UL 1449 3rd Edition listed devices and are also CSA approved

Technical Data and Specifications

- 20 kA nominal discharge current (I_n) rating (maximum rating assigned by UL)
- 50 through 400 kA surge current capacity ratings
- 200 kA short-circuit current rating (SCCR)

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Table 34.1-4. Integrated Product Applications

Switchboard	Switchgear	Motor Control Centers
		
Features: ■ The SPD can be integrated into any switchboard ■ Specifiers have the flexibility to install the SPD in any location within the switchboard ■ Disconnect switch is a standard feature ■ Unique design minimizes installation impedance	**Features:** ■ Available on all switchgear designs ■ Disconnect switch is a standard feature ■ Unique design minimizes installation impedance ■ SPD250 ideal for critical industrial switchgear applications	**Features:** ■ Ideal protection for PLCs, sensors, drives, electronic starters, or other digital equipment ■ SPD is designed to fit in Freedom 2100 in a standard (3X) size 18-inch (457.2 mm) compartment ■ May be used in new/aftermarket applications ■ Ideal for water treatment, petrochemical and other industrial applications
Safety Standards: ■ UL 891 (Switchboard) ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)	**Safety Standards:** ■ UL 1558 (Switchgear) ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)	**Safety Standards:** ■ UL 845 (MCC) ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)

Panelboards	Busway	Retrofit
		
Features: ■ The SPD is used extensively on branch panelboards for computer rooms, laboratories, schools, hospitals and industrial applications ■ 200% rated neutral is provided for non-linear loads ■ Cost-effective branch protection (assumes main panel protection employed)	**Features:** ■ Ideal for busway fed distribution systems ■ Easy to install SPD units fit in standard bus plug assembly ■ Isolates critical busway sections from nearby disturbance producing loads ■ Designed for new and existing facilities ■ Integral disconnect	**Features:** ■ SPD units can be externally mounted to existing distribution equipment ■ Standard NEMA 1, 4 or 4X enclosures ■ Requires field installation ■ SPD Retrofit 50–400 kA/phase units ■ SPV 50–200 kA/phase units
Safety Standards: ■ UL 67 (Panelboards) ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)	**Safety Standards:** ■ UL 857 (Busway) ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)	**Safety Standards:** ■ UL 1449 3rd Edition (Surge Suppressor) ■ UL 1283 (EMI/RFI Filter) ■ CSA C22.2 Certified (Suppressor)

Note: The SPD Surge components can be integrated into safety switches, automatic transfer switches (ATS) and other assemblies. Contact your local Eaton sales office.

Catalog Numbering System

Table 34.1-5. SPD Series Units Mounted Internal to Electrical Distribution Equipment (Integrated Units)

SPD 250 480D 2 J

Series	kA Rating	Voltage Code	Application—Integrated Units ②	Feature Package
SPD = Surge protective device	**050** = 50 kA per phase **080** = 80 kA per phase **100** = 100 kA per phase **120** = 120 kA per phase **160** = 160 kA per phase **200** = 200 kA per phase **250** = 250 kA per phase **300** = 300 kA per phase **400** = 400 kA per phase	**240S** = 120/240 single split-phase **208Y** = 120/208 wye (4W+G) **220Y** = 127/220 wye (4W+G) **400Y** = 230/400 wye (4W+G) **480Y** = 277/480 wye (4W+G) **600Y** = 347/600 wye (4W+G) **240D** = 240 delta (3W+G) **480D** = 480 delta (3W+G) **600D** = 600 delta (4W+G) **240H** = 240 high-leg delta (4W+G) on 'B' phase ①	**A** = Panelboards (PRL1a, 2a, 3a, 3E), direct bus mounted **B** = Switchgear (includes remote display) **C** = Panelboards (PRL1a, 2a, 3a, 3E, 4), switchboards, busway **J** = Motor control centers	**1** = Basic **2** = Standard **3** = Standard + surge counter

① Please consult the factory for 240 high-leg delta (4W+G) applications with high leg on 'C' phase.

② Units used in PRL1a, 2a, 3a and 3E panelboard applications are available in 50–200 kA ratings only. Use the 'C' option for PRL1a, 2a, 3a and 3E panelboard applications when unit is connected through a circuit breaker.
Example: SPD250480D2J = SPD Series, 250 kA per phase, 480D voltage, standard feature package, motor control center application.

Table 34.1-6. SPD Series Units for Mounting External to Electrical Distribution Equipment (Sidemount Units)

SPD 250 480D 2 K

Series	kA Rating	Voltage Code	Application—Sidemount Units	Feature Package
SPD = Surge protective device	**050** = 50 kA per phase **080** = 80 kA per phase **100** = 100 kA per phase **120** = 120 kA per phase **160** = 160 kA per phase **200** = 200 kA per phase **250** = 250 kA per phase **300** = 300 kA per phase **400** = 400 kA per phase	**240S** = 120/240 single split-phase **208Y** = 120/208 wye (4W+G) **220Y** = 127/220 wye (4W+G) **400Y** = 230/400 wye (4W+G) **480Y** = 277/480 wye (4W+G) **600Y** = 347/600 wye (4W+G) **240D** = 240 delta (3W+G) **480D** = 480 delta (3W+G) **600D** = 600 delta (4W+G) **240H** = 240 high-leg delta (4W+G) on 'B' phase ③	**K** = NEMA 1 enclosure **L** = NEMA 1 flushmount enclosure ④ **M** = NEMA 1 enclosure with internal disconnect **N** = NEMA 4 enclosure **O** = NEMA 4 enclosure with internal disconnect **P** = NEMA 4X enclosure (stainless steel) **Q** = NEMA 4X enclosure with internal disconnect (stainless steel)	**1** = Basic **2** = Standard **3** = Standard + surge counter

③ Please consult the factory for 240 high-leg delta (4W+G) applications with high leg on 'C' phase.

④ NEMA 1 flushmount units are available in 50–200 kA ratings only.
Example: SPD250480D2K = SPD Series, 250 kA per phase, 480D voltage, standard feature package, housed in NEMA 1 enclosure.

Dimensions in Inches (mm)

Standard Dimensions —Integrated Units

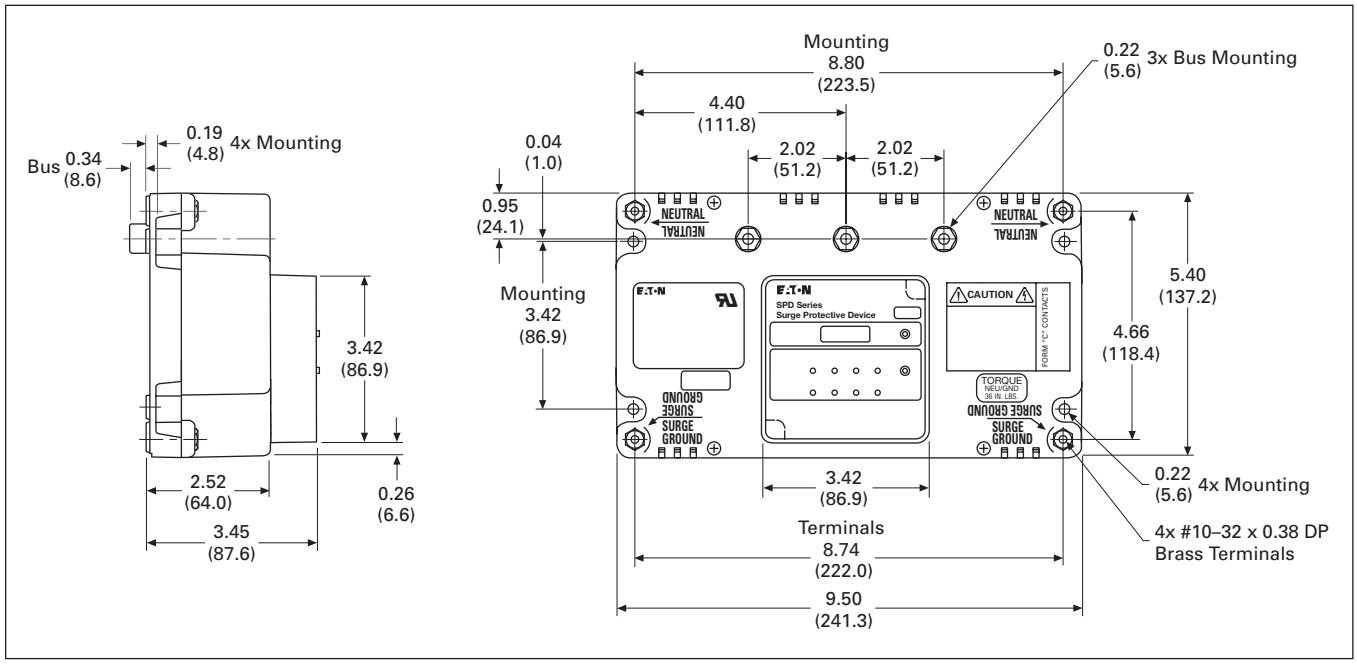

Figure 34.1-5. 50–200 kA Integrated Units

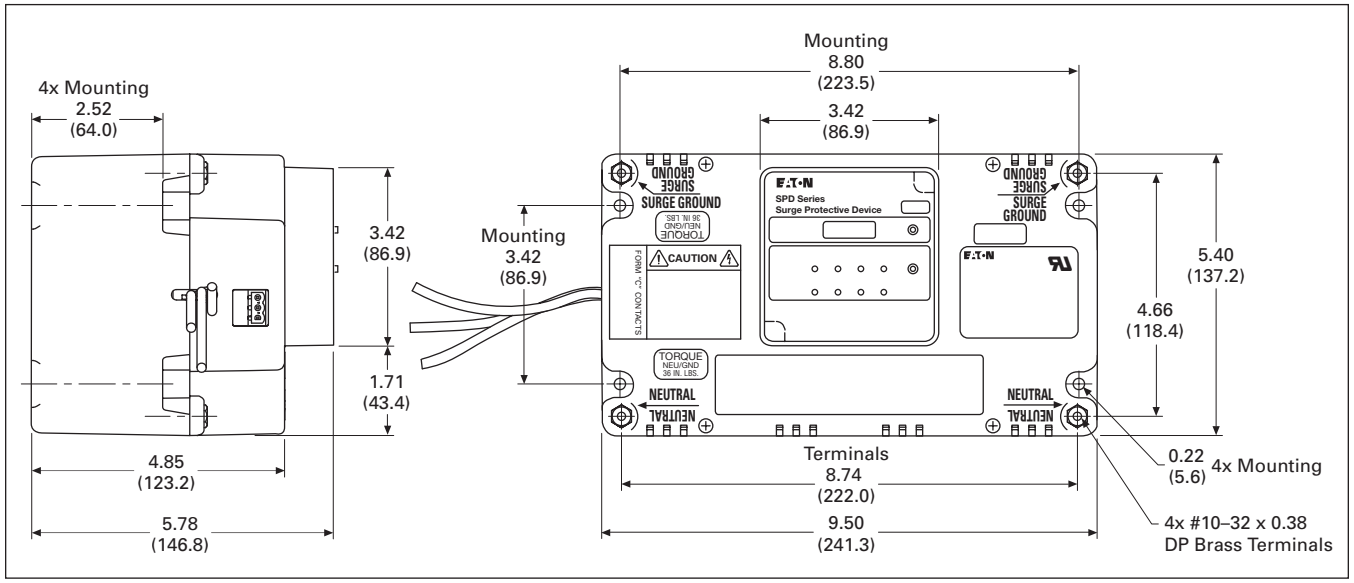

Figure 34.1-6. 250–400 kA Integrated Units

Weights

- 50–200 kA units approximately 3.5 lbs (1.6 kg)
- 250–400 kA units approximately 7.0 lbs (3.2 kg)

Standard Dimensions—Sidemount Units

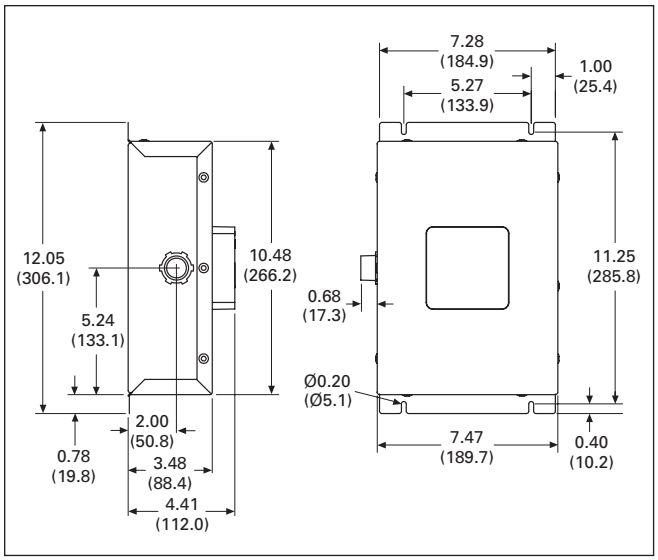

Figure 34.1-7. 50–200 kA Units in a NEMA 1 Rated Enclosure, Weight = 6.8 lbs

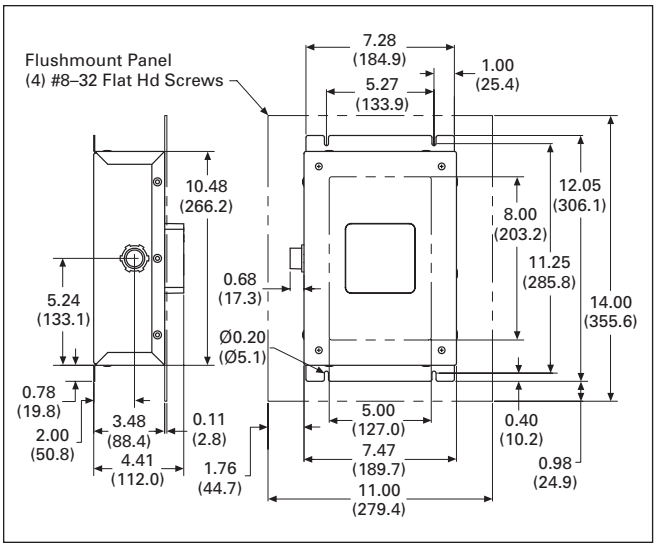

Figure 34.1-9. 50–200 kA Units in a NEMA 1 Rated Flushmount Enclosure, Weight = 6.8 lbs

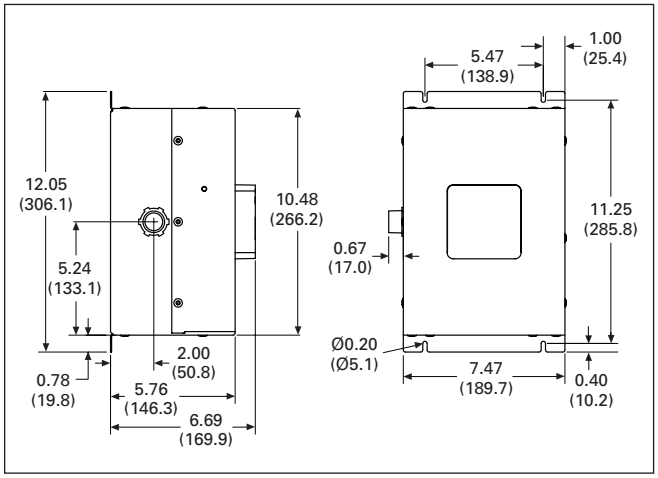

Figure 34.1-8. 250–400 kA Units in a NEMA 1 Rated Enclosure, Weight = 13.5 lbs

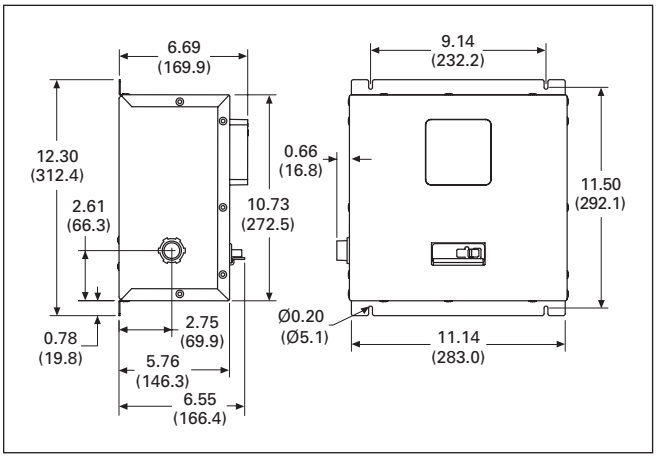

Figure 34.1-10. 50–400 kA Units in a NEMA 1 Rated Enclosure with Internal Disconnect, Weight = 14.7 lbs

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Standard Dimensions—Sidemount Units

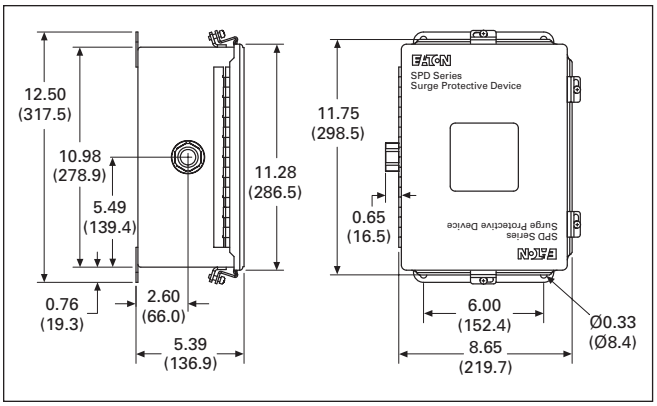

Figure 34.1-11. 50–200 kA Units in a NEMA 4 or 4X Rated Enclosure, Weight = 14.6 lbs

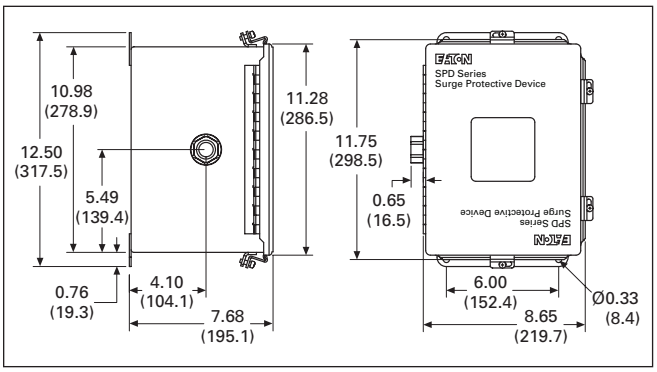

Figure 34.1-12. 250–400 kA Units in a NEMA 4 or 4X Rated Enclosure, Weight = 14.6 lbs

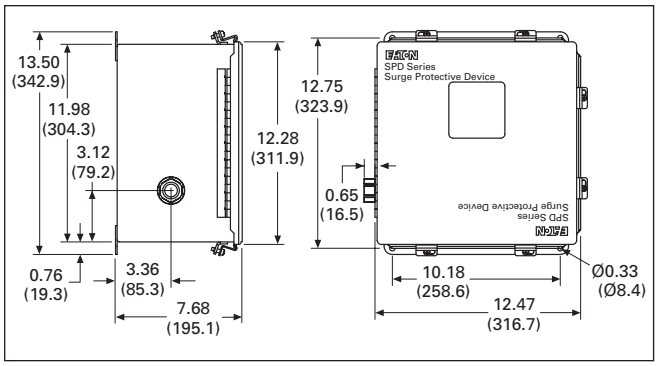

Figure 34.1-13. 50–400 kA Units in a NEMA 4 or 4X Rated Enclosure with Internal Disconnect, Weight = 27.5 lbs

Technical Data

Table 34.1-7. SPD Series Specifications

Description	Specification	
Surge capacity ratings available	50, 80, 100, 120, 160, 200, 250, 300, 400 kA per phase	
Nominal discharge current (I_n)	20 kA (maximum rating assigned by UL)	
Short-circuit current rating (SCCR)	200 kA	
SPD type	Basic feature package = Type 1 (can also be used in Type 2 applications) Standard and standard with surge counter feature packages = Type 2	
Single split-phase voltages available	120/240	
Three-phase wye system voltages available	120/208, 127/220, 230/400, 277/480, 347/600	
Three-phase delta system voltages available	240, 480, 600	
Input power frequency	50/60 Hz	
Power consumption (basic units): 208Y, 220Y, 240S, 240D and 240H voltage codes 400Y, 480Y and 480D voltage codes 600Y and 600D voltage codes	 0.5W 1.1W 1.3W	
Power consumption (standard and standard with surge counter units): 208Y, 220Y, 240S, 240D and 240H voltage codes 400Y, 480Y and 480D basic voltage codes 600Y and 600D voltage codes	 0.6W 1.7W 2.1W	
Protection modes	Single split-phase Three-phase wye Three-phase delta Three-phase high-leg delta	L-N, L-G, N-G, L-L L-N, L-G, N-G, L-L L-G, L-L L-N, L-G, N-G, L-L
Maximum continuous operating voltage (MCOV): 240S, 208Y, 220Y and 240H MCOV 400Y and 480Y MCOV 600Y MCOV 240D MCOV 480D MCOV 600D MCOV	 150 L-N, 150 L-G, 150 N-G, 300 L-L 320 L-N, 320 L-G, 320 N-G, 640 L-L 420 L-N, 420 L-G, 420 N-G, 840 L-L 320 L-G, 320 L-L 640 L-G, 640 L-L 840 L-G, 840 L-L	
Ports	1	
Operating temperature	–40°F through 122°F (–40°C through 50°C)	
Operating humidity	5% through 95%, noncondensing	
Operating altitude	Up to 16,000 ft (5000m)	
Seismic withstand capability	Meets or exceeds the requirements specified in IBC 2006 and CBC 2007	
Form C relay contact ratings	150 Vdc or 125 Vac, 1A maximum	
Form C relay contact logic	Power ON, normal state—NO contact = open, NC contact = closed Power OFF or fault state—NO contact = closed, NC contact = open	
EMI/RFI filtering attenuation	Up to 50 dB from 10 kHz to 100 MHz	

Voltage Protection Rating (VPR)

The measured limiting voltage test in UL 1449 3rd Edition uses a 6 kV/3 kA combination wave surge to determine the voltage protection rating (VPR) of the SPD. This test is similar to the suppressed voltage rating (SVR) as performed in UL 1449 2nd Edition. The key difference between the tests in the 2nd Edition and the 3rd Edition is that the magnitude of the current used for the test is six times greater in the 3rd Edition versus the 2nd Edition. This much higher current level will mean that the measured limiting voltage will likely be significantly higher for the higher current level. For example, the VPR for an SPD will likely be much higher than the SVR of an identical SPD. With higher current levels come higher limiting voltages. Please note that VPR ratings fall into predefined voltage categories as outlined in the UL 1449 3rd Edition. The standard VPR voltages are shown in the following table.

Table 34.1-8. Voltage Protection Ratings

Measured Limiting Voltage	Minimum Voltage Protection Rating (VPR)
330V or Less	330
331 to 400V	400
401 to 500V	500
501 to 600V	600
601 to 700V	700
701 to 800V	800
801 to 900V	900
901 to 1000V	1000
1001 to 1200V	1200
1201 to 1500V	1500
1501 to 1800V	1800
1801 to 2000V	2000
2001 to 2500V	2500
2501 to 3000V	3000
3001 to 4000V	4000

Therefore, if an SPD is tested with a 6 kV/3 kA combination wave surge and the let-through voltage is measured to be 610V, the SPD is given a VPR of 700V. The SPD is given the same 700V VPR if the same test results in a let-through voltage measurement of 698V. Additionally, if the let-through voltage is measured to be 2005V, the SPD is given a VPR of 2500V.

It is important that users are familiar with the difference in testing methods and the subsequent effect on the value of the VPR. Without considering or understanding the differences in the level of currents used in the test, one might assume that a UL 1449 3rd Edition device with a VPR of 700V has a higher limiting voltage than a UL 1449 2nd Edition device with an SVR of 400V. Such a conclusion would be inaccurate. The higher VPR rating of 700V is likely caused by the higher level of surge current during the measured limiting voltage test. In order to make an accurate assessment of devices, the VPR rating of one device must be compared with the VPR rating of another device. Comparing a VPR rating to an SVR rating yields no useful or conclusive information.

Table 34.1-9. VPR Ratings for 80–400 kA Units Rated 120/240V Single Split-Phase ①

Type (All Voltage Code 240S)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ②	500	600	500	900
Integrated circuit breaker connected	700	700	700	1000
Sidemount NEMA 1	700	800	700	1200
Sidemount NEMA 1 with breaker	800	900	700	1500
Sidemount NEMA 4/4X	900	900	700	1200
Sidemount NEMA 4/4X with breaker	900	900	700	1500

① Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

② Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-10. VPR Ratings for 80–400 kA Units Rated 120/208V Wye (4W + G) and 127/220V Wye (4W +G) ③

Type (All Voltage Code 208Y and 220Y)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ④	500	600	500	900
Integrated circuit breaker connected	700	700	700	1000
Sidemount NEMA 1	700	800	700	1200
Sidemount NEMA 1 with breaker	800	1200	700	1500
Sidemount NEMA 4/4X	900	900	700	1500
Sidemount NEMA 4/4X with breaker	900	900	700	1500

③ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

④ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-11. VPR Ratings for 80–400 kA Units Rated 230/400V Wye (4W + G) and 277/480V Wye (4W +G) ⑤

Type (All Voltage Code 400Y and 480Y)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ⑥	1000	1200	1000	1800
Integrated circuit breaker connected	1200	1200	1200	1800
Sidemount NEMA 1	1200	1200	1200	2500
Sidemount NEMA 1 with breaker	1500	1500	1200	2500
Sidemount NEMA 4/4X	1200	1200	1200	2500
Sidemount NEMA 4/4X with breaker	1200	1500	1200	2500

⑤ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

⑥ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-12. VPR Ratings for 80–400 kA Units Rated 347/600V Wye (4W + G) ①

Type (All Voltage Code 600Y)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ②	1200	1500	1500	2500
Integrated circuit breaker connected	1500	1500	1500	2500
Sidemount NEMA 1	1500	1500	1500	2500
Sidemount NEMA 1 with breaker	1500	1500	1500	2500
Sidemount NEMA 4/4X	1500	1500	1500	2500
Sidemount NEMA 4/4X with breaker	1500	1500	1500	2500

① Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

② Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-13. VPR Ratings for 80–400 kA Units Rated 240V Delta (3W +G) ③

Type (All Voltage Code 240D)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ④	N/A	1000	N/A	900
Integrated circuit breaker connected	N/A	1200	N/A	1200
Sidemount NEMA 1	N/A	1000	N/A	1000
Sidemount NEMA 1 with breaker	N/A	1000	N/A	1000
Sidemount NEMA 4/4X	N/A	1000	N/A	1000
Sidemount NEMA 4/4X with breaker	N/A	1000	N/A	1000

③ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

④ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-14. VPR Ratings for 80–400 kA Units Rated 480V Delta (3W +G) ⑤

Type (All Voltage Code 480D)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ⑥	N/A	1800	N/A	1800
Integrated circuit breaker connected	N/A	2000	N/A	2000
Sidemount NEMA 1	N/A	2500	N/A	2500
Sidemount NEMA 1 with breaker	N/A	2500	N/A	2500
Sidemount NEMA 4/4X	N/A	2500	N/A	2500
Sidemount NEMA 4/4X with breaker	N/A	2500	N/A	2500

⑤ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

⑥ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-15. VPR Ratings for 80–400 kA Units Rated 600V Delta (3W +G) ⑦

Type (All Voltage Code 600D)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ⑧	N/A	2500	N/A	2500
Integrated circuit breaker connected	N/A	2500	N/A	2500
Sidemount NEMA 1	N/A	3000	N/A	2500
Sidemount NEMA 1 with breaker	N/A	3000	N/A	2500
Sidemount NEMA 4/4X	N/A	3000	N/A	2500
Sidemount NEMA 4/4X with breaker	N/A	2500	N/A	2500

⑦ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

⑧ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Table 34.1-16. VPR Ratings for 80–400 kA Units Rated 240V High-Leg Delta (4W +G) ⑨

Type (All Voltage Code 240H)	Protection Mode			
	L-N	L-G	N-G	L-L
Integrated direct bus connected ⑩	500	600	500	900
Integrated circuit breaker connected	700	700	700	1000
Sidemount NEMA 1	700	800	700	1200
Sidemount NEMA 1 with breaker	800	900	700	1500
Sidemount NEMA 4/4X	900	900	700	1500
Sidemount NEMA 4/4X with breaker	900	900	700	1500

⑨ Highest VPR shown for each model and mode. Specific units may have lower VPR ratings based upon options used. Refer to specific VPR ratings shown in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

⑩ Direct bus connected not available above 200 kA.

Note: VPR ratings of 50 kA units and ratings of each specific configuration can be found in TD01005006E for integrated SPDs and TD01005025E for sidemount SPDs.

Sidemount Surge Protective Device for Commercial and Light Industrial Applications



SPV

General Description

Eaton's SPV is a commercial grade and light industrial Surge Protection Device (SPD) that combines surge suppression components and EMI/RFI filtering to provide effective protection for sensitive electronic loads. Surges (also known as transients) due to lightning, utility grid switching, switching of external/internal inductive or capacitive loads and other sources travel on power line conductors throughout the electrical distribution system that cause system operating problems and equipment downtime.

Six different surge current per phase rated units are available in order to meet a variety of applications.

Features, Benefits and Functions

Service Ratings

- 120/240V single split-phase (3W+G)
- Three-phase wye (4W+G) 120/208V, 230/400V, 277/480V
- Three-phase delta (3W+G) 240V, 480V

Surge Current Per Phase

- SurgePlane™ technology to ensure reliability and performance by using a low impedance copper platform
- Compact design to enable close mounting to electrical distribution equipment
- Parallel hybrid filter technology
- Individually fused surge suppression components
- Status indicator lights to monitor supply power, surge suppression component status and fusing
- Can be remotely monitored using Form C contacts
- Audible alarm
- Ideal for OEM panel applications
- Proven track record in international applications

EMI/RFI Filter

- The UL listed filter protects against ringing transients and EMI/RFI noise disturbances. The tuned suppression filter achieves 0–40 dB attenuation at 100 kHz (IEEE Category B Ringwave)

Monitoring and Diagnostics

- Status indicator lights to monitor supply power, surge suppression component status and fusing
- Individually fused surge suppression components
- Can be remotely monitored using Form C contacts c/w Audible Alarm

Enclosure

- NEMA 1 rated indoor enclosure is standard

Catalog Numbering System

Table 34.1-17. SPV Series Catalog Numbering System

SPV 200 480D 2 K

SPV

kA Rating

50	= 50 kA per phase
80	= 80 kA per phase
100	= 100 kA per phase
120	= 120 kA per phase
160	= 160 kA per phase
200	= 200 kA per phase

Voltage Code

240S	= 120/240 split-phase
208Y	= 120/208 wye (4W + G)
220Y	= 127/220 wye (4W + G)
400Y	= 230/400 wye (4W + G)
480Y	= 277/480 wye (4W + G)
240D	= 240 delta (3W + G)
480D	= 480 delta (3W + G)
230L	= 230 single-phase

Feature Package

2	= Basic—Audible alarm Form C relay contact

Enclosure Suffix

K	= NEMA 1
R	= NEMA 3R

Table 34.1-18. Voltage Code

Nominal Voltages ①	Voltage Code		
	120/208 240V	**230/400 400V** ②	**277/480 480V**
120/240 single split-phase (3W plus G)	240S	—	—
Three-phase wye (4W plus G)	208Y	400Y	480Y
Three-phase delta (3W plus G)	240D	—	480D

① Use these codes to complete the model number.
② Valid for 220/380 and 240/415 per IEC standards.

Note: Contact factory for single-pole (two-wire plus ground) or for other configurations. Not suitable for resistive or underground wire systems. Refer to the Eaton SPD for these applications.

Technical Data and Specifications

- Temperature: –40°C to 60°C
- Altitude: <13,000 ft (3962m)
- Dimensions in inches (mm): 5.00 x 11.55 x 2.50 (127.0 x 293.4 x 63.5)
- Weight in lbs (kg): 3.5 (1.6)

Dimensions

Figure 34.1-14 shows dimensions for standard SPV suppressor. Contact factory for dimensions using flushmount or 3R enclosures.

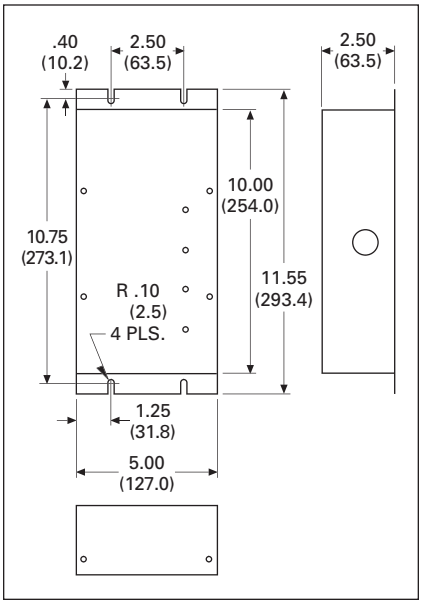

Figure 34.1-14. SPV NEMA 1

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Attachment C

Cx Testing Services Power Analysis Summary

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Power Analysis Summary

Introduction

This is a summary of the power conditions at the Round Valley High School site, as recorded at location SES 05/20/15 08:54. Data at this location was collected from 05/20/15 08:54:24 through 06/17/15 08:54:24.

This summary is composed of:

- The initial conditions section. This Section defines the power conditions at the above location**.**
- The Events section. This is a summary of the voltage events that occurred at this location during the monitor interval. Events are defined as changes in the monitored voltage. These changes may be subtle or severe. The power tolerance curve provides a graphical representation of the likelihood of an event to disrupt equipment operations.
- The Voltage Current and Frequency, (VIF), section. This section contains summaries for each of these parameters during the monitor interval.
- The Harmonics section. This contains the voltage and current harmonic, and harmonic distortion summaries acquired during the monitor interval.
- The Power section. This contains the VA, VARS., Watts, and Power factor acquired during the monitor interval. For multiphase locations, voltage and current imbalance are also included.

Site and Location Information

Site Information

Name	Round Valley High School
Account Number	152029
Date and Time	02/17/15 09:28:17
Phone Number	(928) 245-5432
Contact	Mark Ralston
Memo	

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Problem Description	
Date First noticed	05/20/15
Problem Frequency	Unknown
How problem exhibits itself	Unknown
Problem Cost	

Location Information

Name	SES 05/20/15 08:54
Power Type	Split single phase
Feed Phase	Unknown
Phone	
Date and Time	06/24/15 17:39:16
Nominal Voltage	208 Volts
Nominal Frequency	60 Hz

Report Parameters

This report was prepared on 6/25/2015 by Engineering Services of Reliable Power Meters. The following limits were used in analyzing the results.

Maximum Phase Voltage.	220 V
Minimum Phase Voltage.	180 V
Maximum Neutral Voltage.	3 V
Maximum Impulse Voltage.	500 V
Maximum. Waveshape Voltage.	10 V

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Maximum Frequency Deviation.	.02 Hz
Minimum Power Factor.	.85
Maximum Voltage T.H.D.	5 %
Maximum Current T.H.D	20 %
Maximum Voltage Imbalance.	2 %
Maximum Current Imbalance.	5 %

Any values outside these limits are noted in the report. Values within the limits are considered to be within a safe operating range. These limits have been programmed by Engineering Services**.**

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Initial Conditions

A summary of all the electrical parameters at this location is presented in the tables and graphs below. Parameters marked with an '*' lie outside the limits defined above.

Initial Power measurements for Round Valley High School: SES 05/20/15 08:54 , 06/24/15 at 17:39:16

Measurement	Phase A	Phase B	Neutral	Ground
True RMS. Voltage	123.7V*	124.0V*	970.1mV	
Max. Peak to Peak Voltage	342.7V	343.5V		
True RMS. Current	9.446A	3.673A	7.639A	1.143A
Max. Peak to Peak Current	28.38A	7.507A		
Fundamental RMS. Voltage	123.7V	123.9V		
Voltage Angle	0°	180.1°		
Fundamental RMS. Current	9.158A	2.029A		
Current Angle	358.4°	204.1°		
Fundamental Impedance	13.51 Ohms	61.09 Ohms		
Impedance Angle	1.594°	336.0°		
Voltage Imbalance	0.08%			
Current Imbalance	63.7%*			
Total Voltage Harmonics	4.024%	4.054%	1.136k%	
Total Current Harmonics	9.729%	31.82%*	117.1%	224.8%
True VA	1.136k	454.2	6.259	
True VARS.	0	392.4	5.359	
True Watts	1.136k	228.8	-3.232	
Distortion	3.327	-1.002	-2.820	
True Power Factor	1	0.503*	0.516	
Fundamental VA	1.133k	251.5	0.495	
Fundamental VARS.	31.53	-102.2	0.274	
Fundamental Watts	1.132k	229.8	-0.412	
Fundamental Power Factor	0.999	-0.913	0.832	

One or more of the Initial Conditions exceed the limits defined above. It is recommended that corrective action be implemented to reduce or eliminate these conditions.

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Nominal Voltages

Phase Voltages:

Phase voltages that exceed the nominal voltage may damage sensitive electronic equipment or cause overheating. Low phase voltages may result in intermittent equipment operation and overheating.

Neutral and Neutral to Ground Voltages:

Excessive neutral voltages may indicate wiring problems exist or that the loads on the supply exceed the wiring rating.

Voltage and Current Imbalance

Voltage Imbalance:

Excessive Voltage Imbalance is an indication that one or two phases may be overloaded. A redistribution of the loads on one or more of the phases may be in order.

Current Imbalance:

Excessive Current Imbalance also indicates a poor distribution of loads. Although there may be no corresponding voltage imbalance, excessive current imbalance may result in tripped circuit breakers or transformer overheating.

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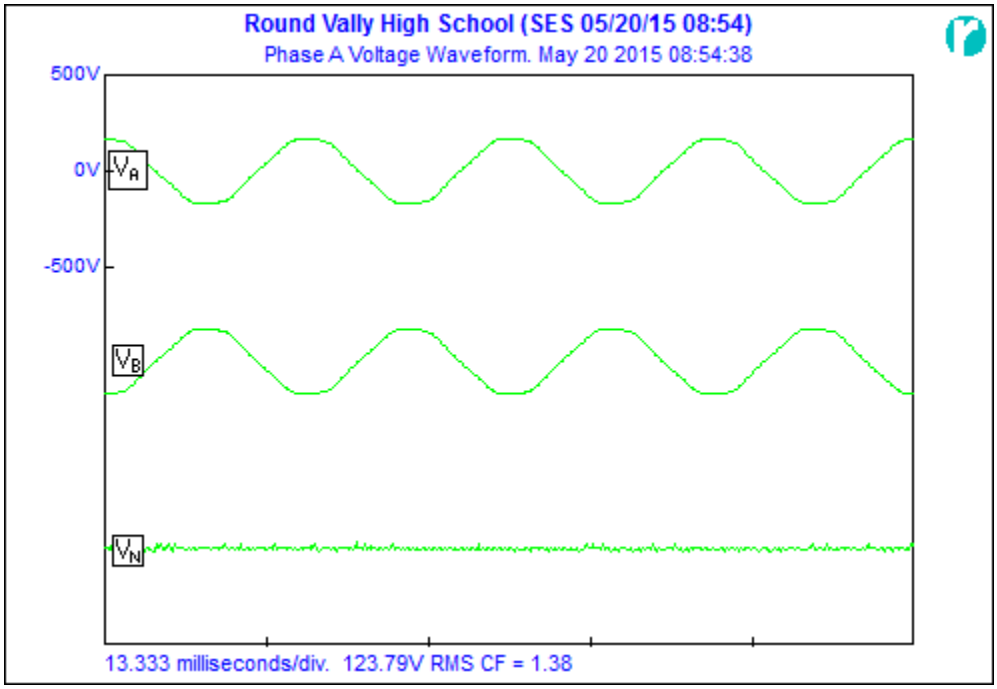
The Voltage waveforms for Round Valley High School: SES 05/20/15 08:54 are shown below:



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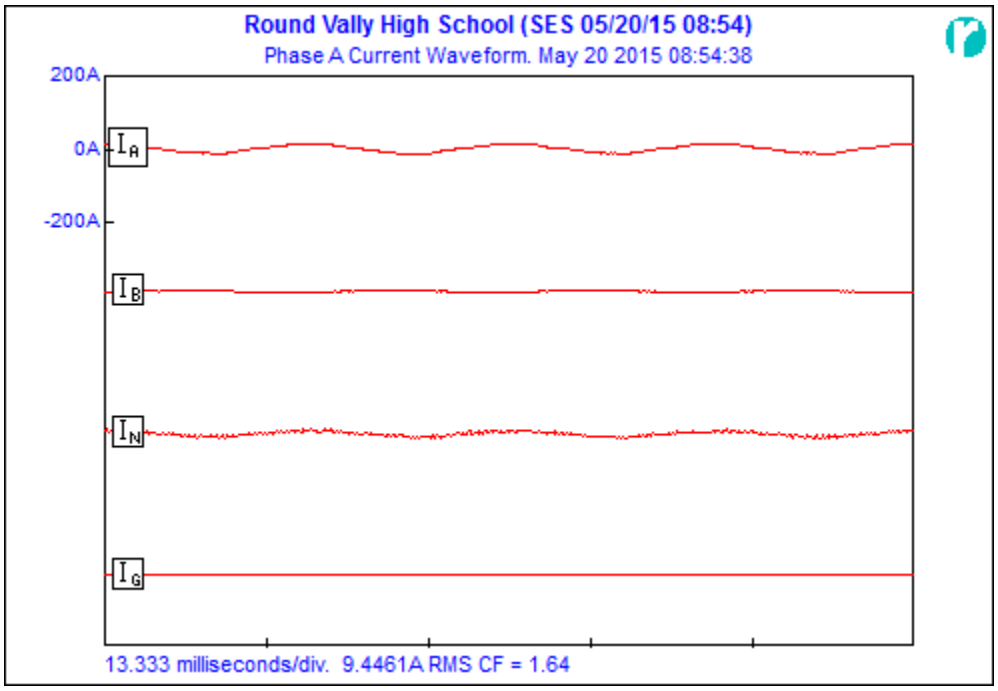
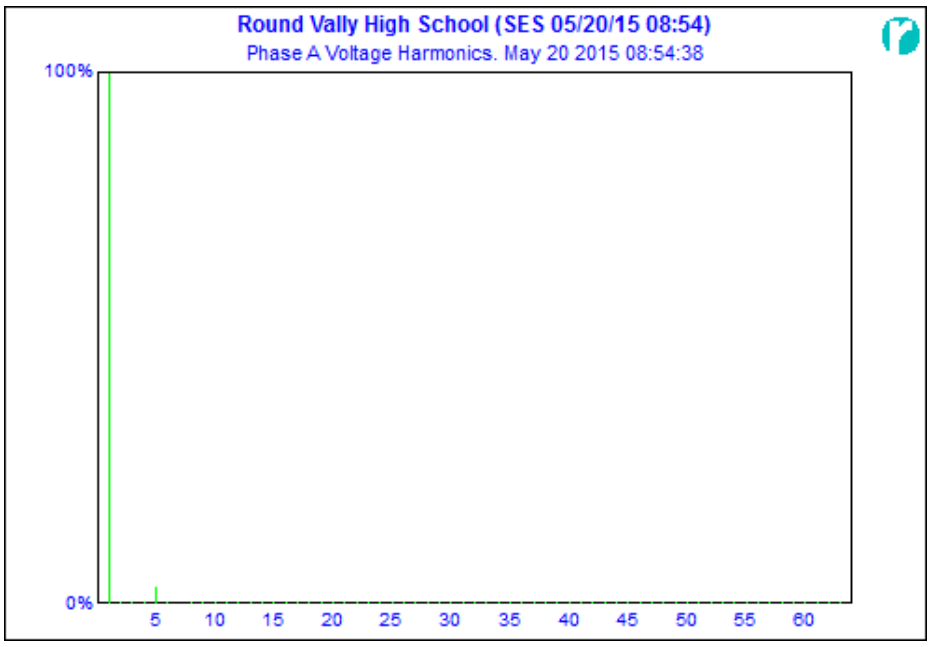
The Current waveforms for Round Valley High School: SES 05/20/15 08:54 are shown below:



Voltage harmonics for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Harmonics.



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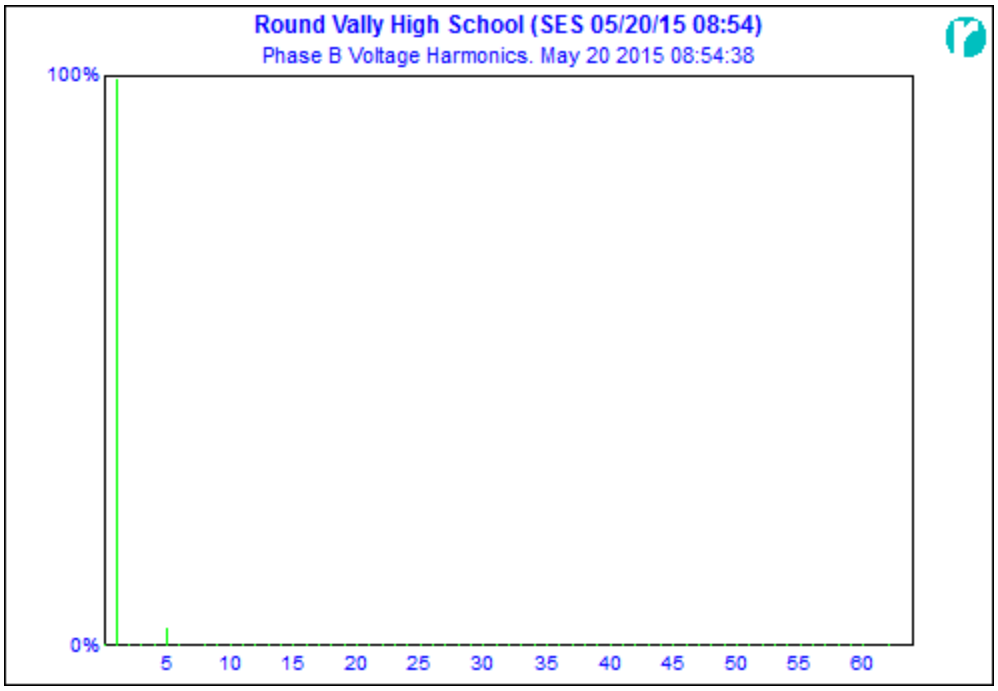
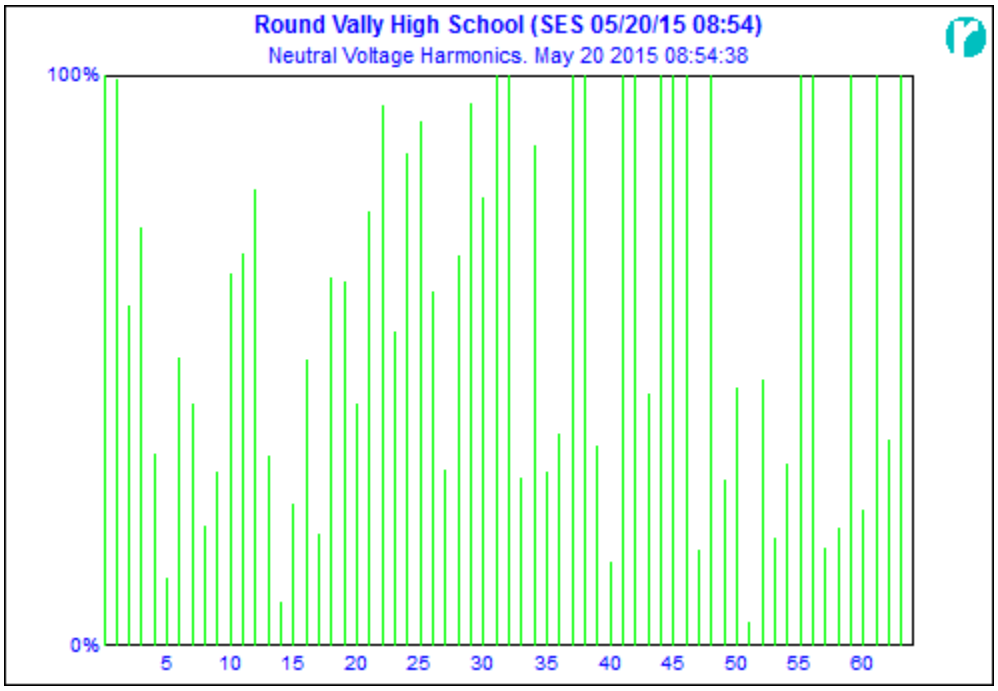
Phase B Voltage Harmonics.



Neutral Voltage Harmonics.



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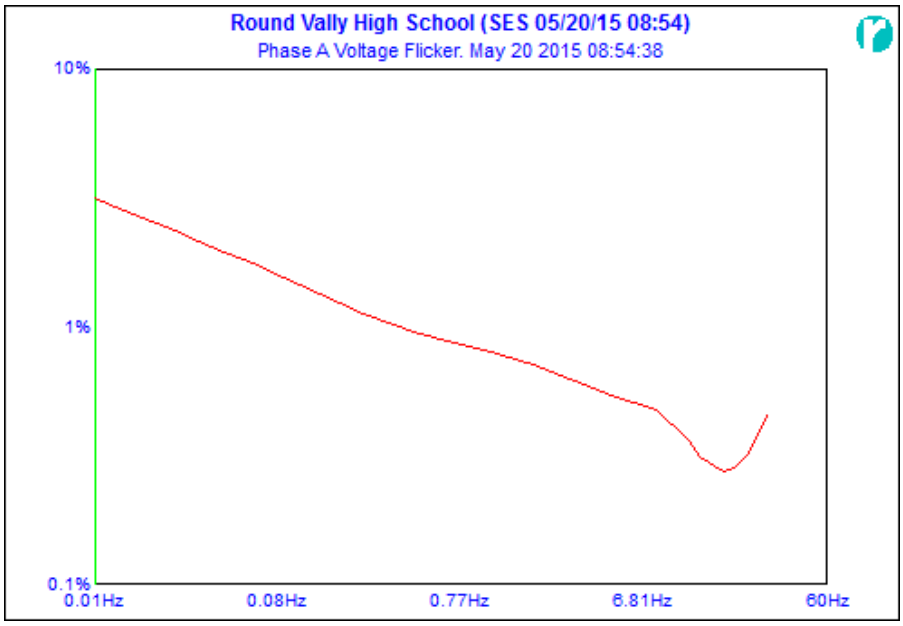
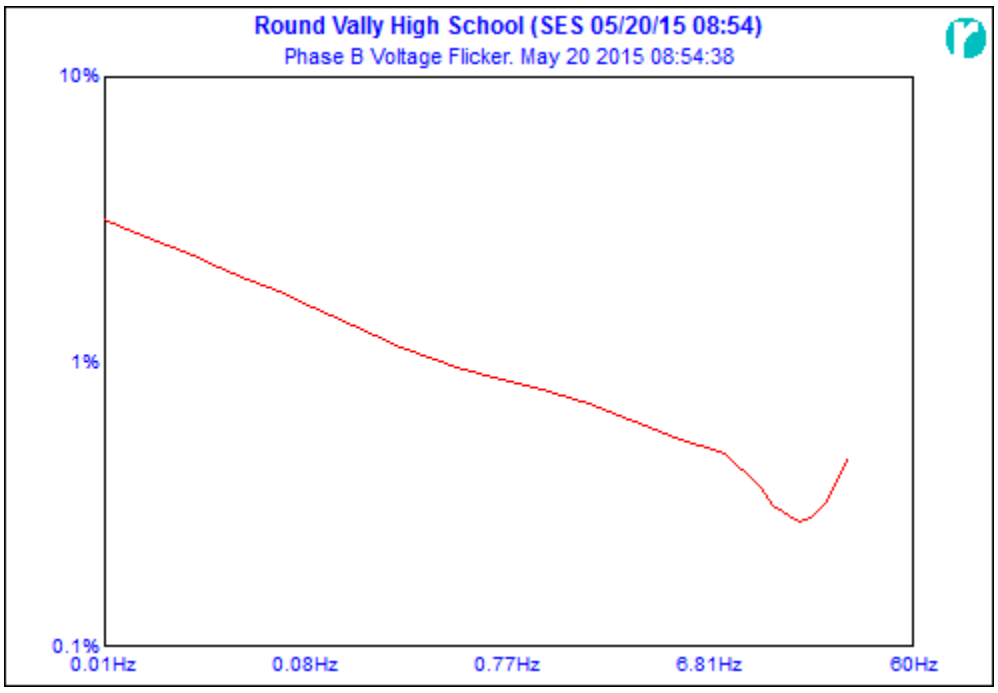
Voltage Flicker for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Flicker.



Phase B Voltage Flicker.



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The first 16 harmonics for Phase A voltage are shown below:

Harmonic	Amplitude	Phase	Percent
0	854.5mV	180°	0.488%
1	175.0V	358.0°	100%
2	34.12mV	151.0°	0.019%
3	1.406V	292.7°	0.803%
4	159.3mV	252.1°	0.091%
5	6.688V	165.9°	3.822%
6	76.29mV	52.33°	0.043%
7	1.147V	165.4°	0.655%
8	76.30mV	232.5°	0.043%
9	522.5mV	6.179°	0.298%
10	92.85mV	350.0°	0.053%
11	68.28mV	243.0°	0.039%
12	92.92mV	170.1°	0.053%
13	129.7mV	224.6°	0.074%
14	21.58mV	44.65°	0.012%
15	15.25mV	179.6°	0.008%
16	61.03mV	359.7°	0.034%

Odd Harmonics	**4.005%**
Even Harmonics	**0.394%**
Total Harmonics	**4.024%**

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The first 16 harmonics for Phase B voltage are shown below:

Harmonic	Amplitude	Phase	Percent
0	335.7mV	180°	0.191%
1	175.3V	178.1°	100%
2	170.6mV	277.9°	0.097%
3	1.393V	117.2°	0.794%
4	185.6mV	98.26°	0.105%
5	6.676V	344.7°	3.808%
6	165.0mV	235.5°	0.094%
7	1.047V	346.6°	0.597%
8	21.58mV	314.4°	0.012%
9	449.1mV	169.6°	0.256%
10	136.5mV	296.0°	0.077%
11	150.3mV	113.5°	0.085%
12	91.65mV	179.6°	0.052%
13	165.3mV	55.94°	0.094%
14	15.25mV	179.6°	0.008%
15	141.2mV	40.28°	0.080%
16	43.16mV	44.70°	0.024%
Odd Harmonics	**4.034%**		
Even Harmonics	**0.403%**		
Total Harmonics	**4.054%**		

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The first 16 harmonics for the neutral voltage are shown below:

Harmonic	Amplitude	Phase	Percent
0	1.867V	0°	1.589k%
1	117.5mV	139.4°	100%
2	70.67mV	90.70°	60.14%
3	86.99mV	36.28°	74.02%
4	40.23mV	274.2°	34.23%
5	14.52mV	202.2°	12.36%
6	59.89mV	51.96°	50.96%
7	50.35mV	322.0°	42.85%
8	25.44mV	12.39°	21.65%
9	36.64mV	230.8°	31.17%
10	77.27mV	122.4°	65.75%
11	81.53mV	326.9°	69.38%
12	94.80mV	8.874°	80.67%
13	39.82mV	196.3°	33.89%
14	9.537mV	52.78°	8.115%
15	29.85mV	243.1°	25.40%
16	59.40mV	174.1°	50.55%
Odd Harmonics	**984.5%**		
Even Harmonics	**567.5%**		
Total Harmonics	**1.136k%**		

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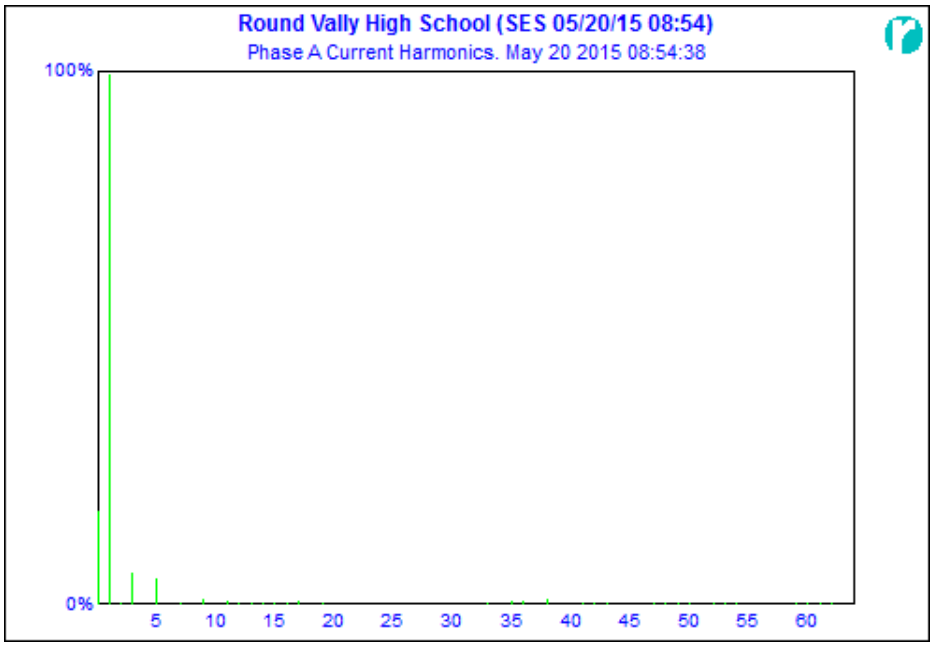
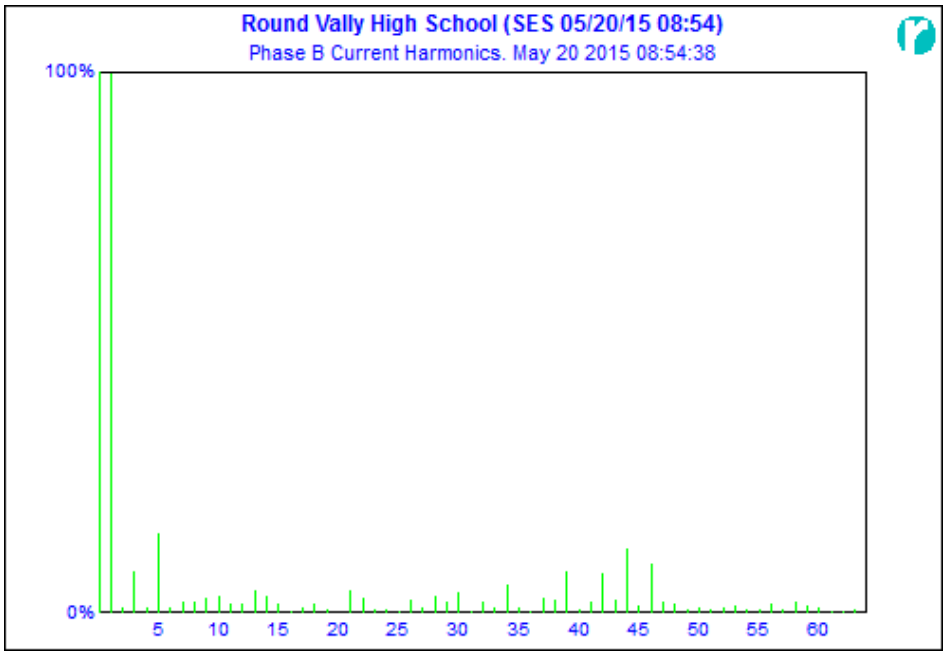
Current harmonics for Round Valley High School: SES 05/20/15 08:54.

Phase A Current Harmonics.



Phase B Current Harmonics.



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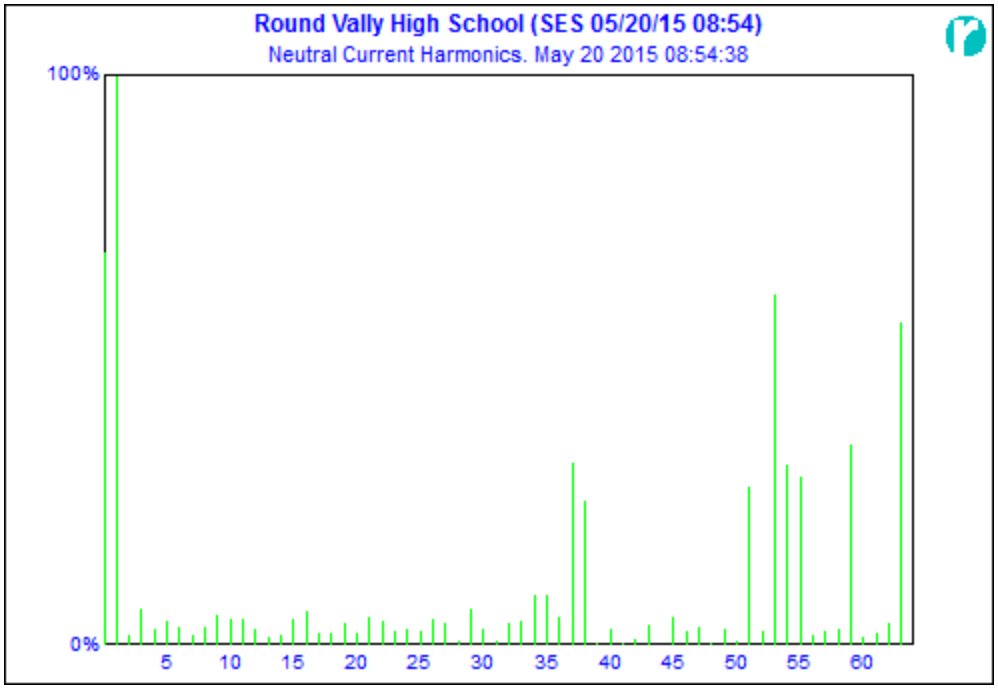
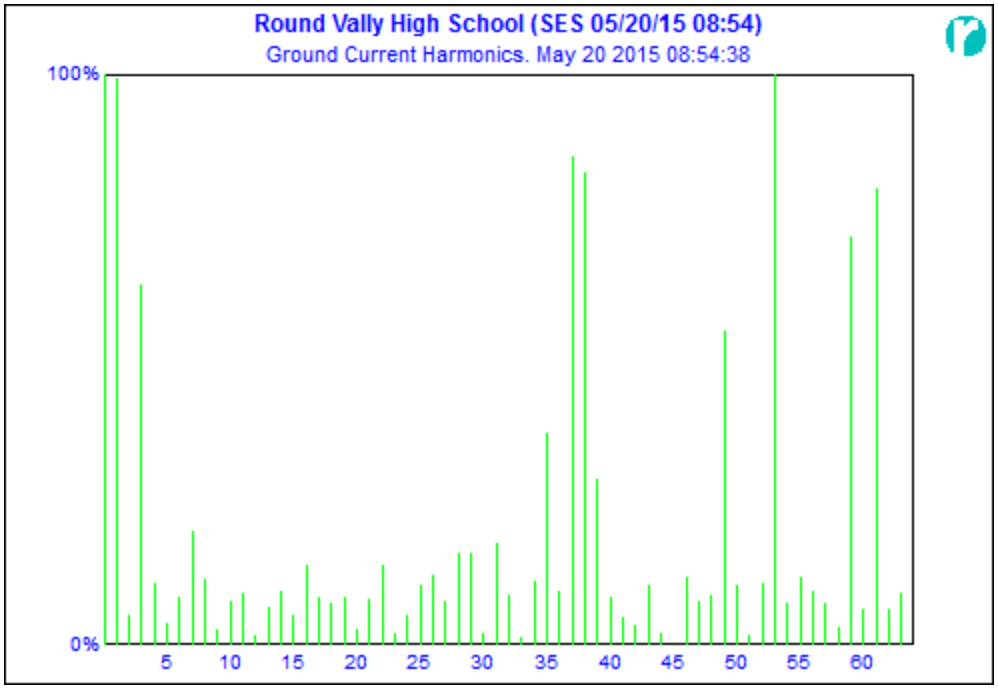
Neutral Current Harmonics.



Ground Current Harmonics.



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The first 16 harmonics for Phase A current are shown below:

Harmonic	Amplitude	Phase	Percent
0	2.337A 180°	18.04%	
1	12.95A 356.4°	100%	
2	43.01mA	93.81°	0.332%
3	827.6mA	299.4°	6.389%
4	80.31mA	355.9°	0.620%
5	692.7mA	181.8°	5.348%
6	72.21mA	303.6°	0.557%
7	134.7mA	176.3°	1.040%
8	72.83mA	225°	0.562%
9	214.6mA	90°	1.657%
10	68.72mA	92.38°	0.530%
11	168.0mA	351.1°	1.297%
12	32.37mA	315°	0.249%
13	123.3mA	267.3°	0.952%
14	42.24mA	118.3°	0.326%
15	111.7mA	223.9°	0.862%
16	16.68mA	239.0°	0.128%
Odd Harmonics	**9.226%**		
Even Harmonics	**3.086%**		
Total Harmonics	**9.729%**		

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The first 16 harmonics for Phase B current are shown below:

Harmonic	Amplitude	Phase	Percent
0	6.174A 180°	215.1%	
1	2.869A 202.1°	100%	
2	47.96mA	17.35°	1.671%
3	236.3mA	186.9°	8.236%
4	47.61mA	122.7°	1.659%
5	434.8mA	34.00°	15.15%
6	47.61mA	302.7°	1.659%
7	78.92mA	313.5°	2.750%
8	78.09mA	208.4°	2.721%
9	97.29mA	241.9°	3.390%
10	108.1mA	127.4°	3.770%
11	62.75mA	204.2°	2.186%
12	68.66mA	90°	2.392%
13	138.0mA	4.763°	4.810%
14	103.9mA	309.4°	3.622%
15	65.24mA	322.1°	2.273%
16	23.06mA	172.8°	0.803%
Odd Harmonics	**22.62%**		
Even Harmonics	**22.38%**		
Total Harmonics	**31.82%**		

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The first 16 harmonics for the Neutral current are shown below:

Harmonic	Amplitude	Phase	Percent
0	5.836A	180°	69.24%
1	8.428A	353.1°	100%
2	206.3mA	123.6°	2.447%
3	570.0mA	287.5°	6.763%
4	282.1mA	239.5°	3.347%
5	388.6mA	173.6°	4.610%
6	315.0mA	309.4°	3.737%
7	202.3mA	188.1°	2.400%
8	319.8mA	100.3°	3.795%
9	487.3mA	40.23°	5.781%
10	443.4mA	0°	5.261%
11	435.0mA	27.40°	5.162%
12	267.2mA	344.4°	3.170%
13	172.2mA	311.6°	2.043%
14	186.5mA	57.52°	2.213%
15	435.0mA	350.5°	5.162%
16	541.8mA	106.9°	6.428%
Odd Harmonics	**107.7%**		
Even Harmonics	**45.97%**		
Total Harmonics	**117.1%**		

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The first 16 harmonics for the Ground current are shown below:

Harmonic	Amplitude	Phase	Percent
0	1.599A	180°	221.5%
1	722.0mA	80.64°	100%
2	40.66mA	39.28°	5.632%
3	459.4mA	15.16°	63.63%
4	82.97mA	223.6°	11.49%
5	31.60mA	95.19°	4.376%
6	64.55mA	192.8°	8.940%
7	148.4mA	123.9°	20.55%
8	88.37mA	119.0°	12.23%
9	24.27mA	135°	3.362%
10	58.35mA	348.6°	8.082%
11	68.72mA	2.385°	9.518%
12	17.40mA	99.46°	2.410%
13	51.58mA	340.5°	7.143%
14	71.07mA	319.8°	9.843%
15	42.53mA	199.6°	5.891%
16	104.7mA	232.8°	14.51%
Odd Harmonics	**202.2%**		
Even Harmonics	**98.36%**		
Total Harmonics	**224.8%**		

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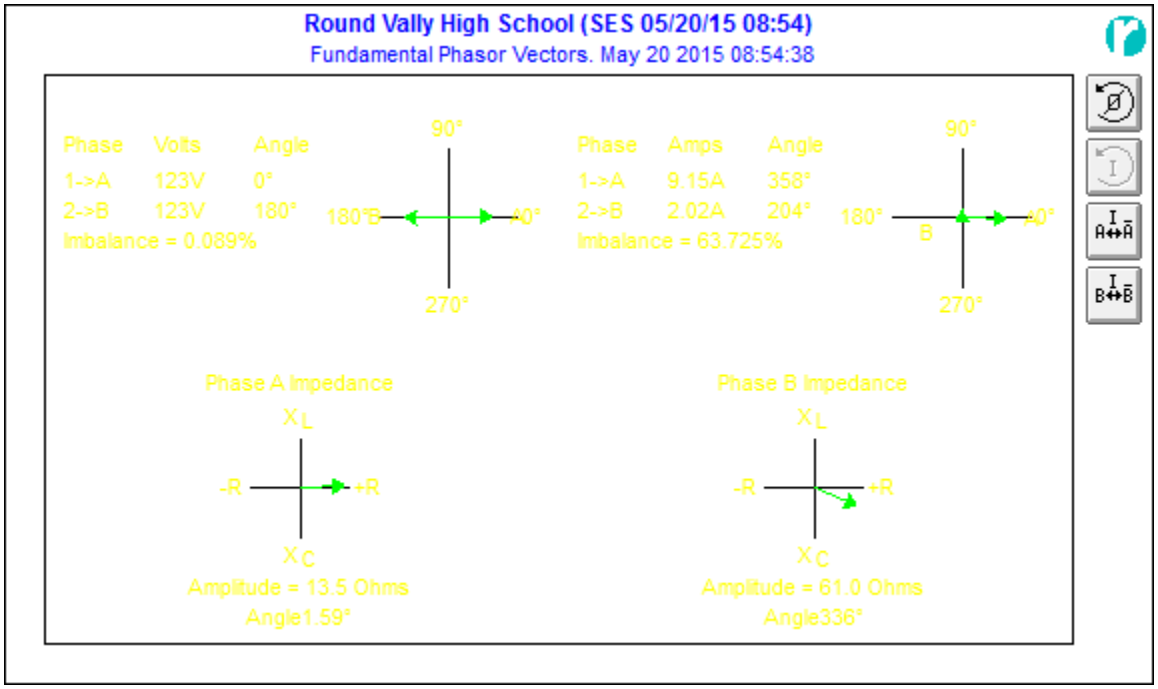
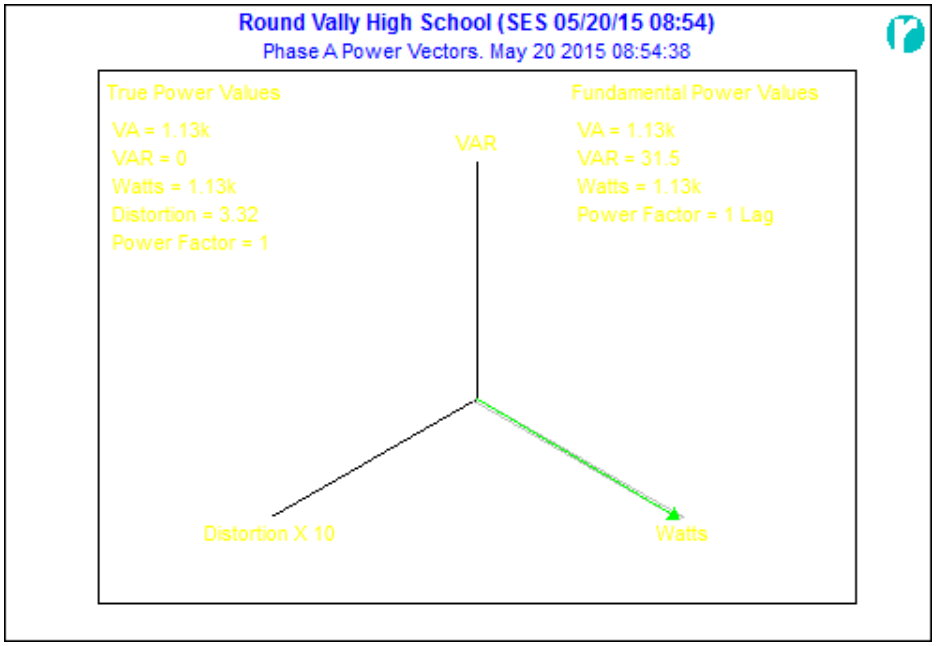
The Voltage, Current and Impedance Phasors for Round Valley High School: SES 05/20/15 08:54 are shown below:



Power vectors for Round Valley High School: SES 05/20/15 08:54.

Phase A Power Vectors.



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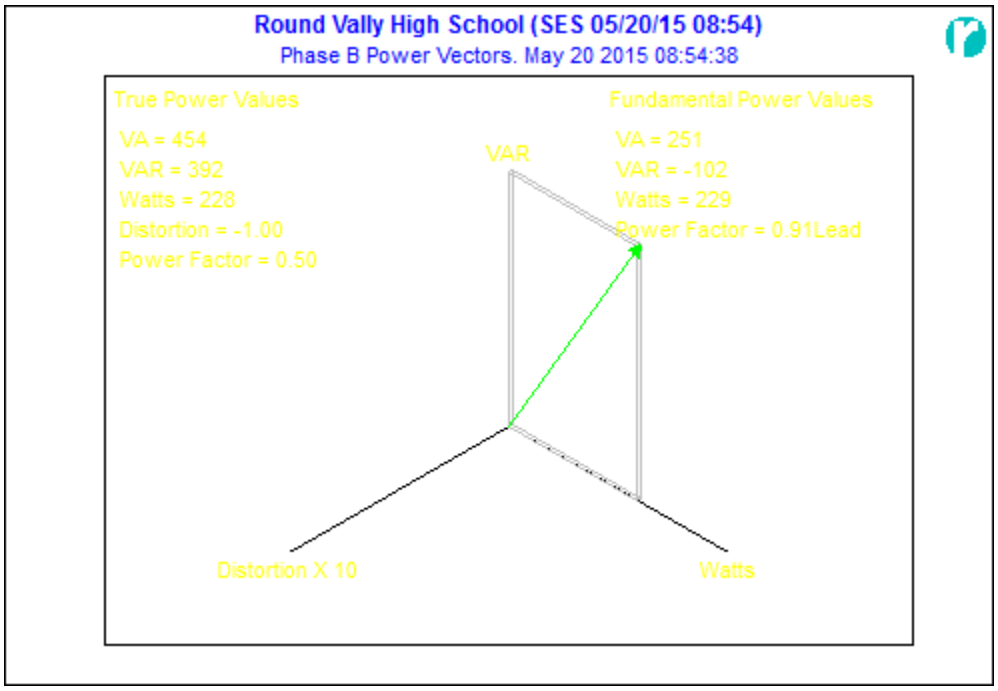
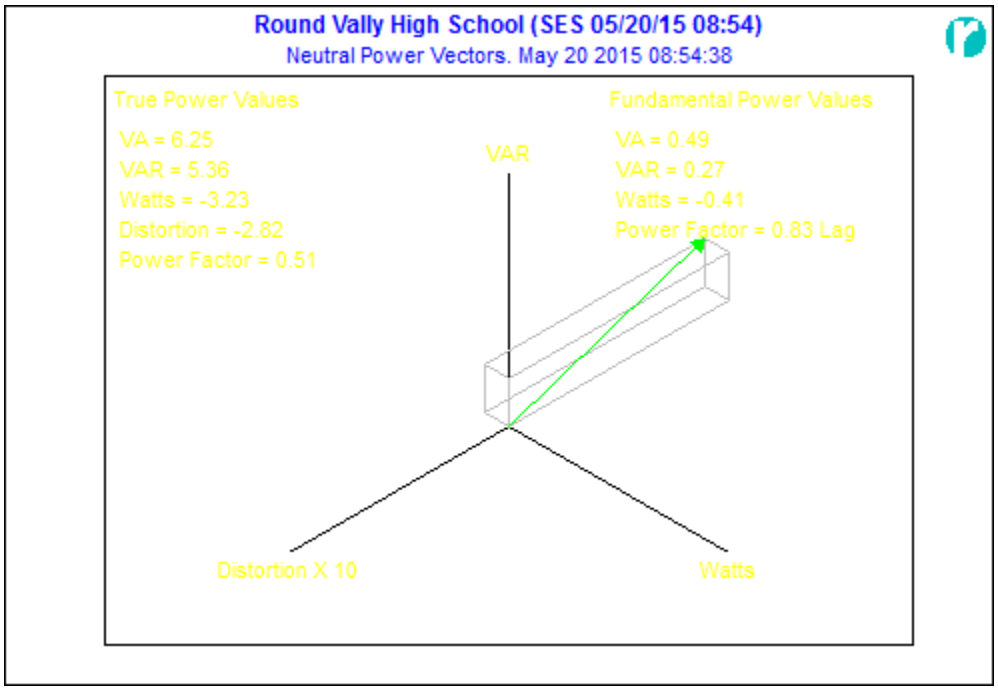
Phase B Power Vectors.



Neutral Power Vectors.



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Voltage Events

The following summarizes the results of the Power Quality monitoring survey from 05/20/15 08:54:24 through 06/17/15 08:54:24. It is intended to present an overview of the power quality at Round Valley High School: SES 05/20/15 08:54. The table below is a listing of the most significant events.

Event Description	No.	Amp.	Duration	Date and Time
Phase A Largest RMS. Event	160	118.4V	6.268 day	Jun 08 2015 08:33:16
Phase A Largest Waveshape Event	170	112.9V	16.667 ms	Jun 14 2015 14:58:58
Phase A Longest Waveshape Event	20	113.7V	33.333 ms	May 22 2015 08:18:24
Phase A Largest Impulse Event	N/A			
Phase A Longest Impulse Event	N/A			
Phase B Largest RMS. Event	161	118.5V	6.268 day	Jun 08 2015 08:33:16
Phase B Largest Waveshape Event	171	112.6V	16.667 ms	Jun 14 2015 14:58:58
Phase B Longest Waveshape Event	21	113.7V	33.333 ms	May 22 2015 08:18:24
Phase B Largest Impulse Event	N/A			
Phase B Longest Impulse Event	N/A			
Neutral Largest RMS. Event	3	1.220V	26.93 day	May 21 2015 10:36:55
Neutral Largest Waveshape Event	N/A			
Neutral Longest Waveshape Event	N/A			
Neutral Largest Impulse Event	N/A			
Neutral Longest Impulse Event	N/A			

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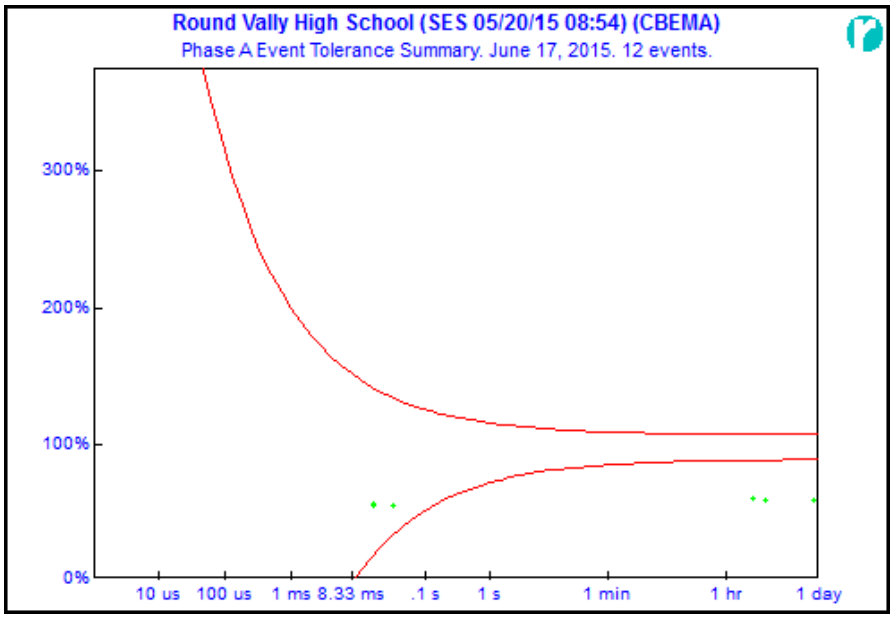
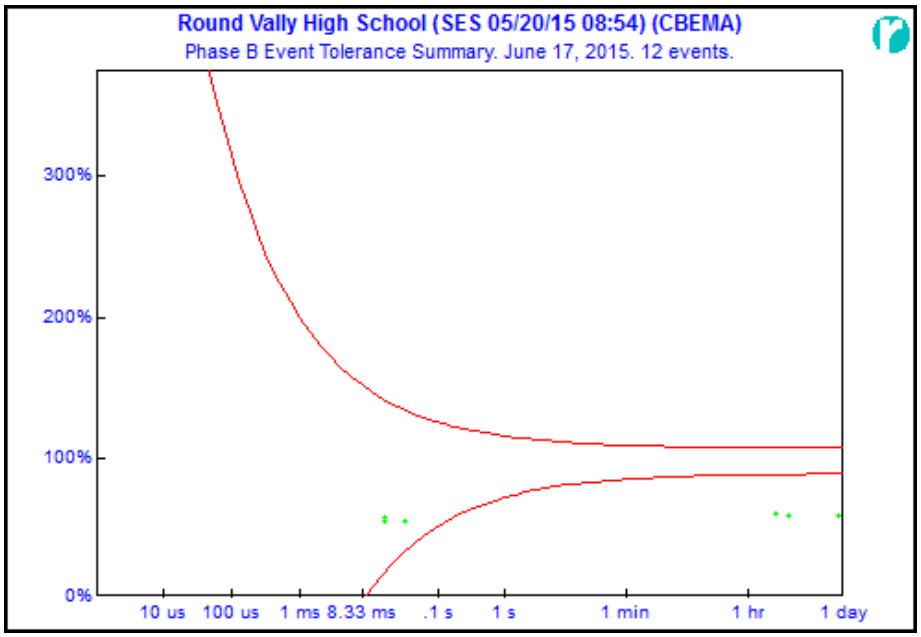
Power Tolerance Envelope:

The power quality parameters are summarized in the Power Tolerance Envelope shown below. Each dot on these graphs represents an event. The area outside of these lines depict events which are often associated with equipment malfunction.

Phase A Event Tolerance Summary.



Phase B Event Tolerance Summary.



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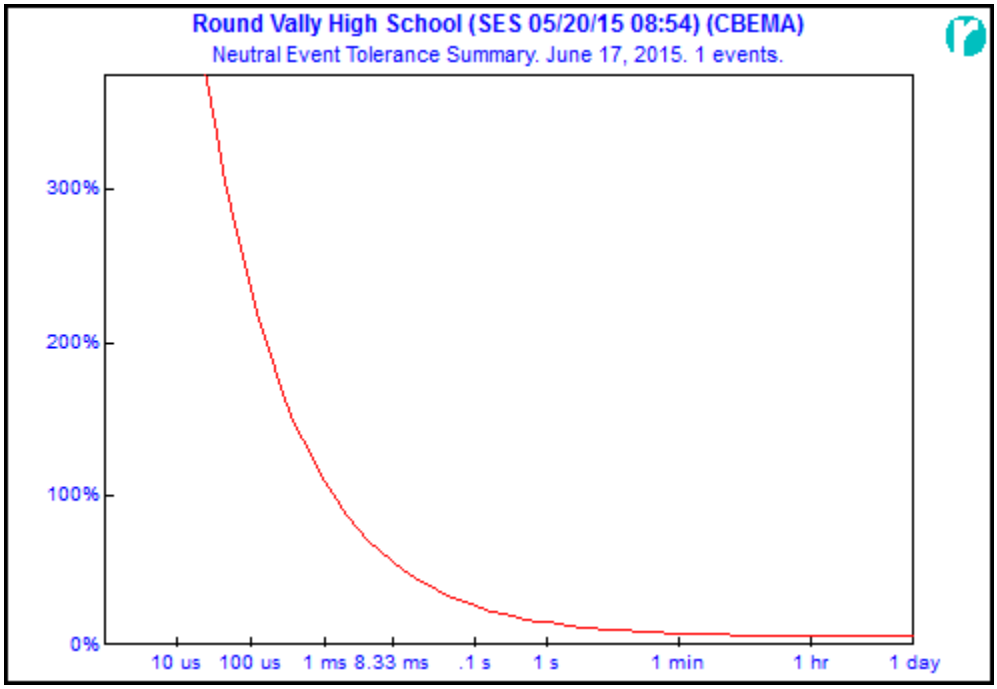
Neutral Event Tolerance Summary.



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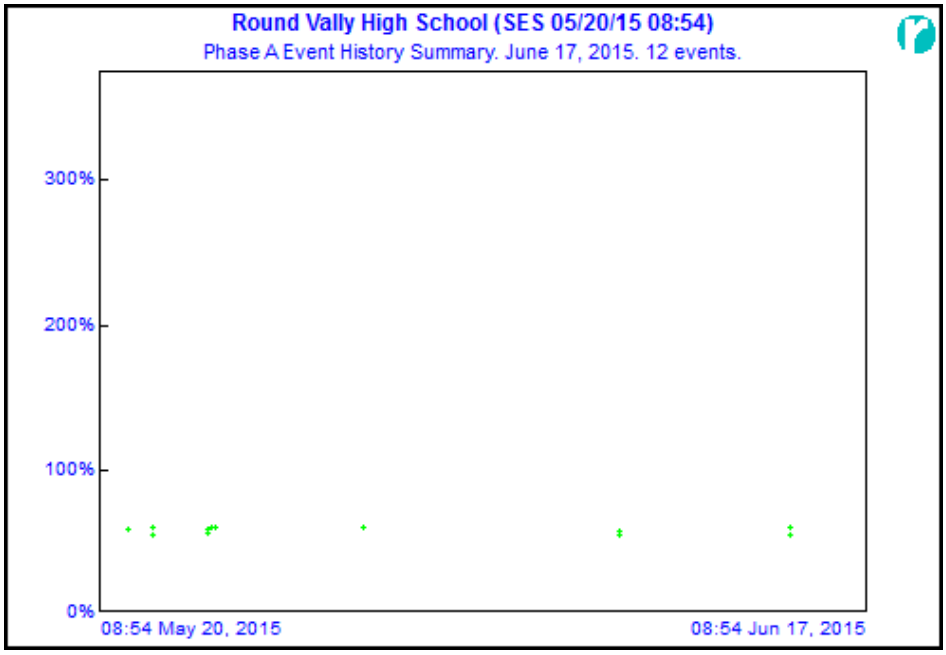
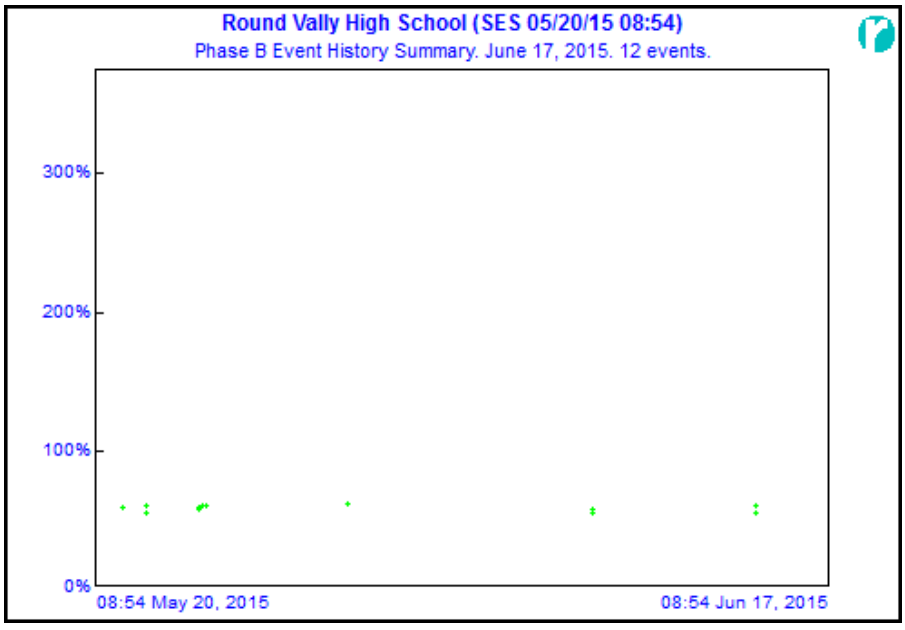
Event History Graphs:

A summary of events that occurred during the monitoring interval is shown in the event history graphs below. These events are graphed by amplitude versus time of occurrence.

Phase A Event History Summary.



Phase B Event History Summary.



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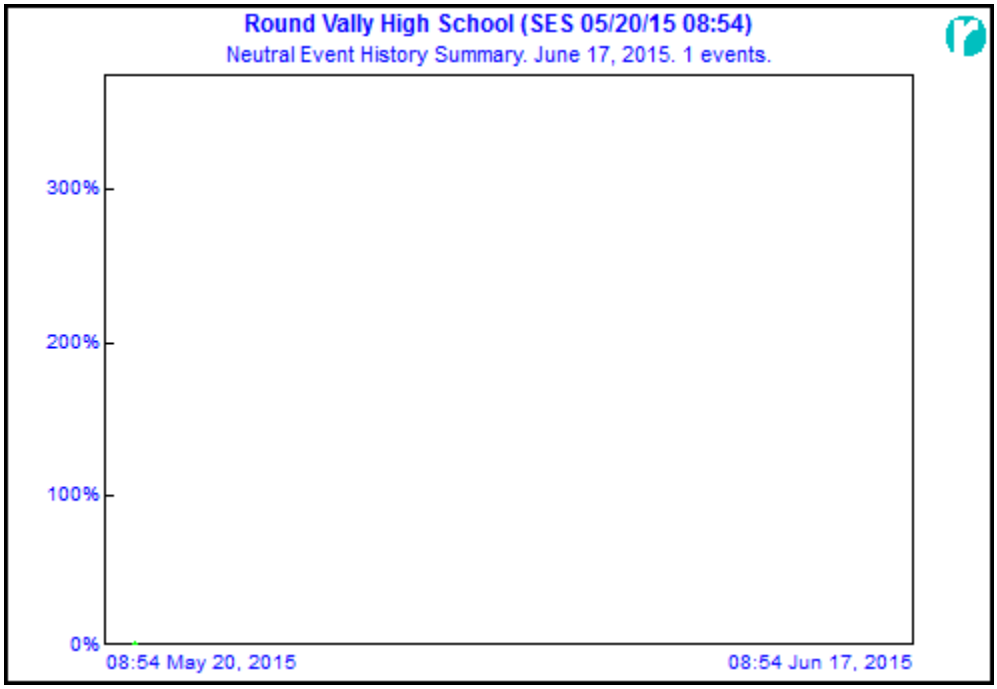
Neutral Event History Summary.



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Event Domain Analyzer

This section contains the Event Tolerance Summaries, the Event Characterization, and the Solutions Table.

Event Tolerance Summaries:

The tables below show the Event Tolerance Summary, listing the events in the categories of Type I (Impulses), Type II (Waveshape Events), and Type III (RMS Events), for each phase. An asterisk by the event number indicates a Fault.

Phase A Event Tolerance Summary.

Round Vally High School (SES 05/20/15 08:54) (CBEMA)

Phase A Event Tolerance Summary. June 17, 2015. 12 events.

	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	4	3
Total Faults	0	0	3
	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	20	113.7V	33.333 ms
Largest Type II Event	170	112.9V	16.667 ms
Longest Type III Event	0*	122.0V	21.694 hr
Largest Type III Event	0*	122.0V	21.694 hr

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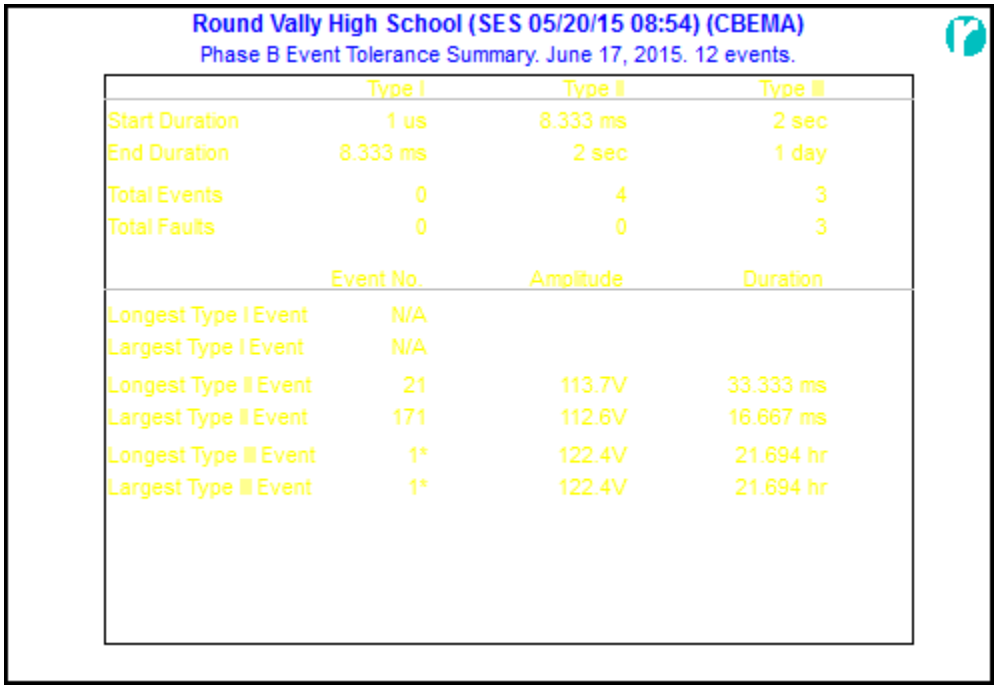
Phase B Event Tolerance Summary.



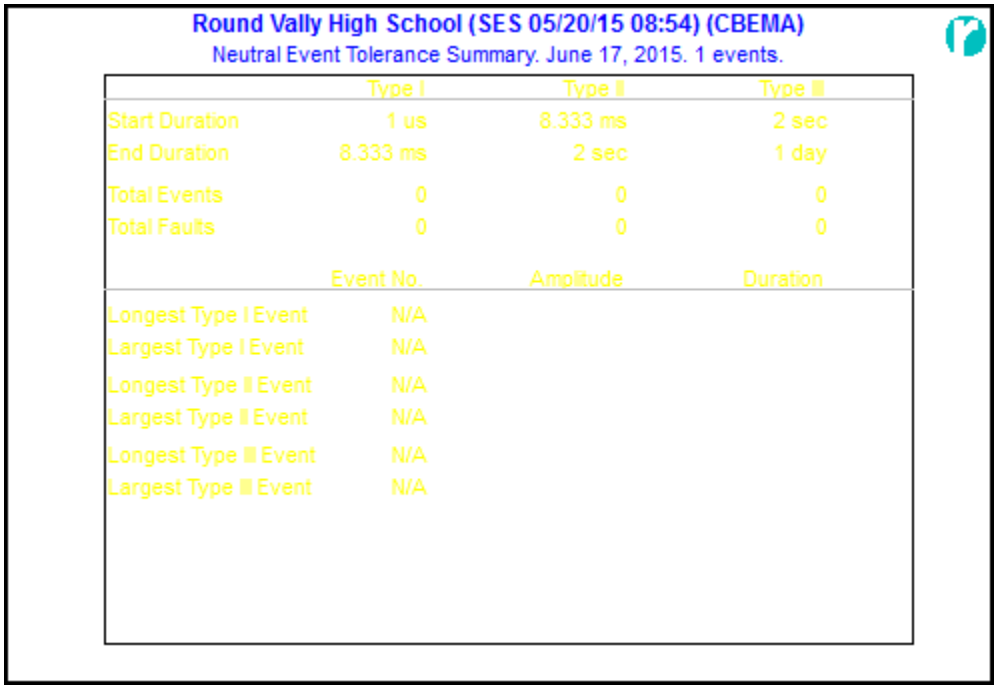
Round Vally High School (SES 05/20/15 08:54) (CBEMA)

Phase B Event Tolerance Summary. June 17, 2015. 12 events.

	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	4	3
Total Faults	0	0	3

	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	21	113.7V	33.333 ms
Largest Type II Event	171	112.6V	16.667 ms
Longest Type III Event	1*	122.4V	21.694 hr
Largest Type III Event	1*	122.4V	21.694 hr

Neutral Event Tolerance Summary.



Round Vally High School (SES 05/20/15 08:54) (CBEMA)

Neutral Event Tolerance Summary. June 17, 2015. 1 events.

	Type I	Type II	Type III
Start Duration	1 us	8.333 ms	2 sec
End Duration	8.333 ms	2 sec	1 day
Total Events	0	0	0
Total Faults	0	0	0

	Event No.	Amplitude	Duration
Longest Type I Event	N/A		
Largest Type I Event	N/A		
Longest Type II Event	N/A		
Largest Type II Event	N/A		
Longest Type III Event	N/A		
Largest Type III Event	N/A		

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Event Characterization:

If Impulses, Waveshape Events, and/or RMS Events were chosen to be in this report, they are shown in this section. They are summarized over all of the phases together. The largest of the events in each category are also shown.

Impulses:

Impulses are shown on the left side of the Power Tolerance Envelope. They are relatively high frequency voltage excursions of short duration. When of significant magnitude and duration, these disturbances can cause malfunction of sensitive electronic equipment and damage both components and insulation. **No impulses occurred during the monitoring period.**

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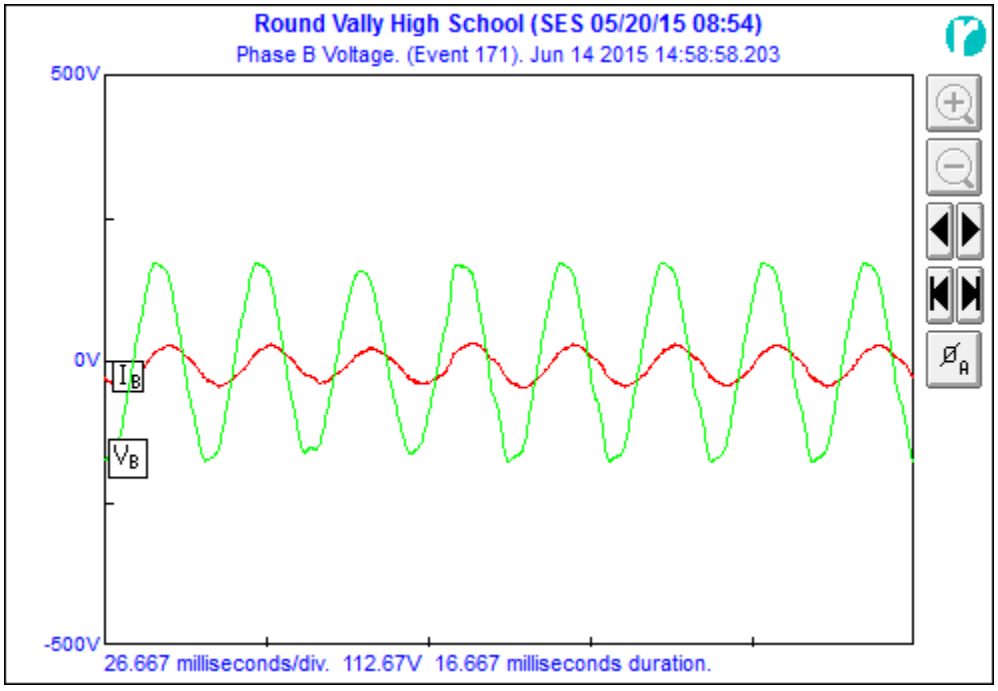
Waveshape Faults:

Waveshape faults are longer in duration than impulses and are shown in the middle of the Power Tolerance Envelope. They are often sub-cycle distortions of the AC sinusoid. However these distortions can last for a fraction of the single cycle period or they can continue for hundreds of milliseconds, hours or even days. All equipment which is not supplied by an Uninterruptible Power Supply, or whose power supply doesn't inherently have sufficient "ride through" to withstand the disturbance will be disrupted. Frequently these disturbances are associated with impulses. 8 **Waveshape faults occurred during the monitoring period.** Event 171, a typical Waveshape fault is shown below.



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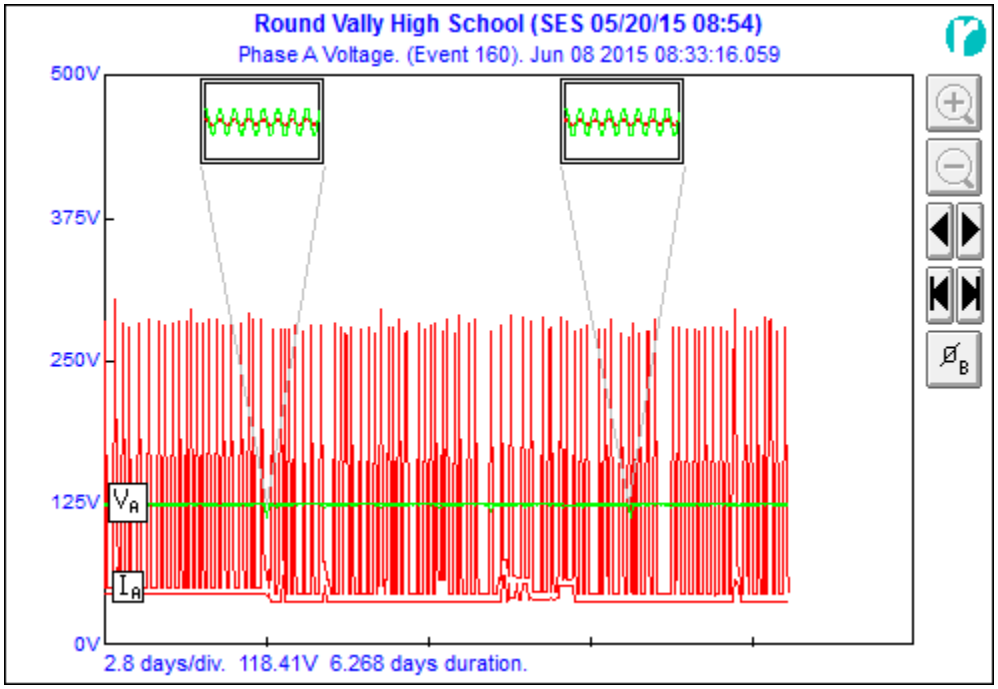
Voltage Surges and Sags:

The utility strives to keep RMS. levels within a +5%, -10% range of the nominal voltage. Surges are those RMS. levels which go above the +5% range. Sags are those RMS. levels which go below the -10% range. The duration is generally from a few cycles to a few seconds. 16 **RMS. events occurred during the monitoring period**. Event 160**,** a typical RMS. event is shown below.



Solutions Table:

The following table provides a general overview of the types of mitigation devices available for specific power quality phenomena. Often times the need for choosing the right mitigation device depends upon existing system parameters. This information in correlation with monitoring data allows for the implementation of the most economical and feasible electrical solutions.

Disturbance Type	*P1159 Category*	*Specific Phenomena*	*Solution*
Type I – Transients	Impulsive	Lightning, Electro-static Discharge	Filters Isolation Transformers Low-impedance Power Conditioners (LIPCs) On-Line UPS Surge Protective Devices (SPDs) Line Reactor Constant Voltage Transformers (high frequency)
	Oscillatory	Line/Load switching, power electronic device operation	
		Capacitor switching	
		Ferroresonance Transformer energization	
Type II – (0.5 cycles to 2 s)	Instantaneous and Momentary Short Duration Variations	System faults	Constant Voltage Transformers Energy Storage Technologies Magnetic Synthesizers Motor Generator Standby Power Supply Static Transfer Switch Static Voltage Regulator UPS System
Type III – (> 2 s)	Temporary Short Duration Variations (3s to 1 min)	System Protection, Maintenance	Energy Storage Technologies Motor Generator UPS System
	Sustained Interruption Undervoltage Overvoltage	Motor Starting, Load Variations, Load Dropping	Backup Generator Constant Voltage Transformers Energy Storage Technologies Voltage Regulators

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Voltage, Current and Frequency Summaries

Voltage, Current and Frequency measurements for Round Valley High School: SES 05/20/15 08:54 from 05/20/15 08:54:24 through 06/17/15 08:54:24.

RMS. Voltages	Value	Date and Time
Phase A minimum	112.5V	Jun 08 2015 08:24:24
Phase A average	**123.9V**	
Phase A maximum	126.1V	May 30 2015 05:39:24
Phase B minimum	112.1V	Jun 08 2015 08:24:24
Phase B average	**123.9V**	
Phase B maximum	126.5V	May 30 2015 05:39:24
Neutral minimum	488.3mV	May 20 2015 08:54:24
Neutral average	**731.3mV**	
Neutral maximum	1.220V	May 23 2015 05:24:24

RMS. Currents	Value	Date and Time
Phase A minimum	7.690A	Jun 02 2015 11:54:24
Phase A average	**9.246A**	
Phase A maximum	60.79A	Jun 05 2015 17:39:24
Phase B minimum	2.197A	May 20 2015 08:54:24
Phase B average	**8.891A**	
Phase B maximum	60.97A	Jun 05 2015 17:39:24
Neutral minimum	3.662A	May 20 2015 15:09:24
Neutral average	**5.469A**	
Neutral maximum	206.0A	May 20 2015 08:54:24
Ground minimum	183.1mA	Jun 01 2015 14:54:24
Ground average	**756.0mA**	
Ground maximum	110.7A	May 21 2015 10:39:24

Frequency	Value	Date and Time
Phase A minimum	59.91Hz	May 24 2015 10:39:24
Phase A average	**59.99Hz**	
Phase A maximum	60.08Hz	Jun 08 2015 18:54:24
Phase B minimum	59.91Hz	May 24 2015 10:39:24
Phase B average	**59.99Hz**	
Phase B maximum	60.08Hz	Jun 08 2015 18:54:24

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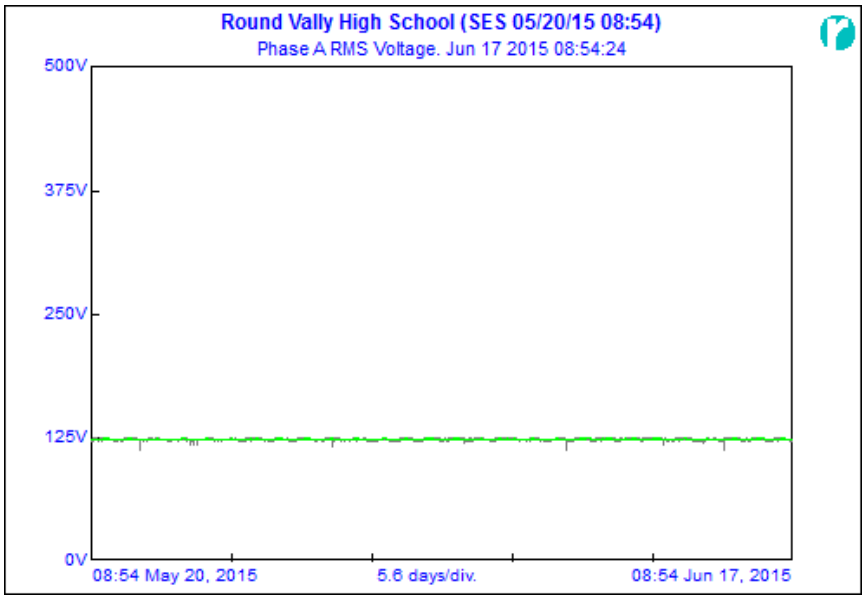
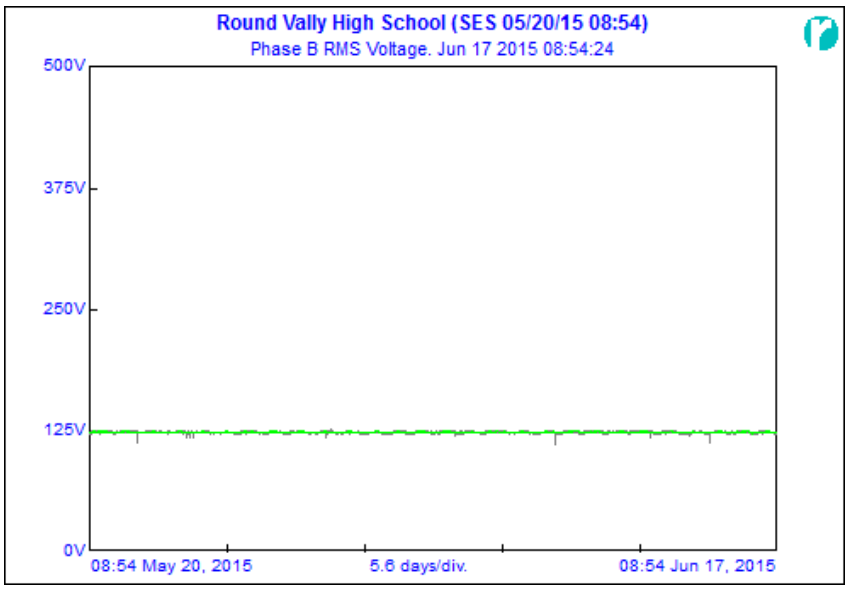
RMS. Voltage Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Summary.



Min. 112.5V Jun 08 2015 08:24:24
Avg. 123.9V
Max. 126.1V May 30 2015 05:39:24

Phase B Voltage Summary.



Min. 112.1V Jun 08 2015 08:24:24
Avg. 123.9V
Max. 126.5V May 30 2015 05:39:24

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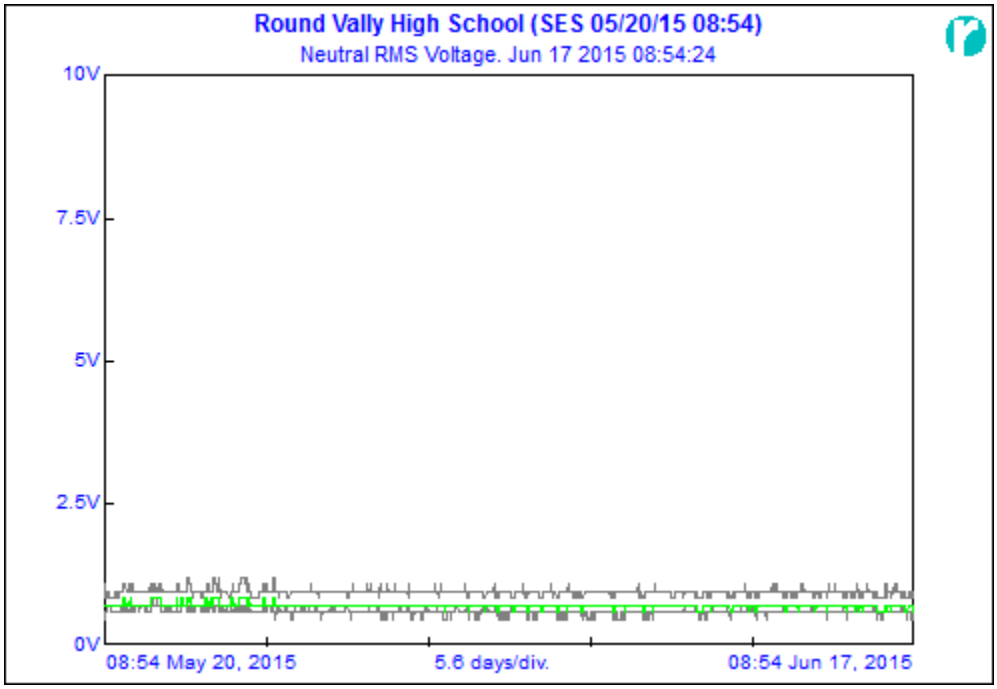
Neutral Voltage Summary.



Min.	488.3mV	May 20 2015 08:54:24
Avg.	**731.3mV**	
Max.	1.220V	May 23 2015 05:24:24

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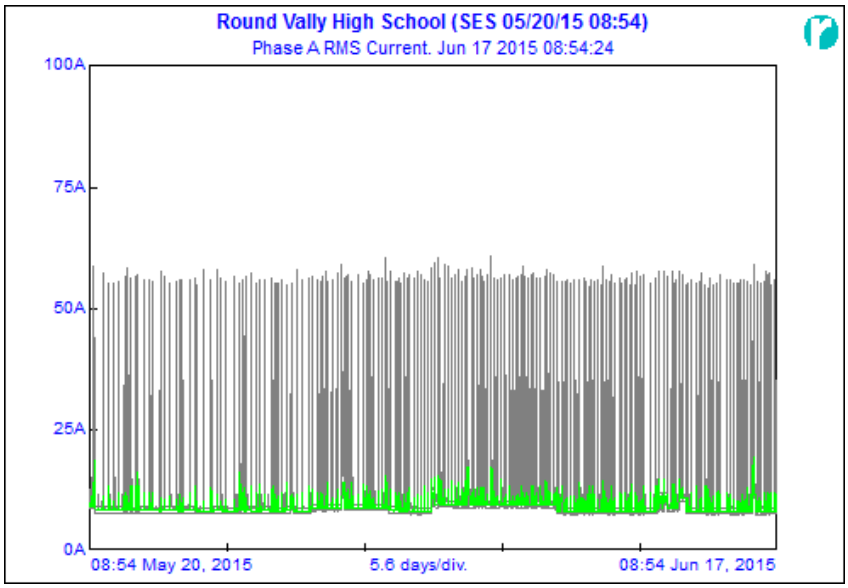
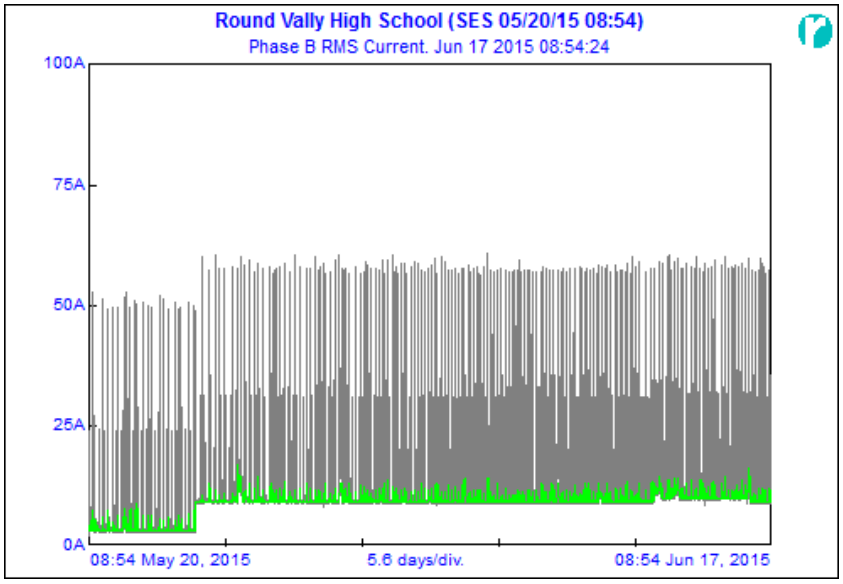
RMS. Current Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Current Summary.



Min. 7.690A Jun 02 2015 11:54:24
Avg. 9.246A
Max. 60.79A Jun 05 2015 17:39:24

Phase B Current Summary.



Min. 2.197A May 20 2015 08:54:24
Avg. 8.891A
Max. 60.97A Jun 05 2015 17:39:24

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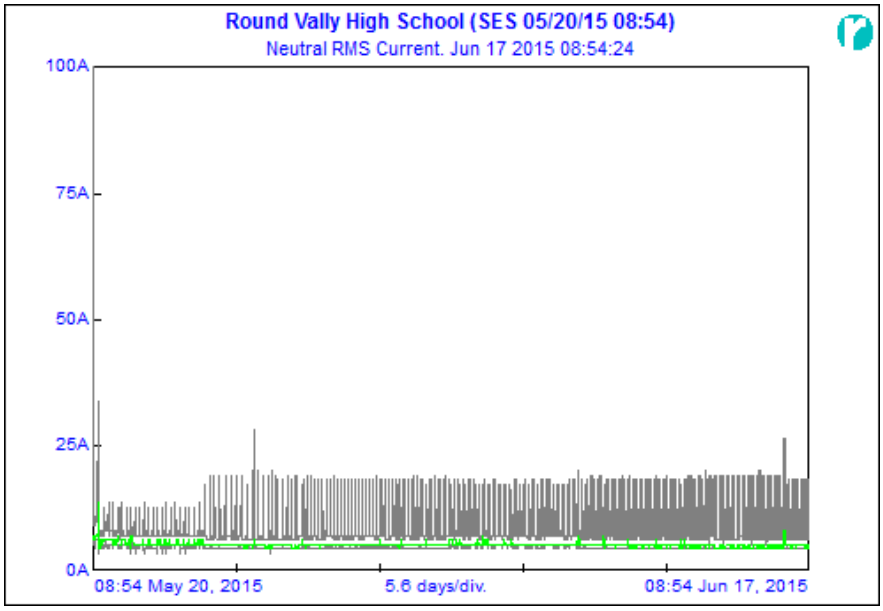
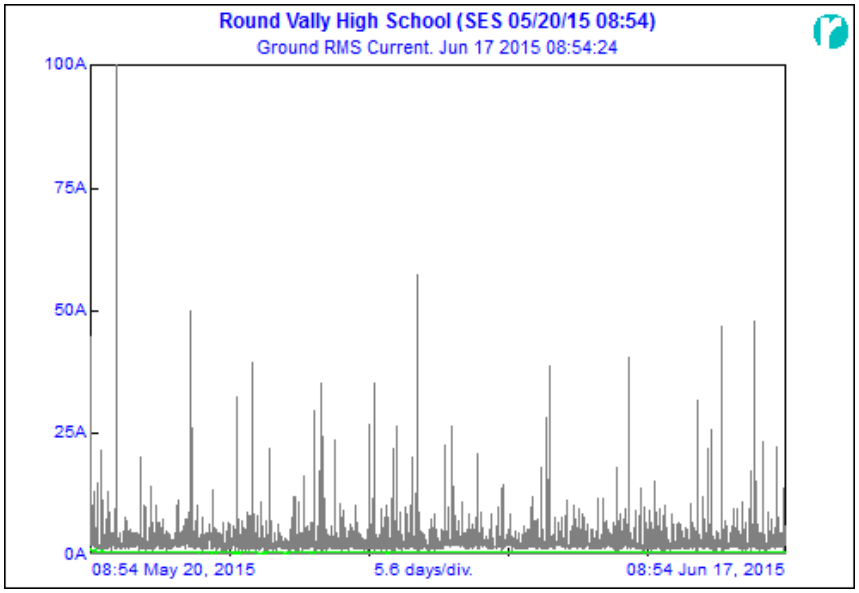
Neutral Current Summary.



Min.	3.662A	May 20 2015 15:09:24
Avg.	**5.469A**	
Max.	206.0A	May 20 2015 08:54:24

Ground Current Summary.



Min.	183.1mA	Jun 01 2015 14:54:24
Avg.	**756.0mA**	
Max.	110.7A	May 21 2015 10:39:24

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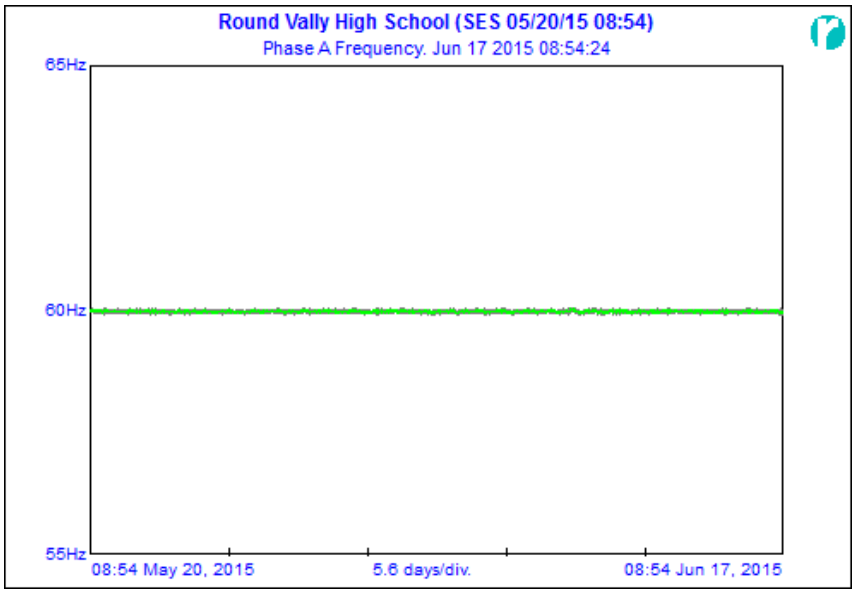
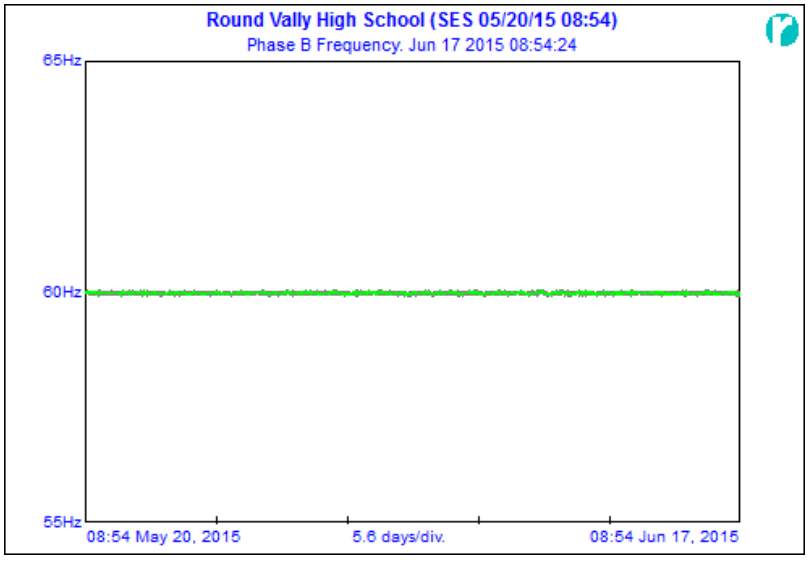
Frequency Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Frequency Summary.



Min. 59.91Hz May 24 2015 10:39:24
Avg. 59.99Hz
Max. 60.08Hz Jun 08 2015 18:54:24

Phase B Frequency.



Min. 59.91Hz May 24 2015 10:39:24
Avg. 59.99Hz
Max. 60.08Hz Jun 08 2015 18:54:24

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Voltage and Current Distortion Summaries

Voltage and Current harmonic distortion measurements for Round Valley High School: SES 05/20/15 08:54 from 05/20/15 08:54:24 through 06/17/15 08:54:24.

Voltage Distortion	Value	Date and Time
Phase A minimum	2.58%	Jun 16 2015 13:24:24
Phase A average	**3.700%**	
Phase A maximum	5.07%	May 28 2015 00:39:24
Phase B minimum	2.55%	Jun 16 2015 13:24:24
Phase B average	**3.732%**	
Phase B maximum	5.22%	May 28 2015 00:39:24

Current Distortion	Value	Date and Time
Phase A minimum	6.55%	Jun 09 2015 07:54:24
Phase A average	**9.413%**	
Phase A maximum	15.9%	May 22 2015 02:39:24
Phase B minimum	6.08%	Jun 12 2015 12:39:24
Phase B average	**11.09%**	
Phase B maximum	33.94%	May 21 2015 01:24:24

Voltage Flicker	Value	Date and Time
Phase A minimum	2.849	Jun 16 2015 13:24:24
Phase A average	**4.347**	
Phase A maximum	5.950	May 28 2015 00:44:24
Phase B minimum	2.839	Jun 16 2015 13:44:24
Phase B average	**4.386**	
Phase B maximum	6.075	May 28 2015 01:24:24

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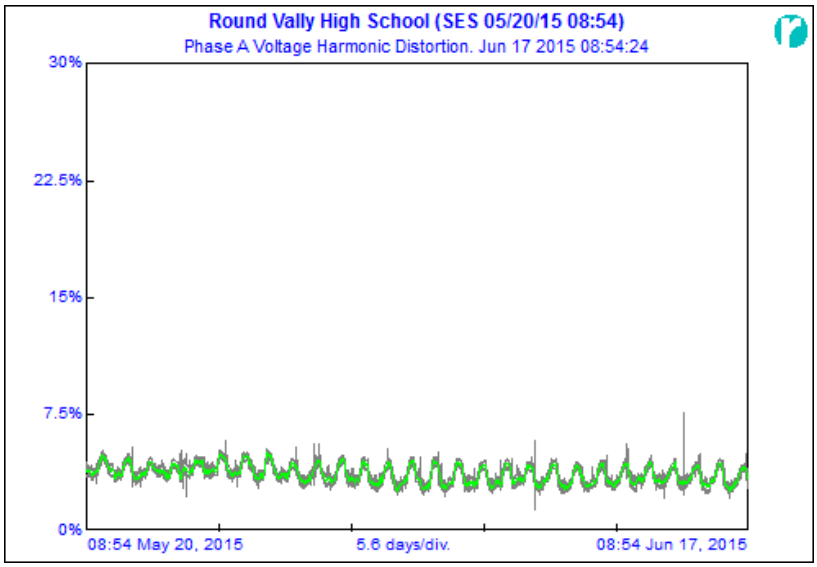
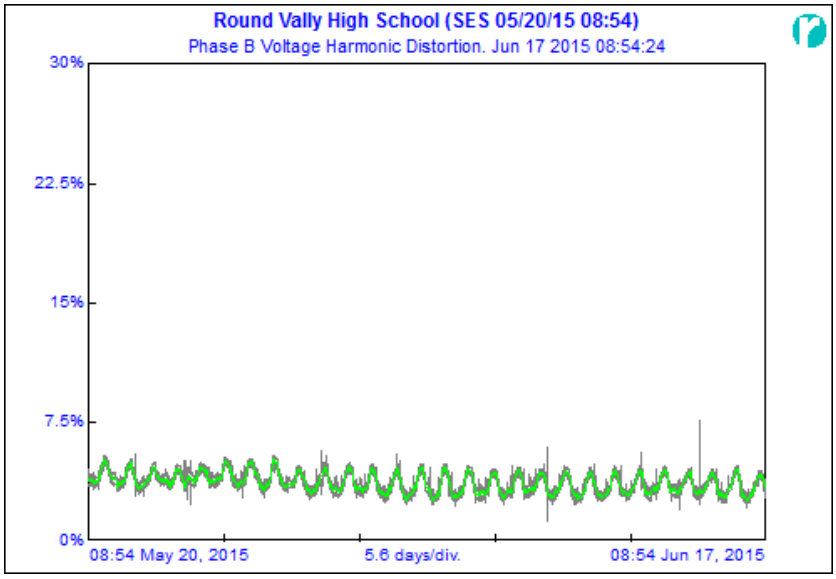
Voltage T.H.D. Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Distortion.



Min.	2.58%	Jun 16 2015 13:24:24
Avg.	**3.700%**	
Max.	5.07%	May 28 2015 00:39:24

Phase B Voltage Distortion.



Min.	2.55%	Jun 16 2015 13:24:24
Avg.	**3.732%**	
Max.	5.22%	May 28 2015 00:39:24

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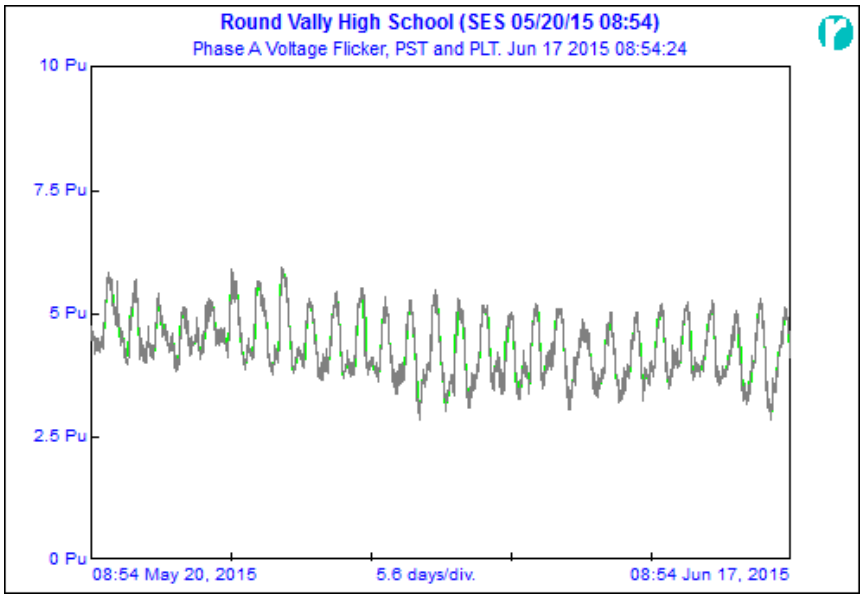
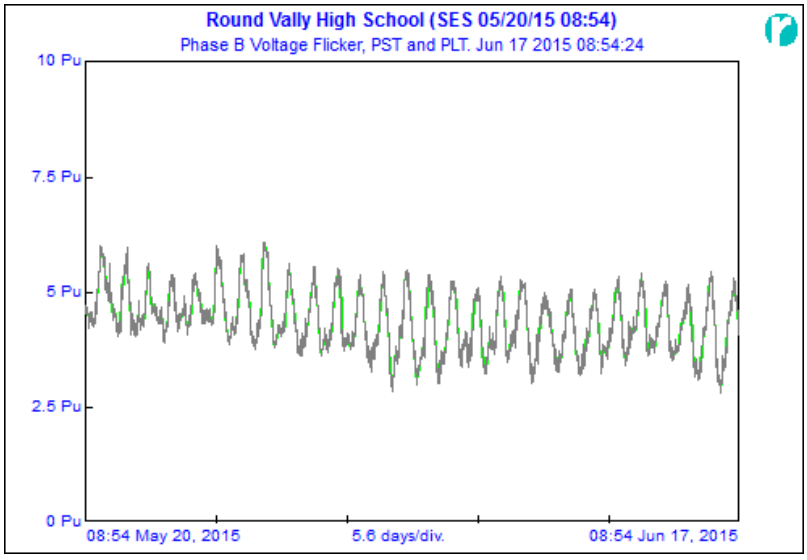
Voltage Flicker Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Flicker.



Min.	2.849	Jun 16 2015 13:24:24
Avg.	**4.347**	
Max.	5.950	May 28 2015 00:44:24

Phase B Voltage Flicker.



Min.	2.839	Jun 16 2015 13:44:24
Avg.	**4.386**	
Max.	6.075	May 28 2015 01:24:24

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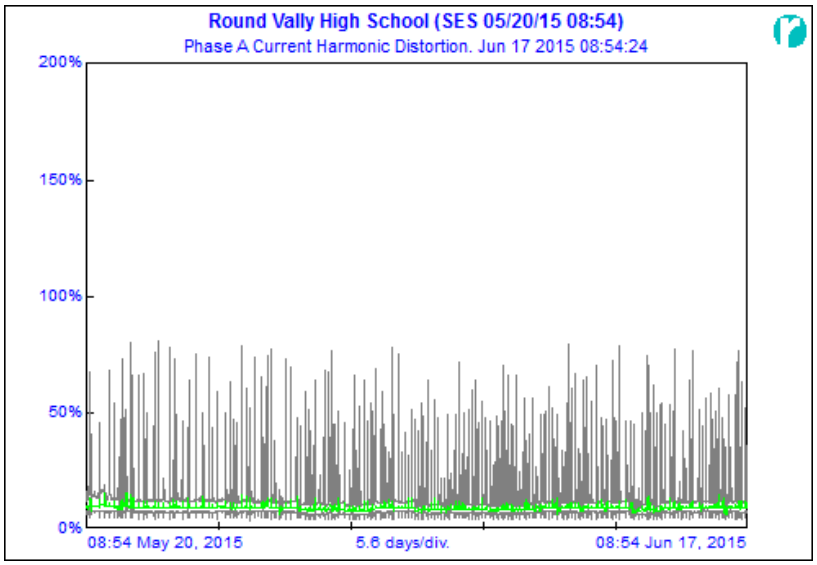
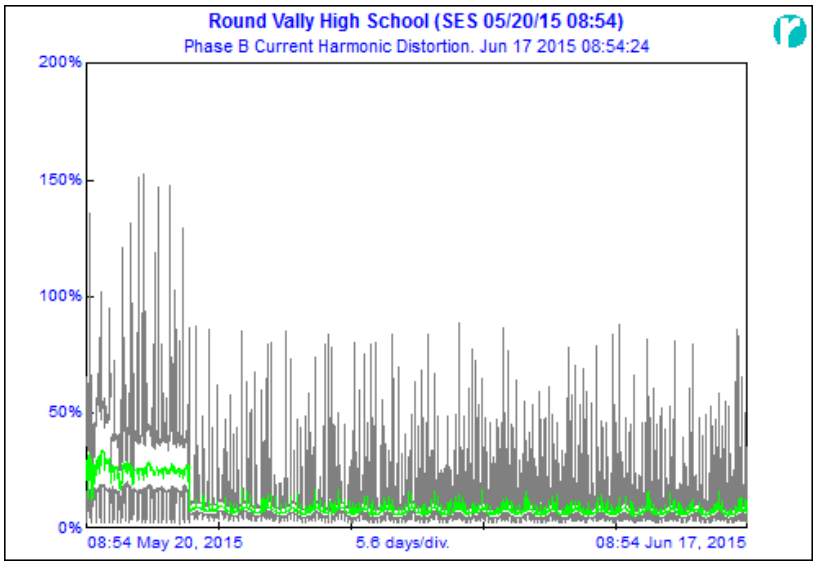
Current T.H.D. Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Current Distortion.



Min. 6.55% Jun 09 2015 07:54:24
Avg. 9.413%
Max. 15.9% May 22 2015 02:39:24

Phase B Current Distortion.



Min. 6.08% Jun 12 2015 12:39:24
Avg. 11.09%
Max. 33.94% May 21 2015 01:24:24

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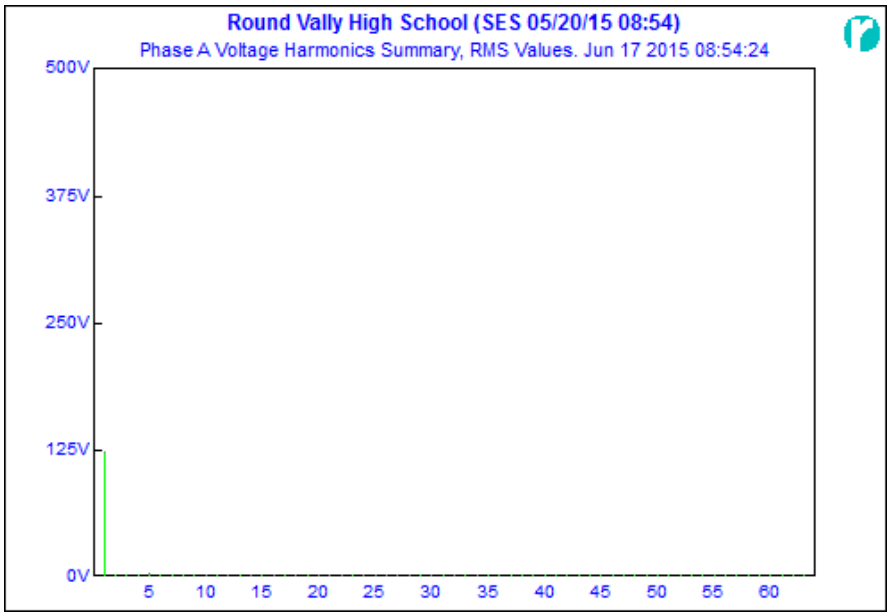
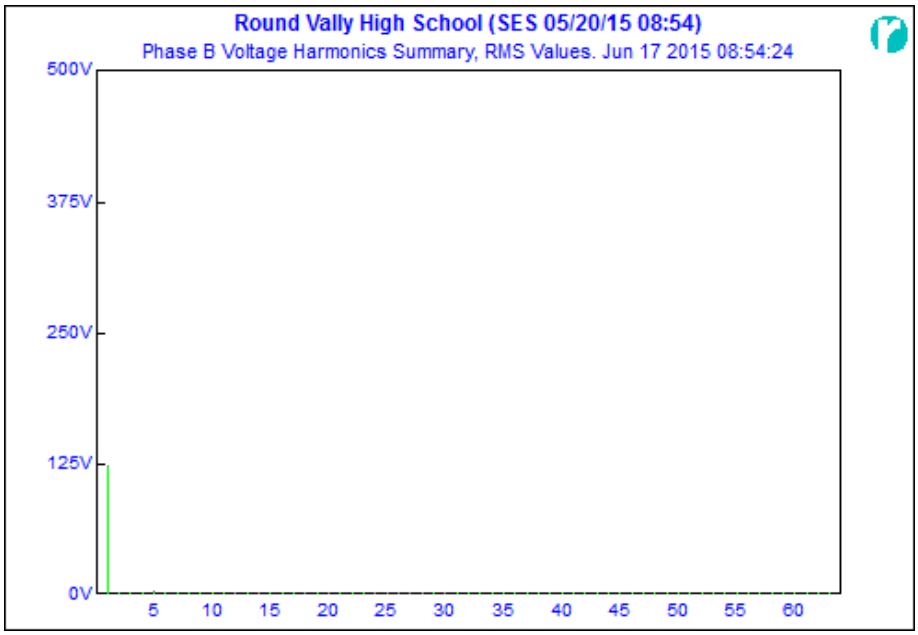
Voltage harmonic Summary for Round Valley High School: SES 05/20/15 08:54.

Phase A Voltage Harmonic Summary (RMS Values).



Phase B Voltage Harmonic Summary (RMS Values).



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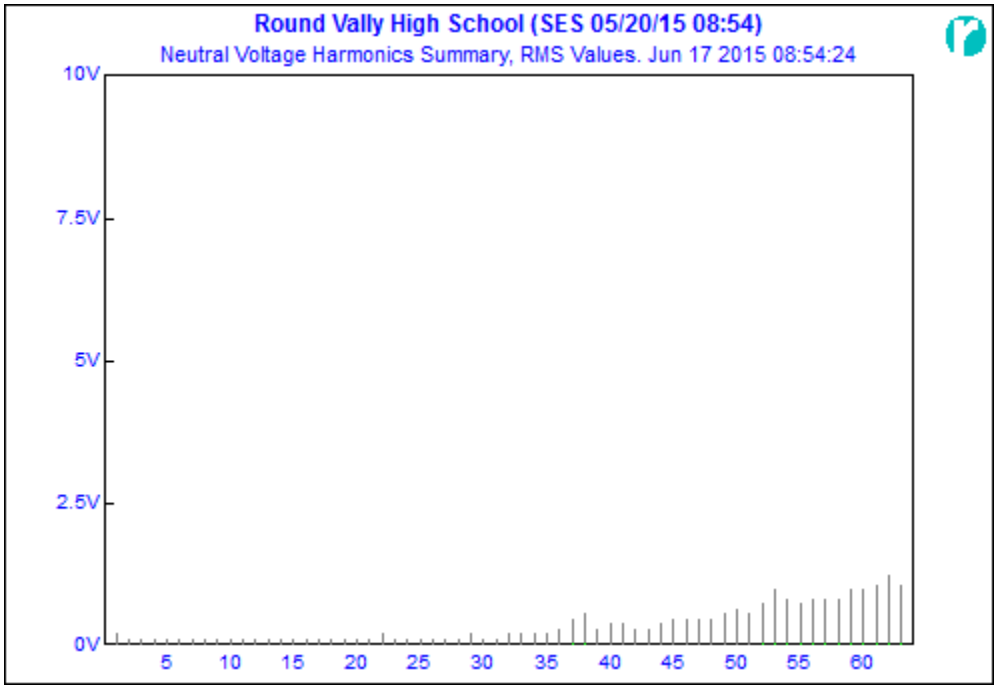
Neutral Voltage Harmonics (RMS Values).



The first 16 harmonics for the Phase A voltage are shown below (RMS Values):

Harmonic	Max Amplitude	Avg Amplitude
1	125.426	123.872
2	0.777	0.086
3	1.467	0.863
4	1.122	0.086
5	6.302	4.230
6	1.209	0.086
7	2.935	1.381
8	0.518	0.086
9	1.036	0.345
10	0.518	0.000
11	0.518	0.086
12	0.518	0.000
13	0.518	0.086
14	0.518	0.000
15	0.518	0.086
16	0.518	0.000

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The first 16 harmonics for the Phase B voltage are shown below (RMS Values):

Harmonic	Max Amplitude	Avg Amplitude
1	126.203	123.958
2	0.777	0.086
3	1.554	0.950
4	1.036	0.086
5	6.388	4.230
6	1.122	0.086
7	2.849	1.381
8	0.604	0.086
9	1.036	0.345
10	0.345	0.086
11	0.432	0.086
12	0.432	0.000
13	0.432	0.086
14	0.345	0.000
15	0.432	0.086
16	0.345	0.086

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The first 16 harmonics for the neutral voltage are shown below (RMS Values):

Harmonic		Max Amplitude	Avg Amplitude
1	0.259	0.000	
2	0.173	0.000	
3	0.173	0.000	
4	0.173	0.000	
5	0.173	0.000	
6	0.173	0.000	
7	0.173	0.000	
8	0.173	0.000	
9	0.173	0.000	
10	0.173	0.000	
11	0.173	0.000	
12	0.173	0.000	
13	0.173	0.000	
14	0.173	0.000	
15	0.173	0.000	
16	0.173	0.000	

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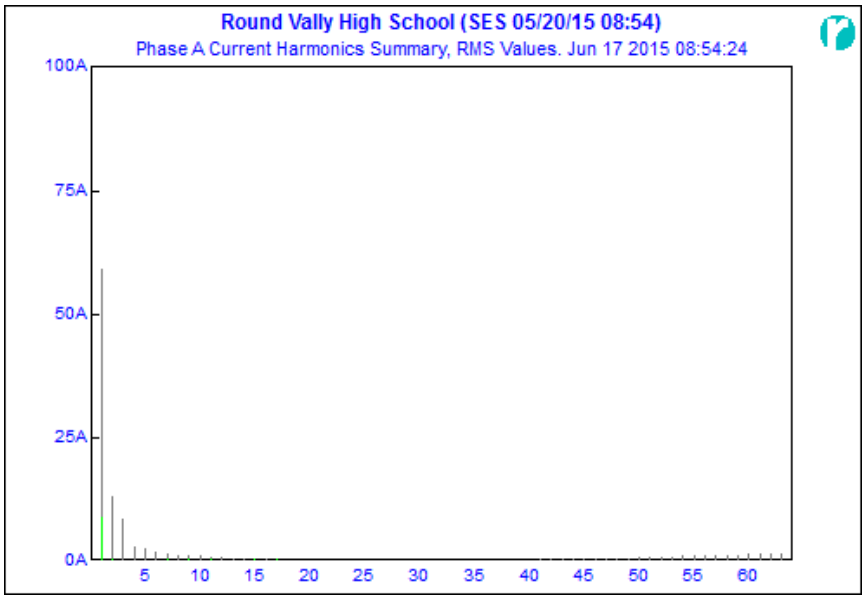
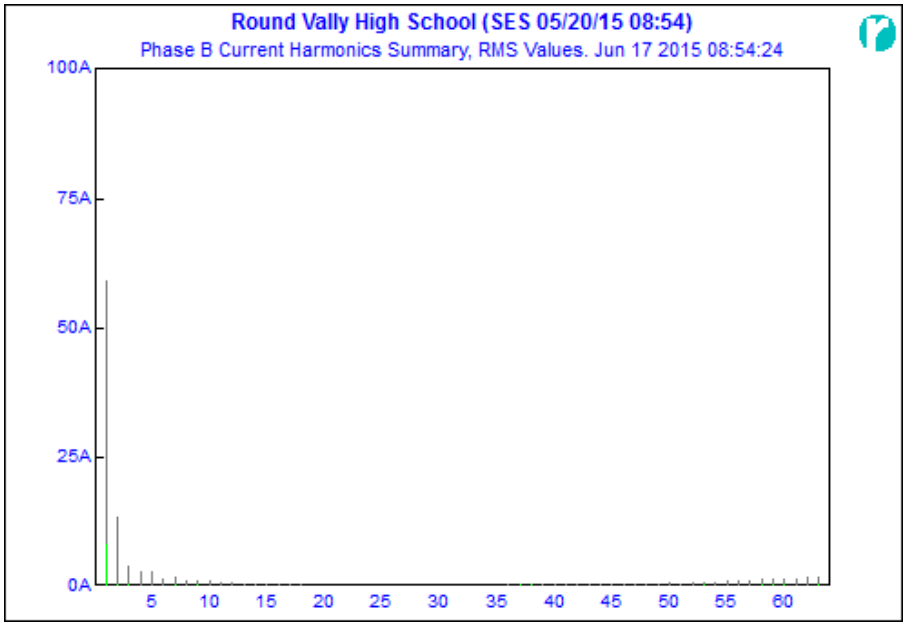
Current harmonic Summary for Round Valley High School: SES 05/20/15 08:54.

Phase A Current Harmonic Summary (RMS Values).



Phase B Current Harmonic Summary (RMS Values).



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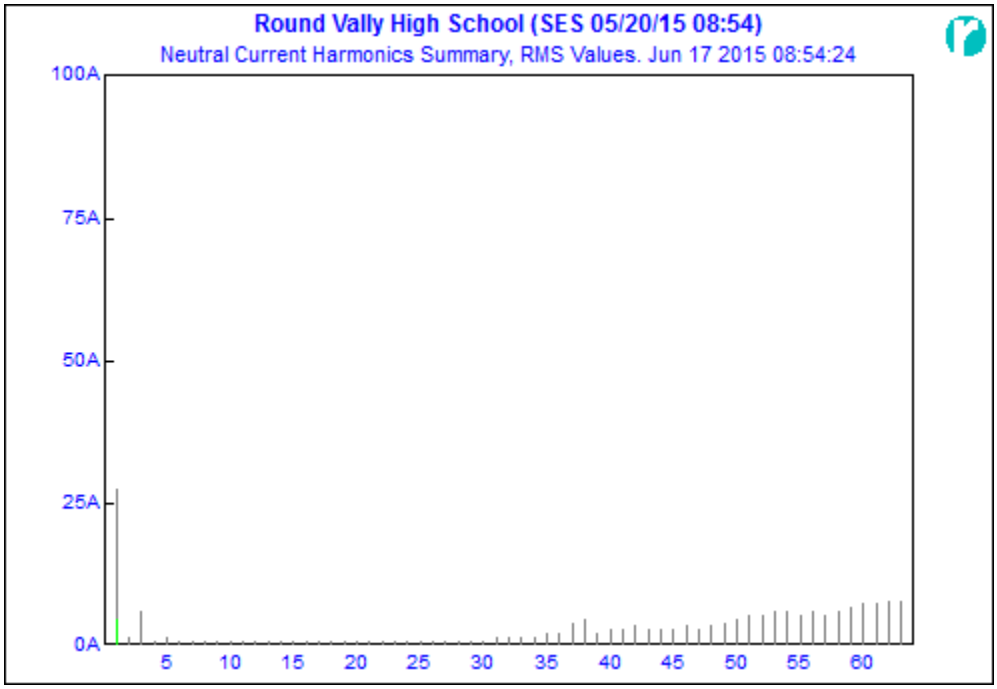
Neutral Current Harmonics (RMS Values).



The first 16 harmonics for the Phase A current are shown below (RMS Values):

Harmonic		Max Amplitude	Avg Amplitude
1	59.433	9.323	
2	13.466	0.129	
3	8.805	0.518	
4	3.496	0.000	
5	2.978	0.518	
6	2.201	0.000	
7	2.072	0.129	
8	1.683	0.000	
9	1.683	0.129	
10	1.424	0.000	
11	1.295	0.129	
12	1.165	0.000	
13	1.036	0.000	
14	0.906	0.000	
15	0.906	0.129	
16	0.777	0.000	

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The first 16 harmonics for the Phase B current are shown below (RMS Values):

Harmonic		Max Amplitude	Avg Amplitude
1	59.303	8.546	
2	13.725	0.129	
3	4.273	0.259	
4	3.496	0.000	
5	3.237	0.518	
6	2.072	0.000	
7	2.201	0.129	
8	1.683	0.000	
9	1.554	0.129	
10	1.424	0.000	
11	1.295	0.000	
12	1.165	0.000	
13	1.036	0.000	
14	1.036	0.000	
15	0.906	0.000	
16	0.777	0.000	

The first 16 harmonics for the neutral current are shown below (RMS Values):

Harmonic		Max Amplitude	Avg Amplitude
1	27.839	5.179	
2	1.942	0.000	
3	6.474	0.647	
4	1.295	0.000	
5	1.942	0.647	
6	1.295	0.000	
7	1.295	0.000	
8	1.295	0.000	
9	1.295	0.000	
10	1.295	0.000	
11	1.295	0.000	
12	1.295	0.000	
13	1.295	0.000	
14	1.295	0.000	
15	1.295	0.000	
16	1.295	0.000	

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Power Summaries

Power measurements for Round Valley High School: SES 05/20/15 08:54 from 05/20/15 08:54:24 through 06/17/15 08:54:24.

Imbalance	Value	Date and Time
Minimum Voltage Imbalance	0%	May 20 2015 10:09:24
Average Voltage Imbalance	**0.030%**	
Maximum Voltage Imbalance	0.24%	May 20 2015 14:09:24
Minimum Current Imbalance	0%	May 25 2015 14:39:24
Average Current Imbalance	**10.44%**	
Maximum Current Imbalance	67.47%	May 20 2015 14:09:24

VA Power	Value	Date and Time
Phase A minimum	900.1VA	Jun 14 2015 14:54:24
Phase A average	**1.169kVA**	
Phase A maximum	7.545kVA	Jun 05 2015 17:39:24
Phase B minimum	287.1VA	May 20 2015 08:54:24
Phase B average	**1.127kVA**	
Phase B maximum	7.563kVA	Jun 05 2015 17:39:24
Total minimum	1.489kVA	May 24 2015 05:39:24
Total average	**2.296kVA**	
Total maximum	4.137kVA	May 26 2015 12:24:24

VARS Power	Value	Date and Time
Phase A minimum	-1.882kVAR	May 23 2015 06:39:24
Phase A average	**109.3VAR**	
Phase A maximum	3.974kVAR	Jun 11 2015 10:24:24
Phase B minimum	-2.146kVAR	May 23 2015 06:39:24
Phase B average	**626.4VAR**	
Phase B maximum	4.655kVAR	May 29 2015 15:54:24
Total minimum	-754.4VAR	May 22 2015 02:39:24
Total average	**735.8VAR**	
Total maximum	1.269kVAR	Jun 16 2015 08:54:24

Watts Power	Value	Date and Time
Phase A minimum	884.4W	Jun 14 2015 14:54:24
Phase A average	**1.158kW**	
Phase A maximum	6.531kW	Jun 05 2015 17:39:24
Phase B minimum	109.7W	May 20 2015 13:54:24
Phase B average	**832.4W**	
Phase B maximum	6.079kW	Jun 05 2015 17:39:24
Total minimum	1.270kW	May 21 2015 03:09:24

Total average	**1.990kW**	
Total maximum	3.996kW	May 26 2015 12:24:24

Demand Power	Value	Date and Time
Phase A minimum	1.029kW	Jun 17 2015 07:29:24
Phase A average	**1.158kW**	
Phase A maximum	2.379kW	Jun 16 2015 09:54:24
Phase B minimum	211.9W	May 20 2015 14:04:24
Phase B average	**832.4W**	
Phase B maximum	1.971kW	May 26 2015 12:24:24
Total minimum	1.270kW	May 21 2015 03:14:24
Total average	**1.990kW**	
Total maximum	3.996kW	May 26 2015 12:24:24

Power Factor	Value	Date and Time
Phase A minimum	0.730 Lead	May 21 2015 10:39:24
Phase A average	**0.992 Lag**	
Phase A maximum	0.668 Lag	Jun 16 2015 14:24:24
Phase B minimum	0.243 Lead	May 20 2015 13:54:24
Phase B average	**0.849 Lag**	
Phase B maximum	0.471 Lag	May 24 2015 01:39:24
Total minimum	0.965	May 26 2015 12:24:24
Total average	**0.863**	
Total maximum	0.832	Jun 16 2015 14:09:24

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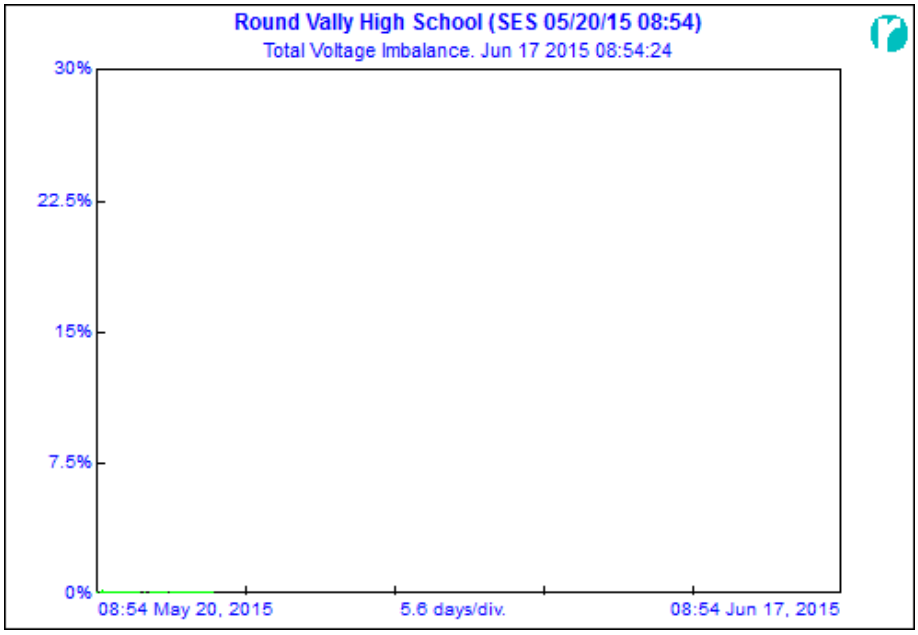
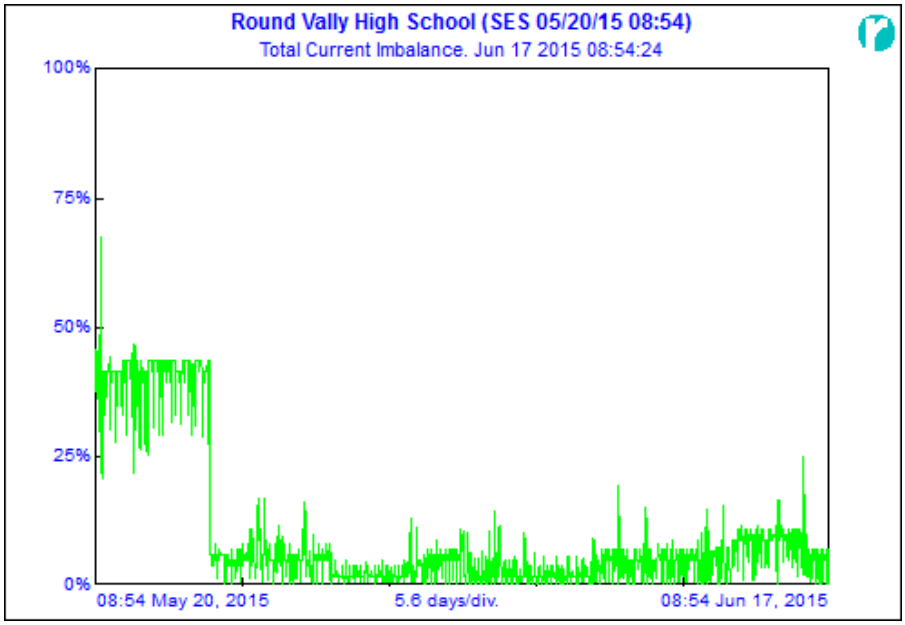
Voltage and Current Imbalance Summaries for Round Valley High School: SES 05/20/15 08:54.



Minimum Voltage Imbalance	0%	May 20 2015 10:09:24
Average Voltage Imbalance	**0.030%**	
Maximum Voltage Imbalance	0.24%	May 20 2015 14:09:24



Minimum Current Imbalance	0%	May 25 2015 14:39:24
Average Current Imbalance	**10.44%**	
Maximum Current Imbalance	67.47%	May 20 2015 14:09:24

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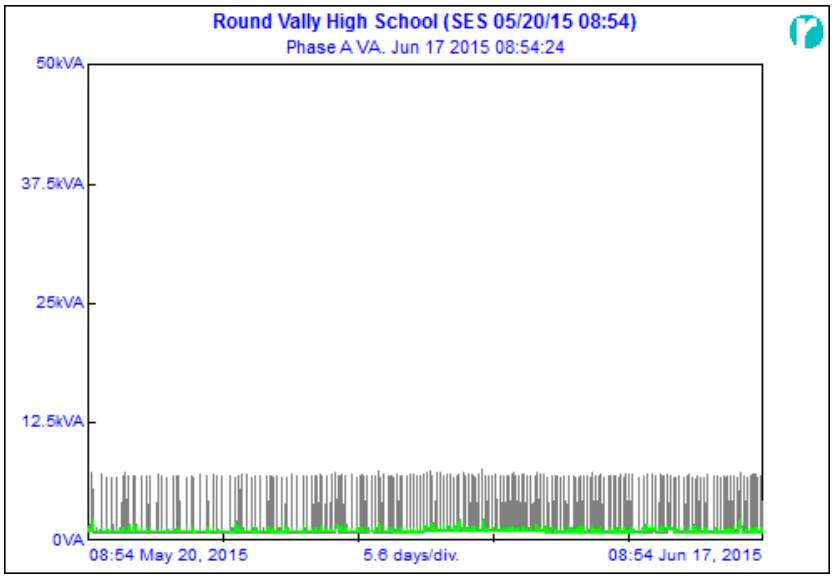
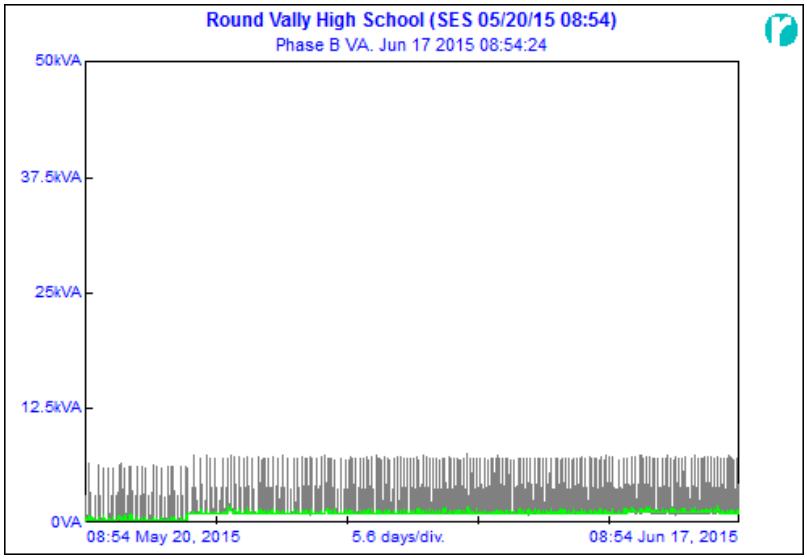
VA Power Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A VA Summary.



Min. 900.1VA Jun 14 2015 14:54:24
Avg. 1.169kVA
Max. 7.545kVA Jun 05 2015 17:39:24

Phase B VA Summary.



Min. 287.1VA May 20 2015 08:54:24
Avg. 1.127kVA
Max. 7.563kVA Jun 05 2015 17:39:24

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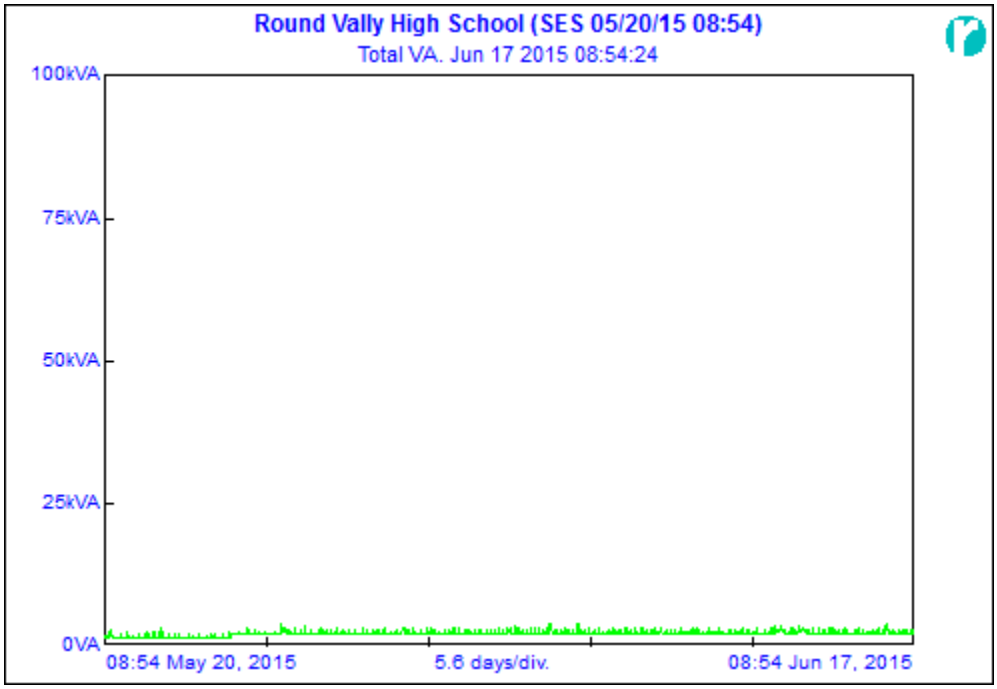
Total VA Summary.



Min.	1.489kVA	May 24 2015 05:39:24
Avg.	**2.296kVA**	
Max.	4.137kVA	May 26 2015 12:24:24

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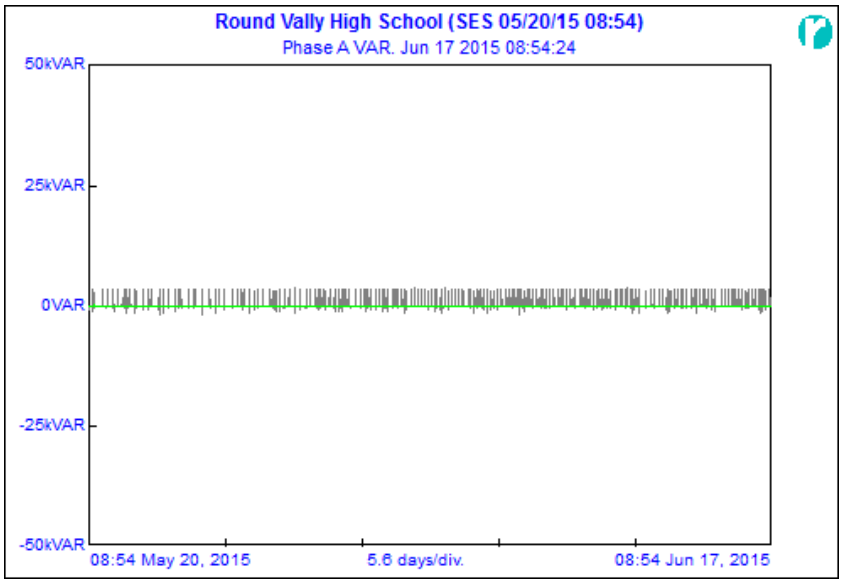
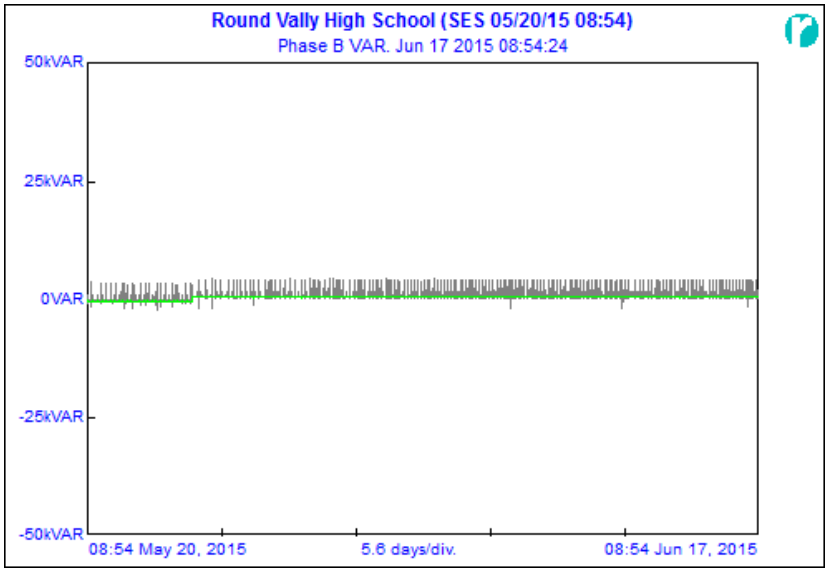
VARS Power Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A VARS Summary.



Min. -1.882kVAR May 23 2015 06:39:24
Avg. 109.3VAR
Max. 3.974kVAR Jun 11 2015 10:24:24

Phase B VARS. Summary.



Min. -2.146kVAR May 23 2015 06:39:24
Avg. 626.4VAR
Max. 4.655kVAR May 29 2015 15:54:24

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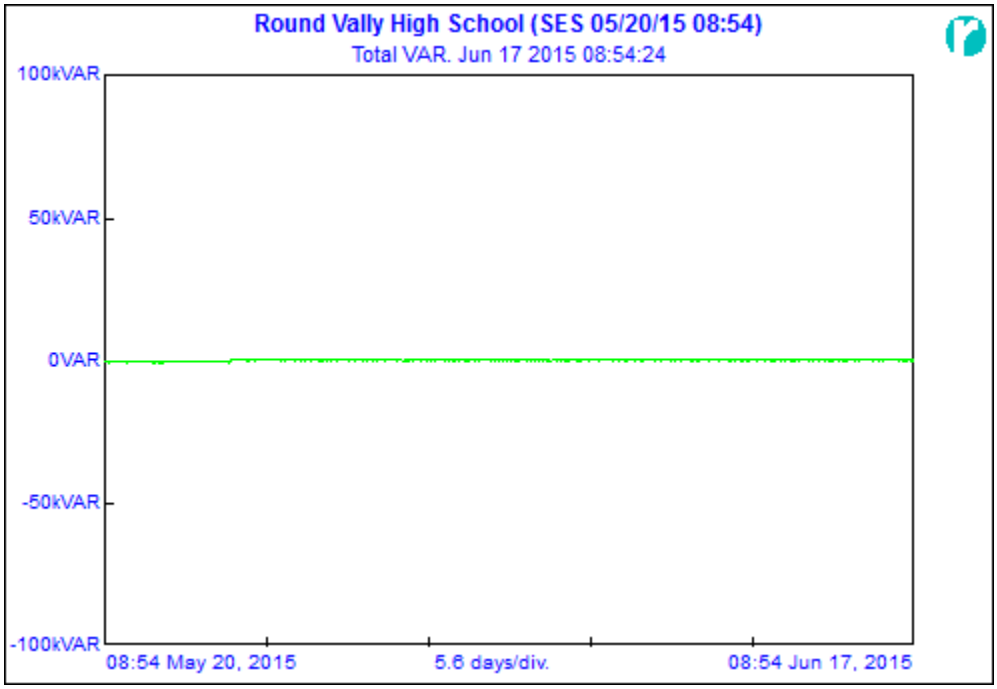
Total VARS Summary.



Min. -754.4VAR May 22 2015 02:39:24
Avg. 735.8VAR
Max. 1.269kVAR Jun 16 2015 08:54:24

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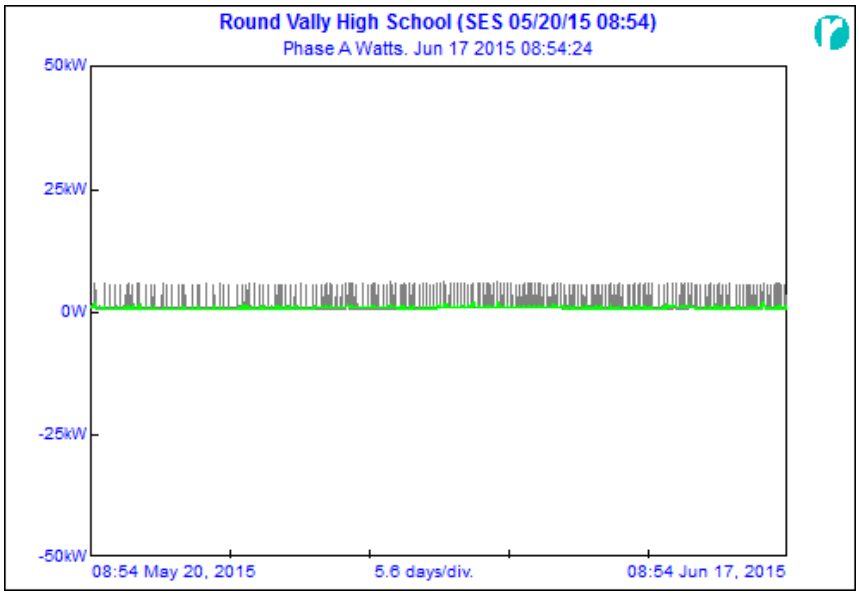
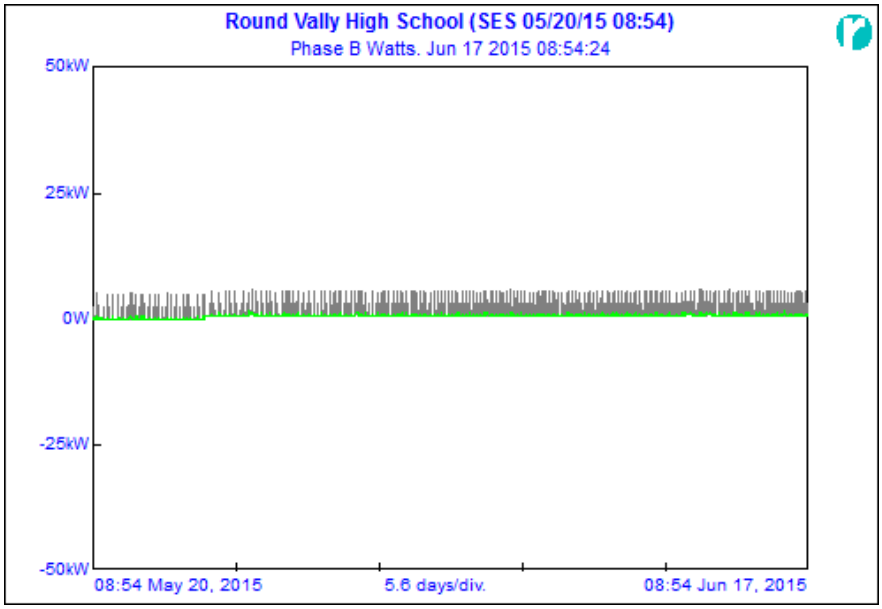
WATTS Power Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Watts Summary.



Min. 884.4W Jun 14 2015 14:54:24**Avg. 1.158kW**
Max. 6.531kW Jun 05 2015 17:39:24

Phase B Watts. Summary.



Min. 109.7W May 20 2015 13:54:24
Avg. 832.4W
Max. 6.079kW Jun 05 2015 17:39:24

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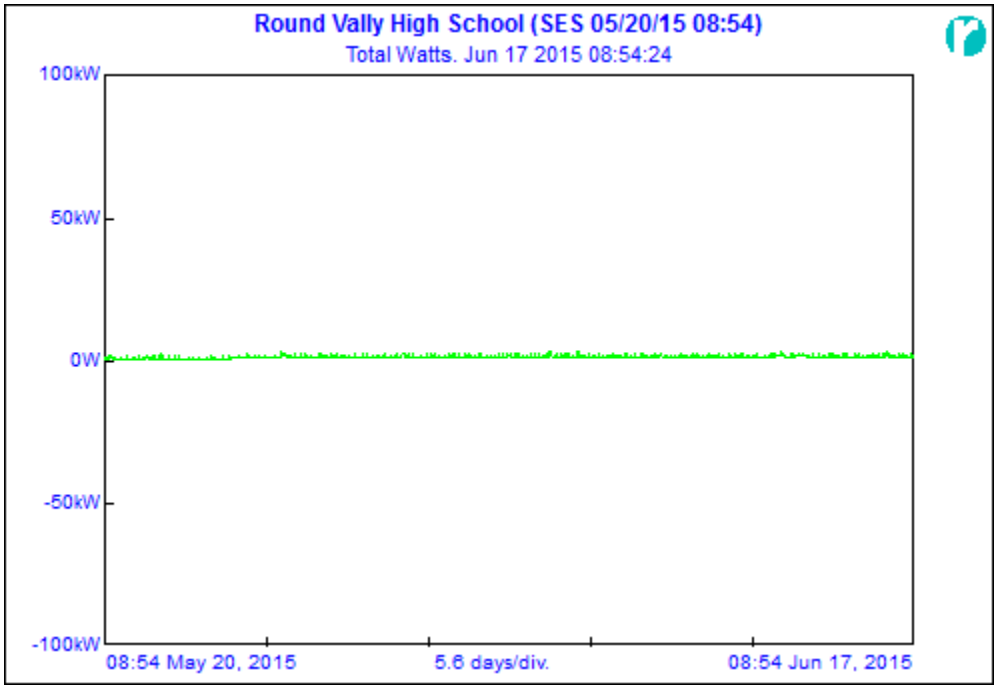
Total Watts Summary.



Min.	1.270kW	May 21 2015 03:09:24
Avg.	**1.990kW**	
Max.	3.996kW	May 26 2015 12:24:24

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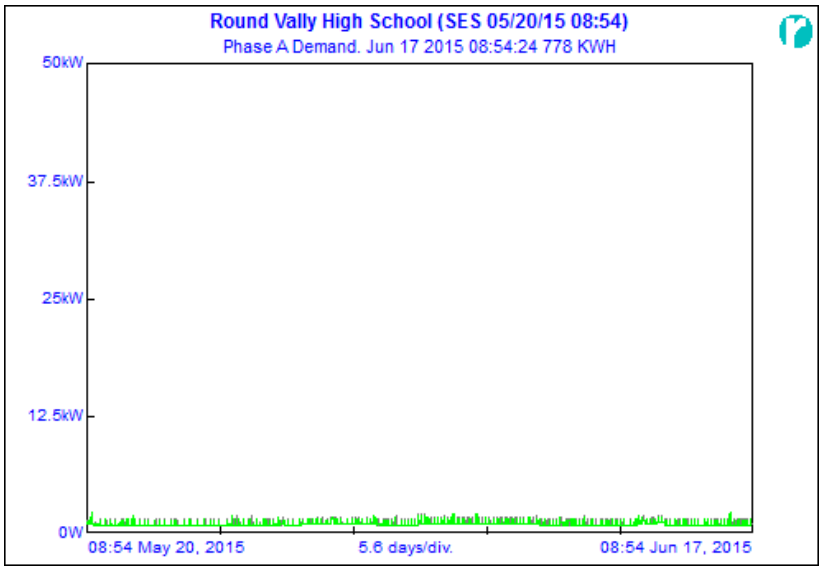
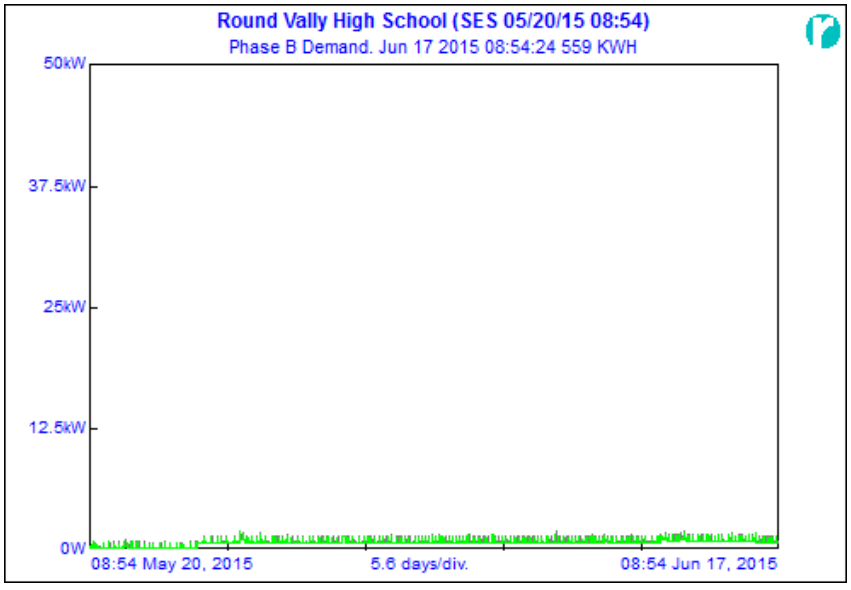
Demand Power Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Demand Summary.



Min. 1.029kW Jun 17 2015 07:29:24
Avg. 1.158kW
Max. 2.379kW Jun 16 2015 09:54:24

Phase B Demand Summary.



Min. 211.9W May 20 2015 14:04:24
Avg. 832.4W
Max. 1.971kW May 26 2015 12:24:24

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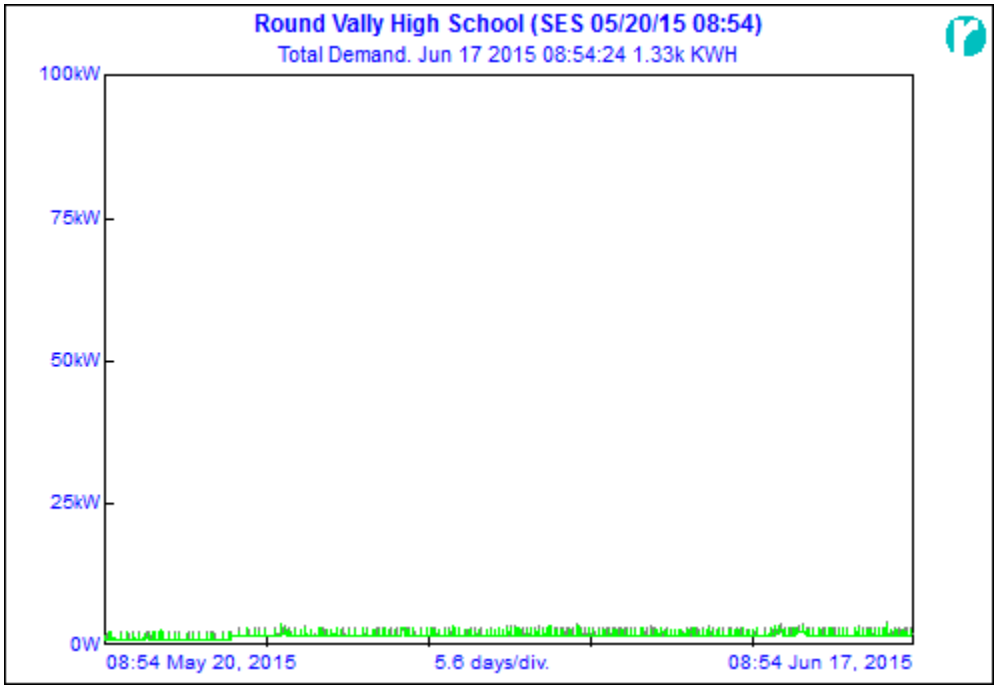
Total Demand Summary.



Min.	1.270kW	May 21 2015 03:14:24
Avg.	**1.990kW**	
Max.	3.996kW	May 26 2015 12:24:24

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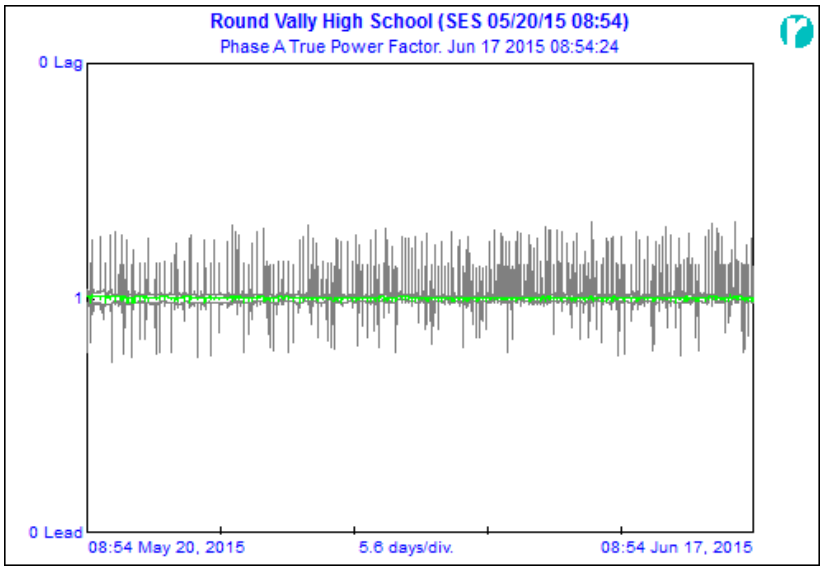
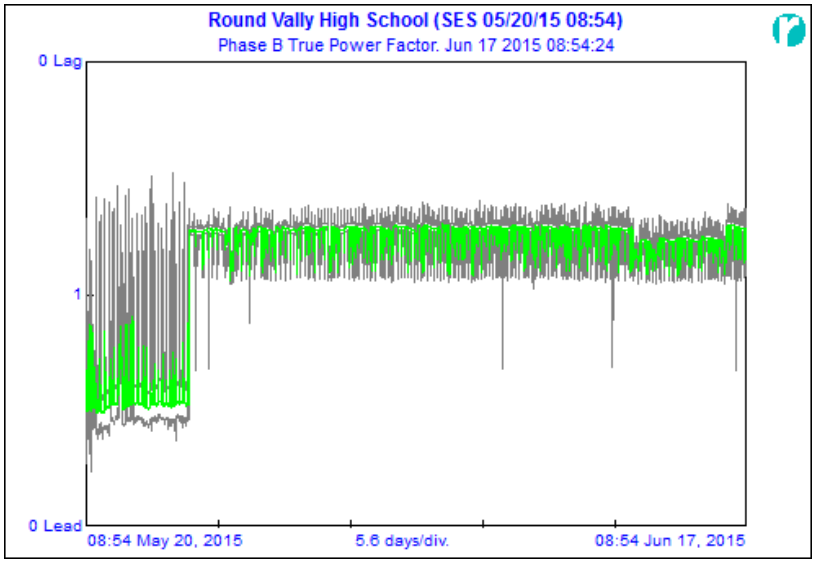
Power Factor Summaries for Round Valley High School: SES 05/20/15 08:54.

Phase A Power Factor Summary.



Min. 0.730 Lead May 21 2015 10:39:24
Avg. 0.992 Lag
Max. 0.668 Lag Jun 16 2015 14:24:24

Phase B Power Factor. Summary.



Min. 0.243 Lead May 20 2015 13:54:24
Avg. 0.849 Lag
Max. 0.471 Lag May 24 2015 01:39:24

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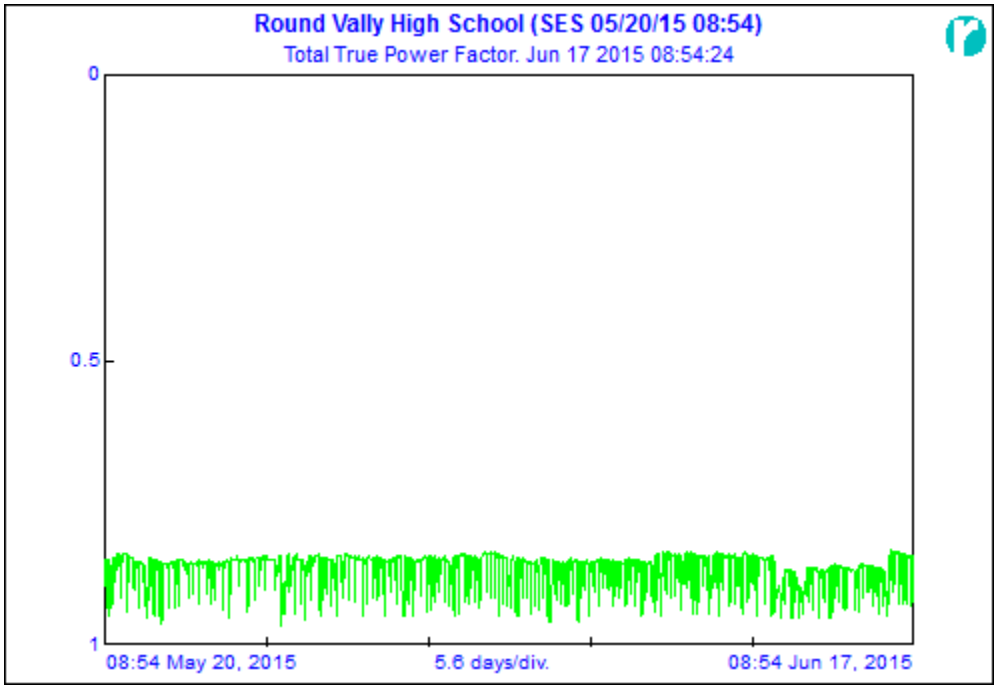
Total Power Factor Summary.



Min.	0.965	May 26 2015 12:24:24
Avg.	**0.863**	
Max.	0.832	Jun 16 2015 14:09:24

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Show Low Unified 006BRG
Background – Show Low Unified (Nicklaus Homestead ES – replace heater)
On April 1, 2015, the Board awarded Show Low Unified $5,250 for design services to develop bid documents for replacement of the heater unit at Nicklaus Homestead Elementary School (project number 090210120-1001-006BRG).

The engineering is complete and the scope of work appears to be acceptable. An estimate for construction and asbestos abatement have been submitted.

Initial award 4/1/2015
Design $5,250

Supplemental funding requested:

Estimated construction costs	$19,945
Asbestos Oversight	$3,390
Asbestos Abatement	$7,500
Contingency	$2,000
Total requested:	$32,835

Total project cost: $38,085

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Show Low Unified (Nicklaus Homestead ES – replace heater)
Staff recommends that Show Low Unified be awarded an additional $32,835 in Building Renewal Grant funding to replace the heater unit at Nicklaus Homestead Elementary School (project number 090210120-1001-006-BRG). This includes $2,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $38,085.

Board Action Requested:
Board approval of the staff recommendation that **Show Low Unified** be awarded an additional $32,835 in Building Renewal Grant funding to replace the heater unit at Nicklaus Homestead Elementary School (project number 090210120-1001-006-BRG).This includes $2,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $38,085.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Show_Low_USD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
signed_application.jpg	Signed Application	8/3/2015	Cover Memo

SFB_Engineering_Proposal.pdf	Engineering Proposal including C_A	7/23/2015	Cover Memo
15058-Misc-150707-rh-Cost_Estimate.pdf	Engineers Cost Estimate	7/23/2015	Cover Memo
Showlow_Schools_-_NH_HVAC_QA_Quote.pdf	Asbestos Oversight Proposal	7/23/2015	Cover Memo
JC15-211_Nikolaus_Homestead_Unit_Heater_Project-signed.pdf	Asbestos Abatement Proposal	7/23/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Show Low Unified**
BRG Project Number: **090210120-1001-006BRG** Navajo County
Project Description: **Replace heater**
Consultant: Arizona Pinnacle Engineering, LLC (623-594-9049)
Contractor: TBD

Board Approval: 4/1/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost: (cost estimate provided by architect or contractor)		**$ 27,445**
Contingency		**$ 2,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 5,250
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 3,390
Testing & Inspection		$ -
Total Additional Cost:		**$ 8,640**
Total SFB Funded Project Cost:		**$ 38,085**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 38,085**
Total Project Cost:		**$ 38,085**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: **Application ID:** 1801
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Show Low Unified District

Superintendent: Kevin Brackney

Contact Person: Ralph Smith

Contact Phone Number: 928-242-4235

Contact Email: rcsmith@show-low.k12.az.us

School Site: Nikolaus Homestead Elementary School (formerly Show Low J.H.S. South)

Buildings: 1001 Main Building

Application Title: Gas fired heater

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Gas fired unit has cracked heat exchanger. This unit is old as school this unit is past life cycle. The gas is now shut off and the rooms it supplies has no heat other then space heaters.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

This is not a insurance claim and the district has no funds for this Reznor heater.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

KEVIN BRACKNEY
Superintendent Printed Name

Superintendent Signature

2-5-15
Date

ARIZONA PINNACLE ENGINEERING, LLC
Mechanical and Electrical Consulting Engineers
Steven F Durand, P.E. ▵ Rodney L Hillis, P.E. ▵ Eudjen Savu, P.E. ▵ Scott E Woods, P.E.

February 26, 2015

Show Low Unified School District #10
500 West Old Linden Road
Show Low, Arizona 85901

Attn: Mr. Ralph Smith

Re: Unit Heater Replacement at Nikolaus Homestead Elementary School
Proposal for Mechanical and Electrical Engineering Services P15049

Dear Mr. Smith:

Arizona Pinnacle Engineering, LLC (AZPE), is pleased to propose the following Agreement for mechanical (plumbing), electrical, and structural engineering services for the replacement of the failing unit heater at Nikolaus Homestead Elementary School in Show Low, Arizona.

The Total Engineering Fee is $5,250.00.

This proposal is valid for a period of sixty (60) calendar days from the date of its issuance. If this proposal is not accepted within the stipulated time period, we reserve the right to cancel this Agreement or to renegotiate the fees. If signed and returned, or if not rejected but accepted by our proceeding with the work upon your request, this document shall constitute a contractual Agreement between us.

PARTIES TO CONTRACT

This Agreement is made between the Show Low Unified School District #10, hereinafter referred to as the Client, and Arizona Pinnacle Engineering, LLC, hereinafter called the Engineer, and each is bound to the Agreements outlined herein. Neither party may assign, sublet, or transfer its interest in this Agreement without written consent of the other party.

SCOPE OF BASIC ENGINEERING SERVICES

For the purpose of this contract "Basic Engineering Services" shall include the following:

General

1. The mechanical, electrical, and structural engineering services to be provided under this Agreement will include a Verification of Existing Site Conditions Phase, a Construction

Documents Phase, a Pre-Bid Phase, a Shop Drawing Review Phase, a Construction Support and Observation Phase, a Final Punch Phase, and a Records Drawing Phase.

2. AZPE will visit the jobsite at the beginning of the project to verify the existing mechanical, electrical, and structural conditions.

3. AZPE will transcribe the existing architectural, mechanical and electrical drawings to electronic documents including any revisions to the area discovered by the site verification phase.

4. AZPE will provide a site plan showing the general area of construction.

5. Original drawings and specifications in electronic PDF format will be issued as the evidence of the completed design.

6. AZPE will attend one Pre-Bid Meeting via Teleconference.

7. AZPE will coordinate with the Client or the Contractor on any clarification of the mechanical and electrical plans or specifications during construction.

8. AZPE will review shop drawings for the new mechanical and electrical equipment solely for conformance with the Engineer's design intent and instruments of service.

9. AZPE will visit the project upon the request of the Client during construction of the mechanical and electrical systems to become generally familiar with the progress and quality of the Contractors' work and to determine if the work is proceeding in general conformance with the Contract Documents.

10. Upon completion of construction, AZPE will prepare a set of Mechanical and Electrical Record Documents conforming to the marked-up prints, drawings, and other data furnished to the Engineer by the Contractor. The Record Documents will show the reported location of the work and significant changes made during construction. AZPE will submit the Record Documents in hard copy and electronic media.

11. AZPE will exercise due and reasonable diligence to complete the services described herein within a mutually agreed upon time frame. If AZPE discerns that the schedule will not be met for any reason, the Client will be notified as soon as practically possible.

<u>Heating, Ventilating and Air Conditioning (HVAC)</u>

1. AZPE will prepare heating and cooling load calculations in accordance with ASHRAE methodology.

2. AZPE will prepare ventilation calculations in accordance with local code requirements.

3. AZPE will design and specify a new sealed combustion type unit heater for this project.

4. AZPE will design and specify revisions to the existing ductwork and flue vent piping as required to install the new unit heater.

5. AZPE will coordinate the design features of the HVAC system with other A/E disciplines.

Plumbing

1. AZPE will design and specify modifications to the existing gas piping as required to install the new unit heater.

2. AZPE will coordinate the design features of the plumbing system with the other Engineering disciplines.

Electrical

1. AZPE will prepare electrical load calculations in accordance with NEC requirements.

2. AZPE will design and specify branch circuits to all new mechanical equipment. Note: The new electrical design will be based on the assumption that the existing electrical distribution will accommodate this new equipment.

3. AZPE will coordinate the design features of the electrical systems with other Engineering disciplines.

Structural

1. AZPE and its Structural Consultant will prepare structural calculations to determine if the existing structure can accommodate the new unit heater. The Structural Consultant will provide a letter documenting the capacity of the existing structure. If structural improvements are required, then the structural design will be an additional service.

2. AZPE and its Structural Consultant will coordinate the design features of the structural systems with other A/E disciplines.

EXCLUSIONS

The following items shall be excluded from AZPE's Scope of Basic Engineering Services:

1. Printing or reproduction costs for plan review or bid documents.

2. Cost of obtaining any permits.

3. Cost of hiring a locator service to determine the location of existing concealed utilities.

4. Detailed comparisons of various mechanical, electrical, or structural systems or special components.

5. Preparation of short circuit, arc flash analysis and protective device coordination study.

6. 3D or 4D building information modeling (BIM) of the mechanical or electrical systems.

7. Commissioning of the project whereby AZPE conducts detailed tests to verify the proper operation of the various mechanical and electrical systems and components. This is normally the responsibility of the installing contractor(s), but can be verified by AZPE.

CLIENT RESPONSIBILITIES

The Client shall be responsible for the following items:

1. Provide access to the project area during normal business hours and a ladder, as required.

2. Furnish existing mechanical, electrical, and structural plans for coordination purposes.

3. At project completion, provide the Engineer with one set of final plans and specifications.

ENGINEERING FEES

Task	Fees
Verification of Existing	$800.00
Construction Documents	$1,500.00
Allowance for Structural Verification of Existing	$1,000.00
Pre-Bid Meeting	$150.00
Shop Drawing Review	$100.00
Substantial Competition Site Observations*	$800.00
Final Punch**	$800.00
M, E, & S Record Documents	$100.00
TOTAL	**$5,250.00**

*Includes up to one (1) mechanical man-trip as a substantial completion.
**Includes up to one (1) mechanical man-trip as a final punch.

Any additional construction observations will be performed on a man-trip basis for a fee of **$800.00** per man-trip including travel time, report writing, and follow-up.

Certain costs shall be considered "reimbursable costs", namely, multiple copies of documents for review, bidding, or construction; and Client-requested express courier charges. Fees and permits for measuring static pressure at nearby water mains shall also be considered as reimbursable costs. Reimbursable costs will be billed to the Client at our cost.

AZPE will provide one set of reproducible documents in electronic PDF format for Owner/Client review upon the completion of major milestones, e.g., at the 60% and 100% submittal phases. Additional sets of plots of large format drawings will be billed at $4.00 per plot.

We will bill monthly based on percentage of work completed. We reserve the right to charge 1.5% per month interest on any unpaid balance after 30 days of invoice date.

ADDITIONAL SERVICES

If during the performance of the work you require that Arizona Pinnacle Engineering, LLC, provide services that are not included in our Scope of Basic Engineering Services, we will initiate an Additional Services Letter that will require your signature prior to completing such "Additional Services". Additional Services are available on an hourly or lump sum fee basis, depending on task. We are enclosing our Hourly Billing Rate Schedule for your reference.

Review of Contractor-prepared shop drawings that depict a design scheme significantly different than that shown on the Contract Documents can be performed on an hourly fee basis, as an additional service.

Additional Services during construction include items such as substitution of materials due to delivery schedules after shop drawing approval, working out any solutions or alterations to Contractor-generated problems, working out any conflicts due to lack of coordination by the General Contractor or Subcontractors, or any Owner/Architectural-generated changes. This includes letters, phone calls, investigations, etc., caused by the above. If the time spent by us is a result of our own errors or omissions, it is understood such time will not be billable.

LIMITS OF RESPONSIBILITY

The services to be performed by the Engineer under this Agreement are intended solely for the benefit of the Client. Nothing contained herein shall confer any rights upon or create any duties on the part of the Engineer toward any person or persons not a party to this Agreement including, but not limited to any consultant, sub-consultant, or the agents, officers, employees, insurers, or sureties of any of them.

The Client and the Engineer waive all rights for damages, each against the other and against the sub-consultants, agents, and employees of the other, but only to the extent covered by property insurance during or after the performance of the work described herein except such rights as they may have to the proceeds of such insurance.

ESTIMATE OF PROBABLE CONSTRUCTION COST

ARIZONA PINNACLE ENGINEERING
2222 WEST PINNACLE PEAK ROAD, SUITE 290
PHOENIX, AZ 85027

ESTIMATE OF PROBABLE CONSTRUCTION COST				ESTIMATE: 100%	
PROJECT NAME: NIKOLAUS HOMESTEAD ELEMENTARY UNIT HEATER REPLACEMENT				AZPE JOB NO: 15058	
DESCRIPTION: **MECHANICAL/ELECTRICAL SYSTEMS**		PREP. BY : R HILLIS		DATE: 07/07/15	
ITEM NO.	DESCRIPTION	EST. QTY.	UNIT	UNIT COST*	TOTAL COST*
1	DEMO - UNIT HEATER	1	EA	$500.00 /EA.	$500.00
2	DEMO - DUCT, GRILLE, PIPING, ETC	1	LOT	$500.00 /LOT	$500.00
3	93 MBH BLOWER HEATER	1	EA	$3,000.00 /EA.	$3,000.00
4	GRILLES	2	EA	$50.00 /EA.	$100.00
5	DUCTORK	200	LBS	$26.00 /LB	$5,200.00
6	DUCT LINER	120	SF	$8.30 /SF	$996.00
7	GAS PIPING	1	LOT	$200.00 /LOT	$200.00
8	4" DIAMETER FLUE	1	LOT	$200.00 /LOT	$200.00
9	10" DIAMETER FLEX DUCT	6	FT	$10.00 /FT	$60.00
10	MOTORIZED DAMPER	1	EA	$200.00 /EA.	$200.00
11	CO2 CONTROLS, WIRING, CONDUIT	1	LOT	$1,500.00 /LOT	$1,500.00
12	STRUCTURAL UPGRADES	1	LOT	$1,200.00 /LOT	$1,200.00
13	ELECTRICAL DEMOLITION	1	LOT	$300.00 /LOT	$300.00
14	ELECTRICAL DISC/WIRING/ETC	1	LOT	$2,000.00 /LOT	$2,000.00
SUBTOTAL					$15,956.00
CONTINGENCY WITH OUT OF TOWN PREMIUM				25%	$3,989.00
TOTAL PROBABLE COST					**$19,945.00**

* INCLUDING SUBCONTRACTOR'S OVERHEAD & PROFIT

QUOTE

EMC ²
9830 SOUTH 51st STREET, STE. B-109 / PHOENIX, ARIZONA 85044
T: (480) 940-5294 / F: (480) 893-1726 / E-mail: Howard@EMC-AZ.com

---

Date: July 13, 2015

Client(s): Show Low Unified School District #10
500 West Old Linden Road, Show Low, Arizona 85901

Attention: Ralph Smith, Facilities Director
Telephone: 928.537.6814; Facsimile: 928.537.6049;
Mobile: 928.242.4235; E-Mail: RCSmith@show-low.k12.az.us

Subject: Nickolaus Homestaed School
Environmental Services, State Contract # ADSPO 12-033357

Dear Ralph,

EMC² is pleased to provide you with the following fee structure for the Asbestos Oversight & air monitoring requested at the above facility.

1. Nickolaus Homestaed - HVAC Duct:

* Cost based on Four (4) shifts + Mobilization

1.	PP III - Administration: 8.0 hours @ $55.00 per hour	$	440.00
2.	FS III - Project Manager: 12.0 hours @ $50.00 per hour	$	600.00
3.	FS II - Technician: 40 hours @ $45.00 per hour	$	1,800.00
4.	Asbestos Samples: 30 samples @ $9.00 per sample	$	270.00
5.	SS III - Secretarial: 8 hours @ $35.00 per hour	$	280.00
	Estimated Project Cost - Items 1 - 5	**$**	**3,390.00**

* Additional Days including air samples: $ 600.00 per day

If you have any questions, please contact me at (480) 940-5294 or by Mobile at (480) 580-9610.

Sincerely

Howard Lange

Howard Lange

Agreement
Between Contractor and Owner/Client

Sagebrush Restoration, LLC
2845 S 46th Street
Phoenix, AZ 85040
Office (602) 689-4907
Fax (602) 296-5921

Bid No: JC15-211

THIS AGREEMENT, entered into on Tuesday, July 07, 2015 by and between Sagebrush Restoration, LLC ("Sagebrush") and:

Client Information:
Show Low Unified School District
500 W Old Linden Rd.
Show Low AZ 85901

Project is identified as: Nikolaus Homestead Unit Heater Project
Project Location: 761 E McNeil Show Low, AZ 85901

THE PARTIES AGREE TO THE FOLLOWING:

1. Sagebrush agrees to the scope of work as noted below:

   Sagebrush will provide an EPA AHERA 40hr certified Competent Person and 2 man crew for up to 4 consecutive 8 hour shifts. Sagebrush will install a Negative Pressure Enclosure (NPE) to remove Asbestos Containing Materials (ACM) above the ceiling and drywall in room110 for new return grille. Asbestos Containing Materials will be handled following the CFR OSHA 1926.1101 Class II work. Sagebrush cannot remove materials above NESHAP threshold quantities without a 10 day NESHAP permit in place.

   New register opening in room 110 will be framed to include new header. Drywall will be replaced in boys restroom were return grille is removed from wall with new texture to match existing.

   This project is based on one (1) mobilization and 4 consecutive days, each additional shift will be billed at $1875.00

PRICE Not to Exceed: $7,500.00

It is the responsibility of the owner to contract with a Third Party Industrial Hygienist for any inspections, air monitoring and/or clearance sampling.

2. Price includes: Labor, materials, equipment and personal protection equipment in order to perform the above mentioned scope of work in a safe and efficient manner. The estimated time frame will be 4 consecutive day(s). This job will be performed Monday through Friday during the hours necessary to meet your schedule.

   NOTES:
   A. Compliance of all AHERA, EPA and OSHA Regulations.
   B. Per occurrence $5 million A+X rated insurance.
   C. Arizona Contractors License – ROC 274599
   D. Power and water provided by Owner.

3. In the event negative pressure containment is required, some paint and/or damage may occur, Sagebrush will not be held responsible for these damages. However, if Sagebrush is contracted to repair the affected area, it will be returned to pre-loss or pre-remediation condition.

4. Within 24 hours of project commencement, Owner/Consultant/Owner's Representative will identify in writing any property damage associated with project setup. Within 48 hours of project completion, Owner/Consultant/Owner's Representative will identify in writing any property damage associated with project completion. Sagebrush will not be responsible for any damages identified beyond that 48-hour time period. Consultant/Owner's Representative will be identified prior to commencement of project.

5. If post abatement monitoring is required, it will be performed by third party industrial hygienist contracted by the Owner. Sagebrush is only responsible for passing clearance protocols within the above identified contained work areas. Clearance protocol for asbestos abatement will be based on Phased Contract Microscopy (PCM) sampling technique. When PCM results are less than **.01 f/cc**, then the post abatement clearance criteria has been meet. If Transmission Electron Microscopy (TEM) is required then clearance criteria will be less than **70 s/mm2**

6. The Owner agrees to pay Sagebrush the contract sum, based upon invoices for payment submitted by Sagebrush. **The owner shall make payments payable net 10 days**.

7. Invoices are due net 10 days from invoice date. Interest shall accrue on past due invoices at 1.5% per month no greater than 18% annually on all unpaid invoices.

8. Any alterations or deviations from the specified scope of work will be completed upon written consent from authorized personnel. This proposal shall become part of the contract document and by signing, you agree to all conditions listed within.

9. Bid price is good for 60 calendar days, at which time Owner and Sagebrush can confer with one another on current market price.

**** Due to health concerns and safety hazards related to the above project, NO ONE is permitted into a posted regulated work area unless they have permission from Sagebrush. Should unauthorized entry be made, Sagebrush is not liable for interference and failure to complete clearance testing standards.**

[Signature required on page 3]

Note: Closeout Documents will only be provided upon written request from client within 30 days of project completion.

Jeff Cromer

_____

Submitted by: Jeff Cromer
Owner Member

_____

Accepted by:

Name Printed: _____

Title: _____

Date: _____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Snowflake Unified 009BRG
Background – Snowflake Unified (Snowflake JHS – roof replacement)
On April 1, 2015, the Board awarded Snowflake Unified $29,950 for professional services and hazardous material survey to provide an evaluation and construction bid documents to repair/replace the roofs on Buildings 1002 and 1007 at Snowflake Junior High School (project number 090205003-9999-009BRG).

Staff agrees with the design documents which are ready for bid. The existing roofs are coated foam roofs that have failed and are scheduled to be replaced with single ply roofs due to the design of the existing roof and roof structure. The existing roof structure does not meet the 30 lb. snow load required by current design loads. The decking has some failed areas that need to be replaced.

Previous Award 4/1/2015	
Design and Construction Administration	$14,950
Asbestos Survey	$15,000
Total: $29,950	

Supplemental funding requested:	
Estimated Construction Cost	$214,000
Contingency	$25,000
Asbestos Oversight (estimated)	$15,000
Asbestos Remediation	$39,982
Total supplemental funding requested:	$293,982

Total project cost	$323,932

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Snowflake Unified (Snowflake JHS – roof replacement)
Staff recommends that Snowflake Unified be awarded an additional $293,982 in Building Renewal Grant funding for the roof replacement and repair on Buildings 1002 and 1007 at Snowflake Junior High School (project number 090205003-9999-009BRG). This includes $25,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $323,932.

Board Action Requested:
Board approval of the staff recommendation that **Snowflake Unified** be awarded an additional $293,982 in Building Renewal Grant funding for the roof replacement and repair on Buildings 1002 and 1007 at Snowflake Junior High School (project number 090205003-9999-009BRG). This includes $25,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $323,932.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Snowflake_USD_009BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Snowflake_Jr_High_Final_Asbestos_Report.pdf	Asbestos Report	7/24/2015	Cover Memo
REV_1_Snowflake_JH_ACM_Roof_Removal_Proposal_FL.pdf	Asbestos Abatement Proposal	7/24/2015	Cover Memo
Scope_of_Work__Snowflake_Junior_High.pdf	Roof Consultants Report	7/24/2015	Cover Memo
Snowflake_-_Snowflake_Junior_High_7-24-15_Budget_(2).pdf	Construction Budget	7/24/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Snowflake Unified**
BRG Project Number: **090205003-9999-009BRG** Navajo County
Project Description: **Roof replacement**
Architect of Record: WRECORP (623-878-7117)
Contractor: TBD

Board approval: 4/1/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ -**
Contingency ①		**$ -**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 14,950
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 15,000
Testing & Inspection		$ -
Total Additional Cost:		**$ 29,950**
Total SFB Funded Project Cost:		**$ 29,950**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 29,950**
Total Project Cost:		**$ 29,950**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

May 19, 2015

Snowflake Junior High School
Mr. Mark Ollerton
Mr. Darren Perkins
682 School Bus Lane
Snowflake, Arizona 85937

RE: Limited Asbestos Survey
Snowflake Junior High School
682 School Bus Lane
Snowflake, Arizona 85937

Dear Gentlemen:

In accordance with your authorization to proceed; Ever Green Environmental, LLC has conducted a limited asbestos survey of the gymnasium and wood shop roofs located at the above referenced address in Snowflake, Arizona. This letter report includes summaries of our activities, findings, and recommendations.

PROJECT BACKGROUND

Ever Green Environmental, LLC (EGE) was retained by Snowflake Junior High School (SJH) to conduct a limited asbestos survey on the property described above. The survey was conducted in order to identify certain suspect asbestos containing building materials scheduled to be impacted by new roof installation.

PO Box 3209 Overgaard, Arizona 85339

(928) 468-3900

ACTIVITIES

On May 13, 2015, Dale Naramore, an Environmental Protection Agency (EPA) and Asbestos Hazard Emergency Response Act (AHERA) Certified Building Inspector with EGE, collected fifteen (15) bulk samples of suspect ACM building materials.

The collected samples were labeled with identification numbers, documented on chain-of custody forms, and submitted via chain of custody protocol to EMC Labs, Inc. (EMC) of Phoenix, Arizona for analysis. EMC is approved by the Arizona Department of Health Services pursuant to Arizona Revised Statute (A.R.S.) § 36-495.02 (5) to perform airborne and bulk asbestos fiber analysis (ADHS No. AZ0912). In addition, EMC is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP No. 101926-0) for bulk asbestos fiber analysis. Sample analysis was conducted via Polarized Light Microscopy (PLM) in general accordance with EPA Method 600/R-93/116. The analytical laboratory reports are attached to this letter report.

Asbestos Sampling • Mold Inspections • Lead-Based Paint Sampling • Post-Remediation Sampling
PO Box 3209 Overgaard, Arizona 85933
(928) 468-3900

Snowflake Junior High School
682 School Bus Lane
Snowflake, Arizona
May 19, 2015

FINDINGS

According to federal regulations, any material containing greater than one percent (1%) asbestos as determined by PLM is considered asbestos-containing material (ACM) and subject to abatement procedures. A summary of the samples collected by EGE is presented in the following table and materials identified by lab analysis to contain greater than 1% (0.01) asbestos by PLM analysis are highlighted in bold:

Sample No.	Sample Description	Location	Approximate Quantity (SF/LF/EA/NM)	Friable Y/N	Asbestos Content
1-A 1-B **1-C**	Roofing System	Gymnasium Roof	>5,000 SF	N	**Silver Roof Paint 4% Chrysotile**
2-A 2-B 2-C	Roof Patches	Gymnasium Roof	<30 SF	N	ND
3-A 3-B **3-C**	Roofing System	Wood Shop Roof/ Building C	750 SF	N	**Silver Roof Paint 4%-5% Chrysotile**

CONCLUSIONS AND RECOMMENDATIONS

Based on the laboratory results using standard PLM analysis of the sampling conducted on May 13, 2015, the following materials sampled by EGE were identified as containing asbestos at levels greater than 1%.

- ***Gymnasium Roof, Silver Roof Paint 4% Chrysotile***
- ***Wood Shop Roof, Silver Roof Paint 4%-5% Chrysotile***

None of the remaining materials sampled by EGE contained asbestos above laboratory detection limits. If additional suspect building materials are discovered during renovation/demolition activities,

the materials should be sampled and analyzed for asbestos content prior to disturbance or should be assumed Asbestos Containing Material (ACM) and handled as such.

The samples identified above as ACBM in the above referenced property may be sent for further analytical review using PLM Point Count analysis or TEM analysis which may reduce the percentage of asbestos found within the sample. However it is our experience that once the asbestos percentage reaches 4%-5% the odds are against obtaining 1% or less, the EPA regulatory requirement.

LIMITATIONS

Ever Green Environmental's conclusions and recommendations, as presented in this report, are based on our sampling and analysis. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated.

The quantities in the tables of the report are estimates only and should not be relied upon for bidding estimates. Contractors should verify the quantities prior to bidding any abatement project. The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No other warranty, expressed or implied, is made regarding the professional conclusions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities.

Snowflake Junior High School
682 School Bus Lane
Snowflake, Arizona
May 19, 2015

Ever Green Environmental appreciates the opportunity to provide environmental consulting services to Snowflake Junior High School and looks forward to working on future projects.

Please contact us at (928) 468-3900 or my cell (602) 578-2188 if you have any questions pertaining to this report.

Sincerely,

Ever Green Environmental, LLC

Dale Naramore B.S., J.D.
AHERA Building Inspector #10051-493910-140229

Appendices: Appendix A – Personnel Certification
Appendix B – Laboratory Report and Chain-of-Custody
Appendix C – Photographs

Distribution: (1) Addressee

PO Box 3209 Overgaard, Arizona 85933

(928) 468-3900

APPENDIX - A
CERTIFICATION

PO Box 3209 Overgaard, Arizona 85933

(928) 468-3900

Ever Green Environmental, LLC

Snowflake Junior High School
682 School Bus Lane
Snowflake, Arizona
May 19, 2015

10051-493910-140229

THE ASBESTOS INSTITUTE

Certifies that ARTHUR NARAMORE

has attended the EPA approved course

Building Inspector Refresher

and successfully passed and completed
the competency exam.

This training meets all requirements for asbestos
accreditation under TSCA Title II.

THE ASBESTOS INSTITUTE
arizona - california - nevada
EST. 1988

Issue Date : 06-May 2015

Expiration Date : 05-May 2016

Approved Instructor

20033 N. 19th Avenue, Building 6, Phoenix, AZ 85027
602 -8 64 - 6564 - www.theasbestosinstitute.com

APPENDIX - B

LABORATORY REPORT AND CHAIN-OF-CUSTODY

PO Box 3209 Overgaard, Arizona 85339

(928) 468-3900

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0155273

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0155273-001 1A	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Sealant, Off White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant/Paint, Silver/Tan Note: Difficult to separate adjacent layers	No	None Detected	Gypsum Quartz Binder/Filler	100%
		LAYER 4 Roof Foam, Yellow	No	None Detected	Foam Binder/Filler	100%
		Please see EMC Labs Sample Number 0155273-010 for Additional Layers				
0155273-002 1B	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Sealant, White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant, White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 4 Roof Foam, Lt. Yellow	No	None Detected	Foam Binder/Filler	100%
		Please see EMC Labs Sample Number 0155273-011 for Additional Layers				

EMC LABS, INC.

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Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0155273

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0155273-003 1C	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Sealant, White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant, Off White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 4 Roof Foam, Yellow	No	None Detected	Foam Binder/Filler	100%
		Please see EMC Labs Sample Number 0155273-012 for Additional Asbestos Containing Layers				
0155273-004 2A	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Patch, White/ Yellow	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant, Off White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 4 Roof Foam, Yellow	No	None Detected	Foam Binder/Filler	100%
		Please see EMC Labs Sample Number 0155273-013 for Additional Layers				

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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0155273-005 2B	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Patch, White/ Yellow	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant, Off White	No	None Detected	Carbonates Quartz Binder/Filler	100%
		LAYER 4 Roof Membrane, Off White/ Gray	No	None Detected	Carbonates Quartz Binder/Filler	100%
0155273-006 2C	GYMNASIUM/LOCKER ROOMS ROOF	LAYER 1 Roof Patch, White/Yellow	No	None Detected	Fibrous Glass	<1%
					Carbonates Quartz Binder/Filler	99%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected	Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Membrane, Off White/ Gray	No	None Detected	Synthetic Fiber	15%
					Carbonates Quartz Binder/Filler	85%
		LAYER 4 Roof Tar, Black	No	None Detected	Cellulose Fiber	5%
					Carbonates Quartz Binder/Filler	95%

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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0155273-007 3A	BLDG C WOOD SHOP ROOF	LAYER 1 Roof Sealant, Off White	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected		Foam Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant/Paint, Silver/Tan Note: Difficult to separate adjacent layers	No	None Detected		Gypsum Quartz Binder/Filler	100%
		LAYER 4 Roof Paint, Silver	Yes	Chrysotile	5%	Cellulose Fiber Carbonates Gypsum Quartz Binder/Filler	1% 94%
		Please see EMC Labs Sample Number 0155273-014 for Additional Layers					
0155273-008 3B	BLDG C WOOD SHOP ROOF	LAYER 1 Roof Sealant, Off White	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected		Foam Gypsum Binder/Filler	100%

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Laboratory Report
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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0155273-009 3C	BLDG C WOOD SHOP ROOF	LAYER 1 Roof Sealant, Off White	No	None Detected		Carbonates Quartz Binder/Filler	100%
		LAYER 2 Roof Foam, Lt. Yellow	No	None Detected		Foam Carbonates Gypsum Binder/Filler	100%
		LAYER 3 Roof Sealant/Paint, Silver/Tan Note: Difficult to separate adjacent layers	Yes	Chrysotile	4%	Cellulose Fiber Carbonates Gypsum Quartz Binder/Filler	2% 94%
		LAYER 4 Roof Foam, Yellow	No	None Detected		Foam Gypsum Binder/Filler	100%
		Please see EMC Labs Sample Number 0155273-015 for Additional Layers					
0155273-010 1A	GYMNASIUM/LOCKER ROOMS ROOF - ADDITIONAL LAYERS	LAYER 1 Roof Sealant, Off White	No	None Detected		Cellulose Fiber Carbonates Quartz Binder/Filler	<1% 99%
		LAYER 2 Roof Tar, Black	No	None Detected		Cellulose Fiber Gypsum Quartz Binder/Filler	5% 95%

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Laboratory Report
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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type	(%)	Non-Asbestos Constituents	
0155273-011 1B	GYMNASIUM/LOCKER ROOMS ROOF - ADDITIONAL LAYERS	Roof Tar, Black	No	None Detected		Cellulose Fiber	3%
						Carbonates Quartz Gypsum	97%
0155273-012 1C	GYMNASIUM/LOCKER ROOMS ROOF - ADDITIONAL LAYERS	LAYER 1 Roof Paint, Silver	Yes	Chrysotile	4%	Fibrous Glass Cellulose Fiber	5% 1%
						Carbonates Quartz Binder/Filler	90%
		LAYER 2 Roof Tar, Black	No	None Detected		Cellulose Fiber Synthetic Fiber	15% 5%
						Carbonates Gypsum Quartz Binder/Filler	80%
0155273-013 2A	GYMNASIUM/LOCKER ROOMS ROOF - ADDITIONAL LAYERS	LAYER 1 Roof Membrane, Off White/ Gray	No	None Detected		Synthetic Fiber	20%
						Carbonates Quartz Binder/Filler	80%
		LAYER 2 Roof Tar, Black	No	None Detected		Cellulose Fiber	15%
						Carbonates Quartz Binder/Filler	85%

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Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
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Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	EVER GREEN ENVIRONMENTAL	Job# / P.O. #:	
Address:	P.O. BOX 3209	Date Received:	05/15/2015
	OVERGAARD AZ 85933	Date Analyzed:	05/18/2015
Collected:	05/13/2015	Date Reported:	05/18/2015
Project Name:	SNOWFLAKE JR HIGH SCHOOL	EPA Method:	EPA 600/R-93/116
Address:	380 S. MAIN, SNOWFLAKE, AZ 85937	Submitted By:	DALE NARAMORE
		Collected By:	

Lab ID / Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents	
0155273-014 3A	BLDG C WOOD SHOP ROOF - ADDITIONAL LAYERS	LAYER 1 Roof Tar, Black	No	None Detected	Cellulose Fiber	20%
					Carbonates	
					Gypsum	
					Quartz	
					Binder/Filler	80%
		LAYER 2 Roof Paper, Black	No	None Detected	Cellulose Fiber	95%
					Gypsum	
					Binder/Filler	5%
0155273-015 3C	BLDG C WOOD SHOP ROOF - ADDITIONAL LAYERS	LAYER 1 Roof Sealant, Off White	No	None Detected		
					Carbonates	
					Quartz	
					Binder/Filler	100%
		LAYER 2 Roof Insulation, Gray	No	None Detected		
					Gypsum	
					Quartz	
					Carbonates	
					Binder/Filler	100%

Analyst - Kurt Kettler

Signatory - Lab Manager - Ken Scheske

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicated or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials.

Ever Green Environmental, LLC

Snowflake Junior High School
682 School Bus Lane
Snowflake, Arizona
May 19, 2015

Page 1 of 1

CHAIN OF CUSTODY

EMC Labs, Inc.
9830 S. 51st St., Ste B-109
Phoenix, AZ 85044
(800) 362-3373 Fax (480) 893-1726

LAB#: 155273
TAT:
Rec'd: MAY 15 A.M.
EMC USE ONLY

COMPANY NAME: EVER GREEN ENVIRONMENTAL
P.O. Box 3209
Overgaard, AZ 85933
CONTACT: Dale Naramore
Phone/Fax: (602) 578-2188
Email: dale@evergreenenviroaz.com / penni@evergreenenviroaz.com

BILL TO: (If Different Location)

Now Accepting: VISA – MASTERCARD Price Quoted: $_____ / Sample $____ / Layers

COMPLETE ITEMS 1-4: (Failure to complete any items may cause a delay in processing or analyzing your samples)

1. **TURNAROUND TIME:** [4hr rush] [8hr rush] (1-Day) [2-Day] [3-Day] [5-Day] [6-10 Day]
****Prior confirmation of turnaround time is required
****Additional charges for rush analysis (please call marketing department for pricing details)
****Laboratory analysis may be subject to delay if credit terms are not met
2. **TYPE OF ANALYSIS:** (Bulk-PLM) [Air-PCM] [Lead] [Point Count] [Fungi: AOC, W-C, Bulk, Swab, Tape]
3. **DISPOSAL INSTRUCTIONS:** [Dispose of samples at EMC] / [Return samples to me at my expense]
(If you do not indicate preference, EMC will dispose of samples 60 days from analysis.)

4. **Project Name:** Snowflake Jr. High School / 1380 S. Main, Snowflake, Az 85937
P.O. Number: _____ **Project Number:** _____

EMC SAMPLE #	CLIENT SAMPLE #	DATE & TIME SAMPLED	LOCATION/MATERIAL TYPE	Samples Accepted Yes / No	AIR SAMPLE INFO / COMMENTS ON	OFF	FLOW RATE
1-3	1-A, B, C		Gymnasium/Locker Rms Roof System	(Y) N	> 5000	5g	ft.
				Y N			
				Y N			
4-5-6	2-A, B, C		Gym/Locker Rms Roof Patches	(Y) N	< 30	5g	ft.
				Y N			
				Y N			
7-8-9	3-A, B, C		Building C - Wood Shop Roof System	(Y) N	≈ 750	5g	ft.
10	1A		ADDITIONAL LAYERS	Y N			
11	1B			(Y) N			
12	1C			(Y) N			
13	2A			(Y) N			
14	3A			(Y) N			
15	3C			(Y) N			
* Heavy Moisture Detected under Gym Roof				Y N			
				Y N			

SPECIAL INSTRUCTIONS: _____
Sample Collector: (print) DALE NARAMORE (Signature) _____
Relinquished by: _____ Date/Time: 5-18-15 Received by: Diana Federico Date/Time: 5/15/15
Relinquished by: Diana Federico Date/Time: 5/15/15 Received by: _____ Date/Time: 5/15/15
Relinquished by: _____ Date/Time _____ Received by: _____ Date/Time: _____

** In the event of any dispute between the above parties for these services or otherwise, parties agree that jurisdiction and venue will be in Phoenix, Arizona and prevailing party will be entitled to attorney's fees and court costs.

ation Sampling
PO Box 3209 Overgaard, Arizona 85933
(928) 468-3900

APPENDIX - C

PHOTOGRAPHS

Asbestos Sampling • Mold Inspections • Lead-Based Paint Sampling • Post-Remediation Sampling

PO Box 3209 Overgaard, Arizona 85933

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Front Elevation



Side Elevation



Gymnasium/Locker Room Roofing System



Gymnasium/Locker Room Roofing System View 2



Gymnasium Roofing System



Gymnasium Roofing System View 2



Roofing System Sampling



Roofing System Sampling

Asbestos Sampling • Mold Inspections • Lead-Based Paint Sampling • Post-Remediation Sampling

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Roofing System Sampling



Roofing System Sampling



Roof Patching Sampling



Roof Sampling

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Roof System Sampling



Roof Spacing Material: Sampled



Roof Spacing Material View 2

Asbestos Sampling • Mold Inspections • Lead-Based Paint Sampling • Post-Remediation Sampling

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Wood Shop Roofing System Sampling



Wood Shop Roofing System Sampling View 2



Wood Shop Roofing System Sampling



Wood Shop, Building C

PO Box 3209 Overgaard, Arizona 85933

(928) 468-3900



Wood Shop Roofing System

PO Box 3209 Overgaard, Arizona 85933

(928) 468-3900

BID/PROPOSAL AND AGREEMENT

Comprehensive Risk Services, LLC ("CRS") (333 East Osborn Road, #300, Phoenix, Arizona 85012; (855) 665-3345) submits this proposal to Snowflake Junior High School - Darren Perkins ("Client") for the work described below. If Client accepts the proposal, then the parties' agreement consists of the terms and conditions that follow.

Proposal

A. CRS is a licensed contractor (AZ ROC 275441; CO GAC 17012) that provides environmental safety services.

B. Client has requested a proposal (or bid) from CRS to provide services for Client's project ("Project") described in the scope of work attached as **Exhibit** 1 ("Work") and incorporated into this proposal.

C. Subject to the terms and conditions in this Bid Proposal and Agreement ("Agreement"), CRS proposes to perform the Work for $ 39,982.00 (for removal of 21,254 s.f. of roofing) ("Bid Price"). The Bid Price includes labor, applicable taxes, and materials. Additional charges not in the Bid Price may be in the Agreement.

D. The Bid Price is subject to the following terms and conditions.

1. CRS shall perform the Work in compliance with applicable EPA and OSHA laws and regulations.
2. CRS shall properly dispose of all Project waste at approved sites in accordance with applicable laws and regulations.
3. Client shall pay for all permits required for the Work.
4. Client or other contractors shall perform all air clearance.
5. Client shall provide all utilities required by CRS to perform the Work.
6. Client shall place commercial waste bins as close as reasonably possible to Project demolition areas.
7. Client shall weatherproof Client's buildings and other property during the Work, and Client shall prepare all completed Work for installation of new building materials.
8. Costs related to substrate conditions unknown or undisclosed to CRS are not included in the Bid Price.
9. Costs related to multiple layers of flooring that are unknown or undisclosed to CRS are not included in the Bid Price. Client shall pay all costs to remove multiple layers of flooring at CRS's standard rates.
10. This proposal expires on 09/30/2015.

Agreement

Client accepts CRS's Proposal. Now, therefore, in consideration of the Proposal and the mutual covenants that follow, CRS and Client agree as follows.

1. The Work. CRS shall perform the Work (described in Exhibit 1) in accordance with applicable industry standards and in conformance with applicable laws and regulations.

2. Payment. Client shall pay the Contract Price (the Bid Price accepted by Client as adjusted by change order, if any) in monthly installments invoiced to Client. Client shall pay each installment within 30 days of the invoice's date. If Client fails to pay any invoice within 30 days, Client shall pay CRS interest on the delinquent balance at the rate of 1.5% per month (or part of a month) until the balance due is paid in full.

see attached bid time frame.

3. Schedule. CRS shall perform the Work in accordance with the Project Schedule ~~attached as Exhibit 2.~~ The Project Schedule may depict dates by which Client must perform certain tasks, and Client shall perform those tasks by the dates indicated. If CRS is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control (such as force majeure), Client shall reasonably extend all related Project Schedule deadlines, including the deadline to substantially complete the Work.

4. Access. Client shall provide reasonable access to the Project site, including access to buildings and other improvements, as necessary to enable CRS to perform the Work. By signing this Agreement, Client authorizes CRS to proceed with the Work and grants CRS access to the site.

5. Indemnity. Client shall defend, indemnify, and hold harmless CRS, its affiliated companies, and all of their respective owners, directors, officers, employees, and agents (collectively "CRS Indemnitees") for, from, and against all claims, liabilities, losses, demands, penalties, forfeitures, suits, damages, judgments, costs and expenses, including attorneys' fees and expert witness fees (collectively

"Claims"), arising out of or relating to: (1) Client's negligent or intentional misconduct; and (2) fire, wind, water, or rain after fireproofing or other insulation has been removed. Notwithstanding the foregoing, Client shall not defend, indemnify, and hold harmless the CRS Indemnitees for Claims caused by CRS's negligence or intentional misconduct. CRS shall defend, indemnify, and hold harmless Client, its affiliated companies, and all of their respective owners, directors, officers, employees, and agents (collectively "Client Indemnitees") for, from, and against any and all Claims arising out of or relating to CRS's negligence or intentional misconduct in performing the Work. Notwithstanding the foregoing, CRS shall not defend, indemnify, and hold harmless the Client Indemnitees for Claims caused by Client's negligence or intentional misconduct.

6. **Limited Warranty.** CRS warrants to Client (and only to Client) that the Work performed by CRS, when completed, will conform to industry standards and laws and regulations applicable to the Work. For a period of six months after substantial completion of the Work, CRS at its own expense shall repair or remediate any defect in the Work. This is Client's exclusive remedy for breach of this limited warranty. **THE LIMITED WARRANTY IN THIS SECTION IS PROVIDED IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. CRS DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF THE WORK'S MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. IF ANY IMPLIED WARRANTIES OTHERWISE APPLY, THEY ARE LIMITED IN DURATION TO THE WARRANTY PERIOD SPECIFIED IN THIS SECTION (SIX MONTHS).** Client shall immediately notify CRS in writing of any alleged defect in the Work. But CRS is not liable for defects in the Work (including latent defects) for which Client does not notify CRS within six months of substantial completion of the Work.

7. **Limitation of Liability.** CRS'S TOTAL LIABILITY TO CLIENT UNDER THIS AGREEMENT AND FOR THE WORK IS LIMITED TO DIRECT DAMAGES NOT EXCEEDING THE CONTRACT PRICE. CRS IS NOT LIABLE TO CLIENT FOR CONSEQUENTIAL DAMAGES UNDER THIS AGREEMENT OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE WORK, WHETHER CLIENT ALLEGES LIABILITY (FOR CONSEQUENTIAL DAMAGES) IN CONTRACT, TORT, STRICT LIABILITY, WARRANTY, OR OTHERWISE. CRS IS NOT LIABLE TO CLIENT FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY, OR PENAL LOSS OR DAMAGE OF ANY NATURE WHATSOEVER (INCLUDING WITHOUT LIMITATION LOSS OF PROFITS OR LOSS OF USE), EVEN IF CRS WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE. Client may not bring any action arising out of this Agreement more than two years after the date the cause of action accrues.

8. **Precedence Clause**. If the Parties here identify a pre-existing contract, this Agreement shall constitute a modification to the pre-existing contract and such pre-existing contract's terms shall take precedence over the terms contained in this Agreement in the event of an irreconcilable conflict. Prior Existing Contract: N/A

9. **Miscellaneous.** This Agreement must be interpreted in accordance with Arizona law, without giving effect to its conflict-of-law rules. Any litigation filed by either party to enforce this Agreement must be filed in Maricopa County, Arizona. The parties may modify this Agreement only by written change order signed by them. If either party fails to insist on performance of any term or condition of, or fails to exercise any right or privilege under, this Agreement, the failure does not waive the term, condition, right, or privilege. This Agreement constitutes the parties' final, integrated agreement. Any statement, representation, promise, or inducement in any other agreement is null and void, and not binding on either party. The parties do not intend to benefit any other person or entity by this Agreement, and no person or entity other than Client is a beneficiary of the Agreement's limited warranty. **The customer has the right to file a written complaint with the Arizona Registrar of Contracts [azroc.com (602) 542-1525] for issues under A.R.S. 32-1154(A) within times set by A.R.S. 32-1155(A).**

In witness whereof, CRS has executed this proposal on the date indicated below. If Client accepts the Proposal, Client has executed this Agreement to be effective, both parties agree, on the date next to Client's signature.

As proposed:

Comprehensive Risk Services, LLC (CRS)

Dated 07/02/2015 By **Randall Gray**

Its _____

As agreed:

_____ (Client)

Dated _____ By _____

Its _____

CRS SCOPE OF WORK

Below is our scope of work on project Snowflake Junior High Roof Asbestos Removal to be performed for Snowflake Unified School District - Junior High School (client name).

Scope:

CRS proposes to supply all labor, equipment and materials to remove the Asbestos containing roofing as shown in red outline on attached site plan (received from Darren Perkins). Total Square footage for removal is 21254 Sq. Ft. of roofing.
Scope includes removal and proper disposal of asbestos containing paint and mastic from the existing roofing system.
Price includes coordination of removal with roofing contractor (or school) to include removal of up to 3,000 s.f. of roofing per evening shift (allowing for dry in of the removed area the next day by roofing contractor).
Project has been estimated to take 6 to 8 - eight hour shifts (depending on removal s.f. layout) to occur within two mobilizations.

Exclusions:

No removal of HVAC or roof top equipment is included in this proposal. Any removal necessary for access to roofing system underneath equipment or piping shall be by others.
This proposal does not include removal or replacement of any decking which may have the original hot mop material applied directly to the surface (deck will be abated with normal industry means and methods, but 100% removal may not be possible without replacement of the deck - if applicable).
Determination of "canceling the work shift" due to possible weather conditions is to be made by others (roofing contractor or School).
CRS will have plastic on site for minimal temporary protection of area being removed during the shift, but can not guarantee this to be leak proof.
No salvage of metal drip edge or penetration collars is included, only removal and proper disposal.
Excludes any 3rd party monitoring or testing if necessary.

Snowflake Junior High School
Google earth

PROJECT IDENTIFICATION

PROJECT NAME:	Snowflake Junior High School		
PROJECT:	Gym Roof & Building C		
SITE ADDRESS:	1380 S. Main St.		
	Snowflake	AZ	85937
	City	*State*	*ZIP Code*

SCOPE OF WORK

SUMMARY:

1. Tear off all roofing down to the structural decking. Legally dispose of all debris.
2. Replace all decking that is not structurally sound with like materials. Underside of replaced decking shall be painted to match adjacent decking.
3. Base bid shall include 100 feet of fascia and barge rafter replacement.
4. All fascia vents shall be replaced with like vents.
5. All gutters shall be removed to install new roofing system and shall be reinstalled at direction of district.
6. All curbs, pipes and penetrations shall be extended 14” above the roof decking.
7. All abandon or unused penetrations and curbs are to be removed and decking replaced.
8. Wood nailers are to be installed of sufficient height at all locations necessary to install metal (flashing) drip edge.
9. Install 2 layers of 2” polyisocyanurate insulation boards mechanically fastened where decking is not exposed on the underside and with 2 part low rise foam adhesive specifically designed for insulation boards at locations where decking is exposed on the underside. Install 1/4" to 1/2” high density cover board with coated face specifically designed for adhered systems.
10. Install fully adhered 80 mil TPO roof system over high density board.
11. Install drip edge with a minimum face of 4” and 4” horizontal edge. 4” X 4” drip edge.
12. All base flashings shall be terminated with termination bar and counter flashed with removable metal flashings.
13. All metal flashings shall be minimum 24 gauge. All drip edge shall have joint splices with sealants and shall be cleated. All metal flashings shall be painted to match existing colors provided by district.
14. Piping running across the roof shall be supported by premanufactured pipe support stands. All stands shall have an extra layer of 80 mil TPO adhered to the roof system under the base of the stands.
15. Line item pricing shall be used for any unforeseen condition remediation.
16. All speakers shall be reinstalled securely to barge rafters or roofing system.
17. See following photographs for typical and non-typical conditions with annotations that are to be considered part of the scope of work.

Gym Roof (Lower & Upper)



Photo # 1

Description Lower Roof: Fascia covers are to be left in place, secure where fasteners are missing. Replace vents with new vents to fit and paint to match. Drip edge flashings are to be minimum 24 gauge and to have a 4” face and 4” horizontal. Cleated with joint splices and paint to match.



Photo # 2

Description Lower Roof: Base flashings of TPO system to be fastened with termination bars with compressible sealant on the backside, one part urethane caulk on top of termination bar. Surface mounted 2 piece flashing with counter flashing are to be install over termination bars.

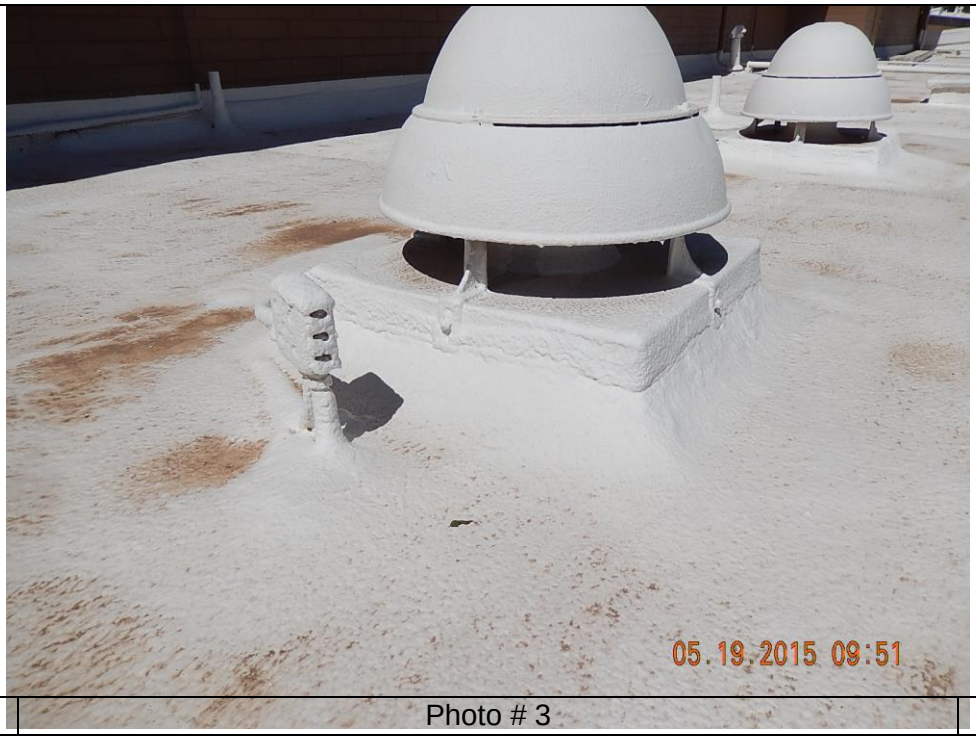


Photo # 3

Description Lower Roof: All roof top curbs are to be extended or replaced to meet the minimum 13 inch height requirement.



Photo # 4

Description Lower Roof: All conduits, piping or gas lines are to be removed out of the foam and supported with premanufactured pipe stands. Pipe/conduits stands are to be spaced in strict accordance with manufacturer's guidelines for size and type of piping.



Photo # 5

Description Lower Roof: All piping is to be secured and booted with TPO flashing boots.



Photo # 6

Description Lower Roof: All abandon pipes, penetrations and curbs are to be remove and openings filled with like wood. If exposed on the underside the wood is to be painted to match interior.



Photo # 7

Description Lower Roof: All penetrations are to be extended to meet the 13 inch requirement for height above the structural decking.



Photo # 8

Description Lower Roof: No wood is permitted to be exposed on the roofing system. All piping is to be supported with premanufactured pipe supports.



Photo # 9

Description Lower Roof: All electrical junction boxes and flexible conduit coupler connections are to be extended to meet the 13 inch height requirements.

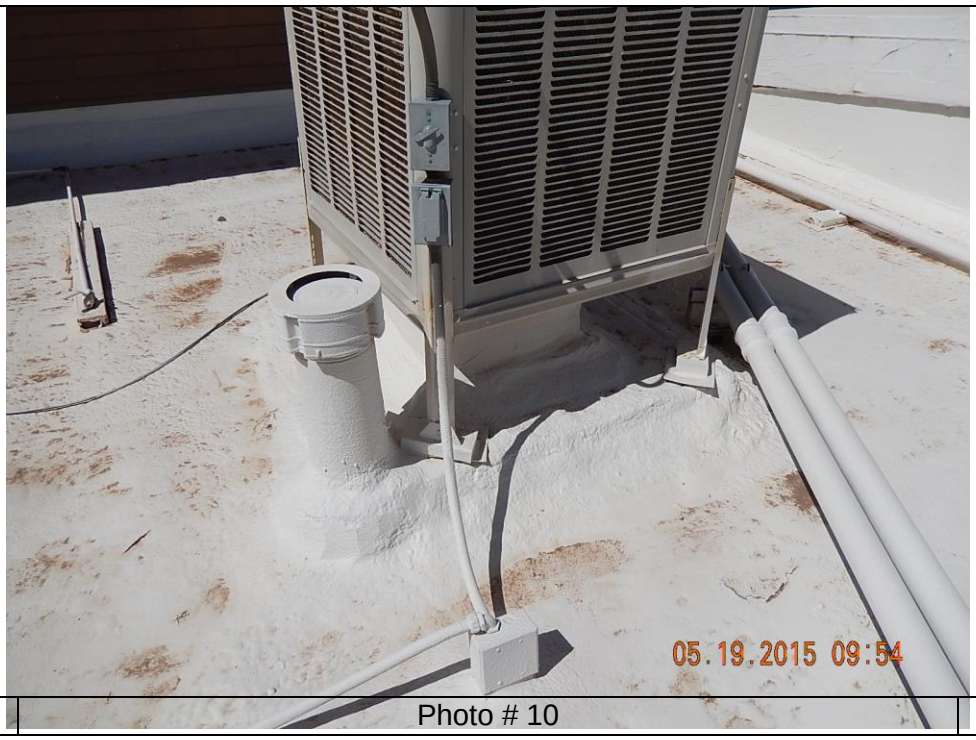


Photo # 10

Description Lower Roof: Cooler roof flashings are to be modified to meet the roof openings. The coolers are to be supported with a cub or leg kits sufficient to anchor and support unit.



Photo # 11

Description Lower Roof: Conduits are to remain in place and supported with premanufactured stands.



Photo # 12

Description Lower Roof: Gable end, TPO is to be terminated at the bottom edge of the fascia board. The fascia board is to be cladded with metal and counter flashing added to cover termination bar.



Photo # 13

Description Lower Roof: Existing gutter are to be removed and reinstalled unless directed by the district to do otherwise.



Photo # 14

Description Upper Roof: Curbs for vents are of sufficient height and are to be cleaned free of foam. TPO roof system is to be fastened with termination bars, sealed and coated.



Photo # 15

Description Upper Roof: Horizontal sleepers are to be integrated into the roofing system. Sleepers are to be of length to meet the structural engineer's requirements. The TPO system is to cover the sleepers and service pad materials are to be installed between metal frame and TPO system. All conduits and pipes are to be supported with premanufactured pipe supports.



Photo # 16

Description Upper Roof: Gas line is to be extended to allow for the thickness of the roofing system plus 4 inches for pipe supports.



Photo # 17

Description Upper Roof: Electrical connections are to be extended to allow for the thickness of the roofing system plus the pipe supports.



Photo # 18

Description Upper Roof: Speakers are to be removed and reset after roofing system is installed.



Photo # 19

Description Upper Roof: Gutters are to be removed and reset unless directed by the district to do otherwise.



Photo # 20

Description Lower Roof: Core sample from lower roof.



Photo # 21

Description Upper Roof: Core sample from upper roof.



Photo # 22

Description Upper Roof: View of underside of eave overhangs. Combination of ply wood and 1” tongue & groove wood.



Photo # 23

Description Upper Roof: View of interior structure.



Photo # 24

Description Lower Roof: View of interior structure.

Building C Roof Sections



Photo # 1

Description: Typical conditions of coatings.



Photo # 2

Description: Inside 1” tongue and groove decking.



Photo # 3

Description Roof Section #4: Overview of roof, all pipes are to be supported with premanufactured pipe stands. No exposed wood permitted.



Photo # 4

Description Roof Section #4: South edge of roof section 4 utilize a drip edge and the areas directly south of roof section shall be repaired by 3 coursing with polyester fabric.



Photo # 5

Description Roof Section #4: Base flashing shall terminate with termination bar and drip edge from roof section 3 shall have a counter flashing installed to counter flash termination bar.



Photo # 6

Description Roof Section #4: Base flashing shall turn vertically 12” and secured with termination bar. Block wall shall be coated with 25 mils DFT white elastomeric coatings. Conduit and junction box shall be caulked.



Photo # 7

Description Roof Section #4: All pipes shall be supported with premanufactured pipe stands, no wood allowed.



Photo # 8

Description Roof Section #3: All unused penetrations shall be removed prior to reroofing.



Photo # 9

Description Roof Section #3: Rain collars shall be used on all vent stacks.



Photo # 10

Description Roof Section #3: Rain collars shall be used on all vent stacks.



Photo # 11

Description Roof Section #3: Rain collars shall be used on all vent stacks.



Photo # 12

Description Roof Section #3: All curbs shall be extended to a height of 14” above the roof deck. All curb caps shall be counter flashed over termination bars securing base flashings.



Photo # 13

Description Roof Section #3: All conduits shall be supported by premanufactured pipe stands.



Photo # 14

Description Roof Section #3: All conduits shall be extended to allow support of conduit with premanufactured pipe stands.



Photo # 15

Description Roof Section #3: Siding shall be cut to allow for 2 piece flashing and counter flashing14” above roof deck. Backer board shall be installed where necessary to secure base flashings. Where barge rafters are less than the 14” height requirement the area below the barge rafter shall be back filled and counter flashing added at drip edge.



Photo # 16

Description Roof Section #3: Siding shall be cut to allow for 2 piece flashing and counter flashing14” above roof deck. Backer board shall be installed where necessary to secure base flashings.



Photo # 17

Description Roof Section #3: Exiting TPO roofing and drip edge shall be disassembled and new roofing materials shall extend up under drip edge. Tie back into the exiting TPO roof system.



Photo # 18

Description Roof Section #3: Core sample consisting of foam roof system over BUR roof with wood fiber insulation board.



Photo # 19

Description Roof Section #2: Existing drip edge shall be removed and new TPO system installed tying into existing system. New drip edge shall be installed tying into existing roof system. All pipe to be supported by new premanufactured pipe stands.



Photo # 20

Description Roof Section #2: All pipes shall be supported by new premanufactured pipe stands spaced according to manufacturer's guidelines.



Photo # 21

Description Roof Section #2: All pipes shall be supported by new premanufactured pipe stands spaced according to manufacturer's guidelines.



Photo # 22

Description Roof Section #1: Rain collars shall have a clamping device that allows for compressible sealant under rain collar and caulking receiver at top of rain collar.



Photo # 23

Description Roof Section #1: Deteriorated wood shall be replaced.



Photo # 24

Description Roof Section #1: View of penetrations and piping.



Photo # 25

Description Roof Section #1: All base flashings shall be counter flashed with metal flashings.

Pat Cruse
AZSFB

Project: Snowflake Junior High School
Snowflake, AZ

Pat

After review of all of the field conditions and coring the roofs the following is the construction budget that I would use for the roof replacement on the two buildings, gym and building C.

- Gym roof: 12283 sq. ft. @ $10.00 = $122,830.00
- C Building: 8,970 sq. ft. @ $10.00 = $89,700.00

Total $212,530.00

Budget for this project is $214,000.00 including all items in report and wood replacement of visible damaged wood.

Jerry L. Brown, RRO
Roof Consultant
July 23, 2015

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Sonoita Elementary 001BRG

Background - Sonoita Elementary (Elgin ES - HVAC replacement)

On April 1, 2015, and May 6, 2015, the Board awarded $10,000 and $427,000 in Building Renewal Grant funding to Sonoita Elementary for the replacement of the existing HVAC system at Elgin Elementary School (project 120425101-9999-001BRG). Since the project began, the kitchen make-up air system has failed. The repair costs for the kitchen system includes $2,500 for design and $12,000 for construction.

Initial award 4/1/2015	
Professional assessment	$ 10,000
Award 5/6/2015	
Professional design	$ 37,500
Construction	$ 350,000
Contingency	$ 39,500
Total award	$ 427,000
Supplemental funding requested:	
Estimated construction cost	$ 12,000
Professional design	$ 2,500
Contingency	$ 1,500
Total additional funding	$ 16,000
Total project costs:	$ 453,000

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Sonoita Elementary (Elgin ES - HVAC replacement)
Staff recommends that Sonoita Elementary be awarded an additional $16,000 in Building Renewal Grant funding for the replacement of the kitchen make-up air system at Elgin Elementary School. This includes $1,500 in contingency that will only be used with SFB staff approval and brings the total project cost to $453,000.

Board Action Requested:
Board approval of the staff recommendation that **Sonoita Elementary** be awarded an additional $16,000 in Building Renewal Grant funding for the replacement of the kitchen make-up air system at Elgin Elementary School. This includes $1,500 in contingency that will only be used with SFB staff approval and brings the total project cost to $453,000.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Sonoita_ESD_001BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Proposal_to_replace_a_kitchen_unit__at_Elgin_Elementary-signed.pdf	Engineer Estimate	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Sonoita Elementary**
BRG Project Number: **120425101-9999-001BRG** Santa Cruz County
Project Description: **HVAC replacement**
Architect of Record: BESP (602-377-2679)
Contractor: TBD

Board approval: 4/1/2015
Supplemental award: 5/6/2015
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 362,000**
Contingency		**$ 41,000**
Architecture / Engineering (A&E)		$ 10,000
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 37,500
Testing & Inspection		$ 2,500
Total Additional Cost:		**$ 50,000**
Total SFB Funded Project Cost:		**$ 453,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 453,000**
Total Project Cost:		**$ 453,000**

Contingency shall only be used with SFB staff approval

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

BESP, LLC
219 S. William Dr. # 129
Gilbert, AZ 85233
Tel: (602) 377-2679 Fax: (480) 629-5645
sameerpandey@besp.us
www.besp.us

July 2, 2015

Dr. Christopher Bonn
Superintendent
Sonoita Elementary School District
23 Elgin Road
Elgin, AZ 85611

Ref: Proposal to replace heating & cooling System in the Kitchen at Elgin Elementary School

Dear Mr. Bonn,

Per SFB/district's request, BESP has listed below a scope, engineering services fee, and estimated installation cost to replace a heating/cooling unit at Elgin Elementary Kitchen.

Scope:

1) Demo one (1) existing roof mounted make-up air unit serving Kitchen - 4,000 cfm, 1,200 lbs. Elect. 230-1-60.
2) Provide one (1) new rooftop packaged unit, Gas-electric, 5 ton, 230-1-60, with manual damper.
3) Reconnect existing supply/return air ductwork, gas line and condensate drain to the new unit

A design fee and an estimated installation cost for the above scope of work at Elgin Elementary is as follows:

1) Design Services Fee - $2,500

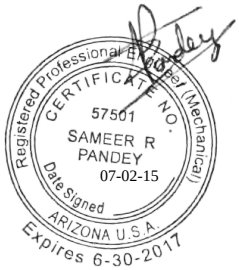
   a. Design & Documentation
      i. Produce mechanical design & documentation/load calculation/specifications
      ii. Produce electrical design & documentation/specifications
      iii. Perform structural analysis by a certified structural engineer
      iv. Produce construction documents
      v. Prepare and review bid documents

   b. Construction Administration
      i. Submittal review
      ii. Site visits/meetings
      iii. Installation verification
      iv. Close-out documentation review

2) Estimated construction/Installation Cost - $12,000

Please let us know if you have any questions or need clarifications.

Sincerely,



Sameer R Pandey PE (Mech), CEM, LEED
Principal Engineer, BESP

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item b.•**

Subject:

BRG - Supplemental Award
Yuma Union 004BRG

Background – Yuma Union (Yuma HS – replace waste line and vents)

On June 11, 2014, the Board awarded Yuma Union $10,500 in Building Renewal Grant funding for professional services to replace the waste line and vents in the student union Building 1010 at Yuma High School (project number 140570201-1010-004BRG).

The district's architect has proposed the following administration services and estimated construction costs:

Initial award 6/11/2014	
Professional services	$5,500
Lead/asbestos testing	$5,000
Total award:	$10,500

Supplemental funding requested:	
Bidding/construction administration	$1,390
Estimated construction costs 1st floor	$46,700
Estimated construction costs 2nd floor	$54,000
Contingency	$10,000
Total supplemental funding requested:	$112,090

Total project cost: $122,590

Criteria for Eligibility

Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Yuma Union (Yuma HS – replace waste line and vents)

Staff recommends that Yuma Union be awarded $112,090 in Building Renewal Grant funding to replace the waste line and vents in the student union Building 1010 at Yuma High School (project number 140570201-1010-004BRG). This includes $10,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $122,590.

Board Action Requested:

Board approval of the staff recommendation that **Yuma Union** be awarded $112,090 in Building Renewal Grant funding to replace the waste line and vents in the student union Building 1010 at Yuma High School (project number 140570201-1010-004BRG). This includes $10,000 in contingency that will only be used with SFB staff approval and brings the total project cost to $122,590.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Yuma_UHSD_004BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729160800-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Yuma Union**
BRG Project Number: **140570201-1010-004BRG** Yuma County
Project Description: **Replace waste line and vent**
Consultant: Patterson Thompson Architects PC (Christopher Thompson 928-343-1694)
Contractor: TBD

Board Approval: 6/11/2014
Supplemental award: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 100,700**
Contingency ①		**$ 10,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 6,890
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 5,000
Testing & Inspection		$ -
Total Additional Cost:		**$ 11,890**
Total SFB Funded Project Cost:		**$ 122,590**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 122,590**
Total Project Cost:		**$ 122,590**

① Contingency shall only be used with SFB staff approval.

thompson
design architects
pc

JULY 11, 2015
DAVID HYLLAND
FACILITIES DIRECTOR
YUMA UNION HIGH SCHOOL DISTRICT

BUDGET ESTIMATE OF PLUMBING REPLACEMENT AT YUMA HIGH SCHOOL
SFB PROJECT # BRG-140570201-1010-004BRG

Mr. Hylland,
Below is a budget estimate of the plumbing replacement scope of work at Yuma High School. This is an estimate only and is conservative for budgeting purposes only.

FIRST FLOOR ESTIMATED CONSTRUCTION TOTALS:	$ 46,700
SECOND FLOOR ESTIMATED CONSTRUCTION TOTALS:	$ 54,000
TOTAL ESTIMATED CONSTRUCTION COST:	$ 100,700

Architectural and Engineering Fees remaining include the following:

Bidding Phase Services	$ 400
Construction Admin Services	$ 990
Total AE Fees	$ 1,390

Please let me know if you have any questions
Thank you.

Sincerely,

Christopher Thompson
Principal Architect

675 west 16th street
yuma,arizona 85364
tel (928) 343 1694
fax (928) 343 9579

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Antelope Union 005BRG

Background – Antelope Union (Antelope Union HS – replace stage curtains)

Antelope Union has submitted a Building Renewal Grant request to replace the stage curtains that are no longer fire proof due to age and have become a code safety hazard in the auditorium Building 1010 at Antelope Union High School.

Antelope Union has one school district. Antelope Union High School is comprised of 29 buildings constructed between 1952 and 2009, totaling 117,018 square feet. Building 1010 was built in 1966, totaling 6,237 square feet.

The district received a proposal to replace the existing stage curtains in the amount of $11,166.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Antelope Union (Antelope Union HS – replace stage curtains)
Staff recommends that Antelope Union be awarded $17,000 to replace the stage curtains in the auditorium Building 1010 at Antelope Union High School. This includes $2,000 for a structural analysis, $1,500 for asbestos testing and $2,334 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Antelope Union** be awarded $17,000 to replace the stage curtains in the auditorium Building 1010 at Antelope Union High School. This includes $2,000 for a structural analysis, $1,500 for asbestos testing, and $2,334 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Antelope_UHSD_005BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729175515-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Antelope Union**
BRG Project Number: **140550201-1010-005BRG** Yuma County
Project Description: **Replace stage curtains**
Architect of Record: n/a
Contractor: E & M Rigging, Inc. (623-434-2660)

Board Approval Date: 8/19/15

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 11,166**
Contingency		**$ 2,334**
Architecture / Engineering (A&E)		$ 2,000
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ 1,500
Total Additional Cost:		**$ 3,500**
Total SFB Funded Project Cost:		**$ 17,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 17,000**
Total Project Cost:		**$ 17,000**

Contingency shall only be used with SFB staff approval

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/27/2015 2:19:02 PM **Application ID:** 2141
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Antelope Union High School District
Superintendent: Dr. Andrew L. Smith
Contact Person: Dr. Andrew L. Smith
Contact Phone Number: 928-785-4041
Contact Email: ansmith@antelopeunion.org
School Site: Antelope Union High School
Buildings: 1010 Auditorium

Application Title: Auditorium renovations: new curtains

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Current curtains were not up to safety code and could not be treated and therefore new curtains are needed.

Project Category: General Renovations

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Dr. Andrew L. Smith
Superintendent Printed Name

Superintendent Signature

7.28.15
Date

E & M RIGGING INC.
PHOENIX • ARIZONA

34406 N. 27th Dr., Ste 140
PHOENIX, AZ 85085
PHONE: 623-434-2660
FAX:623-869-7632
www.emrigging.com

ESTIMATE

Date Jun 10, 2015

Number AAAQ1014

P.O. NO.

JOB #

QUOTE EXP.DATE 30 days

PROJECT: Drapes

Antelope Union High School District
Andy Smith
9168 S. Ave. 36E
Wellton, AZ 85356

Phone 928-785-4041
Fax

Ship To:

Your Sales Rep

Connie Thompson-Morrell
623-434-2660 **Office**
602-418-2379 **Cell**
cmorrell@emrigging.com

Scope of Work:

Provide and install new drapes: Main Valance, Main Drape (2) panels, Legs (2) panels. All drapes are IFR Velour.

Set/Strike Scaffolding

Quote is based on clients measurements. Measurements must be verified with client prior to order.

Sales tax has been excluded and will be added to the invoice. Sales tax is calculated using the contracting tax for your area.

This quote is following the pricing structure guidelines set forth in the award of AZ Purchasing bid S.A.V.E 14-022 Rigging, Rigging repairs, & Rigging Inspections. Services to include A/V, A/V rigging and repairs.

SubTotal	$11,166.00
Tax	$0.00
Shipping	$0.00
Total	**$11,166.00**

TERMS: 15 days

PLEASE SIGN & RETURN FOR CONFIRMATION WITH PO #.

ALL DESIGNS, CONSTRUCTION, AND OTHER DISCLOSURES HEREIN ARE THE PROPERTY OF E & M RIGGING, INC. AND SUCH INFORMATION IS IMPARED TO YOU IN CONFIDENCE. IN ACCEPTING THIS INFORMATION YOU AGREE NOT TO REPRODUCE, DISCLOSE OR HAVE MANUFACTURED IN WHOLE OR PART WITHOUT WRITTEN CONSENT FROM E & M RIGGING, INC.

The Contract for completing the job as described above is based on our evaluation and does not include material price increases or additional labor and materials, which may be required should unforeseen problems or adverse weather conditions arise after the work has started. Your signature(s) confirms that you are the authorized agent(s) for the above described company/site and have the authority to enter into a legally binding contract. Additionally, you agree with the charges and the payment terms in this document, unless otherwise stated in writing prior to the project start. After 30 days, any outstanding balance(s) will either be charged to the credit card on file or be sent to collections. The organization, company and it's representatives agree to pay reasonable attorney fees, collection and additional costs incurred to collect this debit. You further agree that in the absence of a contract this estimate becomes the contract agreement and is legally binding.

Signature_____ Date_____ Print_____

Signature_____ Date_____ Print_____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Casa Grande Elementary 025BRG
Background – Casa Grande Elementary (Palo Verde ES - fire alarm replacement)
Casa Grande Elementary has submitted a Building Renewal Grant request for the replacement of the fire alarm system at Palo Verde Elementary School.

Casa Grande Elementary, located 57 miles south of Phoenix, has 14 schools. Palo Verde Elementary School is comprised of eight buildings constructed between 1952 and 1996, totaling 71,197 square feet.

The fire alarm system has multiple failures that need to be corrected and parts are no longer available. The district has received proposals for replacement. The lowest proposal ($94,489) includes the option for an upgrade to voice evacuation that is currently not required, but will be required with the State Fire Marshal's adoption of new code that is in process and should be completed in the next 6 months or sooner. The cost for this upgrade is $29,589 and is included in the total above ($64,900 without the voice evacuation upgrade).

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Casa Grande Elementary (Palo Verde ES - fire alarm replacement
Staff recommends that Casa Grande Elementary be awarded $104,000 in Building Renewal Grant funding for the fire alarm replacement (with voice evacuation) at Palo Verde Elementary School. This includes $9,511 in contingency that will only be used with SFB staff approval.

Board Action Requested:

Motion A:
Board approval of the staff recommendation that Casa Grande Elementary be awarded $104,000 in Building Renewal Grant funding for the fire alarm replacement (with voice evacuation) at Palo Verde Elementary School. This includes $9,511 in contingency that will only be used with SFB staff approval.

Motion B:
Board approval that Casa Grande Elementary be awarded $71,400 in Building Renewal Grant funding for the fire alarm replacement at Palo Verde Elementary School. This includes $6,500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Casa_Grande_ESD_025BRG_Vertical_Sheet_-_Motion_A.pdf	Vertical Sheet	8/12/2015	Executive Summary
	Vertical Sheet -		Executive

Casa_Grande_ESD_025BRG_Vertical_Sheet_-_Motion_B.pdf	Motion B	8/12/2015	Summary
Signed_BRG_Palo_Verde_Fire_Alarm.pdf	Signed BRG Application	7/31/2015	Cover Memo
PALO_VERDE__ELEMENTARY_1GPA_FIRE_ALARM_REPLACEMENT_JULY_31_2015.pdf	Replacement Proposal	7/31/2015	Cover Memo
Palo_Verde_Elementary_School_Inspection.pdf	System Inpsection	7/31/2015	Cover Memo
WSFP_Summary_with_Recommendation.pdf	Replacement Rec	7/31/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Casa Grande Elementary**
BRG Project Number: **110404104-9999-025BRG** Pinal County
Project Description: **Fire alarm replacement**
Architect of Record: n/a
Contractor: CST (480-890-2260)

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 94,489**
Contingency		**$ 9,511**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 104,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 104,000**
Total Project Cost:		**$ 104,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Casa Grande Elementary**
BRG Project Number: **110404104-9999-025BRG** Pinal County
Project Description: **Fire alarm replacement**
Architect of Record: n/a
Contractor: CST (480-890-2260)

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 64,900**
Contingency		**$ 6,500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 71,400**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 71,400**
Total Project Cost:		**$ 71,400**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/21/2015 8:44:02 AM **Application ID:** 2116

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Casa Grande Elementary District

Superintendent: Dr. Frank Davidson

Contact Person: MIchael Munger

Contact Phone Number: (480) 227-0595

Contact Email: michael,munger@cgelem.k12.az.us

School Site: Palo Verde School

Buildings: 9999 School Wide

Application Title: Palo Verde Fire Alarm

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Fire alarm system at Palo Verde is failing. Western States Fire Protection (WSFP) inspected the system and confirmed numerous smokes failed sensitivity testing and that the panel needs to be replaced. According to WSFP, parts for the system are obsolete.

Project Category: Special Systems

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Frank Davidson
Superintendent Printed Name

Frank Davidson
Superintendent Signature

7-21-2015
Date

Commercial Systems Technology, Inc.

Date: July 31, 2015

To: Casa Grande Elementary
220 W. Kortsen Road
Casa Grande, Arizona 85122

State of Arizona School Facility Board
1700 W. Washington Street Suite 104
Phoenix Arizona 85007

Attn: Michael Munger (Director of Maintenance)
520-836-2111. / 520-836-4782 Direct
michael.munger@cgelem.k12.az.us

Dan Demland
(602) 542-6567
ddemland@azsfb.gov

Total pages 2

Re: **Palo Verde Elementary School (Life Safety Fire Alarm System)**

Dear Mr. Munger and Mr. Demland, per our conversation please see below response for upgrading / replacing the Fire Alarm System for the above facility. With the issues you're having on the existing system we understand the importance of getting this completed and back on line right away.

We will be installing an Addressable main Fire Alarm Control Panel in the same location as the existing.
.
This proposal includes fire alarm coverage for the entire school. This proposal is per the current State Fire Marshal Office & School Facilities Board (SFB) fire alarm requirements. We will be producing drawings and pulling a fire alarm permit with the State Fire Marshal's Office.

With the way the campus is spread out, we will be installing additional alarm notification boosters to power the ADA appliance devices. Any additional devices required by the State Fire Marshals review will be installed at no additional cost.

Total Fire Alarm System Cost ---- $64,900.00 (INCLUDES TAX)

There will be **NO Change Orders** for anything that is required to meet the State Fire Marshal Requirements.

The main Fire Alarm Panel will be located in the same location as the existing. There will be fire alarm devices installed in every classroom, hallway, corridor, restrooms and electrical rooms per the State Fire Marshal requirements. Conduit, wiring, AC Power and compatible devices will be reincorporated into the new system.

The contingency amount may be used for any unforeseen problems or additional request that may arise during the installation. If any situation does arise, we will bring it to your attention for a decision to resolve the problem for the best solution and to not hold up the progress on this project.

With the issues you're having, I understand the importance of getting this completed right away and getting these areas protected. We can start immediately upon your request.

Add Alternate quote: Voice System Addition

The State Fire Marshal's Office has a proposal before the legislature to require the Fire Alarm System to include voice evacuation on all Fire Alarm Systems. The current codes and requirements of the State Fire Marshal and the State Facilities Board do not require the voice evacuation be added to the Fire Alarm System at this current time. I have included an **add on** price to the base bid if you want to add the voice evacuation to this quote or if the State Fire Marshal's Office requires it when they review the submitted plans. \

Voice system Total Additional Cost - $29,589.00 (INCLUDES TAX)

Notes:

- Any and all device locations that are not being reused will be blanked off with a protective cover.
- All above pricing does not include bonds. A bond can be provided at additional cost.
- All pricing will be held for 30 days from above date.
- Fire watch is not included in this proposal.
- We will be using all the existing conduits and this quote does not include the repair or replacement of those conduits should it be required. I would recommend you add a 10% contingency fee to the purchase order for any unforeseen issues. This contingency would only be used with your written permission prior to the work being done.
- Existing sprinkler flow & tamper switches, kitchen ansul & hood system will remain as is and will be reincorporated back into the new system.
- **Above pricing includes the state fire marshal permit fees.**
- The system is capable of off-site monitoring. Existing phone lines and contract would be responsibility of the school. At this time the current monitoring lines will be reused unless otherwise directed be the district.

As always, I have appreciated working School Facility Board (SFB) and look forward to working with you on this project.

Sincerely

Craig Edwards

Craig Edwards
CST / Commercial System Technology Inc.
204 South Mesa Drive
Mesa Arizona 85204

Office # 480 890-2260
Mobile # 480 332-3600
Fax # 480 890-2263
Web: www.cst-az.com /
Email cedwards@cst-az.com

Western States Fire Protection Co.
a subsidiary of API Group, Inc.

Fire Alarm and Life Safety System Inspection Certificate

For

Palo Verde Elementary School
40 N ROOSEVELT AVE
CASA GRANDE, AZ 85122

Inspection Date
May 27, 2015

Tested to NFPA 72 Standards

This Inspection was performed in accordance with applicable NFPA Standards. The subsequent pages of this report provide performance measurements, listed ranges of acceptable results, and complete documentation of the inspection. Whenever discrepancies exist between acceptable performance standards and actual test results, notes and/or recommended solutions have been proposed or provided for immediate review and approval.

IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER OR DESIGNATED REPRESENTATIVE THAT REQUESTED THIS INSPECTION TO REVIEW REPORTS AND CORRECT ANY DEFICIENCIES NOTED.

Building: Palo Verde Elementary School
Contact: Joanne Kramer
Title: Principal

Company: Western States Fire Protection
Contact: Cliff Inge
Title: Technician

Executive Summary

Generated by: BuildingReports.com

Building Information

Building: Palo Verde Elementary School	**Contact:** Joanne Kramer
Address: 40 N ROOSEVELT AVE	**Phone:** 520-421-1650
Address:	**Fax:**
City/State/Zip: CASA GRANDE, AZ 85122	**Mobile:**
Country: United States of America	**Email:**

Inspection Performed By

Company: Western States Fire Protection	**Inspector:** Cliff Inge
Address: 4346 East Elwood St.	**Phone:** 602-377-1718
Address: Suite 100	**Fax:**
City/State/Zip: Phoenix, AZ 85040	**Mobile:**
Country: United States of America	**Email:** clifton.inge@wsfp.us

System Control Unit

Manufacturer: Siemens	**Inspection Date:** 05/06/2015	**IDC Style:**
Model Number: MXL	**Install Date:** 05/06/2015	**SLC Style:**
Software Version:	**Version Date:** 05/06/2015	**NAC Style:**
Location: Admin office near receptionist	**Current Protection:**	

Monitoring

Company:	**Phone:**	**Account #:**

Central Station Signal Verification

Type:	**Mfg:**	**Model #:**
Test Time/Date:	**Restore Time**	

Western States Fire Protection Co.
a subsidiary of API Group, Inc.

Inspection Date: May, 6, 2015

Building: Palo Verde Elementary School

EC 02.03.05 EP 03	Annual testing of duct detectors, electro-mechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.				
Devices	**Tested This Quarter**	**Pass**	**Fail**	**Tested YTD (2015)**	**Total Quantity**
Smoke Detector	139	109	30	139	140

LS 02.01.34 EP 02	Protected master fire alarm control panel				
Devices	**Tested This Quarter**	**Pass**	**Fail**	**Tested YTD (2015)**	**Total Quantity**
Control Panel	1	1	0	1	1

Certification

Company: Western States Fire Protection

Inspector: Cliff Inge

Signed:

Building: Palo Verde Elementary School

Contact: Joanne Kramer

Signed:

Cliff Inge

Certification Type	Number

Western States Fire Protection Co.
a subsidiary of API Group, Inc.

Discrepancy Report

Generated by: BuildingReports.com

Building: Palo Verde Elementary School	Control Panel: 1 - Siemens MXL

The Discrepancy Report consolidates each discrepancy listed within the various Testing sections of your Inspection. Discrepancies are listed by Category, and grouped by device type. The description of the problem is provided and where appropriate, code references are listed for your convenience. Any item that was inspected that is listed on the Consumer Product Safety Commission's website and is subject to a recall by the manufacturer is included.

Device Type	Manufacturer	ModelNumber	Date	Qty

Items listed for Recall by Manufacturer

No recalled items found during this inspection.

ScanID	Location	Problem	Address	Reference

EC 02.03.05 EP 03 Annual testing of duct detectors, electro-mechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.

Smoke Detector

36081708	hall by room A-2	Failed Sensitivity	1-1 011	NFPA72 14.4.4.3.5
36081709	hall by room A-3	Failed Sensitivity	1-1 012	NFPA72 14.4.4.3.5
36081710	hall between rooms A-3 %26amp; A-4	Failed Sensitivity	1-1 013	NFPA72 14.4.4.3.5
36081712	computer lab by multimedia center 1 of 4	Failed Sensitivity	1-1 010	NFPA72 14.4.4.3.5
36081713	computer lab by multimedia center 2 of 4	Failed Sensitivity	1-1 007	NFPA72 14.4.4.3.5
36081715	computer lab by multimedia center 4 of 4	Failed Sensitivity	1-1 008	NFPA72 14.4.4.3.5
36081718	library (multimedia center) 3 of 8	Failed Sensitivity	1-1 021	NFPA72 14.4.4.3.5
36081720	library (multimedia center) 5 of 8	Failed Sensitivity	1-1 022	NFPA72 14.4.4.3.5
36081721	library (multimedia center) 6 of 8	Failed Sensitivity	1-1 017	NFPA72 14.4.4.3.5
36081724	library (multimedia center) sub-room C	Failed Sensitivity	1-1 026	NFPA72 14.4.4.3.5
36081725	library (multimedia center) sub-room B	Failed Sensitivity	1-1 025	NFPA72 14.4.4.3.5
36081726	library (multimedia center) office	Failed Sensitivity	1-1 016	NFPA72 14.4.4.3.5
36081730	classroom B-2 west detector	Failed Sensitivity	1-1 034	NFPA72 14.4.4.3.5
36081731	classroom B-2 east detector	Failed Sensitivity	1-1 033	NFPA72 14.4.4.3.5
36081733	classroom B-3 east detector	Failed Sensitivity	1-1 031	NFPA72 14.4.4.3.5
36081739	classroom C-1 east detector	Failed Sensitivity	1-2 004	NFPA72 14.4.4.3.5
36081741	hall between classrooms C-1 and C-2 in storage room	Failed Sensitivity	1-2 001	NFPA72 14.4.4.3.5
36081743	office between classrooms C-1 and C-2	Failed Sensitivity	1-2 005	NFPA72 14.4.4.3.5
36082514	classroom D-8	Failed Sensitivity	1-2 028	NFPA72 14.4.4.3.5
36081748	classroom C-4 east detector	Failed Sensitivity	1-2 011	NFPA72 14.4.4.3.5
36081749	classroom C-5 west detector	Failed Sensitivity	1-2 012	NFPA72 14.4.4.3.5
36081752	classroom D-2	Failed Sensitivity	1-2 020	NFPA72 14.4.4.3.5
36081751	classroom D-1	Failed Sensitivity	1-2 019	NFPA72 14.4.4.3.5
36081756	common area room with classrooms D-1 to D-5	Failed Test	1-2 022	NFPA72 14.2.2.2.2
36080612	hall by west exit	Failed Sensitivity	1-3 020	NFPA72 14.4.4.3.5
36080653	classroom E-6	Failed Sensitivity	1-3 027	NFPA72 14.4.4.3.5
36080618	room A4 east	Failed Sensitivity	1-4 8	NFPA72 14.4.4.3.5
36081700	Admin copy room south detector	Failed Sensitivity	1-1 003	NFPA72 14.4.4.3.5

36081701	Admin copy room north detector	Failed Sensitivity	1-1 004	NFPA72 14.4.4.3.5
36080661	Gymnasium Southwest Center	Failed Sensitivity	1-3 018	NFPA72 14.4.4.3.5

Code References

NFPA72 14.4.4.3.5	Unless otherwise permitted by 14.4.4.3.6, smoke detectors or smoke alarms found to have a sensitivity outside the listed and marked sensitivity range shall be cleaned and recalibrated or be replaced.
NFPA72 14.2.2.2.2	System deficiencies shall be corrected.

Proposed Solutions Report

Generated by: BuildingReports.com

Building: Palo Verde Elementary School	Control Panel: 1 - Siemens MXL

The Proposed Solution Report provides a solution for each discrepancy listed on the Discrepancy Report. Provide a check mark where indicated to approve repairs listed within the report. Items listed as T/M are available for repair on a Time and Materials basis.

ScanID	Location	Solution	Model #	Cost	Fix
EC 02.03.05 EP 03	Annual testing of duct detectors, electro-mechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.				
Smoke Detector					
36081708	hall by room A-2	Correct	ILP-1	T/M	☐
36081709	hall by room A-3	Correct	ILP-1	T/M	☐
36081710	hall between rooms A-3 %26amp; A-4	Correct	ILP-1	T/M	☐
36081712	computer lab by multimedia center 1 of 4	Correct	ILP-1	T/M	☐
36081713	computer lab by multimedia center 2 of 4	Correct	ILP-1	T/M	☐
36081715	computer lab by multimedia center 4 of 4	Correct	ILP-1	T/M	☐
36081718	library (multimedia center) 3 of 8	Correct	ILP-1	T/M	☐
36081720	library (multimedia center) 5 of 8	Correct	ILP-1	T/M	☐
36081721	library (multimedia center) 6 of 8	Correct	ILP-1	T/M	☐
36081724	library (multimedia center) sub-room C	Correct	ILP-1	T/M	☐
36081725	library (multimedia center) sub-room B	Correct	ILP-1	T/M	☐
36081726	library (multimedia center) office	Correct	ILP-1	T/M	☐
36081730	classroom B-2 west detector	Correct	ILP-1	T/M	☐
36081731	classroom B-2 east detector	Correct	ILP-1	T/M	☐
36081733	classroom B-3 east detector	Correct	ILP-1	T/M	☐
36081739	classroom C-1 east detector	Correct	ILP-1	T/M	☐
36081741	hall between classrooms C-1 and C-2 in storage room	Correct	ILP-1	T/M	☐
36081743	office between classrooms C-1 and C-2	Correct	ILP-1	T/M	☐
36082514	classroom D-8	Correct	ILP-1	T/M	☐
36081748	classroom C-4 east detector	Correct	FP-11	T/M	☐
36081749	classroom C-5 west detector	Correct	ILP-1	T/M	☐
36081752	classroom D-2	Correct	ILP-1	T/M	☐
36081751	classroom D-1	Correct	ILP-1	T/M	☐
36081756	common area room with classrooms D-1 to D-5		ILP-1	T/M	☐
36080612	hall by west exit		ILP-1	T/M	☐
36080653	classroom E-6		ILP-1	T/M	☐
36080618	room A4 east		ILP-1	T/M	☐
36081700	Admin copy room south detector	Correct	ILP-1	T/M	☐
36081701	Admin copy room north detector	Correct	ILP-1	T/M	☐
36080661	Gymnasium Southwest Center		ILP-1	T/M	☐

Notes & Recommendations

Generated by: BuildingReports.com

Building: Palo Verde Elementary School Control Panel: 1 - Siemens MXL

The Notes & Recommendations Report details additional inspection notes made by the Inspectors during the course of the building inspection.

ScanID	Note	Device Type	Location	Comment
EC 02.03.05 EP 03 Annual testing of duct detectors, electro-mechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.				
36081756	1	Smoke Detector	common area room with classrooms D-1 to D-5	Failed Test
Sensitivity on the high side. Recommend replacement.				
LS 02.01.34 EP 02 Protected master fire alarm control panel				
36080543	2	Control Panel	Admin office near receptionist	Passed
On arrival, fire panel powered down and batteries were dead. Reason for power down is unknown.				

Inspection & Testing

Generated by: BuildingReports.com

Building: Palo Verde Elementary School

The Inspection & Testing section lists all of the items inspected in your building, which are then categorized by the applicable code reference. The most recent inspection is listed in the far right column and is based on the Finish Date of that inspection. The latest inspection uploaded in each previous quarter appears in the four columns to the left.
Passed=P, Failed=F, Other=O

Device Type	Location	ScanID	Address	Q2/15
EC 02.03.05 EP 03	Annual testing of duct detectors, electro-mechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.			
Detectors shall be tested in place to ensure smoke entry into the sensing chamber and an alarm response. (NFPA 72 Table 7-2.2 (13g.1))				
Smoke Detector	hall by main entry adult restrooms	36081702	1-1 043	05/06-P
Smoke Detector	hall with adult restrooms	36081703	1-1 044	05/06-P
Smoke Detector	hall in front of office by water fountains	36081705	1-1 045	05/06-P
Smoke Detector	hall in front of office east detector near faculty work room	36081706	1-1 005	05/06-P
Smoke Detector	hall between rooms A-1 %26amp; A-2	36081707	1-1 006	05/06-P
Smoke Detector	hall by room A-4	36081711	1-1 014	05/06-P
Smoke Detector	computer lab by multimedia center 3 of 4	36081714	1-1 009	05/07-P
Smoke Detector	library (multimedia center) 1 of 8	36081716	1-1 019	05/07-P
Smoke Detector	library (multimedia center) 2 of 8	36081717	1-1 020	05/07-P
Smoke Detector	library (multimedia center) 4 of 8	36081719	1-1 018	05/07-P
Smoke Detector	library (multimedia center) 7 of 8	36081722	1-1 023	05/07-P
Smoke Detector	library (multimedia center) 8 of 8	36081723	1-1 015	05/07-P
Smoke Detector	classroom B-1 west detector	36081728	1-1 035	05/07-P
Smoke Detector	classroom B-1 east detector	36081729	1-1 036	05/07-P
Smoke Detector	classroom B-3 west detector	36081732	1-1 032	05/07-P
Smoke Detector	classroom B-4 west detector	36081734	1-1 030	05/07-P
Smoke Detector	classroom B-4 east detector	36081735	1-1 029	05/07-P
Smoke Detector	classroom B-5 west detector	36081736	1-1 028	05/07-P
Smoke Detector	classroom B-5 east detector	36081737	1-1 027	05/07-P
Smoke Detector	classroom C-1 west detector	36081738	1-2 003	05/07-P
Smoke Detector	hall between classrooms C-1 and C-2 above storage cabinets	36081740	1-2 002	05/07-P
Smoke Detector	classroom C-2 west detector	36081742	1-2 006	05/07-P
Smoke Detector	classroom C-2 east detector	36081744	1-2 007	05/07-P
Smoke Detector	classroom C-3 west detector	36081745	1-2 008	05/07-P
Smoke Detector	classroom C-3 east detector	36081746	1-2 009	05/07-P
Smoke Detector	classroom C-4 west detector	36081747	1-2 010	05/07-P
Smoke Detector	classroom C-5 east detector	36081750	1-2 013	05/07-P
Smoke Detector	classroom D-3	36081753	1-2 021	05/07-P
Smoke Detector	classroom D-4	36081754	1-2 024	05/07-P
Smoke Detector	classroom D-5	36081755	1-2 023	05/07-P
Smoke Detector	hall by D-1 near double exit doors	36081757	1-2 017	05/07-P
Smoke Detector	hall by D-5	36081758	1-2 016	05/07-P
Smoke Detector	hall between D-5 and B wing doors	36081759	1-2 015	05/07-P
Smoke Detector	hall by B wing doors	36081760	1-2 058	05/07-P
Smoke Detector	common area room with classrooms D-6 to D-9	36081761	1-2 027	05/07-P
Smoke Detector	hall in front of office west detector	36081704	1-1 046	05/26-P

Device Type	Location	ScanID	Address	Q2/15
Smoke Detector	classroom D-6	36082512	1-2 026	05/26-P
Smoke Detector	classroom D-7	36082513	1-2 025	05/26-P
Smoke Detector	classroom D-9	36082515	1-2 029	05/26-P
Smoke Detector	hall by B doors	36082516	1-2 014	05/26-P
Smoke Detector	hall by D classrooms	36082517	1-2 030	05/26-P
Smoke Detector	hall outside library	36082518	1-2 031	05/26-P
Smoke Detector	back entrance	36082519	1-2 032	05/26-P
Smoke Detector	back entrance	36082520	1-2 033	05/26-P
Smoke Detector	back entrance foyer	36082521	1-2 034	05/26-P
Smoke Detector	classroom E-2	36082522	1-2 037	05/26-P
Smoke Detector	classroom E-3	36082523	1-2 038	05/26-P
Smoke Detector	classroom E-1B	36082524	1-2 036	05/26-P
Smoke Detector	classroom E-1A	36082525	1-2 035	05/26-P
Smoke Detector	hall by E doors	36082526	1-2 045	05/26-P
Smoke Detector	hall by E doors	36082527	1-2 044	05/26-P
Smoke Detector	common area room with classrooms E-1 to E-5	36082528	1-2 039	05/26-P
Smoke Detector	classroom E-4	36082529	1-2 040	05/26-P
Smoke Detector	classroom E-5	36082530	1-2 041	05/26-P
Smoke Detector	hall outside music area	36080615	1-2 043	05/26-P
Smoke Detector	hall custodian closet	36080614	1-2 042	05/26-P
Smoke Detector	hall by E classrooms	36080613	1-3 019	05/26-P
Smoke Detector	common area by classrooms E-6 to E-10	36080611	1-3 025	05/26-P
Smoke Detector	West Exit	36080610	1-3 021	05/26-P
Smoke Detector	classroom E-7	36080652	1-3 026	05/27-P
Smoke Detector	classroom E-8	36080651	1-3 024	05/27-P
Smoke Detector	classroom E-9	36080650	1-3 023	05/27-P
Smoke Detector	classroom E-10	36080649	1-3 022	05/27-P
Smoke Detector	room A2 west	36080623	1-4 3	05/27-P
Smoke Detector	room A2 east	36080622	1-4 4	05/27-P
Smoke Detector	room A3 east	36080621	1-4 6	05/27-P
Smoke Detector	room A3 west	36080620	1-4 5	05/27-P
Smoke Detector	room A4 west	36080619	1-4 7	05/27-P
Smoke Detector	hall by room A-2	36081708	1-1 011	05/06-F
Smoke Detector	hall by room A-3	36081709	1-1 012	05/06-F
Smoke Detector	hall between rooms A-3 %26amp; A-4	36081710	1-1 013	05/06-F
Smoke Detector	computer lab by multimedia center 1 of 4	36081712	1-1 010	05/07-F
Smoke Detector	computer lab by multimedia center 2 of 4	36081713	1-1 007	05/07-F
Smoke Detector	computer lab by multimedia center 4 of 4	36081715	1-1 008	05/07-F
Smoke Detector	library (multimedia center) 3 of 8	36081718	1-1 021	05/07-F
Smoke Detector	library (multimedia center) 5 of 8	36081720	1-1 022	05/07-F
Smoke Detector	library (multimedia center) 6 of 8	36081721	1-1 017	05/07-F
Smoke Detector	library (multimedia center) sub-room C	36081724	1-1 026	05/07-F
Smoke Detector	library (multimedia center) sub-room B	36081725	1-1 025	05/07-F
Smoke Detector	library (multimedia center) office	36081726	1-1 016	05/07-F
Smoke Detector	classroom B-2 west detector	36081730	1-1 034	05/07-F
Smoke Detector	classroom B-2 east detector	36081731	1-1 033	05/07-F
Smoke Detector	classroom B-3 east detector	36081733	1-1 031	05/07-F
Smoke Detector	classroom C-1 east detector	36081739	1-2 004	05/07-F
Smoke Detector	hall between classrooms C-1 and C-2 in storage room	36081741	1-2 001	05/07-F
Smoke Detector	office between classrooms C-1 and C-2	36081743	1-2 005	05/07-F
Smoke Detector	classroom C-4 east detector	36081748	1-2 011	05/07-F

Device Type	Location	ScanID	Address	Q2/15
Smoke Detector	classroom C-5 west detector	36081749	1-2 012	05/07-F
Smoke Detector	classroom D-1	36081751	1-2 019	05/07-F
Smoke Detector	common area room with classrooms D-1 to D-5	36081756	1-2 022	05/07-F
Smoke Detector	classroom D-2	36081752	1-2 020	05/26-F
Smoke Detector	classroom D-8	36082514	1-2 028	05/26-F
Smoke Detector	hall by west exit	36080612	1-3 020	05/26-F
Smoke Detector	classroom E-6	36080653	1-3 027	05/27-F
Smoke Detector	room A4 east	36080618	1-4 8	05/27-F
Smoke Detector	library (multimedia center) sub-room A (no access, barcode on door frame)	36081727	1-1 024?	
Smoke Detector	Admin hall by Principal's office	36080544	1-1 040	05/06-P
Smoke Detector	Admin Miss Burns office	36080545	1-1 041	05/06-P
Smoke Detector	Admin Principal's office	36081695	1-1 042	05/06-P
Smoke Detector	Admin Conference Room by Principal's office	36081696	1-1 039	05/06-P
Smoke Detector	Admin office by Principal's office	36081697	1-1 038	05/06-P
Smoke Detector	Admin office across hall from burglar alarm	36081698	1-1 037	05/06-P
Smoke Detector	Admin work / file room	36081699	1-1 002	05/06-P
Smoke Detector	Admin room A1-A north	36080630	1-3 23	05/27-P
Smoke Detector	Admin room A1-A south	36080629	1-3 23	05/27-P
Smoke Detector	Admin room A1 east	36080628	1-4 02	05/27-P
Smoke Detector	Admin room A1 West	36080627	1-4 1	05/27-P
Smoke Detector	Admin health office south	36080626	1-4 25	05/27-P
Smoke Detector	Admin health office north	36080625	1-4 26	05/27-P
Smoke Detector	Admin nurse office	36080624	1-4 27	05/27-P
Smoke Detector	Admin copy room south detector	36081700	1-1 003	05/06-F
Smoke Detector	Admin copy room north detector	36081701	1-1 004	05/06-F
Smoke Detector	Gymnasium Northwest	36080663	1-3 002	05/27-P
Smoke Detector	Gymnasium Southwest	36080662	1-3 001	05/27-P
Smoke Detector	Gymnasium Southeast Center	36080660	1-3 017	05/27-P
Smoke Detector	Gymnasium Southeast	36080659	1-3 016	05/27-P
Smoke Detector	Gymnasium Northeast	36080658	1-3 005	05/27-P
Smoke Detector	Gymnasium Northeast Center	36080657	1-3 004	05/27-P
Smoke Detector	Gymnasium Northwest Center	36080656	1-3 003	05/27-P
Smoke Detector	Gymnasium stage west	36080655	1-4 021	05/27-P
Smoke Detector	Gymnasium stage east	36080654	1-4 020	05/27-P
Smoke Detector	Gymnasium restroom foyer	36080648	1-3 014	05/27-P
Smoke Detector	Gymnasium hall by cafeteria entry	36080647	1-3 012	05/27-P
Smoke Detector	Gymnasium hall by north foyer	36080646	1-3 011	05/27-P
Smoke Detector	Gymnasium north foyer	36080645	1-3 010	05/27-P
Smoke Detector	Gymnasium ball storage office	36080644	1-3 013	05/27-P
Smoke Detector	Gymnasium cafeteria center	36080643	1-3 007	05/27-P
Smoke Detector	Gymnasium cafeteria west	36080642	1-3 008	05/27-P
Smoke Detector	Gymnasium cafeteria north exit	36080641	1-3 009	05/27-P
Smoke Detector	Gymnasium stage a/v room	36080640	1-4 019	05/27-P
Smoke Detector	Gymnasium music room southwest	36080639	1-4 010	05/27-P
Smoke Detector	Gymnasium stage hallway	36080638	1-4 018	05/27-P
Smoke Detector	Gymnasium music room northwest	36080637	1-4 011	05/27-P
Smoke Detector	Gymnasium music room northeast	36080636	1-4 012	05/27-P
Smoke Detector	Gymnasium music room southeast	36080635	1-4 009	05/27-P
Smoke Detector	Gymnasium music room office	36080634	1-4 017	05/27-P
Smoke Detector	Gymnasium hall by faculty work room	36080633	1-4 014	05/27-P
Smoke Detector	Gymnasium hall by music room	36080632	1-4 013	05/27-P

Device Type	Location	ScanID	Address	Q2/15
Smoke Detector	Gymnasium faculty work room	36080631	1-3 015	05/27-P
Smoke Detector	Gymnasium Southwest Center	36080661	1-3 018	05/27-F
Device Total: 140				

Device Type	Location	ScanID	Address	Q2/15
LS 02.01.34 EP 02	Protected master fire alarm control panel			
At a minimum, control equipment shall be tested to verify correct receipt of alarm, supervisory and trouble signals (inputs), operation of evacuation signals and auxiliary functions (outputs), circuit supervision including detection of open circuits and ground faults, and power supply supervision for detection of loss of ac power and disconnection of secondary batteries. (NFPA 72 Table 7-2.2 (1))				
Control Panel	Admin office near receptionist	36080543	1	05/06-P
Device Total: 1				

Sensitivity Testing

Generated by: BuildingReports.com

Building: Palo Verde Elementary School — Control Panel: 1 - Siemens MXL

The Sensitivity Testing section details the sensitivity test ranges and acceptable readings for each type of device. Items are grouped by Passed or Failed/Other. Normally, Devices that perform outside the acceptable range of sensitivity are listed in Failed/Other.

ScanID	Location	Date	Address	Model #	Range	%
			Passed			
Smoke Detector						
36080544	Admin hall by Principal's office	05/06/15	1-1 040	ILP-1	0.8 - 4.0	3.72
36080545	Admin Miss Burns office	05/06/15	1-1 041	ILP-1	0.8 - 4.0	3.46
36081695	Admin Principal's office	05/06/15	1-1 042	ILP-1	0.8 - 4.0	3.38
36081696	Admin Conference Room by Principal's office	05/06/15	1-1 039	ILP-1	0.8 - 4.0	3.29
36081697	Admin office by Principal's office	05/06/15	1-1 038	ILP-1	0.8 - 4.0	3.15
36081698	Admin office across hall from burglar alarm	05/06/15	1-1 037	ILP-1	0.8 - 4.0	3.17
36081699	Admin work / file room	05/06/15	1-1 002	ILP-1	0.8 - 4.0	3.28
36080624	Admin nurse office	05/27/15	1-4 27	ILP-1	0.8 - 4.0	3.47
36080625	Admin health office north	05/27/15	1-4 26	ILP-1	0.8 - 4.0	3.63
36080626	Admin health office south	05/27/15	1-4 25	ILP-1	0.8 - 4.0	3.3
36080627	Admin room A1 West	05/27/15	1-4 1	ILP-1	0.8 - 4.0	3.45
36080628	Admin room A1 east	05/27/15	1-4 02	ILP-1	0.8 - 4.0	3.79
36080629	Admin room A1-A south	05/27/15	1-3 23	ILP-1	0.8 - 4.0	2.98
36080630	Admin room A1-A north	05/27/15	1-3 23	ILP-1	0.8 - 4.0	3.67
36080663	Gymnasium Northwest	05/27/15	1-3 002	ILP-1	0.8 - 4.0	3.37
36080662	Gymnasium Southwest	05/27/15	1-3 001	ILP-1	0.8 - 4.0	3.53
36080660	Gymnasium Southeast Center	05/27/15	1-3 017	ILP-1	0.8 - 4.0	3.53
36080659	Gymnasium Southeast	05/27/15	1-3 016	ILP-1	0.8 - 4.0	3.40
36080658	Gymnasium Northeast	05/27/15	1-3 005	ILP-1	0.8 - 4.0	3.29
36080657	Gymnasium Northeast Center	05/27/15	1-3 004	ILP-1	0.8 - 4.0	3.39
36080656	Gymnasium Northwest Center	05/27/15	1-3 003	ILP-1	0.8 - 4.0	3.35
36080655	Gymnasium stage west	05/27/15	1-4 021	ILP-1	0.8 - 4.0	3.66
36080654	Gymnasium stage east	05/27/15	1-4 020	ILP-1	0.8 - 4.0	3.76
36080648	Gymnasium restroom foyer	05/27/15	1-3 014	ILP-1	0.8 - 4.0	3.13
36080647	Gymnasium hall by cafeteria entry	05/27/15	1-3 012	ILP-1	0.8 - 4.0	3.42
36080646	Gymnasium hall by north foyer	05/27/15	1-3 011	ILP-1	0.8 - 4.0	3.45
36080645	Gymnasium north foyer	05/27/15	1-3 010	ILP-1	0.8 - 4.0	3.28
36080644	Gymnasium ball storage office	05/27/15	1-3 013	ILP-1	0.8 - 4.0	3.28
36080643	Gymnasium cafeteria center	05/27/15	1-3 007	ILP-1	0.8 - 4.0	3.34
36080642	Gymnasium cafeteria west	05/27/15	1-3 008	ILP-1	0.8 - 4.0	3.56
36080641	Gymnasium cafeteria north exit	05/27/15	1-3 009	ILP-1	0.8 - 4.0	3.88
36080640	Gymnasium stage a/v room	05/27/15	1-4 019	ILP-1	0.8 - 4.0	3.42
36080639	Gymnasium music room southwest	05/27/15	1-4 010	ILP-1	0.8 - 4.0	3.42
36080638	Gymnasium stage hallway	05/27/15	1-4 018	ILP-1	0.8 - 4.0	3.53

36080637	Gymnasium music room northwest	05/27/15	1-4 011	ILP-1	0.8 - 4.0	3.14
36080636	Gymnasium music room northeast	05/27/15	1-4 012	ILP-1	0.8 - 4.0	3.65
36080635	Gymnasium music room southeast	05/27/15	1-4 009	ILP-1	0.8 - 4.0	3.41
36080634	Gymnasium music room office	05/27/15	1-4 017	ILP-1	0.8 - 4.0	3.23
36080633	Gymnasium hall by faculty work room	05/27/15	1-4 014	ILP-1	0.8 - 4.0	3.34
36080632	Gymnasium hall by music room	05/27/15	1-4 013	ILP-1	0.8 - 4.0	3.52
36080631	Gymnasium faculty work room	05/27/15	1-3 015	ILP-1	0.8 - 4.0	3.83
36081702	hall by main entry adult restrooms	05/06/15	1-1 043	ILP-1	0.8 - 4.0	3.62
36081703	hall with adult restrooms	05/06/15	1-1 044	ILP-1	0.8 - 4.0	3.24
36081705	hall in front of office by water fountains	05/06/15	1-1 045	ILP-1	0.8 - 4.0	3.22
36081706	hall in front of office east detector near faculty work room	05/06/15	1-1 005	ILP-1	0.8 - 4.0	3.15
36081707	hall between rooms A-1 %26amp; A-2	05/06/15	1-1 006	ILP-1	0.8 - 4.0	2.87
36081711	hall by room A-4	05/06/15	1-1 014	ILP-1	0.8 - 4.0	3.37
36081714	computer lab by multimedia center 3 of 4	05/07/15	1-1 009	ILP-1	0.8 - 4.0	3.24
36081716	library (multimedia center) 1 of 8	05/07/15	1-1 019	ILP-1	0.8 - 4.0	3.60
36081717	library (multimedia center) 2 of 8	05/07/15	1-1 020	ILP-1	0.8 - 4.0	3.71
36081719	library (multimedia center) 4 of 8	05/07/15	1-1 018	ILP-1	0.8 - 4.0	3.65
36081722	library (multimedia center) 7 of 8	05/07/15	1-1 023	ILP-1	0.8 - 4.0	3.99
36081723	library (multimedia center) 8 of 8	05/07/15	1-1 015	ILP-1	0.8 - 4.0	3.33
36081728	classroom B-1 west detector	05/07/15	1-1 035	ILP-1	0.8 - 4.0	3.93
36081729	classroom B-1 east detector	05/07/15	1-1 036	ILP-1	0.8 - 4.0	3.94
36081732	classroom B-3 west detector	05/07/15	1-1 032	ILP-1	0.8 - 4.0	3.80
36081734	classroom B-4 west detector	05/07/15	1-1 030	ILP-1	0.8 - 4.0	3.74
36081735	classroom B-4 east detector	05/07/15	1-1 029	ILP-1	0.8 - 4.0	3.63
36081736	classroom B-5 west detector	05/07/15	1-1 028	ILP-1	0.8 - 4.0	2.97
36081737	classroom B-5 east detector	05/07/15	1-1 027	ILP-1	0.8 - 4.0	3.48
36081738	classroom C-1 west detector	05/07/15	1-2 003	ILP-1	0.8 - 4.0	3.79
36081740	hall between classrooms C-1 and C-2 above storage cabinets	05/07/15	1-2 002	ILP-1	0.8 - 4.0	3.54
36081742	classroom C-2 west detector	05/07/15	1-2 006	ILP-1	0.8 - 4.0	3.30
36081744	classroom C-2 east detector	05/07/15	1-2 007	ILP-1	0.8 - 4.0	2.80
36081745	classroom C-3 west detector	05/07/15	1-2 008	ILP-1	0.8 - 4.0	2.19
36081746	classroom C-3 east detector	05/07/15	1-2 009	ILP-1	0.8 - 4.0	3.30
36081747	classroom C-4 west detector	05/07/15	1-2 010	ILP-1	0.8 - 4.0	3.58
36081750	classroom C-5 east detector	05/07/15	1-2 013	ILP-1	0.8 - 4.0	3.25
36081753	classroom D-3	05/07/15	1-2 021	ILP-1	0.8 - 4.0	3.72
36081754	classroom D-4	05/07/15	1-2 024	ILP-1	0.8 - 4.0	3.58
36081755	classroom D-5	05/07/15	1-2 023	ILP-1	0.8 - 4.0	3.71
36081757	hall by D-1 near double exit doors	05/07/15	1-2 017	ILP-1	0.8 - 4.0	3.56
36081758	hall by D-5	05/07/15	1-2 016	ILP-1	0.8 - 4.0	3.56
36081759	hall between D-5 and B wing doors	05/07/15	1-2 015	ILP-1	0.8 - 4.0	3.85
36081760	hall by B wing doors	05/07/15	1-2 058	ILP-1	0.8 - 4.0	3.86
36081761	common area room with classrooms D-6 to D-9	05/07/15	1-2 027	ILP-1	0.8 - 4.0	3.85
36081704	hall in front of office west detector	05/26/15	1-1 046	ILP-1	0.8 - 4.0	3.59
36082512	classroom D-6	05/26/15	1-2 026	ILP-1	0.8 - 4.0	2.9
36082513	classroom D-7	05/26/15	1-2 025	ILP-1	0.8 - 4.0	3.0
36082515	classroom D-9	05/26/15	1-2 029	ILP-1	0.8 - 4.0	3.14
36082516	hall by B doors	05/26/15	1-2 014	ILP-1	0.8 - 4.0	3.06
36082517	hall by D classrooms	05/26/15	1-2 030	ILP-1	0.8 - 4.0	3.85

36082518	hall outside library	05/26/15	1-2 031	ILP-1	0.8 - 4.0	2.22
36082519	back entrance	05/26/15	1-2 032	ILP-1	0.8 - 4.0	3.77
36082520	back entrance	05/26/15	1-2 033	ILP-1	0.8 - 4.0	2.8
36082521	back entrance foyer	05/26/15	1-2 034	ILP-1	0.8 - 4.0	2.65
36082522	classroom E-2	05/26/15	1-2 037	ILP-1	0.8 - 4.0	2.81
36082523	classroom E-3	05/26/15	1-2 038	ILP-1	0.8 - 4.0	2.56
36082524	classroom E-1B	05/26/15	1-2 036	ILP-1	0.8 - 4.0	2.63
36082525	classroom E-1A	05/26/15	1-2 035	ILP-1	0.8 - 4.0	3.17
36082526	hall by E doors	05/26/15	1-2 045	ILP-1	0.8 - 4.0	3.31
36082527	hall by E doors	05/26/15	1-2 044	ILP-1	0.8 - 4.0	3.04
36082528	common area room with classrooms E-1 to E-5	05/26/15	1-2 039	ILP-1	0.8 - 4.0	3.14
36082529	classroom E-4	05/26/15	1-2 040	ILP-1	0.8 - 4.0	2.16
36082530	classroom E-5	05/26/15	1-2 041	ILP-1	0.8 - 4.0	3.66
36080615	hall outside music area	05/26/15	1-2 043	ILP-1	0.8 - 4.0	3.07
36080614	hall custodian closet	05/26/15	1-2 042	ILP-1	0.8 - 4.0	2.98
36080613	hall by E classrooms	05/26/15	1-3 019	ILP-1	0.8 - 4.0	3.42
36080611	common area by classrooms E-6 to E-10	05/26/15	1-3 025	ILP-1	0.8 - 4.0	3.07
36080610	West Exit	05/26/15	1-3 021	ILP-1	0.8 - 4.0	2.99
36080652	classroom E-7	05/27/15	1-3 026	ILP-1	0.8 - 4.0	2.33
36080651	classroom E-8	05/27/15	1-3 024	ILP-1	0.8 - 4.0	2.98
36080650	classroom E-9	05/27/15	1-3 023	ILP-1	0.8 - 4.0	3.50
36080649	classroom E-10	05/27/15	1-3 022	ILP-1	0.8 - 4.0	3.32
36080619	room A4 west	05/27/15	1-4 7	ILP-1	0.8 - 4.0	3.29
36080620	room A3 west	05/27/15	1-4 5	ILP-1	0.8 - 4.0	3.23
36080621	room A3 east	05/27/15	1-4 6	ILP-1	0.8 - 4.0	3.07
36080622	room A2 east	05/27/15	1-4 4	ILP-1	0.8 - 4.0	3.52
36080623	room A2 west	05/27/15	1-4 3	ILP-1	0.8 - 4.0	3.15
			Failed/Other			
Smoke Detector						
36081700	Admin copy room south detector	05/06/15	1-1 003	ILP-1	0.8 - 4.0	4.48
36081701	Admin copy room north detector	05/06/15	1-1 004	ILP-1	0.8 - 4.0	4.21
36080661	Gymnasium Southwest Center	05/27/15	1-3 018	ILP-1	1.62 - 3.62	4.11
36081708	hall by room A-2	05/06/15	1-1 011	ILP-1	0.8 - 4.0	5.18
36081709	hall by room A-3	05/06/15	1-1 012	ILP-1	0.8 - 4.0	4.40
36081710	hall between rooms A-3 %26amp; A-4	05/06/15	1-1 013	ILP-1	0.8 - 4.0	5.20
36081712	computer lab by multimedia center 1 of 4	05/07/15	1-1 010	ILP-1	0.8 - 4.0	4.28
36081713	computer lab by multimedia center 2 of 4	05/07/15	1-1 007	ILP-1	0.8 - 4.0	4.26
36081715	computer lab by multimedia center 4 of 4	05/07/15	1-1 008	ILP-1	0.8 - 4.0	5.62
36081718	library (multimedia center) 3 of 8	05/07/15	1-1 021	ILP-1	0.8 - 4.0	5.00
36081720	library (multimedia center) 5 of 8	05/07/15	1-1 022	ILP-1	0.8 - 4.0	>5.40
36081721	library (multimedia center) 6 of 8	05/07/15	1-1 017	ILP-1	0.8 - 4.0	5.11
36081724	library (multimedia center) sub-room C	05/07/15	1-1 026	ILP-1	0.8 - 4.0	4.14
36081725	library (multimedia center) sub-room B	05/07/15	1-1 025	ILP-1	0.8 - 4.0	4.12
36081726	library (multimedia center) office	05/07/15	1-1 016	ILP-1	0.8 - 4.0	5.58
36081730	classroom B-2 west detector	05/07/15	1-1 034	ILP-1	0.8 - 4.0	4.08
36081731	classroom B-2 east detector	05/07/15	1-1 033	ILP-1	0.8 - 4.0	>5.10
36081733	classroom B-3 east detector	05/07/15	1-1 031	ILP-1	0.8 - 4.0	4.23
36081739	classroom C-1 east detector	05/07/15	1-2 004	ILP-1	0.8 - 4.0	4.33

36081741	hall between classrooms C-1 and C-2 in storage room	05/07/15	1-2 001	ILP-1	0.8 - 4.0	>5.15
36081743	office between classrooms C-1 and C-2	05/07/15	1-2 005	ILP-1	0.8 - 4.0	>5.03
36081748	classroom C-4 east detector	05/07/15	1-2 011	FP-11	0.63 - 3.61	4.20
36081749	classroom C-5 west detector	05/07/15	1-2 012	ILP-1	0.8 - 4.0	4.11
36081751	classroom D-1	05/07/15	1-2 019	ILP-1	0.8 - 4.0	4.06
36081756	common area room with classrooms D-1 to D-5	05/07/15	1-2 022	ILP-1	1.62 - 3.62	0.83
36081752	classroom D-2	05/26/15	1-2 020	ILP-1	0.8 - 4.0	5.06
36082514	classroom D-8	05/26/15	1-2 028	ILP-1	0.8 - 4.0	4.16
36080612	hall by west exit	05/26/15	1-3 020	ILP-1	1.62 - 3.62	4.08
36080653	classroom E-6	05/27/15	1-3 027	ILP-1	1.62 - 3.62	4.10
36080618	room A4 east	05/27/15	1-4 8	ILP-1	1.62 - 3.62	4.27

Inventory & Warranty Report

Generated by: BuildingReports.com

Building: Palo Verde Elementary School Control Panel: 1 - Siemens MXL

The Inventory & Warranty Report lists each of the devices and items that are included in your Inspection Report. A complete inventory count by device type and category is provided. Items installed within the last 90 days, within the last year, and devices installed for two years or more are grouped together for easy reference.

Device or Item	Category	% of Inventory	Quantity
Smoke Detector	Initiating	99.29%	140
Control Panel	Control	0.71%	1

Type	Qty	Model #	Description	Install Date
New (under 90 days)				
Cerberus-Pyrotronics				
Smoke Detector	1	FP-11	Photoelectric	05/06/2015
Siemens				
Control Panel	1	MXL		05/06/2015
Smoke Detector	139	ILP-1	Photoelectric	05/06/2015

Zone Address Report

Generated by: BuildingReports.com

Building: Palo Verde Elementary School Control Panel: 1 - Siemens MXL

The Zone Address Report lists all of the devices and items that have an individual address, or are grouped together under a common zone. The device type, location, and description are included for your reference.

Address	Device Type	Location	Type	ScanID
Zone/Circuit: 1				
002	Smoke Detector	Admin work / file room	Photoelectric	36081699
003	Smoke Detector	Admin copy room south detector	Photoelectric	36081700
004	Smoke Detector	Admin copy room north detector	Photoelectric	36081701
005	Smoke Detector	hall in front of office east detector near faculty work room	Photoelectric	36081706
006	Smoke Detector	hall between rooms A-1 %26amp; A-2	Photoelectric	36081707
007	Smoke Detector	computer lab by multimedia center 2 of 4	Photoelectric	36081713
008	Smoke Detector	computer lab by multimedia center 4 of 4	Photoelectric	36081715
009	Smoke Detector	computer lab by multimedia center 3 of 4	Photoelectric	36081714
010	Smoke Detector	computer lab by multimedia center 1 of 4	Photoelectric	36081712
011	Smoke Detector	hall by room A-2	Photoelectric	36081708
012	Smoke Detector	hall by room A-3	Photoelectric	36081709
013	Smoke Detector	hall between rooms A-3 %26amp; A-4	Photoelectric	36081710
014	Smoke Detector	hall by room A-4	Photoelectric	36081711
015	Smoke Detector	library (multimedia center) 8 of 8	Photoelectric	36081723
016	Smoke Detector	library (multimedia center) office	Photoelectric	36081726
017	Smoke Detector	library (multimedia center) 6 of 8	Photoelectric	36081721
018	Smoke Detector	library (multimedia center) 4 of 8	Photoelectric	36081719
019	Smoke Detector	library (multimedia center) 1 of 8	Photoelectric	36081716
020	Smoke Detector	library (multimedia center) 2 of 8	Photoelectric	36081717
021	Smoke Detector	library (multimedia center) 3 of 8	Photoelectric	36081718
022	Smoke Detector	library (multimedia center) 5 of 8	Photoelectric	36081720
023	Smoke Detector	library (multimedia center) 7 of 8	Photoelectric	36081722
024?	Smoke Detector	library (multimedia center) sub-room A (no access, barcode on door frame)	Photoelectric	36081727
025	Smoke Detector	library (multimedia center) sub-room B	Photoelectric	36081725
026	Smoke Detector	library (multimedia center) sub-room C	Photoelectric	36081724
027	Smoke Detector	classroom B-5 east detector	Photoelectric	36081737
028	Smoke Detector	classroom B-5 west detector	Photoelectric	36081736
029	Smoke Detector	classroom B-4 east detector	Photoelectric	36081735
030	Smoke Detector	classroom B-4 west detector	Photoelectric	36081734
031	Smoke Detector	classroom B-3 east detector	Photoelectric	36081733
032	Smoke Detector	classroom B-3 west detector	Photoelectric	36081732

033	Smoke Detector	classroom B-2 east detector	Photoelectric	36081731
034	Smoke Detector	classroom B-2 west detector	Photoelectric	36081730
035	Smoke Detector	classroom B-1 west detector	Photoelectric	36081728
036	Smoke Detector	classroom B-1 east detector	Photoelectric	36081729
037	Smoke Detector	Admin office across hall from burglar alarm	Photoelectric	36081698
038	Smoke Detector	Admin office by Principal's office	Photoelectric	36081697
039	Smoke Detector	Admin Conference Room by Principal's office	Photoelectric	36081696
040	Smoke Detector	Admin hall by Principal's office	Photoelectric	36080544
041	Smoke Detector	Admin Miss Burns office	Photoelectric	36080545
042	Smoke Detector	Admin Principal's office	Photoelectric	36081695
043	Smoke Detector	hall by main entry adult restrooms	Photoelectric	36081702
044	Smoke Detector	hall with adult restrooms	Photoelectric	36081703
045	Smoke Detector	hall in front of office by water fountains	Photoelectric	36081705
046	Smoke Detector	hall in front of office west detector	Photoelectric	36081704
Zone/Circuit: 2				
001	Smoke Detector	hall between classrooms C-1 and C-2 in storage room	Photoelectric	36081741
002	Smoke Detector	hall between classrooms C-1 and C-2 above storage cabinets	Photoelectric	36081740
003	Smoke Detector	classroom C-1 west detector	Photoelectric	36081738
004	Smoke Detector	classroom C-1 east detector	Photoelectric	36081739
005	Smoke Detector	office between classrooms C-1 and C-2	Photoelectric	36081743
006	Smoke Detector	classroom C-2 west detector	Photoelectric	36081742
007	Smoke Detector	classroom C-2 east detector	Photoelectric	36081744
008	Smoke Detector	classroom C-3 west detector	Photoelectric	36081745
009	Smoke Detector	classroom C-3 east detector	Photoelectric	36081746
010	Smoke Detector	classroom C-4 west detector	Photoelectric	36081747
011	Smoke Detector	classroom C-4 east detector	Photoelectric	36081748
012	Smoke Detector	classroom C-5 west detector	Photoelectric	36081749
013	Smoke Detector	classroom C-5 east detector	Photoelectric	36081750
014	Smoke Detector	hall by B doors	Photoelectric	36082516
015	Smoke Detector	hall between D-5 and B wing doors	Photoelectric	36081759
016	Smoke Detector	hall by D-5	Photoelectric	36081758
017	Smoke Detector	hall by D-1 near double exit doors	Photoelectric	36081757
019	Smoke Detector	classroom D-1	Photoelectric	36081751
020	Smoke Detector	classroom D-2	Photoelectric	36081752
021	Smoke Detector	classroom D-3	Photoelectric	36081753
022	Smoke Detector	common area room with classrooms D-1 to D-5	Photoelectric	36081756
023	Smoke Detector	classroom D-5	Photoelectric	36081755
024	Smoke Detector	classroom D-4	Photoelectric	36081754
025	Smoke Detector	classroom D-7	Photoelectric	36082513
026	Smoke Detector	classroom D-6	Photoelectric	36082512
027	Smoke Detector	common area room with classrooms D-6 to D-9	Photoelectric	36081761
028	Smoke Detector	classroom D-8	Photoelectric	36082514
029	Smoke Detector	classroom D-9	Photoelectric	36082515

030	Smoke Detector	hall by D classrooms	Photoelectric	36082517
031	Smoke Detector	hall outside library	Photoelectric	36082518
032	Smoke Detector	back entrance	Photoelectric	36082519
033	Smoke Detector	back entrance	Photoelectric	36082520
034	Smoke Detector	back entrance foyer	Photoelectric	36082521
035	Smoke Detector	classroom E-1A	Photoelectric	36082525
036	Smoke Detector	classroom E-1B	Photoelectric	36082524
037	Smoke Detector	classroom E-2	Photoelectric	36082522
038	Smoke Detector	classroom E-3	Photoelectric	36082523
039	Smoke Detector	common area room with classrooms E-1 to E-5	Photoelectric	36082528
040	Smoke Detector	classroom E-4	Photoelectric	36082529
041	Smoke Detector	classroom E-5	Photoelectric	36082530
042	Smoke Detector	hall custodian closet	Photoelectric	36080614
043	Smoke Detector	hall outside music area	Photoelectric	36080615
044	Smoke Detector	hall by E doors	Photoelectric	36082527
045	Smoke Detector	hall by E doors	Photoelectric	36082526
058	Smoke Detector	hall by B wing doors	Photoelectric	36081760
Zone/Circuit: 3				
001	Smoke Detector	Gymnasium Southwest	Photoelectric	36080662
002	Smoke Detector	Gymnasium Northwest	Photoelectric	36080663
003	Smoke Detector	Gymnasium Northwest Center	Photoelectric	36080656
004	Smoke Detector	Gymnasium Northeast Center	Photoelectric	36080657
005	Smoke Detector	Gymnasium Northeast	Photoelectric	36080658
007	Smoke Detector	Gymnasium cafeteria center	Photoelectric	36080643
008	Smoke Detector	Gymnasium cafeteria west	Photoelectric	36080642
009	Smoke Detector	Gymnasium cafeteria north exit	Photoelectric	36080641
010	Smoke Detector	Gymnasium north foyer	Photoelectric	36080645
011	Smoke Detector	Gymnasium hall by north foyer	Photoelectric	36080646
012	Smoke Detector	Gymnasium hall by cafeteria entry	Photoelectric	36080647
013	Smoke Detector	Gymnasium ball storage office	Photoelectric	36080644
014	Smoke Detector	Gymnasium restroom foyer	Photoelectric	36080648
015	Smoke Detector	Gymnasium faculty work room	Photoelectric	36080631
016	Smoke Detector	Gymnasium Southeast	Photoelectric	36080659
017	Smoke Detector	Gymnasium Southeast Center	Photoelectric	36080660
018	Smoke Detector	Gymnasium Southwest Center	Photoelectric	36080661
019	Smoke Detector	hall by E classrooms	Photoelectric	36080613
020	Smoke Detector	hall by west exit	Photoelectric	36080612
021	Smoke Detector	West Exit	Photoelectric	36080610
022	Smoke Detector	classroom E-10	Photoelectric	36080649
023	Smoke Detector	classroom E-9	Photoelectric	36080650
024	Smoke Detector	classroom E-8	Photoelectric	36080651
025	Smoke Detector	common area by classrooms E-6 to E-10	Photoelectric	36080611
026	Smoke Detector	classroom E-7	Photoelectric	36080652
027	Smoke Detector	classroom E-6	Photoelectric	36080653
23	Smoke Detector	Admin room A1-A north	Photoelectric	36080630
23	Smoke Detector	Admin room A1-A south	Photoelectric	36080629
Zone/Circuit: 4				
009	Smoke Detector	Gymnasium music room southeast	Photoelectric	36080635

010	Smoke Detector	Gymnasium music room southwest	Photoelectric	36080639
011	Smoke Detector	Gymnasium music room northwest	Photoelectric	36080637
012	Smoke Detector	Gymnasium music room northeast	Photoelectric	36080636
013	Smoke Detector	Gymnasium hall by music room	Photoelectric	36080632
014	Smoke Detector	Gymnasium hall by faculty work room	Photoelectric	36080633
017	Smoke Detector	Gymnasium music room office	Photoelectric	36080634
018	Smoke Detector	Gymnasium stage hallway	Photoelectric	36080638
019	Smoke Detector	Gymnasium stage a/v room	Photoelectric	36080640
02	Smoke Detector	Admin room A1 east	Photoelectric	36080628
020	Smoke Detector	Gymnasium stage east	Photoelectric	36080654
021	Smoke Detector	Gymnasium stage west	Photoelectric	36080655
1	Smoke Detector	Admin room A1 West	Photoelectric	36080627
25	Smoke Detector	Admin health office south	Photoelectric	36080626
26	Smoke Detector	Admin health office north	Photoelectric	36080625
27	Smoke Detector	Admin nurse office	Photoelectric	36080624
3	Smoke Detector	room A2 west	Photoelectric	36080623
4	Smoke Detector	room A2 east	Photoelectric	36080622
5	Smoke Detector	room A3 west	Photoelectric	36080620
6	Smoke Detector	room A3 east	Photoelectric	36080621
7	Smoke Detector	room A4 west	Photoelectric	36080619
8	Smoke Detector	room A4 east	Photoelectric	36080618

From: Michael Munger
Sent: Monday, July 20, 2015 1:04 PM
To: Dennis York
Subject: FW: Inspection Reports
Attachments: Palo-Verde-Elementary-School Inspection 5-27-15.pdf; Ironwood-Elementary-School Inspection 5-26-15.pdf

Here is the report Dan Dunel would like attached to the BRG for Palo Verde. I would include the e-mail below with Jacks recommendations for replacing the panel. thanks

---

From: Jack Carney [mailto:Jack.Carney@wsfp.us]
Sent: Thursday, July 09, 2015 7:41 PM
To: Dennis York <dennis.york@cgelem.k12.az.us>
Cc: Michael Munger <Michael.Munger@cgelem.k12.az.us>; Charlie Herrin <Charlie.Herrin@wsfp.us>
Subject: RE: Inspection Reports

Dennis

Attached please find our inspection reports for the Palo Verde and Ironwood Elementary Schools. I have provided a summary below of our findings.

Palo Verde

- This location has 140 smoke detectors
- 30 failed the sensitivity test
- The range for detector sensitivity should be between 0.8 to 4.0. The Anything outside of these parameters is considered a failed test. The detectors that failed came in anywhere between and .83 to 5.4. The lower number meaning that it would be too sensitive and the higher number meaning it would not be as sensitive or will take longer to respond to a fire condition, not necessarily that it will not work.
- We did end up replacing the detector that was at .83 because it appeared to be going into alarm frequently. This should have weeded out the ones that are causing nuisance alarms.
- Since we did clean the devices they will hopefully be able to respond better than they have in the past.
- Since the detectors are quite expensive, approximately $320.00 per device, it is somewhat cost prohibitive to replace all 30 of them. Last time I checked with our supplier there were only a handful available.
- As I noted in previous correspondence, you may want to start budgeting for the replacement of the fire alarm system in this school since the panel and devices are obsolete.

Ironwood Elementary

- This location has 77 smoke detectors.
- 1 failed the sensitivity test.
- The range for detector sensitivity should be between 0.8 to 4.0. The device that failed the sensitivity test was so close to the high threshold number that I would not consider replacing the device.
- Since we did clean the devices they will hopefully be able to respond better than they have in the past.
- The fire alarm panel appears to have been replaced not too long ago. The panel that was installed is a Fire-Lite MA-9600 addressable fire alarm panel. When the panel was replaced it appears as though they kept the existing detection devices that were originally installed which are conventional zoned detection devices. There are new boards installed that have the capability of wiring the existing conventional zoned detection into these zones. The panel would have the capability in the future to replace the old hard wired devices with new addressable devices.

- At this point unless the system causes problems in the future, I would not recommend replacing anything. If you did want to replace any of the detection devices you could either replace them with conventional detection devices similar to what is installed or you would have the option to replace the detectors with addressable detectors. Please note that if you go the route of replacing the detectors with addressable devices, you would not be able to replace only one conventional device with one addressable device. As a minimum you would need to replace all of the detectors on that loop with new devices. This could be up to 30 devices since a conventional detection loop can have as many as 30 devices per loop.

I hope that this helps to provide you with a summary of what we found during our testing. If you have any additional questions or if I can be of any assistance please do not hesitate to contact me.

Thank You
Jack Carney

Western States Fire Protection Co.
Protecting Lives and Property
a subsidiary of ARI Group, Inc.

Jack Carney | Sales
Western States Fire Protection Co. WSFP.COM
4346 East Elwood Street, Phoenix, AZ 85040
O: 602-272-2200 | M: 480-625-8095 | F: 602-272-7972 | D: 480-351-5014

From: Dennis York [mailto:dennis.york@cgelem.k12.az.us]
Sent: Thursday, July 09, 2015 6:16 AM
To: Jack Carney
Cc: Michael Munger
Subject: RE: Inspection Reports

Jack,

Please “cc” Michael Munger when sending the reports.

Thanks,
Dennis

Dennis York
Director of Purchasing
Casa Grande Elementary School District #4
220 W. Kortsen Road, Casa Grande, AZ 85122
Office 520-876-3204 Cell 520-371-4268 Fax 520-876-3633

From: Jack Carney [mailto:Jack.Carney@wsfp.us]
Sent: Wednesday, July 08, 2015 6:15 PM
To: Dennis York
Cc: Charlie Herrin

Subject: Inspection Reports

Dennis

Sorry for the delay getting back to you on this. Frank should have been sent the reports for both of these locations back in May. When I get back in the office I will get the reports and send them over to you with a summary of the findings.

Thank You
Jack Carney



Jack Carney | Sales
Western States Fire Protection Co. WSFP.COM
4346 East Elwood Street, Phoenix, AZ 85040
O: 602-272-2200 | M: 480-625-8095 | F: 602-272-7972 | D: 480-351-5014

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Clarkdale-Jerome Elementary 007BRG

Background – Clarkdale-Jerome Elementary (Clarkdale-Jerome ES – correct drainage)

Clarkdale-Jerome Elementary has submitted a Building Renewal Grant request to replace the storm water drain and correct the drainage at the basketball court and south parking lot at Clarkdale-Jerome Elementary School.

Clarkdale-Jerome Elementary, located 105 miles north of Phoenix, has one school. Clarkdale-Jerome Elementary School is comprised of 11 buildings constructed between 1984 and 2002, totaling 48,288 square feet.

The underground storm water drain has collapsed due to age and is causing ponding/icing during the summer/winter rains and has become a safety hazard on the basketball court/playground, parking lot and surrounding areas.

The district received proposals for the drainage correction; the lowest was $14,007. Including sales tax estimated at $1,020, the total is $15,027.

Criteria for Eligibility

Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Clarkdale-Jerome Elementary (Clarkdale-Jerome ES – correct drainage)

Staff recommends that Clarkdale-Jerome Elementary be awarded $17,000 in Building Renewal Grant funding to replace the storm water drain and correct the drainage at Clarkdale-Jerome Elementary School. This includes $1,973 in contingency that will only be used with SFB staff approval.

Board Action Requested:

Board approval of the staff recommendation that **Clarkdale-Jerome Elementary** be awarded $17,000 in Building Renewal Grant funding to replace the storm water drain and correct the drainage at Clarkdale-Jerome Elementary School. This includes $1,973 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Clarkdale-Jerome_ESD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729161740-0001.pdf	documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Clarkdale-Jerome Elementary**
BRG Project Number: **130403101-9999-007BRG** Yavapai County
Project Description: **Correct drainage**
Architect of Record: n/a
Contractor: TC Excavating

Board approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 15,027**
Contingency ①		**$ 1,973**
Architecture / Engineering (A&E)		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 17,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 17,000**
Total Project Cost:		**$ 17,000**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 3/6/2015 9:48:10 AM **Application ID:** 1908
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Clarkdale-Jerome Elementary District
Superintendent: Kathleen Fleenor
Contact Person: Dave Chapman
Contact Phone Number: 928-634-5035
Contact Email: david.chapman@cjsd.k12.az.us
School Site: Clarkdale-Jerome Elementary School
Buildings: 9999 School Wide

Application Title: Playground Drainage

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Concrete area on the back playground is no longer draining properly. It has been determined that the drainage pipe has collapsed. The concrete would need to be cut and a new drainage system would need to be installed.

Project Category: General Renovations

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

This issue is not covered by insurance and we have no other sources of funding. This issue creates an unsafe hazard on the playground after any amount of rain received.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Kathleen Fleenor / Kathleen Fleenor
Superintendent Printed Name

T.C EXCAVATING L.L.C

PO BOX 639
CLARKDALE, AZ 86324
PH# 928-300-7502
FAX# 928-634-1627

Estimate

Date	Estimate #
7/23/2015	88

Name / Address
Clarkdale jerome School Dave Chapman 634-5035 ext 345 639-0917 fax Dave.Chapman@cjsd.k12.az.us

Project

Description	Qty	Cost	Total
REAR PARKING LOT DRAINAGE		14,007.00	14,007.00T
DISCRIPTION : Sawcut and remove approx. 250' x 2' concrete slab 4" thick Remove defective 6 " pipe and drain boxes Install new 8" SDR35 drain pipe approx. 350' to new 12" cmp x approx 40' to be installed at driveway to bus barn . Pour 5 new 12" square drain boxes to appropriate depth for pipe to drain with metal grate to match existing locations of drains. Replace concrete over new 8" pipe with 6" of new concrete pinned to existing concrete with #4 rebar . Dig new drainage swale to take water from 12" cmp to irrigation ditch approx 60 ft,haul all excess spoils onsite to disposal area across drainage/irrigation ditch.			
Clauses and Exclusions : Hard Rock Clause always in affect T.C Excavating is not responsible for any underground pipes or utilities which cannot be located by AZ811/ AZ Bluestake T.C Excavating is not responsible for unknown conditions such as underground concrete structures or thickened slabs which are not visible.			
Sales Tax		0.00%	0.00
		Total	$14,007.00

Customer Signature _____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Cochise Elementary 001BRG
Background – Cochise Elementary (fire alarm replacement)
Cochise Elementary has submitted a Building Renewal Grant request for the replacement of the fire alarm system at Cochise Elementary School.

Cochise Elementary School District, located 196 miles southeast of Phoenix, has one school. Cochise Elementary School is comprised of nine buildings constructed between 1911 and 1996, totaling 25,613 square feet.

The fire alarm system has multiple failures that need to be corrected and parts are no longer available. The district has received proposals for replacement. The lowest proposal ($73,725) includes the option for an upgrade to voice evacuation that is not currently required, but will be required with the State Fire Marshal's adoption of a new code that is in process and should be completed before 6 months or sooner. The cost for this upgrade is $10,080 and is included in the total above ($63,645 without the voice evacuation upgrade).

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Cochise Elementary (Cochise ES - fire alarm replacement)
Staff recommends that Cochise Elementary be awarded $81,100 in Building Renewal Grant funding for the fire alarm replacement (with voice evacuation) at Cochise Elementary School. This includes $7,375 in contingency that will only be used with SFB staff approval.

Board Action Requested:

Motion A:
Board approval of the staff recommendation that **Cochise Elementary** be awarded $81,100 in Building Renewal Grant funding for the fire alarm replacement (with voice evacuation) at Cochise Elementary School. This includes $7,376 in contingency that will only be used with SFB staff approval.

Motion B:
Board approval that **Cochise Elementary** be awarded $70,045 in Building Renewal Grant funding for the fire alarm replacement (with voice evacuation) at Cochise Elementary School. This includes $6,400 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Cochise_ESD_001BRG_Vertical_Sheet_-_Motion_A.pdf	Vertical Sheet - Motion A	8/12/2015	Executive Summary
Cochise_ESD_001BRG_Vertical_Sheet_-			

_Motion_B.pdf	Vertical Sheet - Motion B	8/12/2015	Executive Summary
Signed_BRG.pdf	Signed BRG Application	7/30/2015	Cover Memo
CSTbid000.pdf	Low Bid Proposal	7/30/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Cochise Elementary**
BRG Project Number: **020326101-9999-001BRG** Cochise County
Project Description: **Fire alarm replacement**
Architect of Record: n/a
Contractor: CST (480-890-2260)

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 73,725**
Contingency		**$ 7,375**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 81,100**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 81,100**
Total Project Cost:		**$ 81,100**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Cochise Elementary**
BRG Project Number: **020326101-9999-001BRG** Cochise County
Project Description: **Fire alarm replacement**
Architect of Record: n/a
Contractor: CST (480-890-2260)

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 63,645**
Contingency		**$ 6,400**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 70,045**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 70,045**
Total Project Cost:		**$ 70,045**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date:
Resubmittal Date:

Application ID: 2147

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Cochise Elementary District
Superintendent:	Karl Uterhardt
Contact Person:	Karl Uterhardt
Contact Phone Number:	520-384-2540
Contact Email:	kuterhardt@cochiseschool.org
School Site:	Cochise Elementary School
Buildings:	9999 School Wide

Application Title: Fire Alarm system

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Our current system is malfunctioning and I have found out they do not make repair parts for this system anymore. A replacement is vital for our school and the safety of our students.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? ?

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

The district does not have funds for this emergency project.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Karl Uterhardt
Superintendent Printed Name

Karl Uterhardt
Superintendent Signature

7/29/15
Date

Commercial Systems Technology, Inc.

Date: JULY 22, 2015

To: Cochise School District #26
P.O. BOX 1088
Cochise, Arizona 85606

State of Arizona School Facility Board
1700 W. Washington Street Suite 104
Phoenix Arizona 85007

Attn: Mr. Karl Uterhardt
(520) 384-2540
kuterhard@cochiseschool.org

Dan Demland
(602) 542-6567
ddemland@azsfb.gov

Total pages 2

Re: **Cochise Elementary School (Life Safety Fire Alarm System)**

Dear Mr. Uterhardt and Mr. Demland, per our conversation please see the below response for replacing the Fire Alarm System for the above facility. With the issues you're having on the existing system we understand the importance of getting this completed and back on line right away.

We will be installing an addressable main Fire Alarm Control Panel in the same location as the existing. This proposal includes fire alarm coverage for the existing four (4) school buildings, the gymnasium and the maintenance building.

This proposal is per the current State Fire Marshal Office & School Facilities Board (SFB) fire alarm requirements. We will be producing drawings and pulling a fire alarm permit with the State Fire Marshal's Office.

With the way the campus is spread out, we will be installing additional alarm notification boosters to power the ADA appliance devices. Many of the notification appliances are outdated and don't meet the code requirements. We also noticed many restrooms don't have notification appliances. These restrooms are required to have a strobe unit by current code. Our proposal includes installing these additional devices to meet code.

Fire Alarm System----	$59,985.00
Tax 6.1%----	$ 3659.09
TOTAL COST	**$63,644.09**

There will be **NO Change Orders** for anything that is required to meet the State Fire Marshal Requirements unless the voice evacuation s required. I have included an alternate cost for this item.

There will be fire alarm devices installed in every classroom, hallway, corridor, restrooms and electrical rooms per the State Fire Marshal requirements. Conduit, wiring, AC Power and compatible devices will be reincorporated into the new system. Where required additional devices will be installed to meet code.

With the issues you're having, I understand the importance of getting this completed right away and getting these areas protected. We can start immediately upon your request.

Alternate quote:

The State Fire Marshal's Office has a proposal before the legislature to require the Fire Alarm System to include voice evacuation on all Fire Alarm Systems. The current codes and requirements of the State Fire Marshal and the State Facilities Board do not require the voice evacuation be added to the Fire Alarm System at this current time. I have included an **add on** price to the base bid if you want to add the voice evacuation to this quote or if the State Fire Marshal's Office requires it when they review the submitted plans.

Additional cost -	**$ 9,500.00**
Tax 6.1% -	**$ 579.50**
Total additional cost -	**$10,079.50**

Notes:

- Any and all device locations that are not being reused will be blanked off with a protective cover.
- All above pricing does not include bonds. A bond can be provided at additional cost.
- All pricing will be held for 30 days from above date.
- Fire watch is not included in this proposal.
- Existing sprinkler flow & tamper switches, kitchen ansul & hood system will remain as is and will be reincorporated back into the new system.
- Above pricing includes the state fire marshal permit fees.
- The system is capable of off-site monitoring. Existing phone lines and contract would be responsibility of the school. At this time the current monitoring lines will be reused unless otherwise directed be the district.
- We will be using all the existing underground conduits and this quote does not include the repair or replacement of those conduits should it be required. I would recommend you add a 10% contingency fee to the purchase order for any unforeseen issues. This contingency would only be used with your written permission prior to the work being done.

As always, we appreciate working School Facility Board (SFB) and I look forward to working with you on this project.

Sincerely

Dennis B. Edwards

Dennis B. Edwards
CST / Commercial System Technology Inc.
204 South Mesa Drive
Mesa Arizona 85204

Office # 480 890-2260
Mobile # 480 628-8899
Fax # 480 890-2263
Web: www.cst-az.com /
Email dedwards@cst-az.com

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Flagstaff Unified 006BRG
Background – Flagstaff Unified (Sinagua JHS – roof repair/ replacement)
Flagstaff Unified has submitted a Building Renewal Grant request to repair/replace the standing seam-metal roof and single-ply roofs on all buildings at Sinagua Junior High School.

Flagstaff Unified, located 144 miles north of Phoenix, has 19 schools. Sinagua Junior High School is comprised of six buildings constructed in 1989, totaling 237,356 square feet.

Staff has visited the site with roof consultants and confirms roofing repairs were performed, but the roofs continue to leak. Conditions that need to be addressed include expansion and contraction of the roof panel length due to the swing in temperatures, flat roof areas that transition to metal roofs, roof transitions at the walls, and masonry wall expansion joint caulking, etc.

The contractor that installed the roof is no longer in business. The district used other contractors to make the repairs without notifying the manufacturer. The manufacturer has voided the roof warranty because non-manufacturer certified roofers conducted repairs. SFB staff and the district plan to meet with the manufacturer with the hope of restoring a warranty for this roofing system. The project is being expedited because there are only a few months until snow season.

The single ply roofs need to be repaired and replaced not because of age, but because of the failure of the transitions to the metal roofs and wall terminations. The design approach will include repairs to the existing metal roof to extend its useful life and restore the warranty. The estimated cost for construction and repair is outlined below:

Design	$19,720
Estimated Construction Cost	$93,000
Estimated Snow Rake Cost	$30,000
Estimated Gutter Replacement	$15,000
Estimated Masonry Exp. Joint Repair	$45,000
Asbestos Survey/Oversight (Estimated)	$8,000
Asbestos Abatement (Estimated)	$15,000
Contingency	$25,000
Total funding requested:	$250,720

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative work.

Staff Recommendation – Flagstaff Unified (Sinagua JHS – roof repair/replacement)
Staff recommends that Flagstaff Unified be awarded $250,720 in Building Renewal Grant funding to replace

and repair the roofing on all buildings at Sinagua Junior High School. This includes $25,000 for contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Flagstaff Unified** be awarded $250,720 in Building Renewal Grant funding to replace and repair the roofing on all buildings at Sinagua Junior High School. This includes $25,000 for contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Flagstaff_USD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_Application.pdf	Signed Application	8/3/2015	Cover Memo
Sinagua_Middle_School_Roof__Wall_Consulting_Proposal_7-24-15.pdf	Roof Consultants Proposal	7/24/2015	Cover Memo
Preliminary_Roof_Assessment.pdf	1_WRECORP Roof Assessment	7/31/2015	Cover Memo
DSCN5033.JPG	Photo_ Flat roof to Metal Roof	7/24/2015	Cover Memo
DSCN5034.JPG	Photo_ Flat roof to Metal Roof2	7/24/2015	Cover Memo
DSCN5035.JPG	Photo_ Flat roof to Metal Roof3	7/24/2015	Cover Memo
DSCN5036.JPG	Photo_ Flat roof to Metal Roof4	7/24/2015	Cover Memo
07-07-14_165.JPG	Photo_ Flat roof to Metal Roof5	7/24/2015	Cover Memo
07-07-14_184.JPG	Photo_ Flat roof to Metal Roof6	7/24/2015	Cover Memo
07-07-14_251.JPG	Photo_Typical at all pitch pockets	7/24/2015	Cover Memo
07-07-14_205.JPG	Photo_Failed Expansion Joint Typical	7/24/2015	Cover Memo
07-07-14_223.JPG	Photo_Showing screws are backing out due to expansion	7/24/2015	Cover Memo
IMG_0978.JPG	Photo_Sewer Vent Missing	7/24/2015	Cover Memo
IMG_0989.JPG	Photo_Power Vent Cap Missing allowing snow/rain into the interior	7/24/2015	Cover Memo
IMG_1040.JPG	Photo_Missing gutter caused masonry failure	7/24/2015	Cover Memo
IMG_1039.JPG	Photo_Missing gutter caused masonry failure2	7/24/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Flagstaff Unified**
BRG Project Number: **030201126-9999-006BRG** **Yavapai County**
Project Description: **Roof repair/replacement**
Consultant: WRECORP
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 198,000**
Contingency		**$ 25,000**
Architecture / Engineering (A&E) Fees		$ 19,720
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 8,000
Testing & Inspection		$ -
Total Additional Cost:		**$ 27,720**
Total SFB Funded Project Cost:		**$ 250,720**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 250,720**
Total Project Cost:		**$ 250,720**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 5/29/2015 1:36:28 PM **Application ID:** 2031
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Flagstaff Unified District

Superintendent: Barbara Hickman

Contact Person: Bob Kuhn/Greg Weber

Contact Phone Number: (928) 527-6010

Contact Email: bkuhn@fusd1.org

School Site: Sinagua Middle School (formerly Sinagua High School)

Buildings: 9999 School Wide

Application Title: Sinagua Middle School Roof

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Numerous roof leaks throughout the building. The roof is metal and was installed in early 2000's by SFB.

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

The insurance will not cover this. It is improper installation.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Barbara Hickman
Superintendent Printed Name

Superintendent Signature 6-2-15
Date

PROPOSAL

PROJECT IDENTIFICATION	
PROJECT NAME	Flagstaff Unified School District
PROJECT	Sinagua Middle School Roofing and Wall Project
SITE ADDRESS	3950 E. Butler, Flagstaff, AZ 86004

PROPOSAL

This proposal, dated this day of July 24, 2015, is between Flagstaff Unified School District ("Client") and WRECORP (Western Roof Evaluation Corporation) ("Consultant") to set forth and further define the Scope of Services for the project generally referred to as Roof Inspection. If accepted this document shall form an agreement between the client and the consultant.

Client and Consultant, after negotiation, have defined the Scope of Services as follows:

- Create a scope of work and specification. $1,480.00.
- Create construction details. $450.00.
- Conduct roof pre-bid meeting with chosen contractors and manufacturers. $1,250.00.
- Conduct wall/caulking pre-bid meeting with chosen contractors and manufacturers. $350.00
- Review submittals and schedule from chosen contractors. $250.00 each set (2) of submittals. Total $500.00
- Conduct pre-roofing / wall caulking meeting with contractor, manufacturer and client. $1,250.00.
- Provide quality assurance monitoring & photo documented reports for each monitoring. $1,480.00 each monitoring. *(recommend once a week, eight weeks total – budget $11,840.00)*
- Conduct a punch list inspection after completion of work. $1,480.00 each inspection.
- Conduct a close out inspection. $1,480.00 each inspection

Fees: $19,720.00

Estimate project will take 8 weeks.

Roof Project construction budget $93,000.00. Project will consist of replacement of all single ply roofing systems. Re-flashing all roof curbs. New boots on all pipes. Tightening or replacement of all exposed screws. Replacement of roof expansion joints. Elimination and replacement of gutters. Modifying all downspouts.

Wall/Caulking Project construction budget $45,000.00. Project will consist of replacement of all Wall joint compounds and backer rods. Replace with new products.

Snow guards are not included in this estimate until decisions are made about type and locations.

Compensation for services and terms of payment shall be as follows: Due upon receipt of invoice.

Limitations on Consultant's Responsibility, Indemnity & Insurance

Client acknowledges that Consultant is performing professional service on behalf of Client and in the event claims, losses, damages or expenses are caused by the negligence of Contractor or Client or both, Client agrees to indemnify and hold harmless Consultant, and Consultant's officers, employees, agents and representatives, from and against liability for all Professional Liability claims, losses, damages and expenses whether or not insured, including reasonable attorney's fees.

WRECORP (Western Roof Evaluation Corporation)	
Consultant	*Owner*
By: Jerry L. Brown 7/24/2015	**By:**
Signature in ink *Date*	*Signature in ink* *Date*
Name: Jerry L. Brown	**Name:**
Title: President	**Title:**

WRECORP
WESTERN ROOF EVALUATION CORPORATION

Flagstaff Unified School District
Sinagua Middle School
3950 E. Butler Ave.
Flagstaff, AZ 86004

Date: June 17, 2015

Roof Description
Steep Sloped Roof: Trapezoidal with exposed fasteners. *(should have 50 year warranty)*
Low Slope Roof: Single ply *(should have a 15 or 20 year warranty)*
Warranties: Unknown

Basic Scope of Work
1. Tear off and replace the single ply roof systems.
2. Remove all exposed caulking.
3. Tighten or replace all exposed fasteners.
4. Replace roof expansion joints.
5. Re-flash all roof curbs and pipe penetrations.
6. Eliminate or replace gutter systems.
7. Re-direct downspouts.
8. Replace all wall joint compounds and backer rods.
9. Make determinations for placement, installation and types of snow guards.

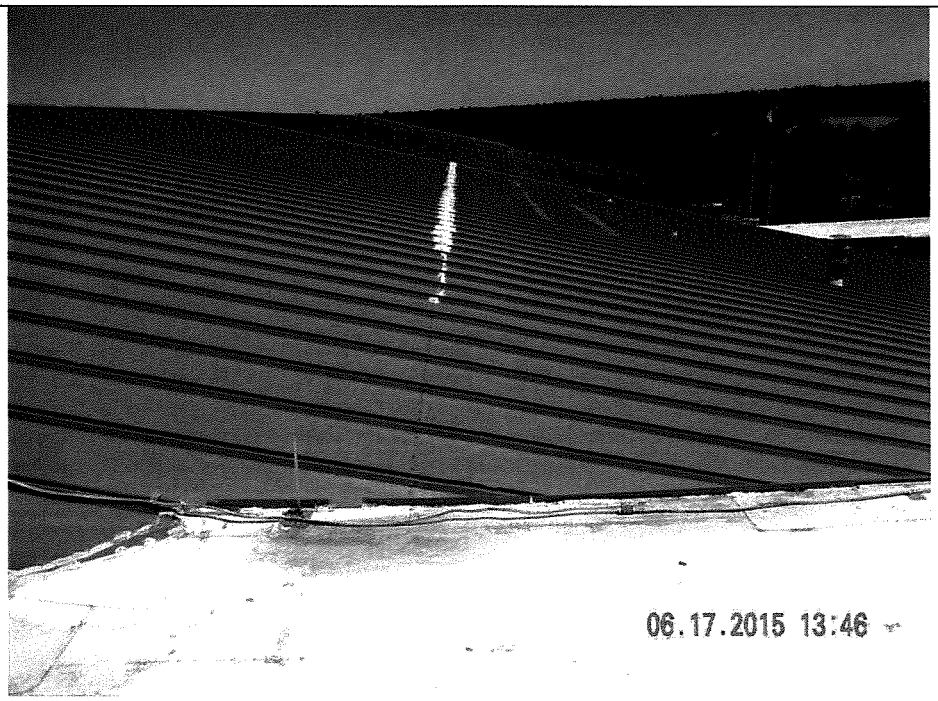


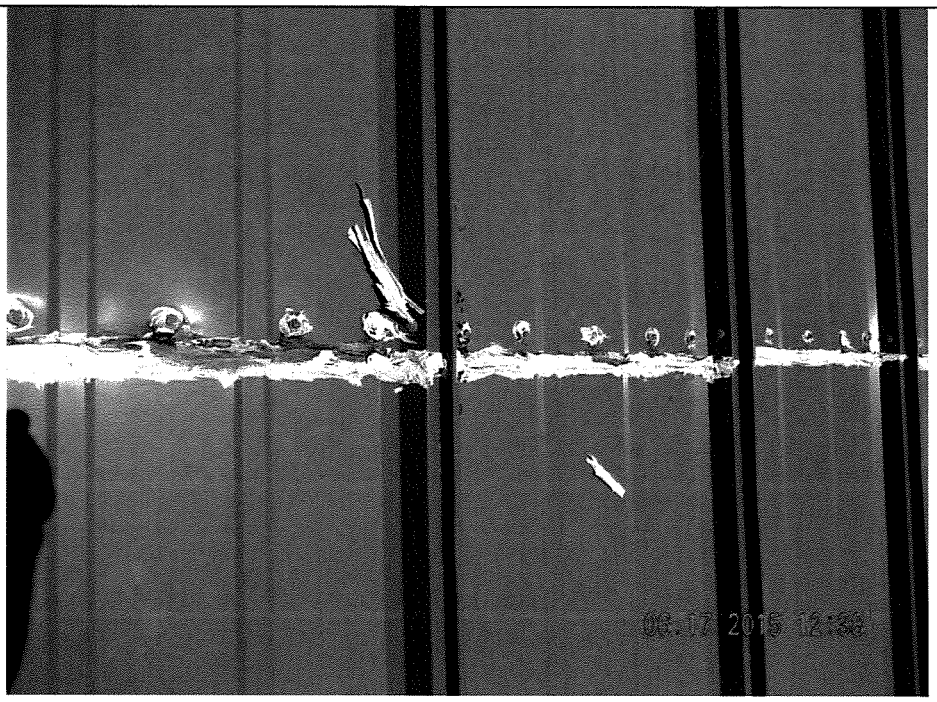
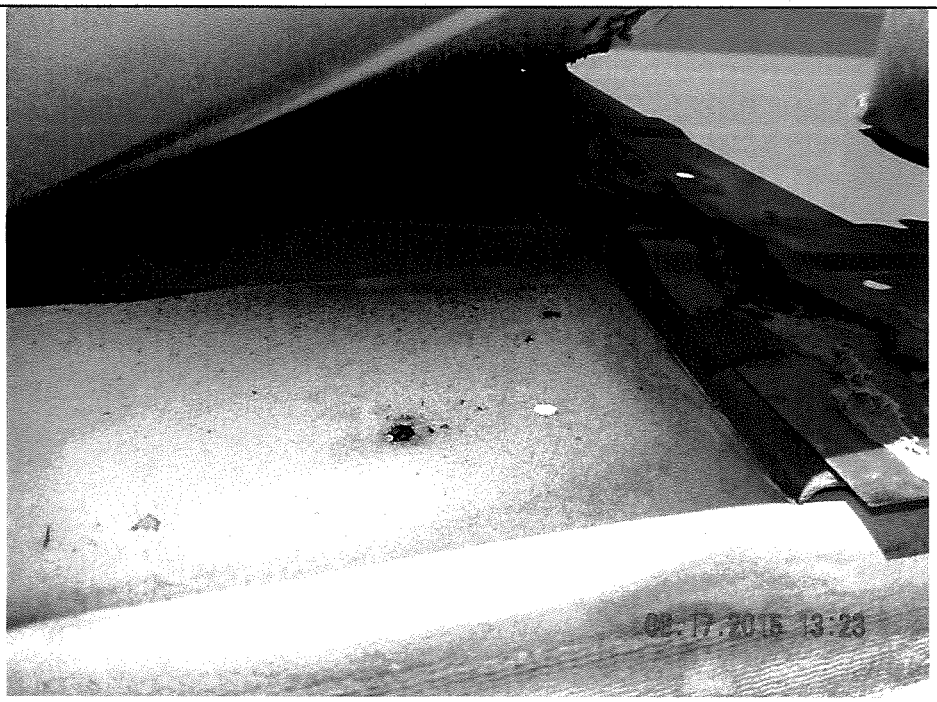
	Photo # 1	
Description: Caulking has been added to the face of the metal roof. This serves no purpose.		
		
	Photo # 2	
Description: Close up of caulked lap joint and fasteners.		
		
	Photo # 3	
Description: View of lap joint taken apart to verify that sealant are in between laps as required.		



Photo # 4

Description: Caulk added to the metal roof curbs that have welded seams. This serves no purpose.

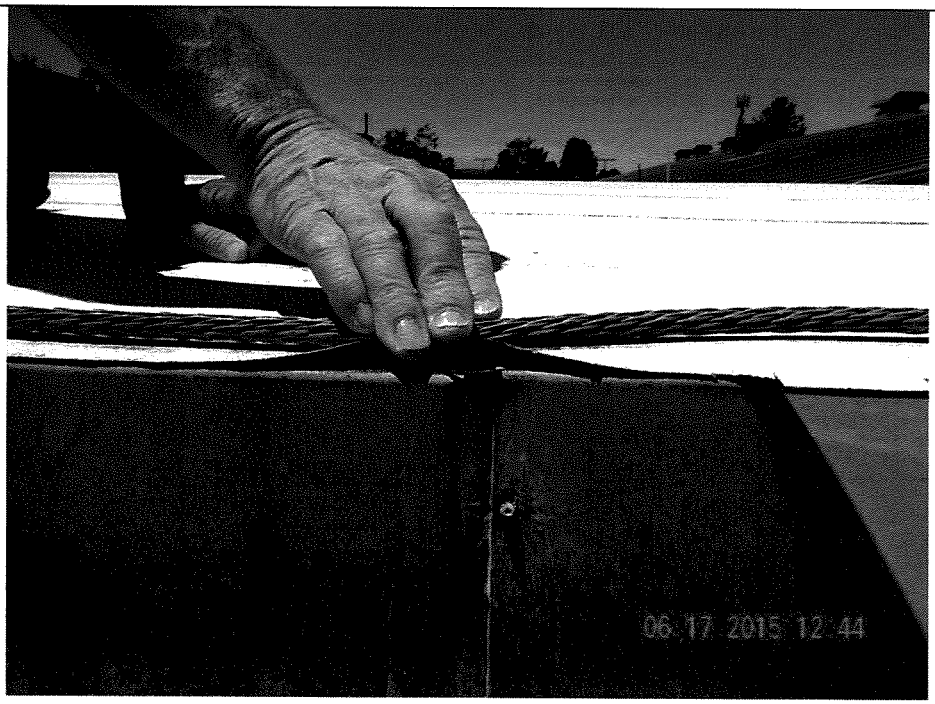


Photo # 5

Description: Failure of single ply roof system. Water enters structure at this point.



Photo # 6

Description: Failure of single ply roof system. Water enters structure at this point.



Photo # 7

Description: Failure of single ply roof system. Water enters structure at this point.

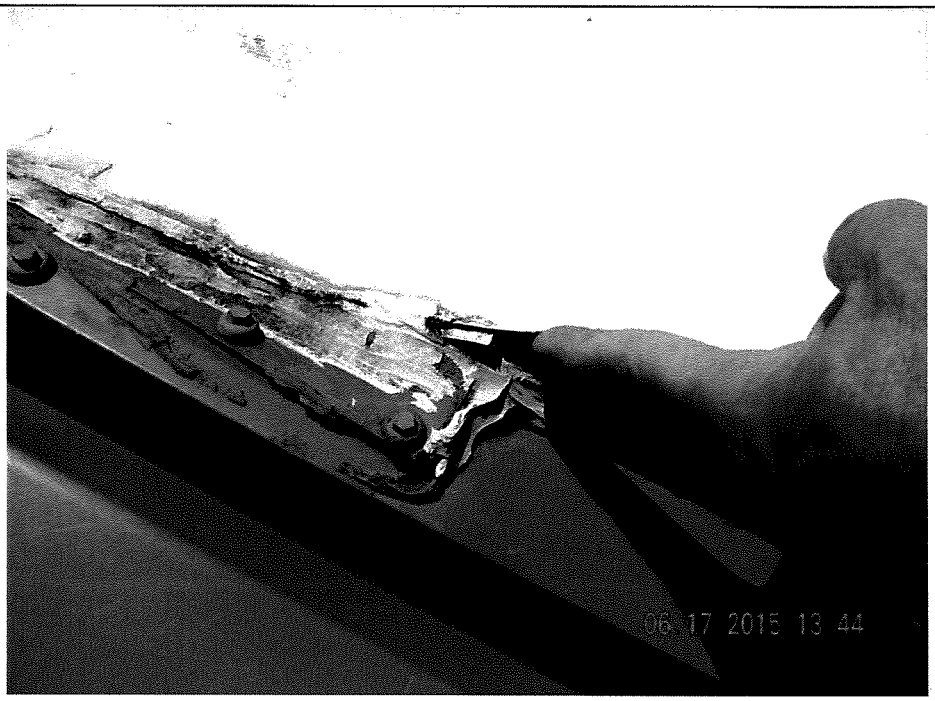


Photo # 8

Description: Failure of single ply roof system. Water enters structure at this point.



Photo # 9

Description: Improper application of roof system.



Photo # 10

Description: Improper detailing of single ply to metal roof.



Photo # 11

Description: Damage to roof top equipment that is allow water into structure.

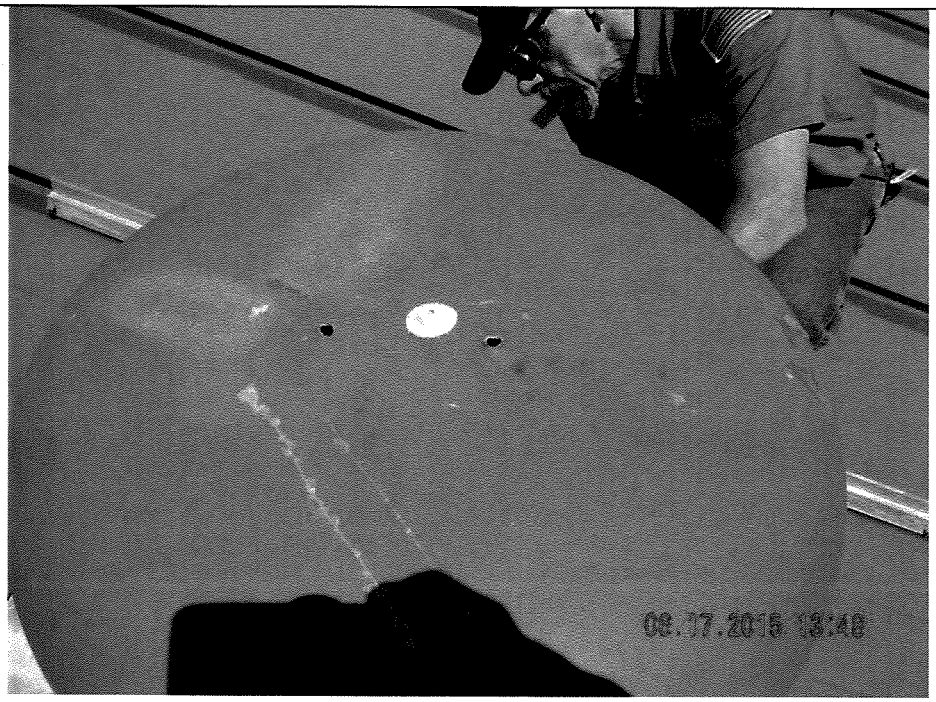


Photo # 12

Description: Open holes into roof top equipment that is allowing water into structure.

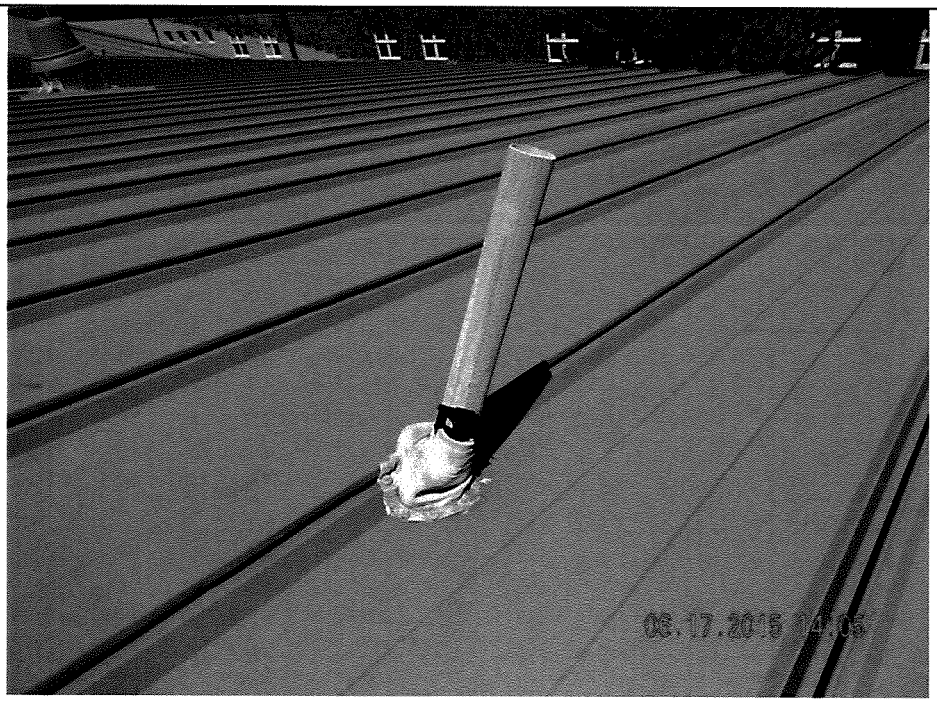


Photo # 13

Description: Loose damage venting pipe place at rib. This is not permitted by manufacturer or industry standards.



Photo # 14

Description: Roof top vents do not counter flash the curb flashing by the minimum 3" and the top of curb has not been sealed with flexible sealant.



Photo # 15

Description: Down spout has been extended away from wall. The down spout needs to be turned to allow water to flow with slope of roof.

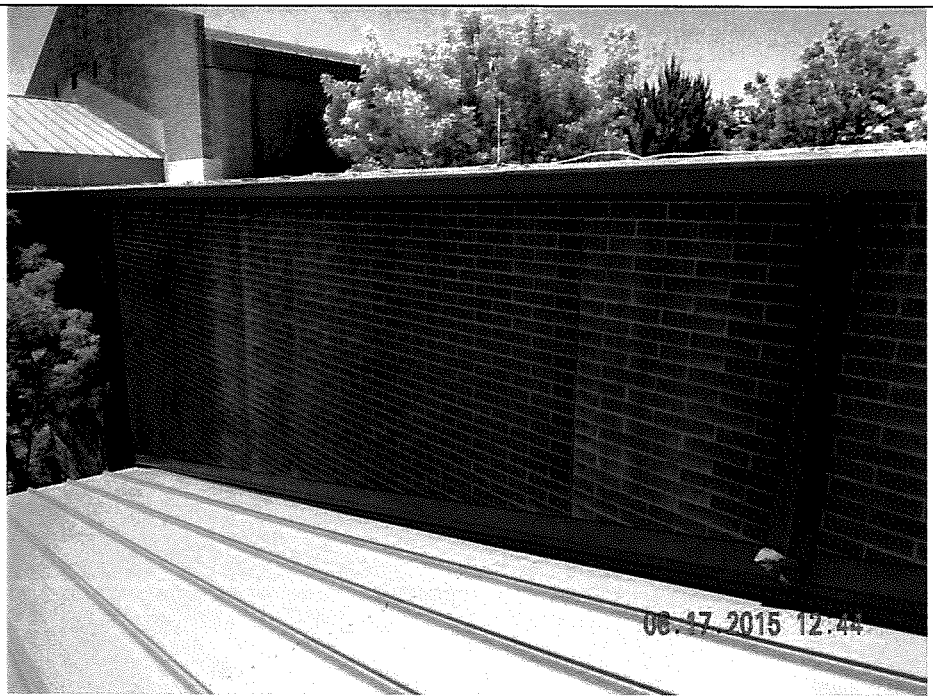


Photo # 16

Description: Evidence that the roof system above the wall is leaking.



Photo # 17

Description: Screws backing out of metal roofing, down spout not turned to flow with slope of roof. Caulk has been added to areas of the metal roof that cannot leak.

Jerry L. Brown, RRO
Roof Consultant


06.17.2015 13:44


06.17.2015 13:44


06.17.2015 13:45


06.17.2015 13:46














FUSD





STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Florence Unified 007BRG
Background – Florence Unified (Johnson Ranch ES (intercom replacement)
Florence Unified has submitted a Building Renewal Grant request for the replacement of the intercom system at Johnson Ranch Elementary School.

Florence Unified, located 50 miles southeast of Phoenix, has 11 schools. Johnson Ranch Elementary School is comprised of 19 buildings constructed between 1998 and 2001, totaling 33,310 square feet.

The intercom system is over 15 years old and does not provide 2-way communication in all classrooms as required by the minimum adequacy guidelines. Parts are no longer available.

The district has received proposals; the lowest was $16,700.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Florence Unified (Johnson Ranch ES - intercom replacement)
Staff recommends that Florence Unified be awarded $18,400 in Building Renewal Grant funding for the intercom replacement at Johnson Ranch Elementary School. This includes $1,700 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Florence Unified** be awarded $18,400 in Building Renewal Grant funding for the intercom replacement at Johnson Ranch Elementary School. This includes $1,700 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Florence_USD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
JR_SFB_Building_Renewal_Grant_Application.pdf	Signed BRG Application	7/22/2015	Cover Memo
Intercom_Quotes.pdf	Quotes	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Florence Unified**
BRG Project Number: **1102010JR-9999-007BRG** Pinal County
Project Description: **Replace intercom system**
Consultant: CST
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 16,700**
Contingency		**$ 1,700**
Architecture / Engineering (A&E)		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 18,400**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 18,400**
Total Project Cost:		**$ 18,400**

Contingency shall only be used with SFB staff approval

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 3/13/2014 10:50:18 AM **Application ID:** 878
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Florence Unified School District

Superintendent: Dr. Amy Fuller

Contact Person: Rich DeVries

Contact Phone Number: (520) 251-1877

Contact Email: rdevries@fusdaz.org

School Site: Johnson Ranch Elementary

Buildings:

1001	A1000
1002	A2000
1003	A3000
1004	A4000
1005	A5000
1006	A6000
1007	A7000
1008	A8000
1009	EC1
1010	EC2
1011	EC3
1012	EC4
1013	EC5
1014	Classrooms
1015	Portable 1
1016	Portable 2
1017	Portable 3
1018	Portable 4
1019	Portable 5
9999	School Wide

Application Title: Intercom System

Description of Problem

Building Renewal Grant Application

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Intercom system is in need of replacement due to failure of antiquated equipment. The district does not have two-way speakers for campus communication for security. Due to reductions in available resources to the district from local, state and federal sources, the district does not draw a meaningful amount of revenues to adequately provide the necessary capital funding for this project.

Project Category: Special Systems

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Amy Fuller, Ed.D.

Superintendent Printed Name

Amy Fuller 3/26/14

Superintendent Signature Date

Commercial Systems Technology, Inc.

Date: February 17, 2014

To Florence Unified School District No. 1 226 S. Orlando St. Florence, AZ 85132

Attn: Scott Kossmann (Network Administrator); (520) 866-3553 t. (520) 868-5809 f. bsk@fusdaz.org

Re: BOGEN Quantum IP Intercom system for Walker Butte K-2 Campus.

Total pages 2

Dear Scott, I am sending you this per our site-visit regarding IP intercom system for the Walker Butte K-2 Campus.
Existing indoor speaker enclosures will be refitted with 25-Volt speaker/transformer assemblies.
There are 29 numbered classrooms plus the cafeteria/music building, nurse library and office.
I have allowed for 36 indoor speaker/transformer assemblies.
If additional speakers/transformer assemblies are needed, they will be added from the contingency fund.
If less speakers/transformer assemblies are needed, extra units will be given to the district as spares.
Exterior paging horns will be replaced with 25 volt units.
I have allowed for 5 exterior paging horns.
The Intercom head-end will be replaced with a rack-mounted 48-port Bogen Quantum Intercom system.
A rack-mounted 125 Watt amplifier will be included for outside paging.
The system will be tied it into your network for remote access and control along with one (1) display phone located in the IT room.
If you would like to interface IP Quantum systems with your VOIP phone switch, we will need a FXO port from your call manager, programmed as an analog trunk port for this feature. (We believe this may already be in place).
All speaker-wiring is assumed to be in good condition and will be reincorporated.
All speaker circuits will be checked for shorts, opens, grounds and proper loads (impedance) prior to reconnection.
We have allowed for a $2,500.00 miscellaneous contingency for unforeseen problems or changes and additions that you may request.
Any existing bad lines found will not be re-terminated; However, we can repair these through our service department on an as needed / time and materials basis or the school district may elect to fix these on their own.
Any unused contingency funds will be returned to the district.

The school district will be given all access codes along with a copy of the software and training for their use on the system.

We understand the importance of getting this system back in operation and can start immediately after school hours to minimize disturbance to classes.

Walker Butte K-2 Campus48 port IP Quantum system ----$16.200.00
Miscellaneous Contingency--- $ 2,500.00
TOTAL COST $18,700.00 + tax

We can proceed with this through 1GPA. Our 1GPA contract number is **13-83.**

2911 N. Norwalk
Mesa, Arizona 85215
L67 License #069429
Telephone (480) 890-2260
Fax (480) 890-2263

Commercial Systems Technology, Inc.

Notes:
The school district will be given all access codes along with a copy of the software for their use on the system.

All above pricing does not include applicable taxes.

All pricing will be held for 30 days from above listed date.

We will need a port and IP address on your LAN/WAN system for computer control access.

As always I have appreciated working with you in the past and look forward to working with you on this project.

Sincerely,
Mark Haddad
CST / Commercial System Technology Inc.
Office # 480 890-2260
Mobile # 480 433-3590
Fax # 480 890-2263
Web: www.cst-az.com
Email: Mhaddad@cst-az.com

Sincerely,
Craig Edwards
CST / Commercial System Technology Inc.
Office # 480 890-2260
Mobile # 480 332-3600
Fax # 480 890-2263
Web: www.cst-az.com
Email: cedwards@cst-az.com

CLIMATEC
INTEGRATED BUILDINGS & TECHNOLOGY

Sean Gallagher cell phone: 602.723.3798

Climatec Building Technologies Group
2851 West Kathleen Road
Phoenix, Arizona 85053
Telephone (602) 944-3330
Fax: (602) 906-4182
AZROC 123524-L11

Attachment A

Customer: Florence USD

Project: Johnson Ranch Teradon Intercom

SECTION 1: MATERIAL LIST PER MOHAVE CONTRACT 13A-CLIM-0529

Date: 2/17/2014

Part Number	Description	QTY	List Price		Mohave Unit Cost	Mohave Total Cost
A3000	Wood Baffle with Speaker and Transformer	40	$ 72.77	25%	$ 54.57	$ 2,182.95
A4000	Horn Speaker	5	$ 132.30	25%	$ 99.23	$ 496.13
AD1096	Teracom SC 96 Station	1	$ 9,487.80	25%	$ 7,115.85	$ 7,115.85

SECTION 1: MATERIAL TOTAL	$ 9,794.93
SECTION 1: SHIPPING 2% OF MATERIALS	$ 195.90
SECTION 1: BONDS IF REQUIRED $15.00 PER $1000.00. BASE ON TOTAL CONTRACT	

SECTION 2: LABOR PER MOHAVE CONTRACT 13A-CLIM-0529

Climatec	Basic Technician for Installation	50.00		$75.00	$ 3,750.00
Climatec	Technician for Programming and Test	8.00		$85.00	$ 680.00
Climatec	Engineering and Drawings	4.00		$95.00	$ 380.00
Climatec	Project Management	19.20		$90.00	$ 1,728.00
Climatec	Travel Drive Time			$55.00	$ -

SECTION 2: LABOR TOTAL	$ 6,538.00
SECTION 2: TOTAL LODGING	$ -
SECTION 2: TOTAL MEALS	$ -

SECTION 3: SUMMARY PER MOHAVE CONTRACT 13A-CLIM-0529

SECTION 1 MATERIAL TOTAL	$ 9,990.82
SECTION 2 LABOR TOTAL	$ 6,538.00
SECTION 3 CONSUMABLE SUPPLIES & MATERIAL BASE ON 1% OF TOTAL MATERIAL & LABOR	$ 165.29
SECTION 3 LIFT RENTALS WILL BE CHARGED AT $114.00 PER DAY, OR $480.00 PER WEEK, OR $1020 PER MONTH IF REQUIRED. DELIVERY AND PICKUP IS $55.00 EACH WAY	$ -
SECTION 3 FIRE ALARM PERMIT FEE	$ -
ARIZONA TAX RATE	
ARIZONA TAXES	$ -
TOTAL PROJECT	$ 16,890.01

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Hiillside Elementary 002BRG

Background – Hillside Elementary (Hillside ES – replace carpets)

Hillside Elementary has submitted a Building Renewal Grant request to replace the carpet in two classrooms in Buildings 1003 and 1004 at Hillside Elementary School.

Hillside Elementary, located 90 miles northwest of Phoenix, has one school. Hillside Elementary School is comprised of 6 buildings constructed between 1939 and 1988, totaling 7,229 square feet. Building 1003 was built in 1952, totaling 800 square feet and Building 1004 was built in 1939, totaling 642 square feet.

The carpet is worn and splitting, causing trip hazards and needs to be replaced. The district received proposals; the lowest was $5,495.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Hillside Elementary (Hillside ES – replace carpets)
Staff recommends that Hillside Elementary be awarded $7,000 in Building Renewal Grant funding to replace the carpet in two classrooms in Buildings 1003 and 1004 at Hillside Elementary School. This includes $1,505 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Hillside Elementary** be awarded $7,000 in Building Renewal Grant funding to replace the carpet in two classrooms in Buildings 1003 and 1004 at Hillside Elementary School. This includes $1,505 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Hillside_ESD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-728103440-0001.pdf	BRG and prosal	7/28/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Hillside Elementary**
Project Number: **130335101-9999-002BRG** Cochise County
Project Description: **Replace carpets**
Architect of Record: n/a
Contractor: Reva's Floor Décor

Board approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 5,495**
Contingency ①		**$ 1,505**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 7,000**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 7,000**
Total Project Cost:		**$ 7,000**

① Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 6/25/2015 10:12:19 AM **Application ID:** 2059
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Hillside Elementary District
Superintendent: Pam Hampton
Contact Person: Lindsay Jeans
Contact Phone Number: 928-442-3416
Contact Email: Hillside_school@hotmail.com
School Site: Hillside Elementary School
Buildings: 1003 Bldg C
1004 Bldg D

Application Title: Flooring

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The carpets are worn, pulling apart and have become a trip hazard.

Project Category: Surfaces

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Pam Hampton
Superintendent Printed Name

Pam Hampton
Superintendent Signature

06/25/2015
Date

07/14/2015 12:05 FAX 9287711532 Reva's 001

REVA'S FLOOR DECOR INC.

Your Complete Floor Store

340 N. Pleasant Street
Prescott, Arizona 86301
License No. 159668

Any alterations to original layout of material or changes to an invoice without prior consent of Reva's Floor Decor, Inc. or a signed Change Order by homeowner will be at the expense of the installer.

Date _____
Installer _____
Confirmation _____
Name _____

revas@cableone.net
PHONE: (928) 541-0877
FAX: (928) 771-1532

SOLD TO: Name Hillside School
Address 8615 S. Date Creek Road
City Bagdad State Ak Zip _____
Phones (Lindsay 442-3416) _____

INSTALL AT: Name _____
Address Do Not Take Out Tile
City At Entry To State _____ Zip _____
Phones ( ) Library ( ) _____

Date:

INVOICE
№ 15576

Install Date ___/___/___ M/O Pick-Up ___/___/___

DESCRIPTION	DESCRIPTION	PRICE
☒ Wood	☒ Removal	
☐ Concrete ☐ Gypcrete	☒ G/D yds. 2 @ Layers	$450.00
☐ In-Floor Heat	☐ Action yds. @	
☐ 1/2" 6 lb. Cushion - Luxury	☐ Vinyl yds. @	
☐ 3/8 - 3.5# Cushion	☒ Other 110 @ Sq Ft VCT	$110.00
☒ 3/8 - 7.5# Cushion - Luxury	☐ Other _____ @	
☐ Existing Cushion	☐ Embossing Levelor @	
☒ Other: Glue Direct - Library	☐ Floor Prep-Ceramic	
☐ Width: Carpet	☒ Floor Prep-Vinyl 4	$200.00
☐ Pattern Match:	☐ Floor Prep Hrs.-Other	
☐ Berber ☐ Standard	☐ Tack Strip	
☐ Indoor ☐ Outdoor	☐ Appliances	
☐ Wood: Nail ☐	☐ Furniture	
☐ Wood: Glue ☐ Float ☐	☐ X-Furn	
☐ Width: Vinyl	☒ Stool R&R# @	$85.00
☐ Full Spread	☐ Base R&R# lin. ft. @	
☐ Laminate	☐ Subfloor sq. yds. @	
☐ Vinyl Pattern Match	☐ Hardibacker	
☐ Z-Bar	☐ Step A #	
☐ Metal lin. ft. @	☐ Step Over Standard	
Color Type	☐ #	
☐ Reducer lin. ft. @	☐	
Color Type	☐ Wrap Footage lin. ft.	

What considerations motivated customer to choose REVA'S?

JOB TYPE:
☒ Remodel ☐ Replacement
☐ Repair ☐ M/O
☐ New Const. ☐ Credit Memo
☐ Labor Only

$845.00
SUBTOTAL A

QTY	UNIT	STYLE OR ROLL NO.		PRICE	TOTALS
150	Sq. Yds	STYLE Emblem II	#	$24.19	$3629.00
		COLOR Pistachio	#		
71	Sq. Yds.	STYLE 3/8 7.5 lb Pad	#	$2.50	$178.00
		COLOR Lindsay's Office	#		
3	Each	STYLE Trip Charges	#	$100.00	$300.00
		COLOR 2 Cpt 1 Vinyl	#		
		STYLE Cut light & Caulk	#		
		COLOR @ Base	#		
		STYLE Dumpster Provided	#		
		COLOR By School	#		

GROUT COLOR: _____

QTY	UNIT	CUSTOM WORK/SPECIAL INSTRUCTIONS:	PRICE	TOTALS
26	Sq. Yds	Install of Vinyl - Gift Vinyl From Reva	$10.00	$260.00
		☐ Information Sheet Given to Homeowner		

EXTRAS: LABOR CHARGES, ETC.—SUBTOTAL "A" FROM COLUMNS AT LEFT → $845.00

Payment Terms: ☐ Cash ☐ Check ☐ Open Acct. ☐ Credit Card ☐ Finance

This order constitues a contract, the terms of which include those provisions printed on this form. Customer hereby acknowledges that he has reviewed said provisions and agrees to be bound thereby. This order is accepted by:

Customer _____ Date _____
Sales Rep Jane Anne McGillivray Date 7/13/15

SUBTOTAL:	$5212.00
TAX:	$283.00
TOTAL:	$5495.00
DEPOSIT:	
BALANCE DUE ON COMPLETION:	

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Lake Havasu Unified 028BRG
Background – Lake Havasu Unified (Lake Havasu HS – replace nurse office restroom doors)
Lake Havasu Unified has submitted a Building Renewal Grant request to replace two doors in the nurse's office restroom in the administration/classroom Building 1002 at Lake Havasu High School.

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Lake Havasu High School consists of 10 buildings constructed between 1969 and 2003, totaling 272,074 square feet. Building 1002 was built in 1969, totaling 53,719 square feet.

The two doors to the nurse's office do not meet the ADA requirement of 32" minimum width as required by the ADE compliance review.

The district received a proposal from their architect as follows:

Design/procurement	$3,000	
Construction administration		$2,250
Asbestos testing	$2,500	
Construction cost		$11,718
Contingency	$5,000	
Total request:		$24,468

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Lake Havasu HS – replace nurse office restroom doors)
Staff recommends that Lake Havasu Unified be awarded $24,468 in Building Renewal Grant funding to replace the two doors in the nurse's office restroom at Lake Havasu High School. This includes $2,500 for asbestos testing and $5,000 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Lake Havasu Unified** be awarded $24,468 in Building Renewal Grant funding to replace the two doors in the nurse's office restroom at Lake Havasu High School. This includes $2,500 for asbestos testing and $5,000 in contingency that will only be used with SFB staff

approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_028BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729151550-0001.pdf	documents	7/29/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201207-1002-028BRG** Mohave County
Project Description: **Replace nurse office restroom doors**
Architect of Record: EMC2
Contractor: TBD

Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 11,718**
Contingency ①		**$ 5,000**
Architecture / Engineering (A&E)		$ 5,250
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 2,500
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 7,750**
Total SFB Funded Project Cost:		**$ 24,468**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 24,468**
Total Project Cost:		**$ 24,468**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 9/23/2014 7:34:05 AM **Application ID:** 1555
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District
Superintendent: Gail Malay
Contact Person: John Simpson
Contact Phone Number: 928-208-6457
Contact Email: jsimpson@havasu.k12.az.us
School Site: Lake Havasu High School
Buildings: 1002 A

Application Title: ADE Requirement Nurse Office

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Per inspection By the ADE please note on page 4, Section C, Item 4, They are requiring us to change the door on the Nurse's office. I believe there is more involved once we try to obtain a permit to change that area. (see attached)

Project Category: General Renovations

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance coverage for this project.

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise I. Miner, Director of Personnel
Superintendent Printed Name

Denise I. Miner
Superintendent Signature

7/16/15
Date

Emc2
Architects ▪ Planners, PC
Learning Places & Growing Spaces

Emc2 GROUP ARCHITECTS PLANNERS, PC
1635 North Greenfield Road
Suite 144
Mesa, AZ 85205

P 480 830 3838
F 480 830 3860
T 800 372 6849

www.emc2architects.com

July 13, 2015

Lake Havasu Unified School District #1
2200 Havasupai BLVD
Lake Havasu City, AZ 86403

RE: Lake Havasu Unified School District #1
High School Nurse
AZ SFB BRG #tbd

PROPOSED

Cost of Design fees:

Architectural design, procurement services:	**$ 3,000.00**

Cost of Construction Administration fees:

Total Cost of Construction Administration Fees (2 trips):	**$ 2,250.00**

Estimated Cost of Construction:

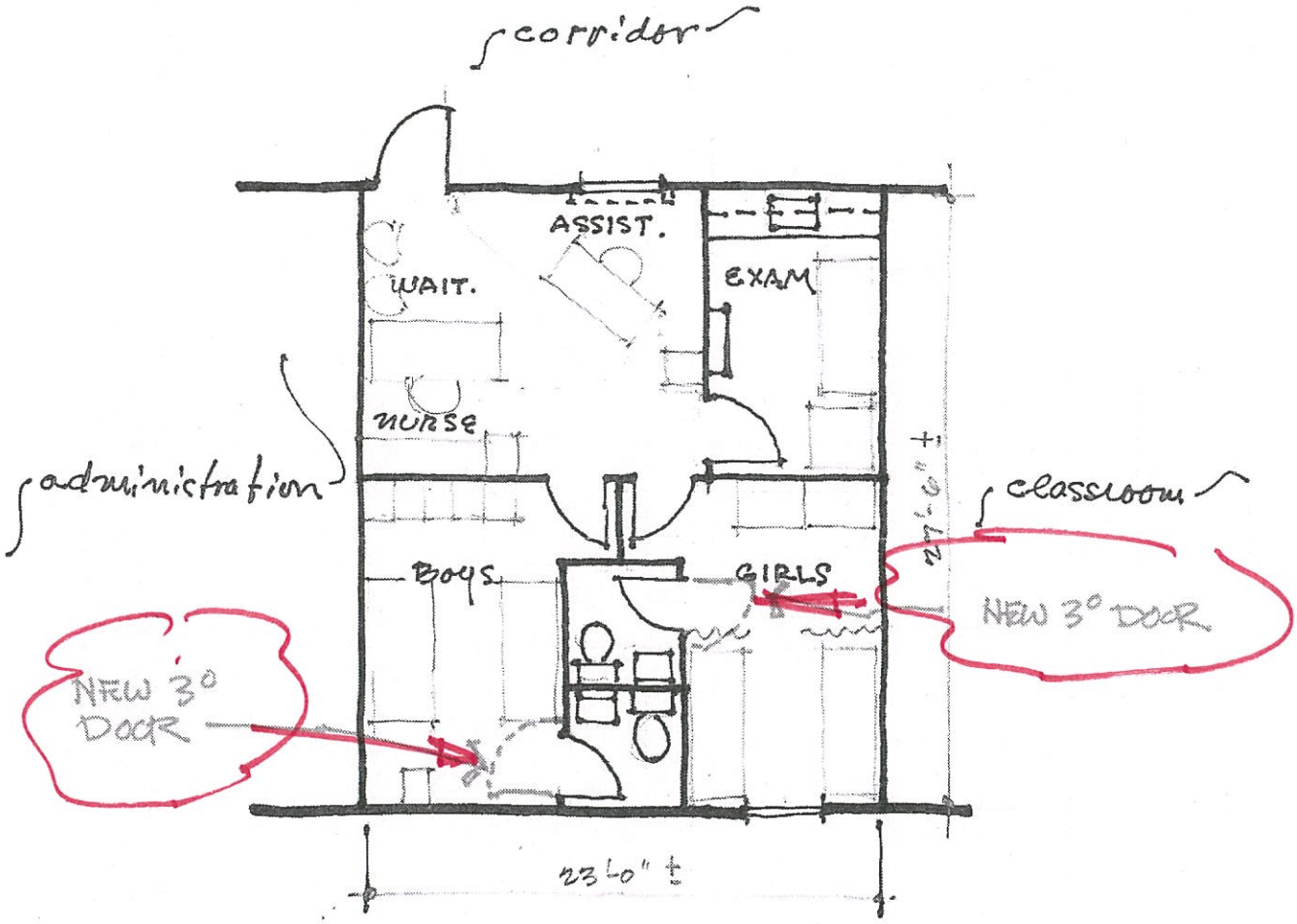
Abate, demolish and replace (2) doors budget:	**$11,718.00**

Total estimated Project Cost:	**$16,968.00**

PROJECT: BRG #
REGARDING: HS. Nurse
DATE: 08 05 2014
TIME:
ISSUED BY: TW
CONTACT:

Emc2 Architects ■ Planners, PC

TELEPHONE CONVERSATION ☐ MEETING NOTES ☐ FIELD NOTES ☐ MEMO ☐



LAKE HAVASU UNIFIED SCHOOL DISTRICT

HIGH SCHOOL NURSE OFFICE

Boys 8'-6" × 14'-6"
Girls 8'-6" × 14'-6"
restrooms 5'-0" × 5'-0"
exam 7'-6" × 12'-6"
admin. 15'-0" × 12'-6"

N.
1/8" = 1'-0"

Arizona Department of Education
Career and Technical (Vocational) Education Civil Rights Compliance Review
VOLUNTARY COMPLIANCE PLAN

*This **Voluntary Compliance Plan** (VCP) calls for the LEA to address the areas found to be deficient and, at a minimum, perform the prescribed remedial action. To complete the Plan: 1.) Provide Specific Comments or Identify any additional efforts to effect remediation; 2.) Identify the individual(s) responsible to address the issue; 3.) Project a targeted completion date for each item listed, and 4) Provide a statement of how each remedy will be reported and verified to ADE.*

AREA OF INVESTIGATION AND PRESCRIBED REMEDIAL ACTION	1) Provide Specific Comments or Identify Additional Efforts to Effect Remediation (REQUIRED)	2) Identify Individual(s) Responsible to Address the Issue (REQUIRED)	3) Provide Targeted Completion Date (REQUIRED)	4) Provide a statement of how each remedy will be reported and verified to ADE (REQUIRED)
C. Access for Students with Disabilities **[X] Required Corrective Action(s)** 1. In Parking Area 1, add van accessible signage to the appropriate space with the access aisle per 2010 ADA 208.2.4 and 502.6. 2. In Parking Areas 4 and 5, add 5 additional accessible spaces to meet the minimum required per 2010 ADA Standard 208.2 and sign at least 1 additional appropriate space with access aisle as "van accessible" per 2010 ADA 502.6. 3. In Parking Area 6, add vertical signage to all of the 6 designated accessible spaces per 2010 ADA Standard 502.6 and designate at least one of the spaces with an access aisle as van accessible per 2010 ADA 208.2.4 and 502.6. 4. Review the door entrance to the nurse's office and widen to meet the 32" minimum width requirement per 2010 ADA 404.2.3. 5. Review the door opening force and door closers on campus and adjust at minimum those in the Performing Arts Center and J225 to not exceed the 5 pounds maximum opening force per 2010 ADA 404.2.9 and door closers to not exceed 5 seconds per 2010 ADA 404.2.8.1. 6. Add directional signage to indicate the location of the accessible seating in the Little Theater per 2010 ADA 216.3 and 703.5.				

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Lake Havasu Unified 029BRG
Background – Lake Havasu Unified (Lake Havasu HS – replace HVAC compressor)
Lake Havasu Unified has submitted a Building Renewal Grant request to replace the compressor serving the 25-ton HVAC unit in the gymnasium Building 1010 at Lake Havasu High School.

Lake Havasu Unified located 185 miles northwest of Phoenix, has ten schools. Lake Havasu High School consists of 10 buildings constructed between 1969 and 2003, totaling 272,074 square feet. Building 1010 was built in 2001, totaling 43,856 square feet.

The HVAC compressor has failed and needs to be replaced. The district received proposals; the lowest was $9,025.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Lake Havasu HS – replace HVAC compressor)
Staff recommends that Lake Havasu Unified be awarded $11,500 in Building Renewal Grant funding to replace the compressor serving the 25-ton HVAC unit in the gymnasium Building 1010 at Lake Havasu High School. This includes $2,475 in contingency that will only be used with SFB approval.

Board Action Requested:
Board approval of the staff recommendation that **Lake Havasu Unified** be awarded $11,500 in Building Renewal Grant funding to replace the compressor serving the 25-ton HVAC unit in the gymnasium Building 1010 at Lake Havasu High School. This includes $2,475 in contingency that will only be used with SFB approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_029BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-812105450-0001.pdf	backups	8/12/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201207-1010-029BRG** Mohave County
Project Description: **Replace HVAC compressor**
Architect of Record: n/a
Contractor: All American Air

Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 9,025**
Contingency ①		**$ 2,475**
Architecture / Engineering (A&E)		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 11,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 11,500**
Total Project Cost:		**$ 11,500**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date:

Application ID: 2075

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Lake Havasu High School

Buildings: 1010 K

Application Title: Compressor Failure

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Compressor failure 25 ton unit 15 years old

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance to cover this project

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise Miner, Director of Personnel
Superintendent Printed Name

Denise L. Miner
Superintendent Signature

7/8/15
Date

ALL AMERICAN AIR

CONDITIONING OF HAVASU,LLC
Lic. #K-39, ROC - 174485

21 S. Acoma Blvd. • Lake Havasu City, AZ 86403
928-855-4549 phone • 928-855-9414 fax

WORK TO BE PERFORMED FOR:

LHUSD - Lake Havasu High School
New Gym
2675 S. Palo Verde Blvd.
Lake Havasu City, AZ 86403

Quotation

June 19, 2015 (This quote valid for 45 days)
Prepared by: Jason Terenti

928.208.3534 Chris
Cproulx@havasu.k12.az.us

Furnish and Install:

One Trane 25 ton replacement compressor on Trane model YCD420A4LEIB25C1AC serial C99G12177M. *Work includes* pumping down refrigerant and recharging system with 51.5 lbs of R22, small crane, all materials necessary to complete the job, removal and disposal of existing unit. One year installers warranty. Three year Trane warranty on compressor. **$9,025.00** inc tax

Notes: Compressor is special order from Trane, please allow 1-2 weeks to schedule from actual authorization.

All material is guaranteed to be as specified, and the above work to be performed in accordance with the drawings and specifications submitted for this proposal. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate.

All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

To accept this proposal, return this document signed and dated:

_____ _____

50% Deposit / Balance Due Upon Completion

LONDON BRIDGE AIR
SERVICES LLC
2739 Kiowa Blvd. N 102
Lake Havasu City, AZ
86404
LIC # ROC192642 K-39

Phone # (928) 854-1825 Fax # (928) 453-9731

Proposal

Date	Proposal #
6/11/2015	818

Lake Havasu Unified School District
2200 Havasupai Blvd.
Lake Havasu City, AZ 86404

	Project
Description	Total
The removal and replacement of compressor.	6,166.88
Recovery of system	205.74
Evac System	92.50
The installation of R-22 refrigerant. Price includes refrigerant and labor.	1,516.06
Welding Gases	97.40
Labor Per Hour	900.00
Caps	14.27
Cores	16.95
filter dryer	158.85
copper fittings	156.00
Crane	250.00
Tax	484.00
Sales Tax	0.00

Subtotal	$10,058.65
Total	$10,058.65

Signature & Date _____

Signature & Date _____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Mammoth-San Manuel Unified 006BRG

Background – Mammoth-San Manuel Unified (Mammoth ES – replace classroom flooring)

Mammoth-San Manuel Unified has submitted a Building Renewal Grant request to replace the vinyl composition flooring in classrooms 12, 13, and 14 in Building 1002 at Mammoth Elementary School.

Mammoth-San Manuel Unified, located 116 miles southeast of Phoenix, has five schools. Mammoth Elementary School is comprised of three buildings constructed between 1955 and 1991, totaling 54,608 square feet. Building 1002 was built in 1967, totaling 3,027 square feet.

The existing classroom tile does not meet the pre-school/kindergarten standards and is required to be replaced. The existing flooring was installed over the old flooring that contains hazardous materials. The district has received proposals for asbestos survey of the flooring and substrates ($933), remediation of the flooring ($6,371), asbestos oversight ($3,199) and new flooring ($5,928), totaling $16,431.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative work.

Staff Recommendation – Mammoth-San Manuel Unified (Mammoth ES – replace classroom flooring)
Staff recommends that Mammoth-San Manuel Unified be awarded $18,100 in Building Renewal Grant funding to replace the flooring in classrooms 12, 13, and 14 in Building 1002 at Mammoth Elementary School. This includes $1,669 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Mammoth-San Manuel Unified** be awarded $18,100 in Building Renewal Grant funding to replace the flooring in classrooms 12, 13, and 14 in Building 1002 at Mammoth Elementary School. This includes $1,669 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mammoth-San_Manuel_USD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
signed_grant.pdf	Signed BRG Application	7/22/2015	Cover Memo
EM2_Quote_for_Asbestos.pdf	ACBM Testing	7/22/2015	Cover Memo
JM15-1106_Mammoth_San_Manuel_Floor_tile_(2).pdf	ACBM Abatement	7/22/2015	Cover Memo
Mammoth_Flooring_Asbestos_QA_Quote.pdf	ACBM Oversight	7/22/2015	Cover Memo
Mammoth_Elem_VCT_Quote.pdf	Flooring Quote	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mammoth-San Manuel Unified**
BRG Project Number: **110208106-1002-006BRG** **Pinal County**
Project Description: **Replace classroom flooring**
Consultant: n/a
Contractor: Continental Flooring

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 12,299**
Contingency		**$ 1,669**
Architecture / Engineering (A&E) Fees		$ 4,132
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 4,132**
Total SFB Funded Project Cost:		**$ 18,100**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 18,100**
Total Project Cost:		**$ 18,100**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 4/13/2015 7:48:34 AM **Application ID:** 1977

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mammoth-San Manuel Unified District

Superintendent: John Ryan

Contact Person: David Hogan

Contact Phone Number: 520-385-2339

Contact Email: hogand@msmusd.org

School Site: Mammoth Elementary School

Buildings: 1002 1 Story Brick 2

Application Title: 3 rooms VCT and asbestos abatement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Rooms 12 13 and 14 tile is lifting and is multi layered. Fairly certain mastic is asbestos bearing. Have made contact with Sampling and oversight company, with a removal\abatement company and a flooring company. I will pass their pricing quotes and information along as it come in.

Project Category: Surfaces

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Time and wear issues, not insurance related.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

John J Ryan
Superintendent Printed Name

Superintendent Signature

4/15/15
Date

QUOTE

EMC²
9830 SOUTH 51st STREET, STE. B-109 / PHOENIX, ARIZONA 85044
T: (480) 940-5294 / F: (480) 893-1726 / E-mail: Howard@EMC-AZ.com

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Date: April 14, 2015

Client(s): Mammoth - San Manuel Unified School District
P.O. Box 405, 200 S. Schoolview Drive
San Manuel, Arizona 85631

Attention: David Hogan, Maintenance - Transportation Supervisor
Telephone: 520.385.2339, ext. 5400; Facsimile: 520.385.3038;
E-Mail: hogand@msmusd.org

Subject: Environmental Services, State Contract # ADSPO 12-033357
Mammoth Elementary School

Dear David,

EMC² is pleased to provide you with the following fee structure for the Asbestos bulk sampling requested at the above facility.

Scope of Work: Three (3) Classrooms: Floor Tile & Mastic (Multiple Layers) & Base Adhesive - 12 Samples

Item A: Project Cost(s)

1.	PP III - Administration: 2.0 hours @ $55.00 per hour	$	110.00
2.	FS III - Project Manager: 5.0 hours @ $50.00 per hour	$	250.00
3.	FS II - Technician: 8 hours @ $45.00 per hour	$	360.00
4.	Bulk Samples: 12 samples @ $9.00 per sample	$	108.00
5.	SS III - Secretarial: 3 hours @ $35.00 per hour	$	105.00
	Item A: Estimated Project Cost - Items 1 - 5	**$**	**933.00**

If you have any questions, please contact me at (480) 940-5294 or by Mobile at (480) 580-9610.

Sincerely

Howard Lange

Howard Lange

Agreement
Between Contractor and Owner/Client

Sagebrush Restoration, LLC
2845 S 46th Street
Phoenix, AZ 85040
Office (602) 689-4907
Fax (602) 296-5921

Bid No: JM15-1106

THIS AGREEMENT, entered into on Tuesday April 14, 2015 by and between Sagebrush Restoration, LLC ("Sagebrush") and:

Client Information:
David Hogan
Mammoth-San Manuel Unified School District #8
PO Box 405
200 S. Schoolview Drive
San Manuel, Arizona 85631

Project is identified as: Mammoth Elementary
Project Location: 111 W Dungan Drive, Mammoth, AZ 85618

THE PARTIES AGREE TO THE FOLLOWING:

1. Sagebrush agrees to the scope of work as noted below:

   Pursuant to emails received on April 10, 2015 this proposal is to remove and dispose of floor tile and mastic from the classrooms numbers 12, 13 & 14. The combined total square footage is approximately 1,620 sq/ft. The removal of ACM will be performed in accordance with CFR OSHA 1926.1101 Class II work in addition to all Federal, State and Local regulations. Sagebrush will file a 10 day NESHAP notification with ADEQ and/or Pinal County to remove the floor mastic mechanically under this proposal. All asbestos waste will be kept adequately wet and transported to an EPA approved landfill for disposal. Sagebrush assumes that the contents (furniture and personal effects) will have been moved by others.

   This project has been sight unseen and conditions may be present that change the dynamics of this project

   All travel related expenses including lodging and per diem are included in the below Bid Price.

BID PRICE: $6,370.80

It is the responsibility of the owner to contract with a Third Party Industrial Hygienist for any inspections, air monitoring and/or clearance sampling.

2. Price includes: Labor, materials, equipment and personal protection equipment in order to perform the above mentioned scope of work in a safe and efficient manner. The estimated time frame will be 3-4 day(s). This job will be performed Monday through Friday during the hours necessary to meet your schedule.

   NOTES:
   A. Compliance of all EPA and OSHA Regulations.
   B. Per occurrence $5 million A+X rated insurance.
   C. Arizona Contractors License – ROC 274599
   D. Power and water provided by Owner.
   E. 1GPA contract # 14-154

3. In the event negative pressure containment is required, some paint and/or damage may occur, Sagebrush will not be held responsible for these damages. However, if Sagebrush is contracted to repair the affected area, it will be returned to pre-loss or pre-remediation condition.

4. Within 24 hours of project commencement, Owner/Consultant/Owner's Representative will identify in writing any property damage associated with project setup. Within 48 hours of project completion, Owner/Consultant/Owner's Representative will identify in writing any property damage associated with project completion. Sagebrush will not be responsible for any damages identified beyond that 48-hour time period. Consultant/Owner's Representative will be identified prior to commencement of project.

5. If post abatement monitoring is required, it will be performed by third party industrial hygienist contracted by the Owner. Sagebrush is only responsible for passing clearance protocols within the above identified contained work areas. Clearance protocol for asbestos abatement will be based on Phased Contract Microscopy (PCM) sampling technique. When PCM results are less than **.01 f/cc**, then the post abatement clearance criteria has been meet. If Transmission Electron Microscopy (TEM) is required then clearance criteria will be less than **70 s/mm$_2$**

6. The Owner agrees to pay Sagebrush the contract sum, based upon invoices for payment submitted by Sagebrush. **The owner shall make payments payable net 10 days**.

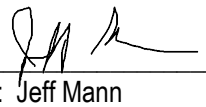
7. Invoices are due net 10 days from invoice date. Interest shall accrue on past due invoices at 1.5% per month no greater than 18% annually on all unpaid invoices.

8. Any alterations or deviations from the specified scope of work will be completed upon written consent from authorized personnel. This proposal shall become part of the contract document and by signing, you agree to all conditions listed within.

9. Bid price is good for 60 calendar days, at which time Owner and Sagebrush can confer with one another on current market price.

**** Due to health concerns and safety hazards related to the above project, NO ONE is permitted into a posted regulated work area unless they have permission from Sagebrush. Should unauthorized entry be made, Sagebrush is not liable for interference and failure to complete clearance testing standards.**

Note: Closeout Documents will only be provided upon written request from client within 30 days of project completion.



Submitted by: Jeff Mann
Estimator / Project Management

Accepted by:

Name Printed: _____

Title: _____

Date: _____

QUOTE

EMC²
9830 SOUTH 51st STREET, STE. B-109 / PHOENIX, ARIZONA 85044
T: (480) 940-5294 / F: (480) 893-1726 / E-mail: Howard@EMC-AZ.com

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Date: April 22, 2015

Client(s): Mammoth - San Manuel Unified School District
P.O. Box 405, 200 S. Schoolview Drive
San Manuel, Arizona 85631

Attention: David Hogan, Maintenance - Transportation Supervisor
Telephone: 520.385.2339, ext. 5400; Facsimile: 520.385.3038;
E-Mail: hogand@msmusd.org

Subject: Environmental Services, State Contract # ADSPO 12-033357
Mammoth Elementary School

Dear David,

EMC² is pleased to provide you with the following fee structure for the consulting services requested on the above site scheduled for abatement.

Services Will Include:

A. Project Oversight During Abatement
B. Abatement Air Quality Monitoring
C. EPA AHERA Clearance Testing

Scope of Work: Classrooms 12, 13, 14: Floor Tile & Mastic (Multiple Layers)

A-C: Project Management, Oversight & Air Monitoring
Includes oversight, documentation review, and close-out manual.

The project oversight and air quality monitoring will be performed by an AHERA-certified asbestos contractor / supervisor - OSHA Competent person. Air samples will be analyzed by Phase Contrast Microscopy (PCM).

Project Items / Parameter(s):

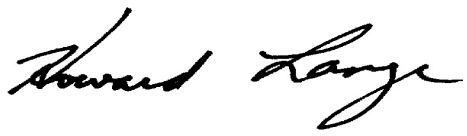
1. Onsite work to be completed in Four Days as per Sagebrush Restoration.
2. Cost Includes office, on-site, travel, sample analysis, and report

Item A-C: **Project Items / Cost(s):** ***4 Work Days / 3 Regulated Areas***

1.	PP III - Administration: 5.0 hours @ $55.00 per hour	$	275.00
2.	FS III - Project Manager: 10.0 hours @ $50.00 per hour	$	500.00
3.	PP I - Technician: 45 hours @ $45.00 per hour	$	2,025.00
4.	Ambient Air Samples: 15 samples @ $8.00 per sample	$	120.00
5.	Clearance Air Samples: 18 samples @ $8.00 per sample	$	144.00
6.	FS II - Report Preparation: 3.0 hours @ $45.00 per hour	$	135.00
	Total Cost Estimate: Items 1 - 6	**$**	**3,199.00**

If you have any questions, please contact me at (480) 940-5294 or by Mobile at (480) 580-9610.

Sincerely



Howard Lange

CONTINENTAL FLOORING COMPANY

9319 N. 94th Way • Suite 1000 • Scottsdale, AZ 85258
Phone (480) 949-8509 • Toll Free (800) 825-1221
FAX (480) 945-2603 • Website www.cfc4u.com

March 20, 2015

Mammoth-San Manuel USD # 8
David Hogan
PO Box 406
San Manuel, AZ 85631

RE: ***VCT For Rooms 12, 13 and 14***
MOHAVE Contract No. 11E-CFC3-0701, expires 07/01/2016 (ID=C)
MOHAVE Contract No. 14N-CVCT-0922, expires 7/1/2016 (ID=R)

Dear Mr. Hogan:

In response to your request for quotation, Continental Flooring Company offers the following proposal for your consideration under Mohave Contracts listed above and indicated by ID Code C:

Per Mohave contract requirements, make your Purchase Order out to the Vendor (Continental Flooring Company). You will then fax a copy of your Purchase Order and this Quote to Mohave at 928-718-3232 or email orders@mesc.org. Continental Flooring Company cannot purchase any materials for this project until we receive approval from Mohave.

ID	Description	Qty	Price	Extended
R	Armstrong Standard Excelon VCT	42 Boxes	$32.00 Boxes	$1,344.00
R	Color: Classic White			
R	Install VCT	1800 SF	$0.56 SF	$1,008.00
R	Furnish and Install 4" Rubber Cove base Color: Match Exsisting	360 LF	$1.40 LF	$504.00
R	Furnish and Install Transitions	108 LF	$3.00 LF	$324.00
R	Cost per EA To Remove and Reinstall Existing Toilet	3 EA	$100.00 EA	$300.00
R	Cost to Apply and Finish Floor Embossing Leveler ***Skim Coat***	1800 SF	$0.85 SF	$1,530.00
	Mileage Per Arizona Staste Travel Policy	238 Miles	$0.45 Miles	$105.91
	IN-State M&L Rates for Pinal County	6 Units	$94.00 Units	$564.00
			Sub Total	$5,679.91
	Pinal County Prime contracting tax rate		4.3550% Tax	$247.36
			Total	**$5,927.27**

Prices listed in this quote do not include seal and wax of VCT. Seal/Wax floor is available via the Mohave Flooring Contract as ***a per layer priced line item***. If you would like Continental Flooring Company to provide Seal/Wax for the VCT installation for this project, please provide the number of layers that you wish to have installed and a revised quote

will be created to include this item at $.15/SF per layer. Please let me know if you would like Continental Flooring Company to handle Seal/Wax or if you will have this handled by others.

Prices listed in this quote do not include moving of any furniture.

Prices listed in this quote do not include removal of any floor covering.

Prices listed in this quote include minor sub-floor preparation. Standard sub-floor preparation consists of 25lbs of patch for every 300 square yards of material, except as otherwise noted. ***Should any unforeseen sub-floor conditions exist additional charges will apply.***

Prices listed in this quote include insurance coverage as required by the originally bid contracts. Certificate of Insurance and Worker Compensation documentation are available by request at no additional charge. A Bond can be ordered and would add 2.5% to the quote listed above.

This Mohave Contract requires payment and performance bond on orders in excel of the current bidding threshold ($50,000.00) as required in ARS§§ 34-222, 34-223, 28-6923, 41-2574, or R7-2-1112 (A, B, C, D), as applicable.

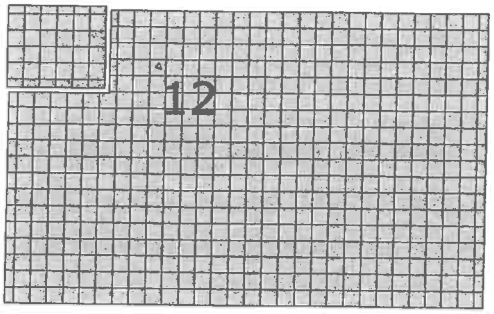
Continental Flooring does not test for asbestos or lead paint nor do we provide asbestos or lead paint abatement. The Owner represents that they have taken all necessary steps to insure that no asbestos or lead paint exists on this project. The Owner accepts all responsibility for the testing and removal of asbestos and lead paint and will hold Continental Flooring harmless relating to asbestos and lead paint. The owner will provide related certification to continental flooring if required.

Once Mohave sends Continental Flooring Company an approved copy of your purchase order, materials for your installation will be ordered. **Cathy Gordon, *operations coordinator* (480) 949-8509 ext. 289** will contact you when the material for this installation has been received and provide a proposed installation date for your approval.

Thank you for the opportunity to quote to you on this project. Should you have any questions, or require additional information, please call me at (800) 825-1221 ext. 285 or on my mobile at (602) 690-6978 or email me directly at **laurak@continentalflooring.com**.

Respectfully,

Laura Kuligowska
Continental Flooring Company
Celebrating over 30 years of flooring the public sector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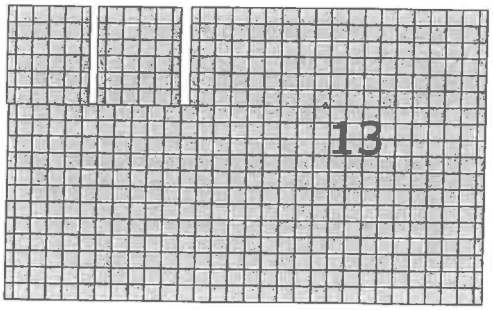
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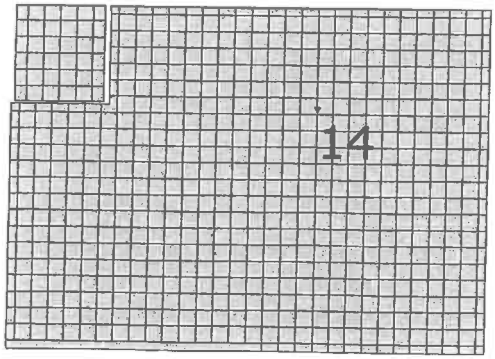
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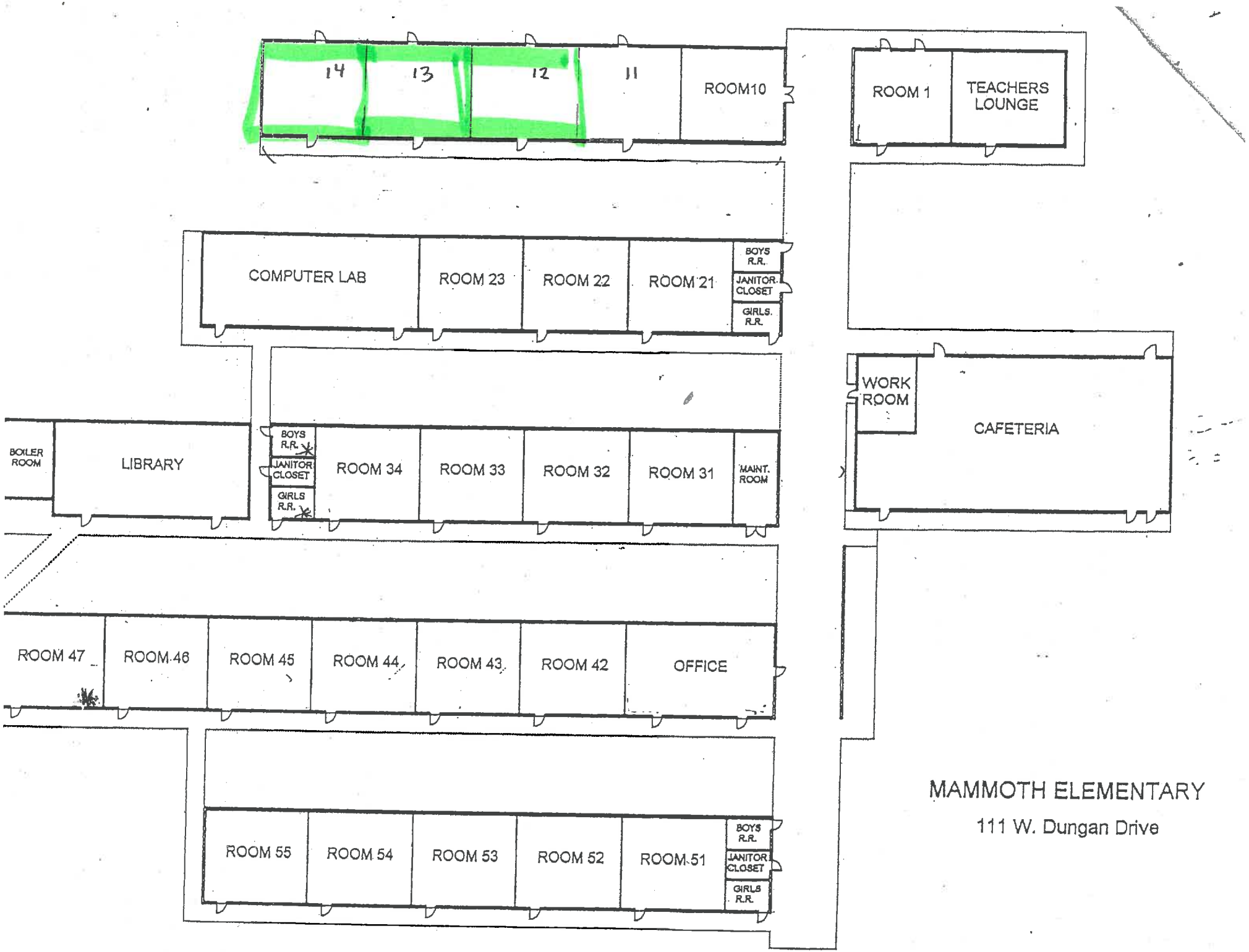


MAMMOTH ELEMENTARY

111 W. Dungan Drive

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Mesa Unified 023BRG
Background – Mesa Unified (Las Sendas ES – replace fire suppression sprinkler heads)
Mesa Unified has submitted a Building Renewal Grant request to replace 477 fire suppression sprinkler heads due to major corrosion and failure on all buildings at Las Sendas Elementary School.

Mesa Unified has 90 schools. Las Sendas Elementary School is comprised of 10 buildings constructed between 1984 and 1997, totaling 62,985 square feet.

The sprinkler heads were recalled in the 90's, but were never replaced. The district received a proposal of $14,980 (not including tax) to replace the sprinkler heads.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Mesa Unified (Las Sendas ES – replace fire suppression sprinkler heads)
Staff recommends that Mesa Unified be awarded $16,480 in Building Renewal Grant funding for the replacement of 477 fire suppression sprinkler heads on all buildings at Las Sendas Elementary School. This includes $1,500 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Mesa Unified** be awarded $16,480 in Building Renewal Grant funding for the replacement of 477 fire suppression sprinkler heads on all buildings at Las Sendas Elementary School. This includes $1,500 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Mesa_USD_023BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Las_Sendas_Elementary_School_Signed_BRG_Application.pdf	Signed Application	7/23/2015	Cover Memo
Proposal_from_Metro_Fire_Equipment_for_Replacement_of_Fire_Sprinkler_Pendants..pdf	Proposal for Replacement	7/23/2015	Cover Memo
Las_Sendas_Elementary_School_Fire_Sprinkler_System_Report_from_Metro_Fire_Equipment.pdf	Certificaiton Report	7/23/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Mesa Unified**
BRG Project Number: **070204150-9999-023BRG** **Maricopa County**
Project Description: **Replace fire suppression sprinkler heads**
Consultant: n/a
Contractor: Metro Fire Equipment

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 14,980**
Contingency		**$ 500**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 15,480**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 15,480**
Total Project Cost:		**$ 15,480**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date:

Application ID: 2094

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Mesa Unified District

Superintendent: Dr. Michael Cowan

Contact Person: Todd Poer

Contact Phone Number: 928-595-1400

Contact Email: ftpoer@mpsaz.org bksylvester@mpsaz.org jrasmuss@mpsaz.org

School Site: Las Sendas Elementary School

Buildings:

1001	A1000
1002	A2000
1003	A3000
1004	A4000
1005	A5000
1006	A6000
1007	A7000

Application Title: Request to replace failing recalled fire sprinkler pendants

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Request funding to replace a total of (477) failing, corroded and recalled fire sprinkler pendants at Las Sendas Elementary School.

Project Category: Special Systems

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Failure is not due to theft, vandalism, or wind, therefore, it is not covered by insurance.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Building Renewal Grant Application

Michael B. Cowan
Superintendent Printed Name

Michael B. Cowan
Superintendent Signature

7/20/15
Date

METRO FIRE EQUIPMENT, INC.
63 S. Hamilton Place Gilbert AZ 85233 · 3851 N. Oracle Rd Tucson, AZ 85705
Main (480) 464-0509 · Fax (480) 962-5372 · www.metrofireaz.com
AZ ROC# C-16: 111021 · CR-67: 103313 · CR-5: 213027 · CR-80: 295875 · R-16: 166777

PROPOSAL

Proposal Submitted To:
Mesa Public Schools

Service Location:
Las Sendas Elementary
3120 N Red Mtn
Mesa, AZ 85207

Date: June 22, 2015
Attention: Rick Bye
Phone: 602-799-3156
Email: rdbye@mpsaz.org

Scope of Work: Replace all (477) fire sprinkler recalled pendants. Replacement doesn't include sidewall or upright fire sprinklers. Heads to be changed will be like for like.

Parts: $9540.00
Labor: $5440.00
Total: $14.980.00

If you'd like to approve this proposal, please sign below and return to our office via fax or email and we will contact you to schedule service. Please contact our office with any questions.

Exclusions: Applicable tax, after hour's labor, any additional parts & services not outlined above.
Payment Terms: Net 30 days

ACCEPTANCE: This agreement, when signed by the Buyers and Metro Fire Equipment Inc. (hereinafter "Metro Fire") becomes a contract between the two parties. The Buyers agree to furnish and be responsible for access to a safe and habitable workspace for Metro Fire to perform its responsibilities. This contract does not include:

Upon default in payment according to the terms and conditions stated above, the entire balance becomes due and payable with interest at 2% per month, 24% per annum from date of invoice until paid. In the event it becomes necessary to employ an attorney or collection agency to collect this account, or any part thereof, it is agreed by and between the parties that the Buyers shall be liable a minimum additional 30% above the contract price stated hereon as and for attorney's fees or collection costs, plus any court costs incurred, but in any event not less than $50.00

It is further agreed by and between parties hereto that that title to the property herein described shall remain in Metro Fire, the Seller, until such time as the Buyers have fully performed and paid all amounts due herein.

It is further agreed that Metro Fire shall have 180 days within which to perfect any materialmen's/mechanic's lien it may deem necessary in order to protect its interest herein. Upon breach of the contract by the Buyers, Seller has the right to retrieve the property and enter Buyer's premises in order to effectuate its right.

We hereby authorize Metro Fire Equipment to perform the service and/or maintenance of equipment as described above. The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Accepted By Metro Fire Equipment
Signature: _____
Name: TW Proffitt
Title: Sprinkler Service Manager
Date: June 22, 2015

Accepted By:
Signature: _____
Name: _____
Title: _____
Date: _____

METRO FIRE EQUIPMENT, INC.

63 S. Hamilton Place · Gilbert, AZ 85233
Phone (480) 464-0509 • Fax (480) 962-5372 – www.metrofireaz.com
L-16 Commercial 111021 • L-67 Commercial 103313 • C-16 Residential 166777-R • K-05 Plumbing 213027

Fire Sprinkler System Report

Service Location		Owner / Agent Contact Information	
Name	MPS - Las Sendas Elementary	Name	Mesa Public Schools
Address	3120 N Red Mountain	Address	555 S. Lewis
City, State, Zip	Mesa, AZ 85207	City, State, Zip	Mesa, AZ 85210
Service Date	10/02/2013	Contact	Rick Bye
Inspector	Richard C. Hale	Phone	480-472-6070
Work Order	B30923087	Fax	
Access Notes	MPS electronics tech will meet you onsite	Email	rdbye@mpsaz.org

☒ Annual ☐ Semi Annual ☐ Quarterly ☐ Monthly

Monitoring Information

Company:	Amer-x		Phone:	(480) 607-2077	Account:	Passcode:	
Time on test:	10:28 AM	Time off test:	11:09 AM		Signals confirmed with:	Amer-x	

Alarm Panel Information

Manufacturer:		Model:		Location:	

A. GENERAL INFORMATION	Yes	No	N/A
1. Is the building occupied as in past?	X		
2. Is the building fully sprinklered?	X		
3. Systems in service without modification since the last Inspection?	X		
4. Spare head box with heads and wrench securely mounted?	X		
5. Stock/storage a minimum of 18" below sprinkler heads?	X		
6. Are all gauges in good condition & showing normal pressures?	X		
7. Wet system areas adequately heated?	X		
8. Are all new additions and building changes properly protected?	X		
9. Date of sprinkler system installation:	2000		
10. Are portable fire extinguishers in good condition?	X		
B. VALVE INFORMATION			
1. Are all main control valves open?	X		
2. Main control valves in good condition and identified?	X		
3. Are control valves secure? (Record pg 2)	X		
4. Are all control valves accessible & free from external leaks?	X		
5. Are all control valves provided with the proper operators?	X		
6. All control valves operated through full range & returned to normal position?	X		
7. Valves lubricated, as needed?	X		
C. SPRINKLER & PIPING INFORMATION			
1. Are all sprinklers unobstructed?	X		
2. Sprinklers free of corrosion, tape, paint, physical damage and are properly oriented?		X	
3. Heads in freezers/coolers appear free of ice, corrosion?			X

C. SPRINKLER & PIPING INFORMATION	Yes	No	N/A
4. Are escutcheon plates ok?	X		
5. Sprinklers of proper temperature rating?	X		
6. Riser in good condition & unobstructed?	X		
7. Hydraulic nameplate OK?	X		
8. System ID securely attached & legible and has proper info if any auxiliary sys?	X		
9. Pipe in good condition, free of damage & obstructions, and not leaking?		X	
10. Is 5 year inspection current?			X
11. Date of Last 5 Year Inspection:	Unknown		
12. All hangers OK?	X		
13. Seismic bracing OK?	X		
14. FDC & caps OK?	X		
15. FDC Location	Off of gym SE side		
16. FDC gaskets/signs in place?	X		
17. FDC clapper in place and operating properly?	X		
18. Sprinkler system main drain test completed & OK? (Record pg 2)	X		
19. Are all sprinklers less than 50 years old? (20 yr for QR – 10 yr for dry pendent)	X		
20. Are fire hoses on sprinkler system in good condition?	X		
D. ALARM INFORMATION			
1. Was the WMG tested & OK?	X		
2. Was the electric bell tested & OK? Volt:120	X		
3. Central Station flow alarm tested & OK?	X		
4. Central Station tamper tested & OK?	X		
5. Alarm devices free from physical damage & all electrical connections secure?	X		
6. Alarm trim valves OK & set properly?	X		
7. No leakage from retard chambers or alarm drains?	X		
8. Inspectors test connection(s) OK?	X		

CONTROL VALVES

Type	Size	Quantity	Secured	Open	Accessible	Signs	Exercised	Lubricated
	2.5	3	X	X	X	X	X	
THRD-BBAL	2.5	2	X	X	X	X	X	X
GRV-BFLY								

FIRE SPRINKLER RISER FLOW TEST RESULTS

Riser

System No.	Main Riser Location	Riser Size	Drain Size	Static Before	Residual	Static After	Compares to Prior
1	East side of rm 32	2.5	1.25	290	275	285	No
2	East side of rm 36	2.5	1.25	150	135	150	Yes
3	West side of 35	2.5	1.25	145	130	145	Yes
4	Gym PE storage	2.5	1.25	100	60	90	Yes
5	Gym PE storage	2.5	1.25	100	75	90	Yes
6	Chiller room	2	1.25	No gauge on system			N/A
7							
8							
9							
10							

System No.	ITV TEST RESULTS	ALARM SIGNALS			HYDRAULIC NAMEPLATES		
	ITV Location	Local Alarm OK	ITV Trip Time	Signals Received	Density Area	Demand Flow	Demand PSI
1	West side outside	Yes	45	Yes	.1	289.22	59
2	West side of portable	Yes	31	Yes	.1	289.22	59
3	East side of portable	Yes	22	Yes	.1	289.22	59
4	At riser	Yes	50	Yes	.1	235	71
5	At riser	Yes	25	Yes	.1	252	71
6	No ITV, tripped flow switch manually	Yes	45	Yes	N/A		
7							
8							
9							
10							

SPRINKLER HEADS

Type	Size	Finish	Temp	Manufacturer	Model	Response	K Factor	Year
Upright	1/2	Brass	286	Viking	M	Standard Response		1998
Pendent	1/2	Chrome	165	Central	1998 GB	Quick Response		1998
Pendent	3/4	Chrome	165	Central	ELO-16	Quick Response		1996

INSPECTION DEFICIENCIES

Quantity	Component	Report Comment	Location	Inspector Comment
1	Standard Response Sprinkler	Defective	Heads in buildings are recalled as noted on previous inspections	Replace all corroded and recalled heads.
2	Gauge	No gauge on system	Chiller room riser	Install gauge and test, drain valve on riser. Need to pipe drain outside.

COMMENTS

☒ Alarm Panel Clear
☒ All Systems in Service

IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER OR DESIGNATED REPRESENTATIVE THAT REQUESTED THIS INSPECTION TO REVIEW REPORTS AND CORRECT ANY DEFICIENCIES NOTED.

SIGNATURE & ACKNOWLEDGEMENT:

THIS TESTING WAS PERFORMED IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS.

Inspector Signature: 
Richard C. Hale

Owner/Agent Signature:

IDENTIFICATION BROCHURE FOR "Central" COMMERCIAL WET SPRINKLERS

INTRODUCTION TO THE "VOLUNTARY REPLACEMENT PROGRAM"

This brochure provides information that will assist you in identifying whether the sprinklers in your sprinkler system are the O-ring sprinklers involved in this Voluntary Replacement Program ("VRP" or "Program"). In addition, this brochure contains information that you will need to accurately complete your Proof of Claim form and participate in the VRP. **Please read this brochure carefully and follow all instructions closely.**

DO NOT ATTEMPT TO REMOVE OR DISTURB YOUR SPRINKLER HEADS WHILE TRYING TO IDENTIFY YOUR SPRINKLERS.

General Description of the O-Ring Fire Sprinklers Involved in this VRP

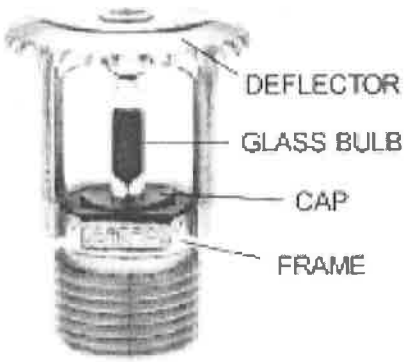
All the automatic fire sprinklers involved in this VRP utilize a heat-sensing element, for example, a liquid filled glass bulb (Fig. A), a solder link (Fig. D), or a solder strut (Fig. H), loaded within the sprinkler's "frame" (Fig. A, C, D, or E). The frame is the piece of metal at the end of the sprinkler closest to the wall, ceiling, or pipe that is connected to the sprinkler via pipe threads. The heat-sensing element holds the sprinkler "cap" (Fig. A, C, D, or E) in the "orifice," blocking the flow of water through the orifice from the water supply. Should a fire occur, sufficient heat from the fire automatically releases the heat sensing element permitting the water to push the "cap" out of the waterway and strike against the "deflector." The "deflector" is the rounded plate furthest from the wall, ceiling, or pipe that typically resembles a starburst, flower, or gear. The deflector distributes water in a desirable spray pattern to provide fire control.

The heat sensing elements are provided in a variety of operating temperatures and the sprinklers incorporate a temperature identification system that combines a stamping on the sprinkler with a color code. The stamping will typically appear on either the "cap" or the "deflector". Color coding is as follows:

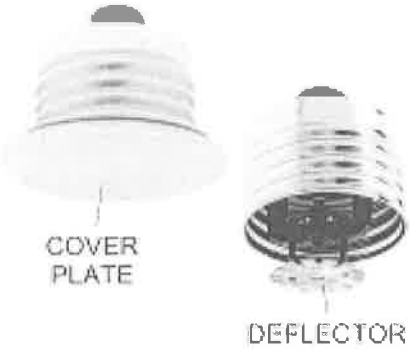
Typical Bulb Ratings	Fluid Color	Typical Solder Ratings	Frame Color*
135F/57C	Orange	135F/57C	Plain
155F/68C	Red	165F/74C	Plain
175F/79C	Yellow	212F/100C	White
200F/93C	Green	286F/141C	Blue
250F/121C	Blue	360F/182C	Red
286F/141C	Blue	*Stripe on frame or dot on deflector	
360F/182C	Purple		

The fire sprinklers involved in this Program use an "O-ring Seal Design" (Fig. F) to seal the sprinkler waterway. These O-ring sprinklers are being replaced with sprinklers that utilize a "Belleville Seal Design" (Fig. G).

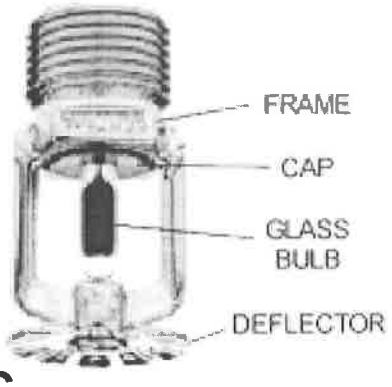
The O-ring sprinklers involved in this Program are found in two categories of sprinkler systems: wet sprinkler systems or dry sprinkler systems. Wet sprinkler systems deliver water immediately upon sprinkler activation and can be used in areas not subject to freezing. In dry sprinkler systems (Fig. H, J, or K) the sprinklers are attached to a dry length of pipe. Sprinkler operation releases the seal and inner tube thus allowing the sprinkler to operate. Once the sprinkler has operated, a control type valve such as a dry pipe valve opens, filling the pipe with water and delivering water to the open sprinklers. Dry type sprinklers are commonly used where a sprinkler must be located in an area subject to freezing yet water-filled supply piping is in an area not subject to freezing. For example, sprinkler drops into a freezer or sprinkler sprigs up into an attic where the water supply pipes are located in the heated areas outside the freezer or attic. Dry sprinklers will have a small hole (a small "weep hole") on the "cap" or seal.



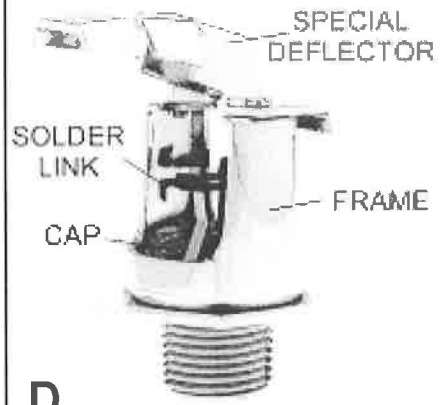
A TYPICAL UPRIGHT



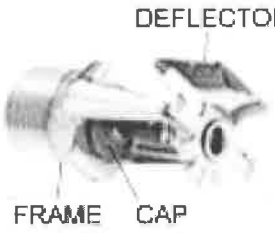
B TYPICAL CONCEALED



C TYPICAL PENDENT

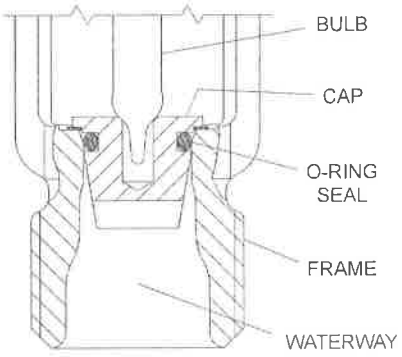


D ATTIC SPRINKLER

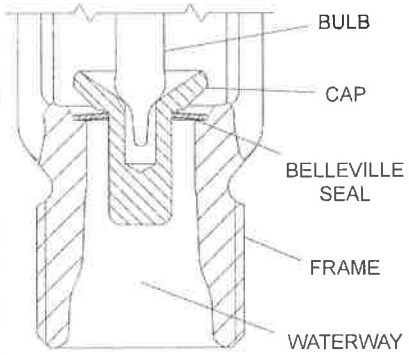


TYPICAL HORIZONTAL SIDEWALL

E



F O-RING SEAL DESIGN



BELLEVILLE SEAL DESIGN

G



TYPICAL DRY PENDENT SHOWN WITH SOLDER STRUT HEAT SENSING ELEMENT

H



TYPICAL DRY CONCEALED PENDENT

J



TYPICAL DRY HORIZONTAL SIDEWALL

K

The sprinklers in the VRP can be found in various installed positions to accommodate building construction and aesthetic considerations. Commonly, the sprinklers are either upright or pendent. Upright sprinklers (Fig. A) have the deflector on top and are usually located on top of horizontal piping. Pendent sprinklers (Fig. C) hang with the deflector facing the floor; they are often installed with optional escutcheon plates to cover clearance holes in ceilings and sometimes the sprinklers are "concealed" behind the removable cover plates (Fig. B). In addition to upright and pendent sprinklers, horizontal sidewall sprinklers (Fig. E), as the name implies, are located along a side-wall or side of a beam. Similar to pendent sprinklers, the horizontal sidewall sprinklers are often installed with optional escutcheon plates to cover clearance holes in the wall.

Precautionary Steps in Identifying Your Sprinklers

Prior to attempting the identification of a given sprinkler as being part of this Program, please review the following safety warnings:

Prior to attempting to view installed sprinklers, consult sprinkler system drawings, records of installation and/or maintenance and spare heads located in the spare head box to attempt to identify the sprinkler model(s) installed in your sprinkler system.

If you are unable to determine what type of sprinklers you have in this manner, you may try to get close enough to the sprinklers to visually inspect them. Caution must always be exercised when climbing a ladder, using lifts, and scaffold to view installed sprinklers. Do not attempt to visually inspect your sprinklers if doing so places you in a precarious position.

Caution should be used at all times when attempting to identify and view sprinklers. The glass bulb or heat-sensitive element can be easily damaged, causing the sprinkler to activate. If you are required to remove a cover plate for a concealed sprinkler, use caution not to disturb the sprinkler or damage the operating element which may cause activation of the sprinkler. Do not apply sources of heat and do not strike, disturb, or apply pressure to the glass bulb or activation element of the sprinkler. **MORE IMPORTANTLY, DO NOT REMOVE YOUR SPRINKLERS IN ORDER TO IDENTIFY THEM.** Sprinkler systems contain water under pressure or compressed air/gas that can cause severe damage or personal injury if sprinklers are removed while under pressure. Proper draining of a sprinkler system by a professional sprinkler installer prior to sprinkler removal is required to protect the building from water damage. If a sprinkler is to be removed or installed after the system has been properly shut down and drained, only the approved sprinkler wrench for the model sprinkler being removed or installed should be used to prevent damage to the sprinkler(s). Maintenance of sprinkler systems should be completed by a qualified, professional fire sprinkler contractor in accordance with local and national guidelines. Sprinkler systems should be regularly inspected and maintained by a professional fire protection installer. All sprinkler heads in a sprinkler system should be tested, and replaced if necessary, no later than ten years after installation.

IF YOU CANNOT IDENTIFY THE TYPE OF SPRINKLERS INSTALLED IN YOUR SPRINKLER SYSTEM, PLEASE CONSULT WITH A PROFESSIONAL FIRE SPRINKLER CONTRACTOR.

Identification of Your Sprinklers

First. Visually inspect your sprinklers, noting the "frame" and the "deflector." The sprinkler model may appear on the frame or deflector (Figs. A-G).

Second. Make note of all of the inscriptions (including the year of manufacture) on the sprinkler "frame" and the sprinkler "deflector". In the case of concealed sprinklers, remove (unscrew in most cases) the cover plate to observe the deflector inscriptions. Many sprinklers used in the fire protection industry contain similar components and look similar to each other. It is important to review the inscriptions on the sprinkler to properly identify certain Central, Gem, and Star models included in this Program.

- The presence of either a "CENTRAL" or "CSC" marking will at first verify the sprinkler as having been manufactured by Central Sprinkler Company.
- The presence of a "G in a Triangle" marking will at first verify the sprinkler as having been manufactured by Gem Sprinkler Company.
- The presence of either a "STAR" or "Star shaped logo" marking will at first verify the sprinkler as having been manufactured by Star Sprinkler Company.

The VRP includes sprinklers having O-ring seals and that are listed in the following tables:

- **Central:** Table A (Page 7), or Tables B, C, and D (not inlcuded in this document)
- **Gem:** Table E (not inlcuded in this document)
- **Star:** Table F (not inlcuded in this document)

Third. After verifying manufacture by Central, Gem, or Star, match the alpha and numeric inscriptions to the model identifiers given in Tables A, B, C, D, E, and F as applicable. (Only those models identified in Tables A, B, C, D, E, and F having O-ring seals are part of this Program.) By referring to the figure number referenced in the "Figure" column, a further identification of the sprinkler can be confirmed. It is important to properly identify the model(s) of sprinklers installed in a building as sprinklers have different performance characteristics. Replacement with sprinklers of different performance characteristics may impair the sprinkler system's ability to control or extinguish a fire. If your sprinklers are dry type sprinklers, you will also need to determine the length of the supply pipe. Due to varying locations of the sprinkler supply pipe to the desired location of a dry type sprinkler, dry type sprinklers are made to order with a desired length. The length is normally determined by measuring from the face of the sprinkler fitting (the pipe fitting into which the dry type sprinkler will be fitted) to the face of the ceiling or wall where the sprinkler is to be located. Because this pipe is often not exposed, you may need to contact a professional sprinkler installer to obtain these measurements.

Fourth. It is important to know that Central now manufactures sprinklers with Belleville seals, which are a different design than the sprinklers with O-ring seals that are subject of this Program. Where applicable, the Table indicates "Yes" in the "Sprinklers May Contain O-ring or Belleville Seal" column. Central did not manufacture sprinklers with Belleville seals until 1998, although Central also continued to manufacture sprinklers with O-ring seals after 1998. **Note: The year of manufacture is typically stamped on the deflector as four digits (e.g., 1984). If the four digits for the year of manufacture cannot be found on the deflector, the year of manufacture will appear on the frame.** You can determine whether your sprinklers contain O-ring seals or Belleville seals in the following manner:

- If a Central sprinkler has been identified as being included in Tables A, B, or C and if the year stamped on the "frame" or "deflector" is 1997 or earlier, or "No" is indicated in the "Sprinklers May Contain O-ring or Belleville Seal" column for any given year of manufacture, the sprinkler has an O-ring seal and is part of the Program.
- If a Central sprinkler has been identified as being included in Tables A, B, or C and if the year stamped on the "frame" or deflector is 1998 or later, and "Yes" is indicated in the "Sprinklers May Contain O-ring or Belleville Seal" column, a closer inspection of the "cap" and its shape will be required to determine whether the sprinkler utilizes an O-ring seal and is part of the Program.
- After the "Yes" indication in the "Sprinklers May Contain O-ring or Belleville Seal" column, a reference to a "Style Letter" is given. In this case, refer to the "Visualization Guide" located on page 8. An examination of the "cap" shape can be used to determine if the identified sprinkler has an "O-Ring Seal Design" or the newer "Belleville Seal Design." If the sprinkler is determined to have an O-ring seal, then the sprinkler is part of the Program.

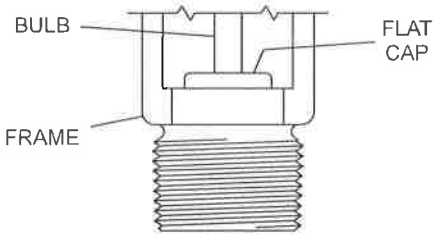
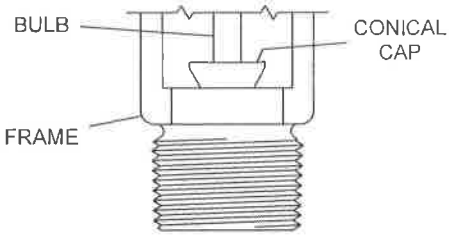
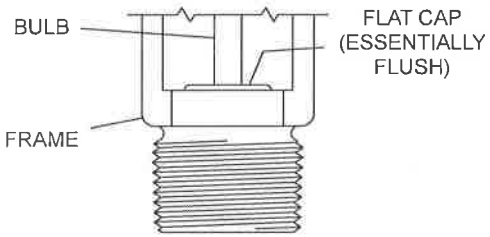
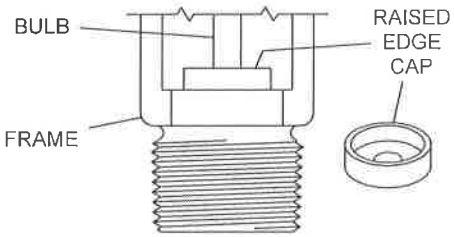
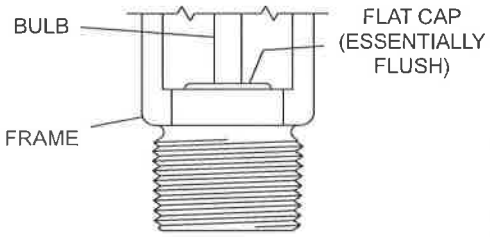
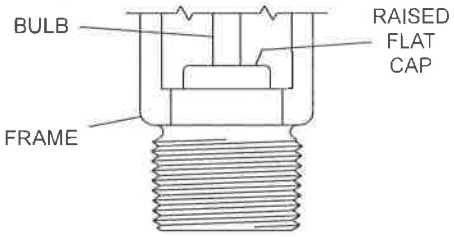
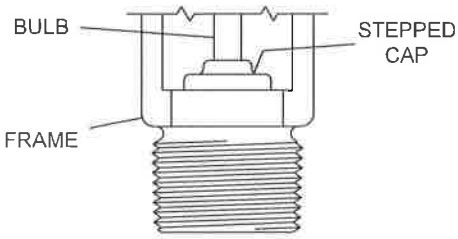
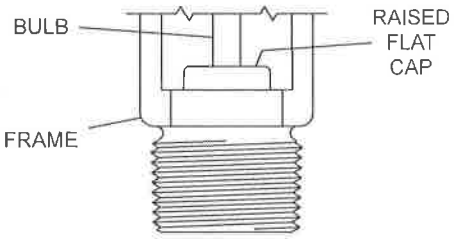
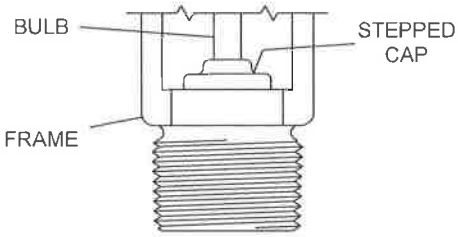
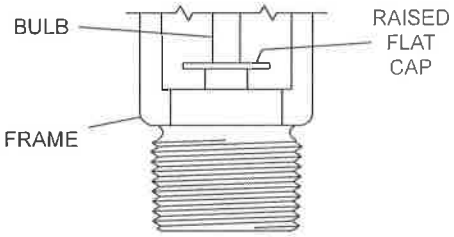
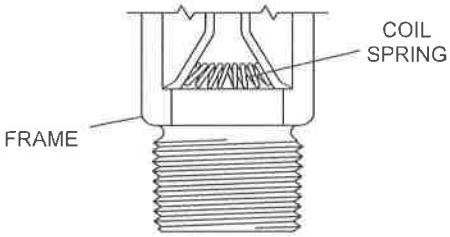
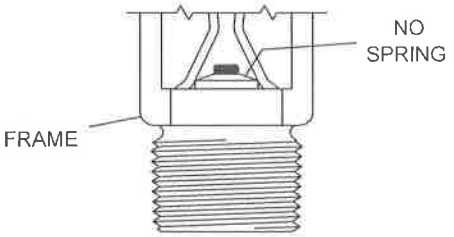
Fifth. Call Central O-ring Sprinkler Replacement Customer Service Hotline at (866) 505-8553, if there is any doubt as to the type of sprinkler you have installed in your home or building. Please be prepared to provide all of the noted inscriptions, as well as the use of the building (e.g., residential, hotel, manufacturing, storage, retail, etc.).

TABLE A — "CENTRAL" COMMERCIAL SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
ELOC	11.2	Concealed Pendent	01	Solder Link	Yes (Style F)
ELO GB	11.2	Pendent and Upright	02	Glass Bulb	NO*
ELO GB QR	11.2	Pendent and Upright	03	Glass Bulb	NO*
ELO-LH	11.2	Pendent	04	Glass Bulb	NO*
ELO SW20	11.2	Horizontal Sidewall	05	Glass Bulb	Yes (Style B)
ELO SW24	11.2	Horizontal Sidewall	06	Glass Bulb	Yes (Style B)
ELO-16 GB	11.2	Pendent and Upright	07	Glass Bulb	NO*
→ ELO-16 GB FR	11.2	Pendent and Upright	08	Glass Bulb	NO*
ELO-231 GB	11.2	Pendent and Upright	09	Glass Bulb	Yes (Style D & E)
ELO-231 GB QR	11.2	Pendent and Upright	10	Glass Bulb	Yes (Style D & E)
ESLO	14.0	Pendent and Upright	11	Glass Bulb	NO*
ESLO-20 GB	14.0	Pendent and Upright	12	Glass Bulb	NO*
GB	5.6	Pendent and Upright	13	Glass Bulb	Yes (Style A)
GB	5.6	Horizontal Sidewall	14	Glass Bulb	Yes (Style A)
GB Multi Level	5.6	Upright	15	Glass Bulb	Yes (Style A)
GB-ALPHA	5.6	Pendent	16	Glass Bulb	NO*
GB-EC	5.6	Pendent	17	Glass Bulb	Yes (Style A)
GB-EC	5.6	Horizontal Sidewall	18	Glass Bulb	Yes (Style A)
GB-J	5.6	Pendent and Upright	19	Glass Bulb	Yes (Style A)
GB-LO	8.0	Horizontal Sidewall	20	Glass Bulb	NO*
GB-QR	4.2	Pendent and Upright	21	Glass Bulb	Yes (Style A)
GB-QR	5.6	Pendent and Upright	22	Glass Bulb	Yes (Style A)
GB-QR	5.6	Horizontal Sidewall	23	Glass Bulb	Yes (Style A)
GB-QR Multi Level	5.6	Upright	24	Glass Bulb	Yes (Style A)
GB-1	5.6	Pendent and Upright	25	Glass Bulb	NO*
GB4	5.6	Concealed Pendent	26	Glass Bulb	Yes (Style C)
GB4-EC	5.6	Concealed Pendent	27	Glass Bulb	Yes (Style C)
GB4-FR	5.6	Concealed Pendent	28	Glass Bulb	Yes (Style C)
GB4QREC	5.6	Concealed Pendent	29	Glass Bulb	Yes (Style C)
GB20	8.0	Pendent	30	Glass Bulb	NO*
GB20-QR	8.0	Pendent	31	Glass Bulb	Yes (Style B)
K17-231	16.8	Pendent and Upright	32	Glass Bulb	Yes (Style C)
LD	11.2	Upright	33	Glass Bulb	Yes (Style B)
ULTRA K17	16.8	Upright	34	Glass Bulb	Yes (Style C)

*** THERE WAS NO O-RING TO BELLEVILLE DESIGN CHANGE FOR THIS MODEL.**

VISUALIZATION GUIDE

STYLE	O-RING SEAL DESIGN	BELLEVILLE SEAL DESIGN
A		
B		
C		
D		
E		
F		



COVER PLATE IS REMOVED
BY UNSCREWING
COUNTER-CLOCKWISE

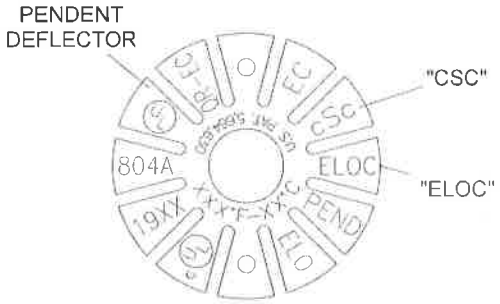
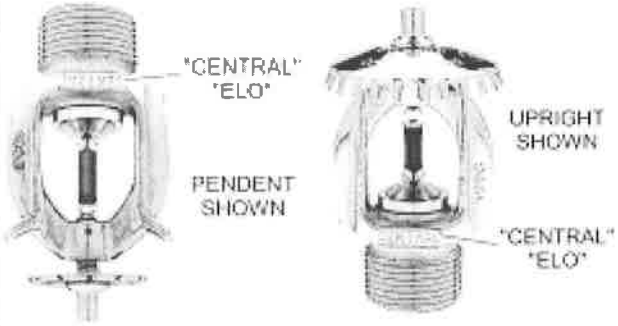


Figure 01
ELOC, K=11.2, Concealed Pendent
CENTRAL



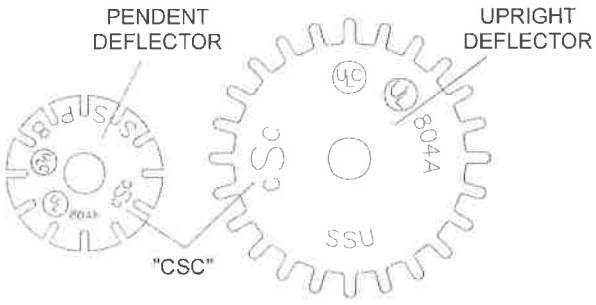
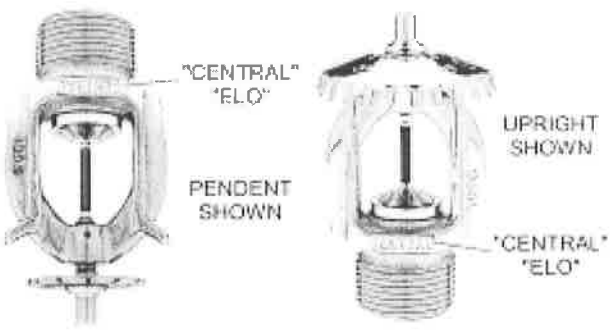


Figure 02
ELO GB, K=11.2, Pendent & Upright
CENTRAL



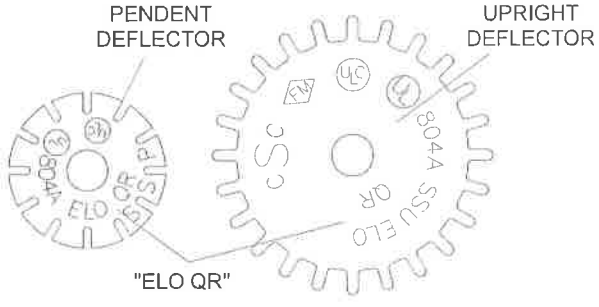


Figure 03
ELO GB QR, K=11.2, Pendent & Upright
CENTRAL

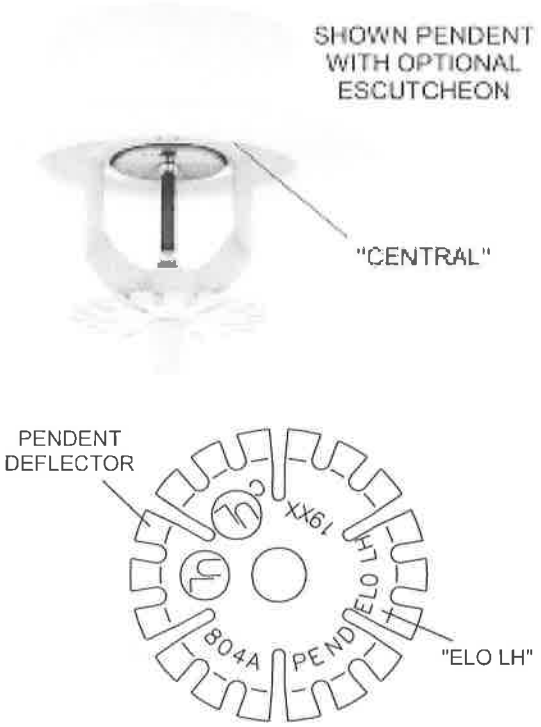


Figure 04
ELO-LH, K=11.2, Pendent
CENTRAL

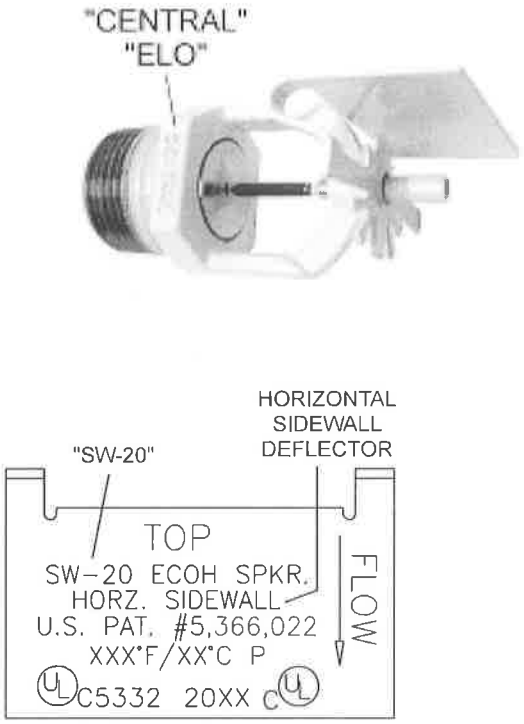


Figure 05
ELO SW20, K=11.2, Horizontal Sidewall
CENTRAL



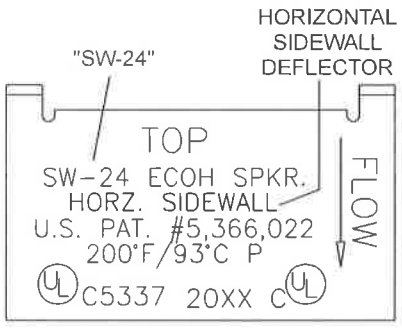


Figure 06
ELO SW24, K=11.2, Horizontal Sidewall
CENTRAL

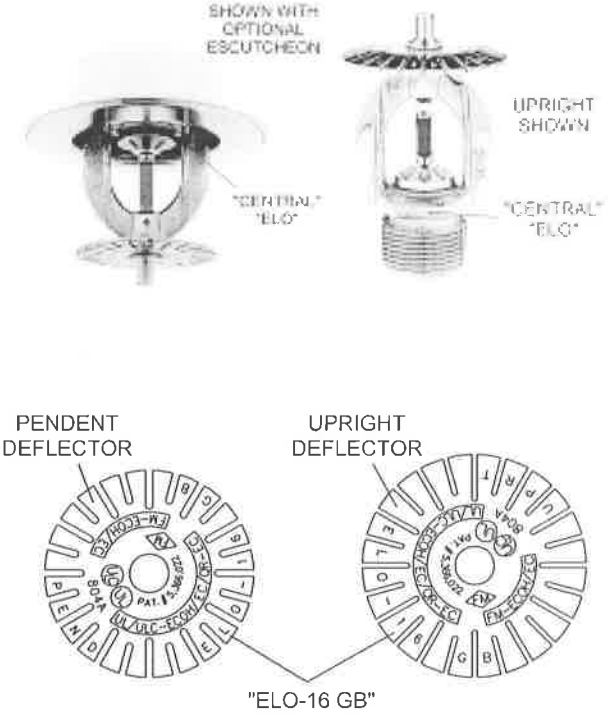


Figure 07
ELO-16 GB, K=11.2, Pendent & Upright
CENTRAL

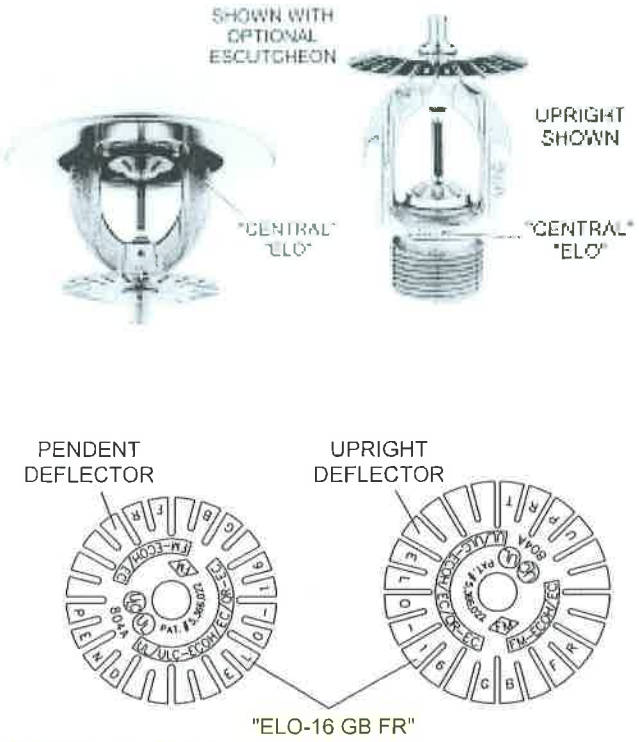


Figure 08
ELO-16 GB FR, K=11.2, Pendent & Upright
CENTRAL

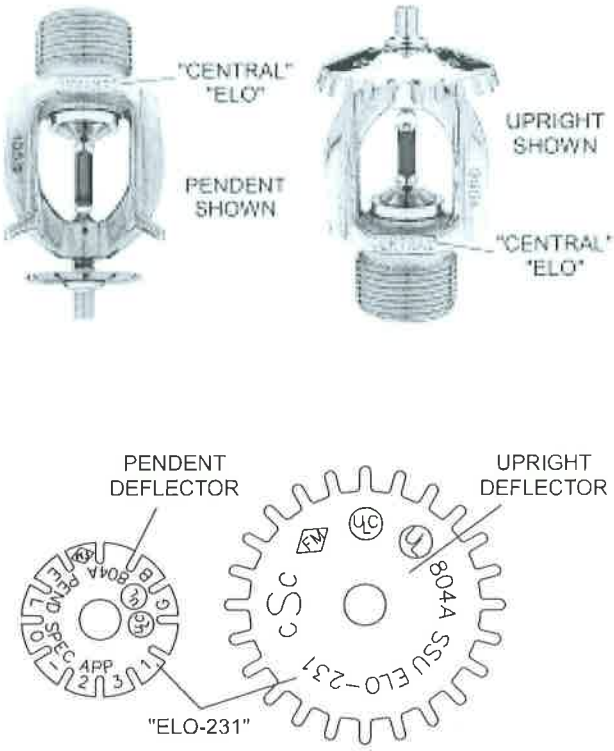


Figure 09
ELO-231 GB, K=11.2, Pendent & Upright
CENTRAL

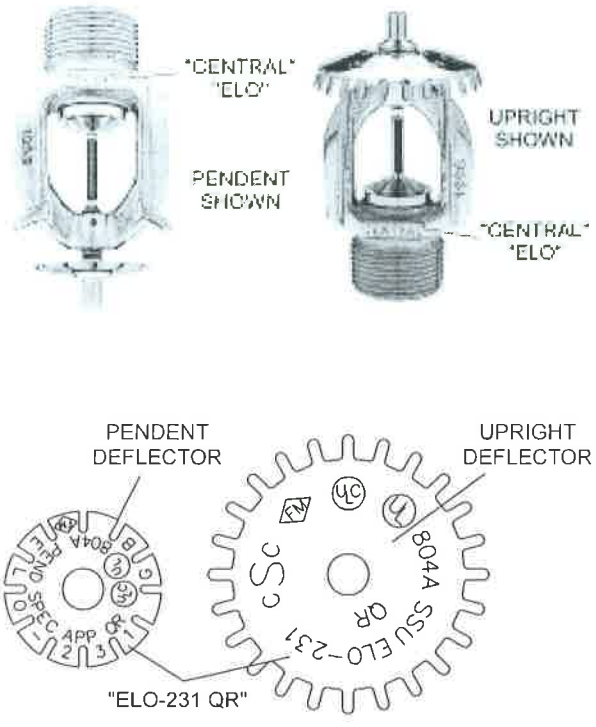


Figure 10
ELO-231 GB QR, K=11.2, Pendent & Upright
CENTRAL

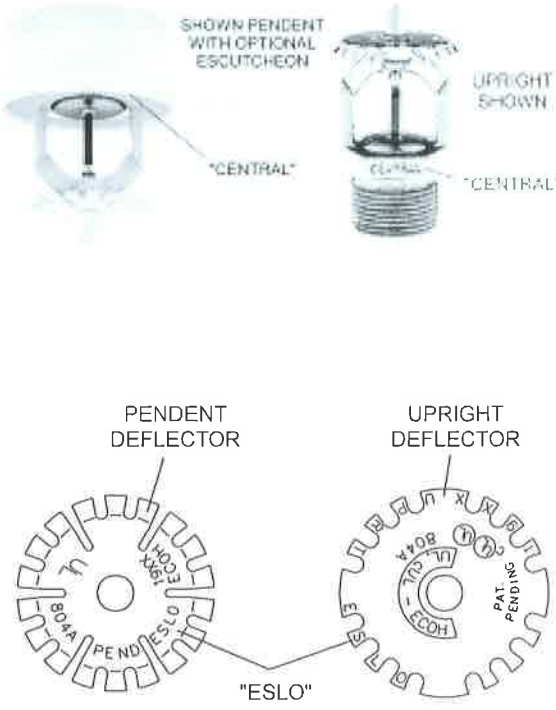
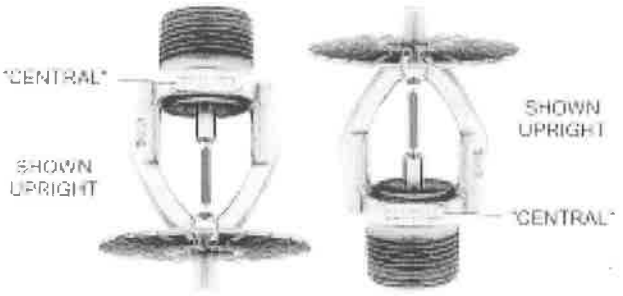


Figure 11
ESLO, K=14.0, Pendent & Upright
CENTRAL



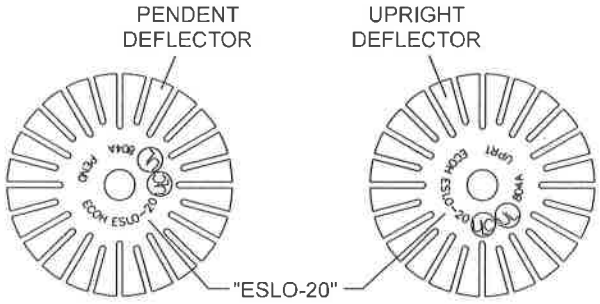
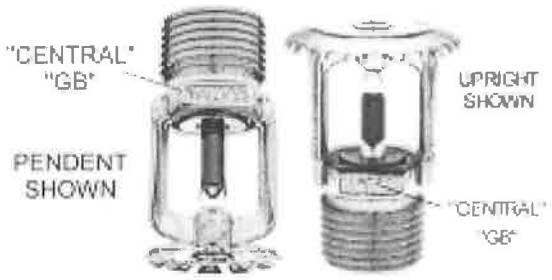


Figure 12

ESLO-20 GB, K=14.0, Pendent & Upright CENTRAL



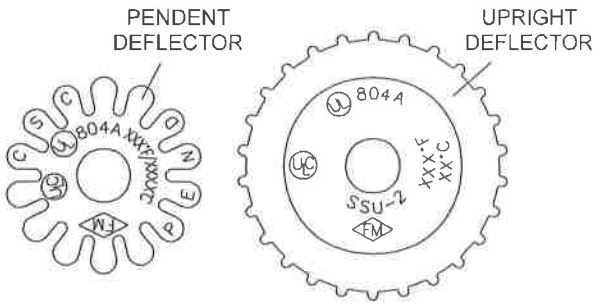


Figure 13

GB, K=5.6, Pendent & Upright CENTRAL



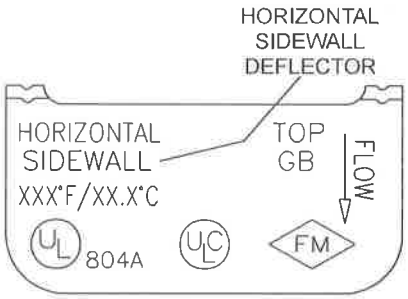


Figure 14

GB, K=5.6, Horizontal Sidewall CENTRAL



5mm (3/16") DIAMETER GLASS BULB

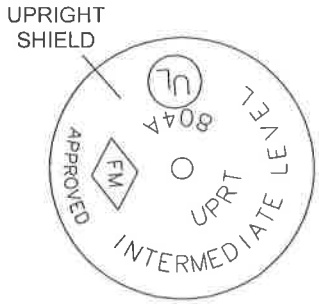


Figure 15

GB, K=5.6, Multi Level, Upright CENTRAL

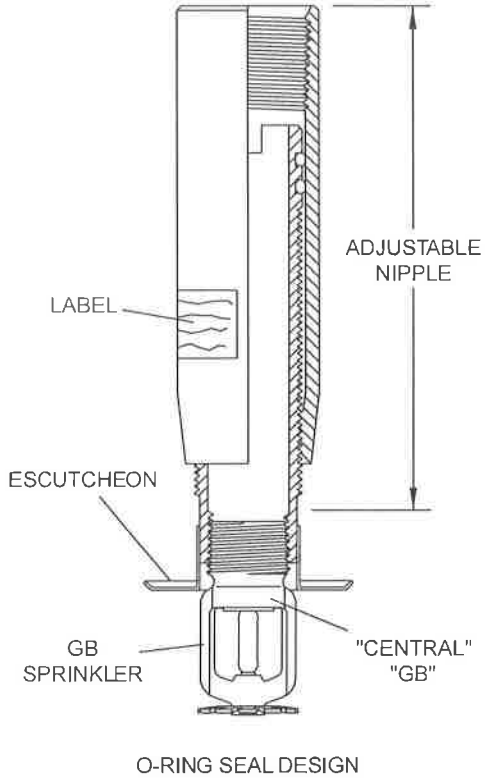


Figure 16
GB-ALPHA, K=5.6, Pendent
CENTRAL

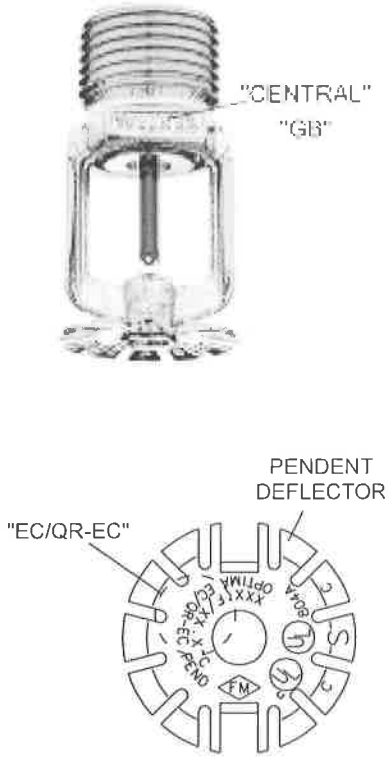


Figure 17
GB-EC, K=5.6, Pendent
CENTRAL



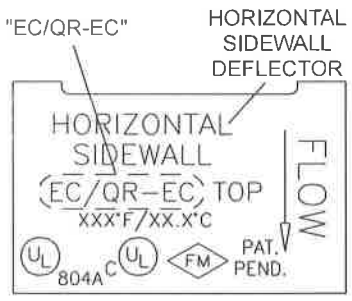


Figure 18
GB-EC, K=5.6, Horizontal Sidewall
CENTRAL



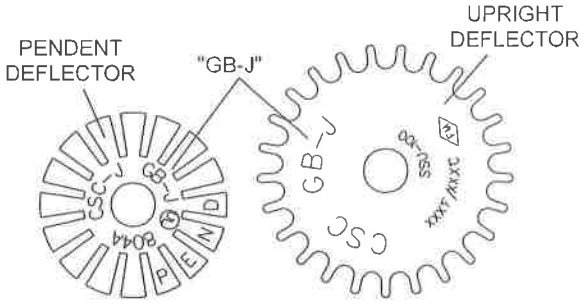
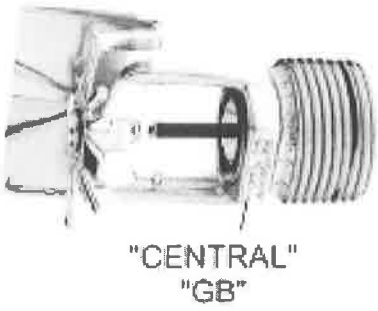


Figure 19
GB-J, K=5.6, Pendent and Upright
CENTRAL



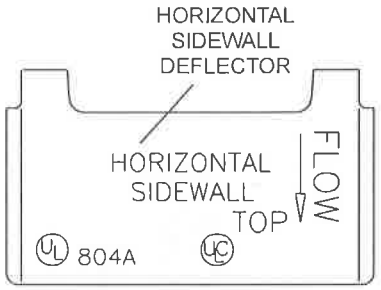


Figure 20
GB-LO, K=8.0, Horizontal Sidewall
CENTRAL

THE PINTLE INDICATES A SMALL ORIFICE (K=4.2) SPRINKLER



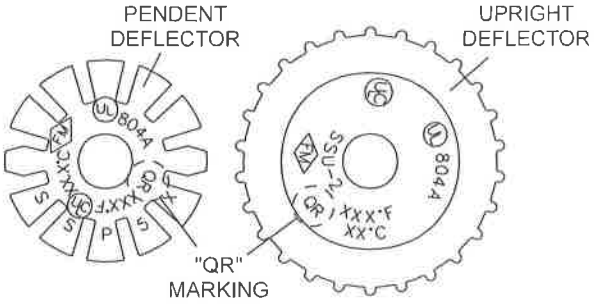


Figure 21
GB-QR, K=4.2, Pendent & Upright
CENTRAL



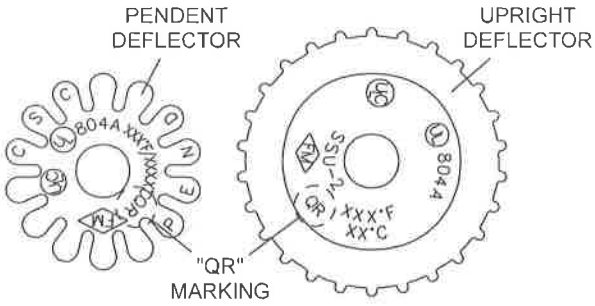


Figure 22
GB-QR, K=5.6, Pendent & Upright
CENTRAL



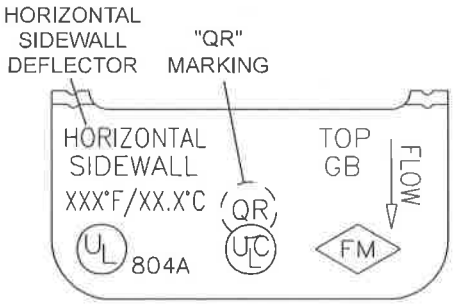


Figure 23
GB-QR, K=5.6, Horizontal Sidewall
CENTRAL



3mm (1/8") DIAMETER GLASS BULB

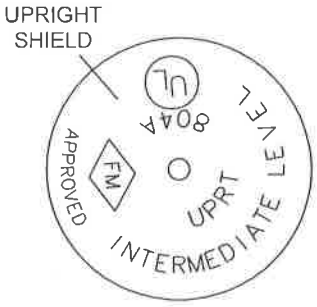


Figure 24

GB-QR, K=5.6, Multi Level, Upright CENTRAL



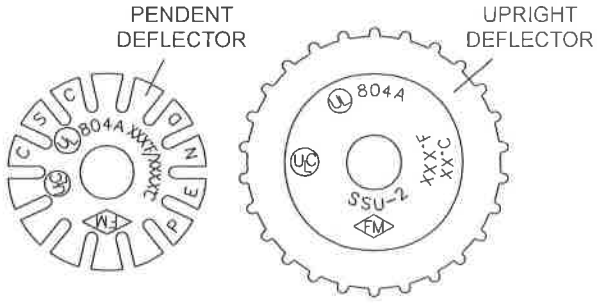


Figure 25

GB-1, K=5.6, Pendent & Upright CENTRAL



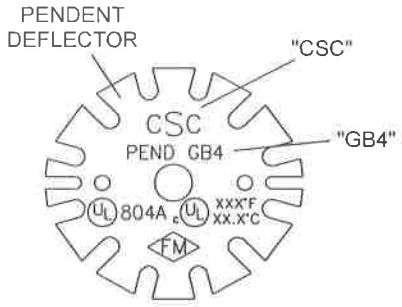


Figure 26

GB4, K=5.6, Concealed Pendent CENTRAL



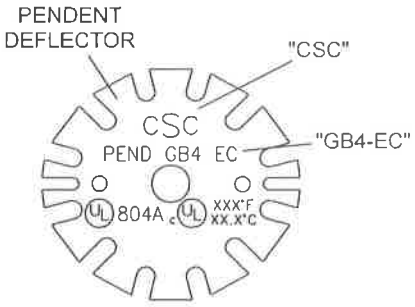


Figure 27

GB4-EC, K=5.6, Concealed Pendent CENTRAL



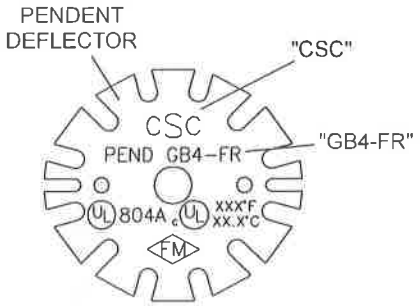


Figure 28
GB4-FR, K=5.6, Concealed Pendent
CENTRAL



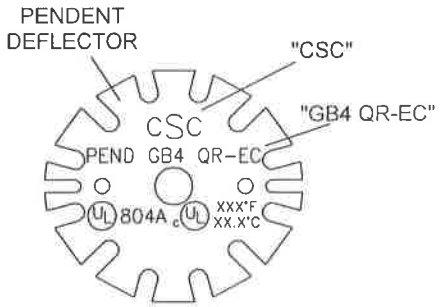


Figure 29
GB4QREC, K=5.6, Concealed Pendent
CENTRAL

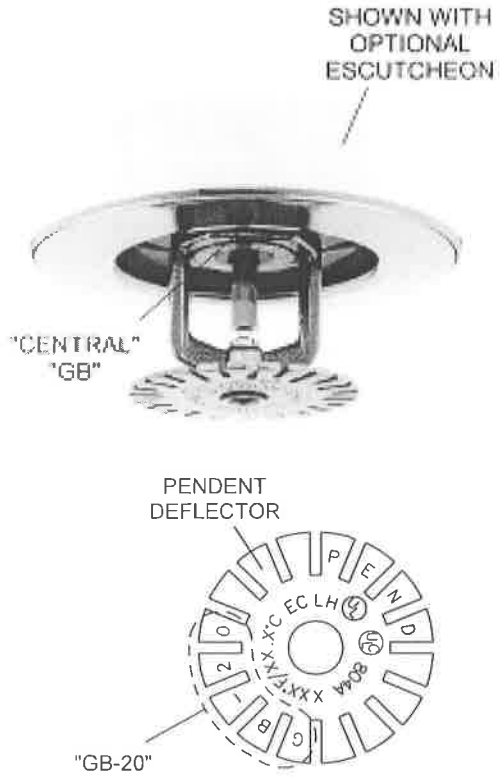


Figure 30
GB20, K=8.0, Pendent
CENTRAL

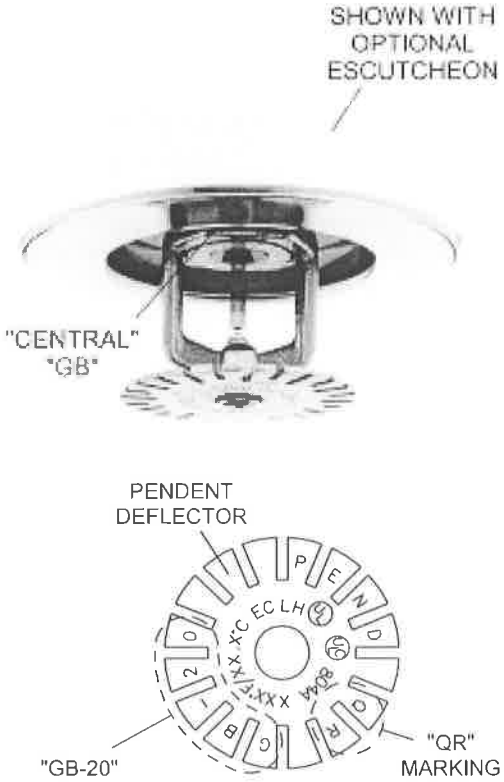


Figure 31
GB20-QR, K=8.0, Pendent
CENTRAL

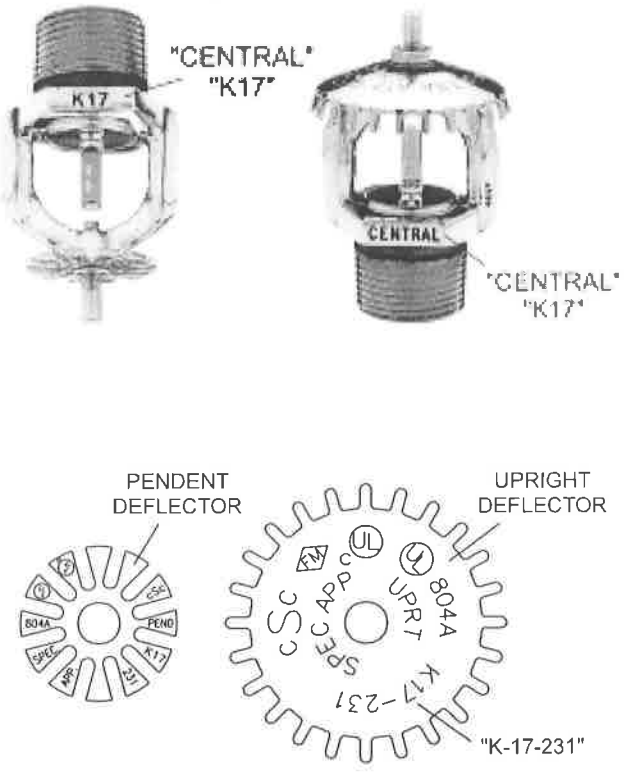


Figure 32
K17-231, K=16.8, Pendent & Upright
CENTRAL

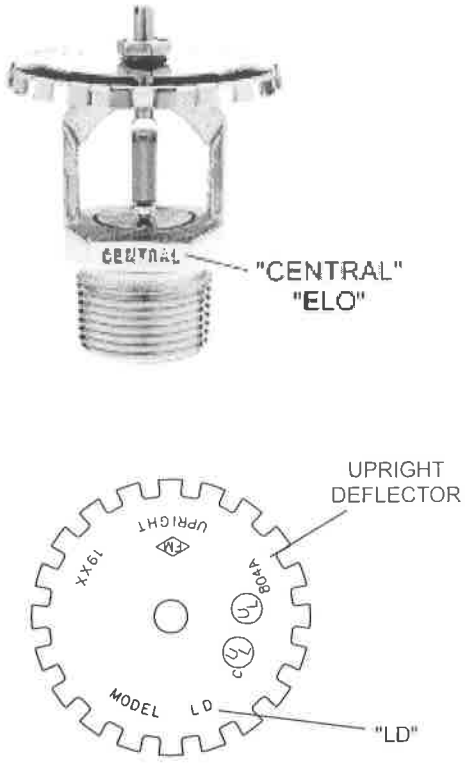


Figure 33
LD, K=11.2, Upright
CENTRAL



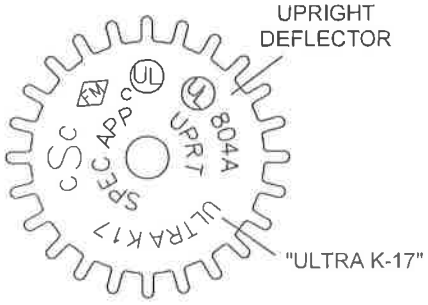


Figure 34
ULTRA K17, K=16.8, Upright
CENTRAL

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Paradise Valley Unified 002BRG
Background – Paradise Valley Unified (Pinnacle HS – replace cooling towers)
Paradise Valley Unified has submitted a Building Renewal Grant request to replace the galvanized cooling towers at Pinnacle High School.

Paradise Valley Unified, located in north Phoenix, has forty eight schools. Pinnacle High School is comprised of 11 buildings constructed between 2000 and 2014, totaling 343,048 square feet.

The cooling towers have corroded beyond repair. The district's engineer has submitted a proposal for pre-design, construction documents and construction administration costs, along with the estimated construction cost for the replacement of the cooling towers.

Engineering services	$31,415
Estimated construction cost	$493,264
Contingency	$26,000
Total requested:	$550,679

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Paradise Valley Unified (Pinnacle HS – replace cooling towers)
Staff recommends that Paradise Valley Unified be awarded $550,679 in Building Renewal Grant funding for replacement of the cooling towers at Pinnacle High School.

Board Action Requested:
Board approval of the staff recommendation that **Paradise Valley Unified** be awarded $550,679 in Building Renewal Grant funding for replacement of the cooling towers at Pinnacle High School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Paradise_Valley_USD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-730131832-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Paradise Valley Unified**
Project Number: **070269292-9999-002BRG** Maricopa County
Project Description: **Replace cooling towers**
Architect of Record: Johnston Engineering Company (480-443-8773)
Contractor:

Board approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 493,264**
Contingency ①		**$ 26,000**
Architecture / Engineering (A&E) Fees		
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 31,415
Testing & Inspection		$ -
Inspection, Evaluation and Oversight		$ -
Total Additional Cost:		**$ 31,415**
Total SFB Funded Project Cost:		**$ 550,679**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 550,679**
Total Project Cost:		**$ 550,679**

① Contingency shall only be requested and applied to unknown conditions.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/20/2015 2:55:45 PM **Application ID:** 2055

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Paradise Valley Unified District

Superintendent: Dr. Jim Lee

Contact Person: Richard Bishop

Contact Phone Number: 602-717-1686

Contact Email: ribishop@pvlearners.net

School Site: Pinnacle High School

Buildings: 9999 School Wide

Application Title: Cooling Towers Replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Complete Unit replacement, (2) 650 Ton cooling towers, components and attachments. Damaged, leaks throughout unit, pipes and attachments. aged, rusted and calcified, unit has become inefficient to run.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

N/A

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Dr. Jim Lee
Superintendent Printed Name

Superintendent Signature

7/21/2015
Date

JOHNSTON ENGINEERING COMPANY
HEATING, VENTILATION, AIR CONDITIONING, PLUMBING

DATE OF AGREEMENT July 7, 2015

CLIENT Paradise Valley Unified School District
20621 North 32nd Street
Phoenix, Arizona 85050

CONSULTANT Johnston Engineering Company
9777 North 91st Street, Suite 100
Scottsdale, Arizona 85268

PROJECT Mechanical, Structural and Electrical Design P-5060REV
Cooling Tower Renovations
Pinnacle High School
for Paradise Valley Unified School District

CLIENT AND CONSULTANT AGREE TO THE FOLLOWING:

A. The terms and conditions the State Contract ADSP015-00004729, per the Paradise Valley Unified School District.

B. The basic scope of services of the Consultant are for a mechanical, structural and electrical design to implement a central plant upgrade for Pinnacle High School. The scope includes a mechanical, structural and electrical design for: (1) project management; (2) upgrades to the existing mechanical system including **new Cooling Towers in the Tower Yard**; (3) the interface of an existing building automation system to the **new cooling towers variable frequency drives and controls.** All design work will be done in concert with the school district standards, incorporating the District Standards and respecting their construction budget.

Schematic Design

1. Project management.
2. Field verify the existing conditions to allow the installation of new mechanical systems.
3. Conceptual design.
4. Develop cooling tower system, plus control system designs.
5. Pre design report.
5. Associated structural and electrical engineering.

Construction Documents

1. Mechanical, structural and electrical schedules, details and plans.
2. CADD drafting.

Construction Administration

1. Site visits.
2. Submittal review.
3. Office engineering.
4. RFI responses.
5. Substantial and final completion.

C. Compensation for the services provided by Johnston Engineering shall be on a fixed fee basis including direct costs for this project shall be as shown in the **Table 1** below.

TABLE 1.

ENGINEERING FEES - PINNACLE HIGH SCHOOL		
Phase	**Activity**	**Cost**
Schematic Design / Pre Design Report	Pre Design	$5,825.00
Construction Documents	Design	$17,420.00
Construction Administration	Construction	$8,170.00
TOTAL		$31,415.00

The line items for the consultants are included for the total proposal cost.

Additional services can be performed at the following hourly rates:

Principal Engineer	=	$150/HR
Project Manager	=	$105/HR
Senior Mechanical Designer	=	$ 80/HR
Clerical Support	=	$ 50/HR

The following shall be provided to Johnston Engineering upon initiation of this project:

1. Existing record mechanical, architectural and electrical drawings for PPHS Central Plant.

D. No claims for additional service compensation will be allowed by Client unless Consultant provides Client with a written proposal for such services and said proposal is signed by an authorized representative of Client prior to any such work being commenced.

E. Johnston Engineering Company will invoice the Client after completion of each phase of the project, or monthly which ever comes first.

F. Invoices shall be submitted at the completion of each phase of the project or monthly for services rendered, whichever comes first.

G. The Consultant agrees to maintain professional liability insurance with minimum limits of $1,000,000 each claim and annual aggregate; maximum $5,000 deductible each claim.

H. The Consultant agrees to complete all design work in 45 days from date agreement is signed. Any revisions to the schedule would also be mutually agreed upon.

I. This proposal is based on the following assumptions:

General

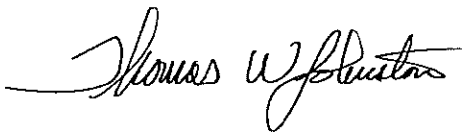
1. Mechanical structural and electrical engineering and design construction documents are included in this proposed scope.
2. Owner meetings will occur during the design phase to review the design.
3. Reimbursable expenses shall be paid independent of labor costs per contract.
4. Owner to provide current floor plan layout.
5. No architecture, plumbing or fire sprinkler work is included at this time.
6. CADD as-builting of the existing cooling tower yard has been included.
7. Items of design are individually broken out on the attached tables.
8. New cooling towers will be integrated with the existing building automation system.
9. The design will minimize or eliminate disruptions to the existing occupants.
10. Construction administration is included in this scope of work.

Individual Items

1. Renovate the existing cooling tower system, replacing two 650 ton cooling towers.
2. Evaluate the existing HEX system.
3. APS rebates will be by others.
4. Prepare construction documents to meet City of Phoenix amended Codes.
5. The new cooling towers will have a new structural support system.
6. The electrical service will be designed for two cooling towers to serve the existing campus.
7. Construction administration for submittals, office engineering and site visits is included.

This Agreement entered into as of the day and year first written above. Johnston Engineering shall begin work after one originally signed copy of this agreement is received.

JOHNSTON ENGINEERING COMPANY



Thomas W. Johnston
President

PARADISE VALLEY SCHOOL DISTRICT

Signature_____

Printed Name_____

Title_____

Date_____

P.O. Number_____

JOHNSTON ENGINEERING COMPANY
HEATING, VENTILATION, AIR CONDITIONING, PLUMBING
9777 N. 91ST ST., STE 100, SCOTTSDALE, AZ 85258
TELEPHONE (480) 443-8773 * FAX (480) 443-4591

JOHNSTON ENGINEERING COMPANY

Construction Estimate Details — Sheet 1 of 1

Project: Pinnacle High School Cooling Tower Replacement

Prepared By: Emilio Gonzalez — Date: 7/17/2015

Description	Qty	Materials		Labor				Subcontract		Total Includes OH+P
		Unit Price	Amount	Unit Hours	Total Hours	Rate	Amount	Unit Price	Amount	
Labor	1	$0	$0				$65,000		$0	$71,500
Equipment	1	$275,000	$275,000				$0		$0	$302,500
Material	1	$10,000	$10,000				$0		$0	$11,000
Sub-Contracts	1	$0	$0				$0		$39,000	$42,900
Equipment Rental	1	$10,300	$10,300				$0		$0	$11,330
Controls Equipment	1	$15,000	$15,000				$0		$0	$16,500
EMS Materials	1	$3,000	$3,000				$0		$0	$3,300
EMS Labor	1	$0	$0				$1,900		$0	$2,090
Structural Cost	1	$40,000	$40,000						$0	
Close Out Manuals			$18,368				$0		$0	$18,368
Bond			$9,184				$0		$0	$9,184
Misc. Cost			$4,592				$0		$0	$4,592
Total			$385,444				$66,900	$0	$39,000	$493,264

PARADISE VALLEY



PINNACLE H.S. 7/2015







PARADISE VALLEY - RUNNELS HS. 7/2015







STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Ray Unified 004BRG

Background – Ray Unified (Ray HS – HVAC replacement)

Ray Unified has submitted a Building Renewal Grant request for the assessment of the HVAC system on Building 1018 at Ray High School. The units require constant repair and possibly are in need of replacement.

Ray Unified, located 85 miles southeast of Phoenix, has three schools. Ray High School is comprised of 14 buildings constructed between 1963 and 2004, totaling 103,389 square feet. Building 1018 was constructed in 2004, totaling 21,644 square feet.

The district received a proposal for professional design services in the amount of $22,500 for the assessment of the HVAC system, with a construction estimate of $140,000.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Ray Unified (Ray HS – HVAC replacement)
Staff recommends that Ray Unified be awarded $178,800 in Building Renewal Grant funding for the assessment, design, and construction of HVAC replacement on Building 1018 at Ray High School. This includes $16,300 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Ray Unified** be awarded $178,800 in Building Renewal Grant funding for the assessment, design, and construction of HVAC replacement on Building 1018 at Ray High School. This includes $16,300 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Ray_USD_004BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_BRG.pdf	Signed BRG Application	8/3/2015	Cover Memo
Assessment_of_Heating___Cooling_System_at_Ray__High_School_Gymnasium-signed.pdf	Assessment, design proposal	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Ray Unified**
BRG Project Number: **110203202-1018-004BRG** **Pinal County**
Project Description: **HVAC replacement**
Consultant: BESP
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 140,000**
Contingency		**$ 16,300**
Architecture / Engineering (A&E) Fees		$ 22,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 22,500**
Total SFB Funded Project Cost:		**$ 178,800**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 178,800**
Total Project Cost:		**$ 178,800**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/2/2015 3:04:17 PM **Application ID:** 2067

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Ray Unified District

Superintendent: Curt Cook

Contact Person: Paul Unger

Contact Phone Number: 520-827-0011

Contact Email: paul_unger@rayusd.org

School Site: Ray High School

Buildings:

1008	Auto/Metals
1018	HS1010a

Application Title: install gas packs on two gym buildings

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

removal of swamp coolers & hanging gas heaters, replace with gas packs (4 ten ton units per gym)

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

These coolers are constantly being repaired. We have made several patches on the exterior of the cabinets. Replaced squirrel cages & bearing assemblies. We have 5 functional coolers out of 8 total units. We have 4 of 8 heaters working.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Curt Cook

Superintendent Printed Name

Building Renewal Grant Application

~~Superintendent Signature~~ _____ ~~Date~~ 7/27/15

BESP, LLC
138 E. La Vieve Ln
Tempe, AZ 85284
Tel: (602) 377-2679 Fax: (480) 629-5645
sameerpandey@besp.us
www.besp.us

August 2, 2015

Mr. Paul Unger
District Maintenance Supervisor
Ray Unified School District
701 N. Highway 177
Keany, AZ 85137

Ref: Assessment of Heating & Cooling System at Ray High School Gymnasium

Dear Mr. Unger,

Per SFB/district's request, BESP assessed a heating/cooling system at Ray High School Gymnasium on Friday, July 31, 2015. It is noted that the gymnasium is approximately 13,000 square feet with around twenty-five (25) feet high ceiling. The gymnasium space is currently being served by four (4) Aspen Evaporative Coolers (side discharge) with a cooling capacity of approximately 10,000 cfm each, and four (4) hanging heaters with a heating capacity of 250 MBH output each. The evaporative coolers are directly fed into a space without proper distribution of air through any ductwork/diffusers. The air is relieved from the space through six (6) wall louvers.

As listed below, BESP noted a number of deficiencies in heating & cooling system at the Ray High School Gymnasium.

1. The existing cooling system has passed its useful life, and is inadequate to provide optimum cooling to the space.
2. The air from the coolers directly feed into the gymnasium space without proper distribution.

Per our evaluation, cooling system in the gymnasium needs to be upgraded. In addition to it, a proper air distribution system needs to be designed and installed to uniformly distribute air throughout the space.

To avoid high humidity and moisture in the gymnasium space, BESP recommends to replace existing coolers with air-conditioning units. Per our evaluation, the gymnasium has a cooling load of approximately forty (40) tonnage.

A design and installation cost to replace the evaporative coolers at Ray High School Gymnasium is estimated as following:

Scope: Replace existing evaporative coolers with air-conditioning units; add air distribution system with new ductwork, diffusers and return grills.

1) Design Services Fee - $22,500

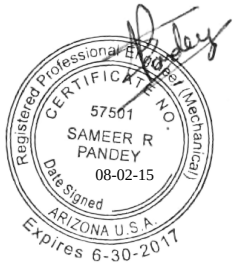
   a. Design & Documentation
      i. Design/Load calculation/Specifications for new air-conditioning units
      ii. Design air distribution system
      iii. Produce detailed mechanical and electrical drawings
      iv. Perform structural analysis by a certified structural engineer
      v. Produce construction documents
      vi. Prepare and review bid documents

   b. Construction Administration
      i. Submittal review
      ii. Site visit/meeting
      iii. Installation verification
      iv. Close-out documentation review

2) Estimated construction/installation cost - $140,000

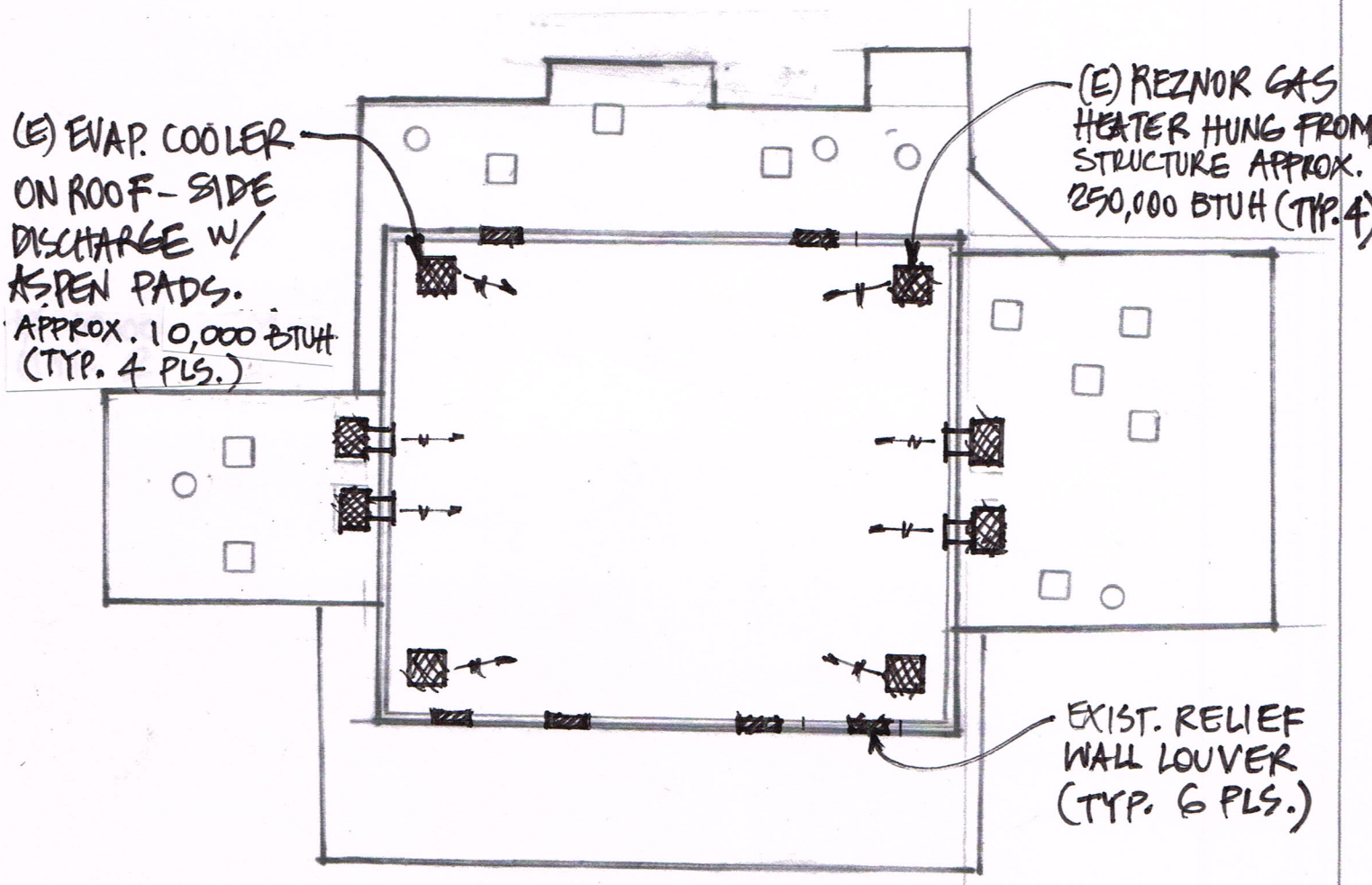
Please let us know if you have any questions or need clarifications.

Sincerely,



Sameer R Pandey PE (Mech), CEM, LEED
Principal Engineer, BESP

Attachment:
1. Existing Layout-Ray High School Gymnasium



EXIST. HVAC PLAN

RAY HIGH SCHOOL GYM

NTS

Building Energy Solutions Provider	PROJECT: RAY HIGH SCHOOL 701 AZ-177 KEARNY, AZ 85137	DATE: 8-2-15 BY: JUAN
	SCOPE: HIGH SCHOOL GYM EVAP. COOLING TO A/C CONVERSION	DWG: SK-1 PAGE: 1 OF 2

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Ray Unified 005BRG

Background – Ray Unified (Ray ES – HVAC replacement)

Ray Unified has submitted a Building Renewal Grant request for the assessment of the HVAC system on Building 1008 at Ray Elementary School. The units require constant repair and possibly are in need of replacement.

Ray Unified, located 85 miles southeast of Phoenix, has three schools. Ray Elementary School is comprised of eight buildings constructed between 1967 and 2004, totaling 43,486 square feet. Building 1008 was constructed in 1967, totaling 14,276 square feet.

The district received a proposal for $24,000 for professional design services to assess the HVAC system, with a construction estimate of $150,000.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Ray Unified (Ray ES– HVAC replacement)
Staff recommends that Ray Unified be awarded $191,400 in Building Renewal Grant funding for the assessment, design, and construction to replace the HVAC system on Building 1008 at Ray Elementary School. This includes $17,400 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Ray Unified** be awarded $191,400 in Building Renewal Grant funding for the assessment, design, and construction to replace the HVAC system on Building 1008 at Ray Elementary School. This includes $17,400 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Ray_USD_005BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_BRG.pdf	Signed BRG Application	8/3/2015	Cover Memo
Assessment_of_Heating___Cooling_System_at_Ray__Elem_School_Gymnasium-signed.pdf	Assessment, design proposal	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Ray Unified**
BRG Project Number: **110203101-1008-005BRG** **Pinal County**
Project Description: **HVAC replacement**
Consultant: BESP
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 150,000**
Contingency		**$ 17,400**
Architecture / Engineering (A&E) Fees		$ 24,000
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 24,000**
Total SFB Funded Project Cost:		**$ 191,400**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 191,400**
Total Project Cost:		**$ 191,400**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 8/3/2015 8:50:32 AM **Application ID:** 2152

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Ray Unified District

Superintendent: Curt Cook

Contact Person: Paul Unger

Contact Phone Number: 520-827-0011

Contact Email: paul_unger@rayusd.org

School Site: Ray Elementary School

Buildings: 1008 E1008 Gym

Application Title: An error has occurred while processing TextBox 'textBox19':
The expression contains object 'dfrShortTitle' that is not defined in the current context.

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Replace existing swamp coolers & hanging heaters with gas packs

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Curt Cook
Superintendent Printed Name

Curt Cook 8/3/15
Superintendent Signature Date

BESP, LLC
138 E. La Vieve Ln
Tempe, AZ 85233
Tel: (602) 377-2679 Fax: (480) 629-5645
sameerpandey@besp.us
www.besp.us

August 2, 2015

Mr. Paul Unger
District Maintenance Supervisor
Ray Unified School District
701 N. Highway 177
Keany, AZ 85137

Ref: Assessment of Heating & Cooling System at Ray Elementary School Gymnasium

Dear Mr. Unger,

Per SFB/district's request, BESP assessed a heating/cooling system at Ray Elementary Gymnasium on Friday, July 31, 2015. It is noted that Ray Elementary School Gymnasium is approximately 9,000 square feet with around twenty-five (25) feet high ceiling. The gymnasium space is currently being served by four (4) Aspen Evaporative Coolers (side discharge) with a cooling capacity of approximately 10,000 cfm each, and four (4) hanging heaters with a heating capacity of 250 MBH output each. The evaporative coolers are directly fed into a space without proper distribution of air through any ductwork/diffusers. The air is relieved from the space through four (4) wall louvers.

As listed below, BESP noted a number of deficiencies in heating & cooling system at the Ray Elementary School Gymnasium.

1. The existing cooling system has passed its useful life, and is inadequate to provide optimum cooling to the space.
2. The air from the coolers directly feed into the gymnasium space without proper distribution.

Per our evaluation, cooling system in the gymnasium needs to be upgraded. In addition to it, a proper air distribution system needs to be designed and installed to uniformly distribute air throughout the space.

To avoid high humidity and moisture in the gymnasium space, BESP recommends to replace existing coolers with air-conditioning units. Per our evaluation, the gymnasium has a cooling load of approximately forty (40) tonnage. Please note that existing electrical panel may need to be upgraded to accommodate air-conditioning units.

A design and installation cost to replace the evaporative coolers at Ray Elementary Gymnasium is estimated as following:

Scope: Replace existing evaporative coolers with air-conditioning units; add air distribution system with new ductwork, diffusers and return grills.

1) Design Services Fee - $24,000

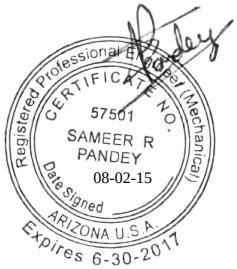
   a. Design & Documentation
      i. Design/Load calculation/Specifications for new air-conditioning units
      ii. Design air distribution system
      iii. Produce detailed mechanical and electrical drawings
      iv. Perform structural analysis by a certified structural engineer
      v. Produce construction documents
      vi. Prepare and review bid documents

   b. Construction Administration
      i. Submittal review
      ii. Site visit/meeting
      iii. Installation verification
      iv. Close-out documentation review

2) Estimated construction/installation cost - $150,000

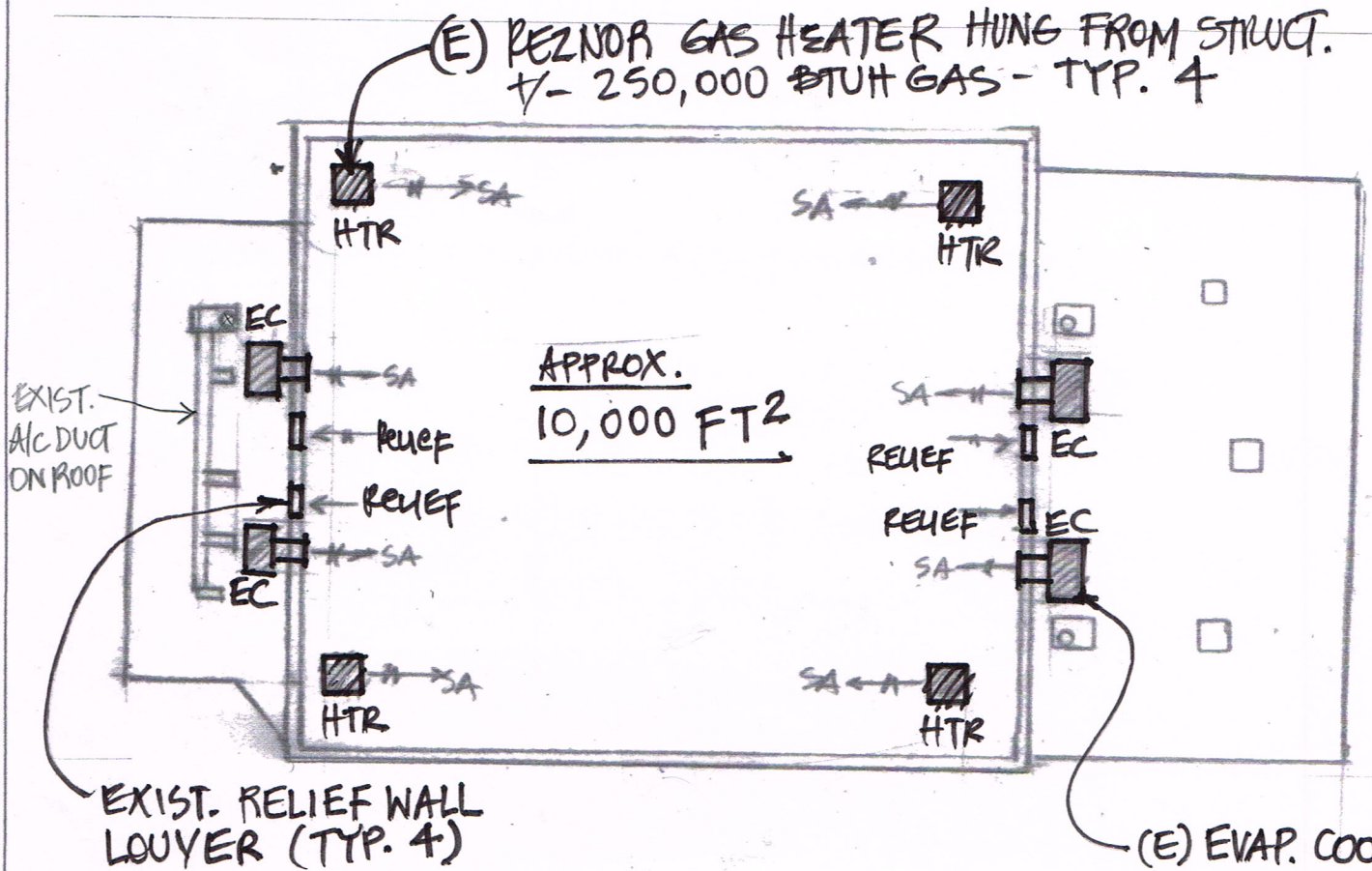
Please let us know if you have any questions or need clarifications.

Sincerely,



Sameer R Pandey PE (Mech), CEM, LEED
Principal Engineer, BESP

Attachment:
1. Existing Layout-Ray Elementary School Gymnasium



EXIST. HVAC PLAN
RAY MIDDLE SCHOOL GYM
NTS.

Building Energy Solutions Provider	PROJECT: RAY MIDDLE SCHOOL 701 AZ-177 KEARNY, AZ 85137	DATE: 8-2-15 BY: JUAN
	SCOPE: MIDDLE SCHOOL GYM EVAP. COOLING TO A/C CONVERSION	DWG: SK-2 PAGE: 2 OF 2

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Sahuarita Unified 001BRG
Background – Sahuarita Unified (Anza Trail School - HVAC replacement)
Sahuarita Unified has submitted a Building Renewal Grant request for the replacement of the HVAC system for Building 1003 at Anza Trail Elementary School.

Sahuarita Unified, located 138 miles southeast of Phoenix, has eight schools. Anza Trail School is comprised of six buildings constructed between 2007and 2008, totaling 115,393 square feet. Building 1003 was constructed in 2008, totaling 35,716 square feet.

The HVAC system for room B-140 has failed and is in need of replacement. The unit is over 20 years old. The district has received a proposal for the replacement costs in the amount of $13,193. The structural review will have a $2,000 allowance.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Sahuarita Unified (Anza Trail School - HVAC replacement)
Staff recommends that Sahuarita Unified be awarded $16,800 in Building Renewal Grant funding for the HVAC replacement at Anza Trail Elementary School. This includes $1,607 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Sahuarita Unified** be awarded $16,800 in Building Renewal Grant funding for the HVAC replacement at Anza Trail Elementary School. This includes $1,607 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Sahuarita_USD_001BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_BRG.jpg	Signed BRG Application	7/22/2015	Cover Memo
PMC_Proposal_-_Anza_Trails_6_ton_RTU.pdf	HVAC Proposal	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Sahuarita Unified**
BRG Project Number: **100230106-1003-001BRG** **Pima County**
Project Description: **HVAC replacement**
Consultant: Pueblo Mechanical
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 13,193**
Contingency		**$ 1,607**
Architecture / Engineering (A&E) Fees		$ 2,000
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 2,000**
Total SFB Funded Project Cost:		**$ 16,800**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 16,800**
Total Project Cost:		**$ 16,800**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/16/2015 1:28:41 PM | Application ID: 2097

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Sahuarita Unified District
Superintendent:	Dr. Manuel Valenzuela
Contact Person:	George Emerson
Contact Phone Number:	520-981-7894
Contact Email:	gemerson@sahuarite.net
School Site:	Anza Trail
Buildings:	1003 1003

Application Title: Anza Trail hvac unit

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The HVAC unit for room B-140 has failed. We had Pueblo Mechanical out to service the unit and found several leaks in the refrigeration system. Both coils the evaporator and condenser coils will need to be replaced to repair the leaks. I question how long the compressor will last after the repairs have been made.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

MANUEL G. VALENZUELA
Superintendent Printed Name

Manuel G Valenzuela 7-16-15
Superintendent Signature Date

Pueblo Mechanical & Controls, Inc.

(800) 840-9170

PROPOSAL - Anza Trail 6 Ton RTU Replacement

Mohave JOC #14G-PMAC2-0903

PMC Proposal #:15-07-041

From: Pueblo Mechanical and Controls, Inc. **Date:** 7/16/2015

Attn: George Emerson
Sahuarita Unified School District # 30
350 W Sahuarita Road
Sahuarita, AZ 85629

Dear George,

Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following scope for Anza Trail 6 ton RTU.

Scope of Work:

- Remove and dispose of one (1) Carrier gas electric unit, 6 ton
- Provide and install one (1) Carrier gas electric replacement units. One 48TCDD07A2A6, complete with 0-100% economizers and hail guards, set on existing curbs
- Provide and install Co2 sensor connected to economizer only. Existing control points do not exist to add this feature to the control system it will operate stand alone for Co2
- Connect to electrical services above roof line providing new fused disconnects whips and wire.
- Connect to existing gas lines providing new valves, unions and dirt legs
- Connect to existing condensate lines providing new traps and unions at unit.
- Connect to existing thermostats and wire above roof line providing new seal tight and fittings.
- Provide crane and rigging service. (long Reach)
- Start and test for proper operation.
- Provide two year parts and labor warranty

We Exclude The Following:

- Repair or replacement of any existing device found to be inoperable.
- There is a 3.2% fee associated with our accepting credit cards for payment.
- Control programing or adding any new control points
- Engineering permits and fees.
- Asbestos abatement, testing, reporting.
- Any work not included in scope of work listed above.

Material, service, & labor subtotal [Includes AZDOR TPT compliance]:	**$13,192.01**
Bonding [N/A]:	**$ 0.00**
Total Cost:	**$13,192.01**

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

6771 E. Outlook Drive, Tucson, AZ 85756 ● 11052 N. 24th Avenue, Phoenix, AZ 85029
Office - (800) 840.9170 ● Fax - (888) 473-4374
www.pueblo-mechanical.com
AZ LIC: CR-39 # ROC176640 ● AZ LIC: B-01 # ROC173953 ● AZ LIC: CR-74 # ROC260462

All projects over $100,000 must be individually bonded, projects under this amount are at the discretion of the customer; if the project is under $100,000; by accepting this proposal you agree to waive bonding for this project. If you require bonding; please contact Pueblo Mechanical immediately and we will provide a quote for the bonding amount.

We look forward to providing this important service please call if you have any questions.

Best Regards,

Mark Christensen
Estimating - Sales
Business: (800) 840-9170 Ext: 105
Cellular: (520) 631-5026
mark@pueblo-mechanical.com

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Name	Signature	Date

Due to the high cost of equipment and/or extended nature of this project progress billing may be required; if a purchase order is created for this project the owner agrees to accept progress billing for demonstrated and verifiable completed work and/or arrival of equipment items pending installation.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Tolleson Union 008BRG
Background – Tolleson Union (Copper Canyon HS – roof replacement)
Tolleson Union has submitted a Building Renewal Grant request for the replacement of multiple roofs at Copper Canyon High School.

Tolleson Union, located 22 miles west of downtown Phoenix, has five schools. Copper Canyon High School is comprised of 13 buildings constructed in 2005, totaling 249,961 square feet. This school was built with a ten-year warrantee on the built-up roofs which has expired.

Investigations have been conducted and many discussions were had regarding where to lay the responsibility; but all conclude that these roofs have failed and need to be replaced. The engineer's estimated cost for replacement is $793,612. Below are the buildings included in this request.

Building No.	Year Built	Square Footage
1003	2005	6,957
1004	2005	13,780
1005	2005	18,040
1007	2005	11,920
1008	2005	21,775
1009	2005	12,852
1011	2005	14,830
	Total:	100,154

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Tolleson Union (Copper Canyon HS – roof replacement)
Staff recommends that Tolleson Union be awarded $873,612 in Building Renewal Grant funding for the replacement of multiple roofs at Copper Canyon High School. This includes $80,000 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tolleson Union** be awarded $873,612 in Building Renewal Grant funding for the replacement of multiple roofs at Copper Canyon High School. This includes $80,000 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tolleson_UHSD_008BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest_(2_Not_signed.pdf	District funding request	8/3/2015	Cover Memo
RTC_-_Copper_Canyon_Roof_Survey_-_6-3-15.pdf	Roof assessment	8/3/2015	Cover Memo
RTC_-_Copper_Canyon_Roof_Prelim_Budget_6-17-15.pdf	Re roof cost estimate	8/3/2015	Cover Memo
RTC_-_Copper_Canyon_HS_ROOF_CA.pdf	Engineer cost for CA	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tolleson Union**
BRG Project Number: **070514204-9999-008BRG** Maricopa County
Project Description: **Roof replacement**
Architect of Record: Red Tree Consulting Group (602-989-2433)
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost: (cost estimate provided by architect or contractor)		**$ 772,550**
Contingency		**$ 80,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 21,062
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 21,062**
Total SFB Funded Project Cost:		**$ 873,612**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 873,612**
Total Project Cost:		**$ 873,612**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 6/23/2015 6:45:28 AM **Application ID:** 2054

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tolleson Union High School District

Superintendent: Lexi Cunningham

Contact Person: Richard Oros

Contact Phone Number: 623-478-4102

Contact Email: richard.oros

School Site: Copper Canyon High School

Buildings:

1003	300
1004	500
1005	800
1007	1000
1008	1100
1009	1200
1011	1400

Application Title: Roof Replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Copper Canyon High School was built in 2005 and located at 9126 W. Camelback Road, Glendale, Arizona. This school was built with a ten year warranty built up roof that installed in July 27, 2004 and is out of warranty period as of July 27, 2014. This roof has failed and is at a point where it needs to be replaced. I have attached several surveys of the roof for your review. This project is critical to the safety of the students and the protection of our buildings. I would appreciate your consideration on this project. If you need additional information please do not hesitate to call me at 623-478-4102.

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$25,000.00

Building Renewal Grant Application

Please outline any associated insurance coverage.

This project is not covered by our insurance.

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Superintendent Printed Name

Superintendent Signature Date

Roof Survey Evaluation Report
Copper Canyon High School



9126 West Camelback Road
Glendale, Arizona 85305

Prepared For:

Tolleson Union High School District
9801 West Van Buren Street
Tolleson, Arizona 85353

RedTree CONSULTING
2942 North 24th Street Suite 114-436
Phoenix, Arizona 85016
Ph 602.989.2433

June 3, 2015
RTC # 2015-13004

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APPENDIX 1 – EXPIRED ROOF WARRANTIES

APPENDIX 2 – WRECORP DESTRUCTIVE TESTING

June 3, 2015

Mr. Richard Oros
Executive Director of Facilities Management

Mr. Oros,

This report contains Red Tree Consulting's (RTC) initial findings and recommendations concerning the Copper Canyon High School located in Glendale, Arizona. If you have any questions or concerns regarding the content of this report, please do not hesitate to contact us at your convenience.

INTRODUCTION

The High School consists of several structures (See Overlay # 1). RTC was asked to survey the roof and surrounding structures at Building's # 300, 500 (lower roofs only), 800, 1000, 1100, 1200 and 1400.



Overlay # 1: Building Identification Overlay of Copper Canyon High School.

INVESTIGATION AND OBSERVATIONS

RTC visually inspected the requested roofs and surrounding structures, documented the existing conditions with photographs and field notes. All recommendations were based on the visual observations and reports provided by others. RTC did not perform any destructive or invasive testing at the time of this report.

REFERENCED STANDARDS

2012 International Building Code (IBC)
National Roofing Contractors Association – Roofing Manual

ROOF SYSTEMS

According to visual observations and statements made by facility staff, all roof systems investigated are built-up roofs (BUR) installed on wood sheathing constructed in 2005 (See Figure #1 for a typical BUR system). Note: Assembly diagrams below are for illustration purposes only, existing construction may vary as related to structural systems and substrates. The maintenance staff stated all roof systems investigated have on-going water intrusions into the interior of the buildings.

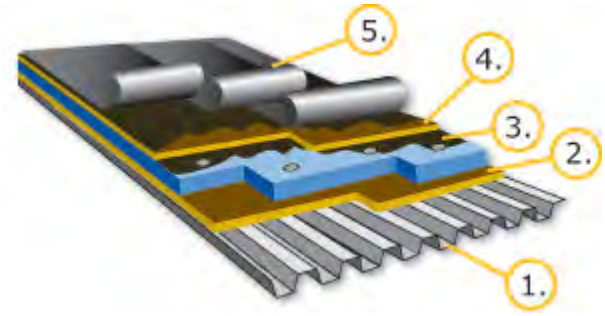


Figure # 2 Key:
1 - Structural Substrate
2 - Fiberboard
3 - Foam Insulation
4 - Fiberboard
5 - 3, 4, or 5 multi-ply BUR system

Figure # 1: Typical Bituminous Roofing System: Built of Roof (BUR) cross section.

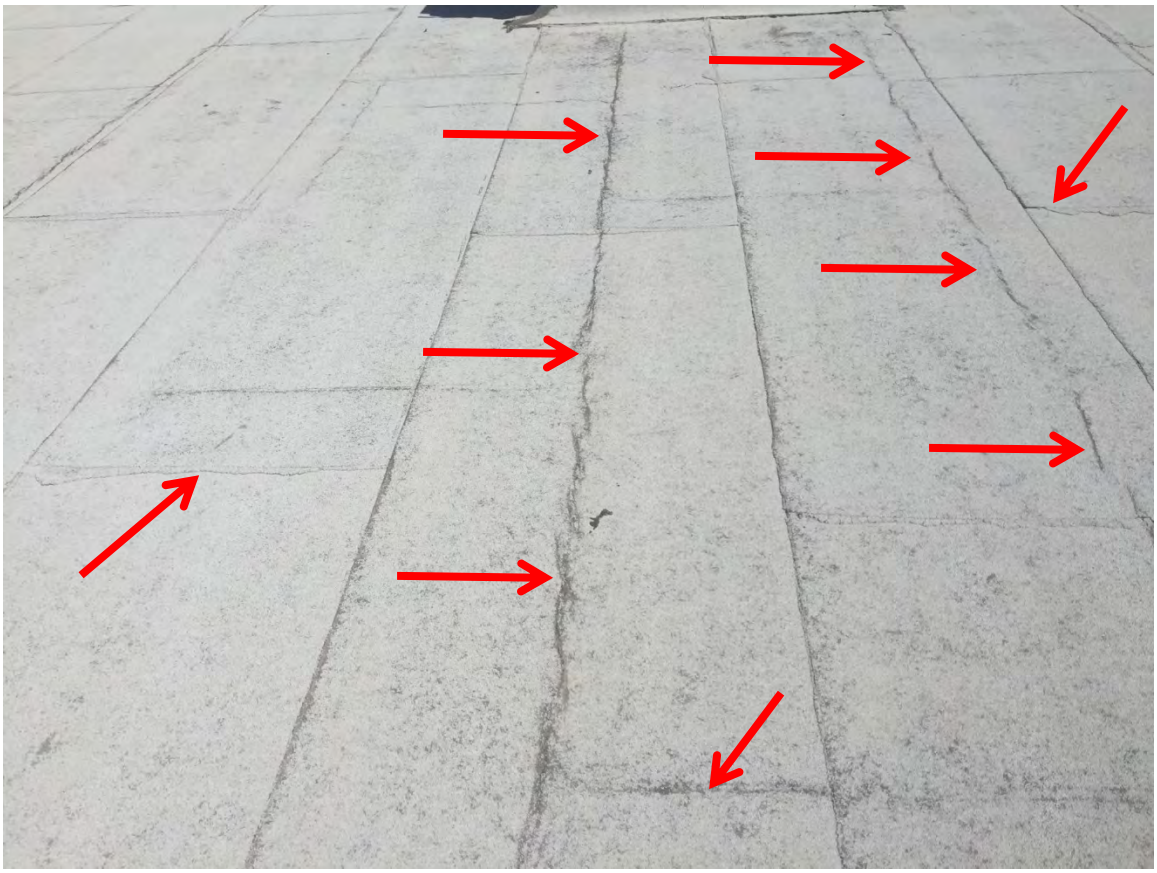
INVESTIGATION



The highlighted buildings indicate the roofs and surrounding structures inspected. The identified BUR roof systems above were constructed generally in the same time frame using the same product materials and workmanship practices. The roof systems are no longer covered within the contractor labor or material product manufacturer warranty as they have since expired (APPENDIX 1).



Overview photograph of the existing BUR roof system at Building # 1000, this roof system and its conditions are typical at Building's # 300, 500, 800, 1100, 1200 and 1400.



Red Arrows identifying buckling of the BUR cap sheet. This buckling causes a tear in the cap sheet and will allow moisture into the interior of the system. This condition is typical of the roof systems at Building # 300, 500, 800, 1000, 1100, 1200 and 1400. In 2012, TUHSD had destructive testing done at Building # 1000 and 1200 (APPENDIX 2). The destructive testing performed by WRECORP removed the roof plys to expose the insulation board. WRECORP observed that the fastener spacing and placement in the insulation board was incorrect in several observed areas. This condition is causing the widespread buckling condition throughout the identified roof systems.



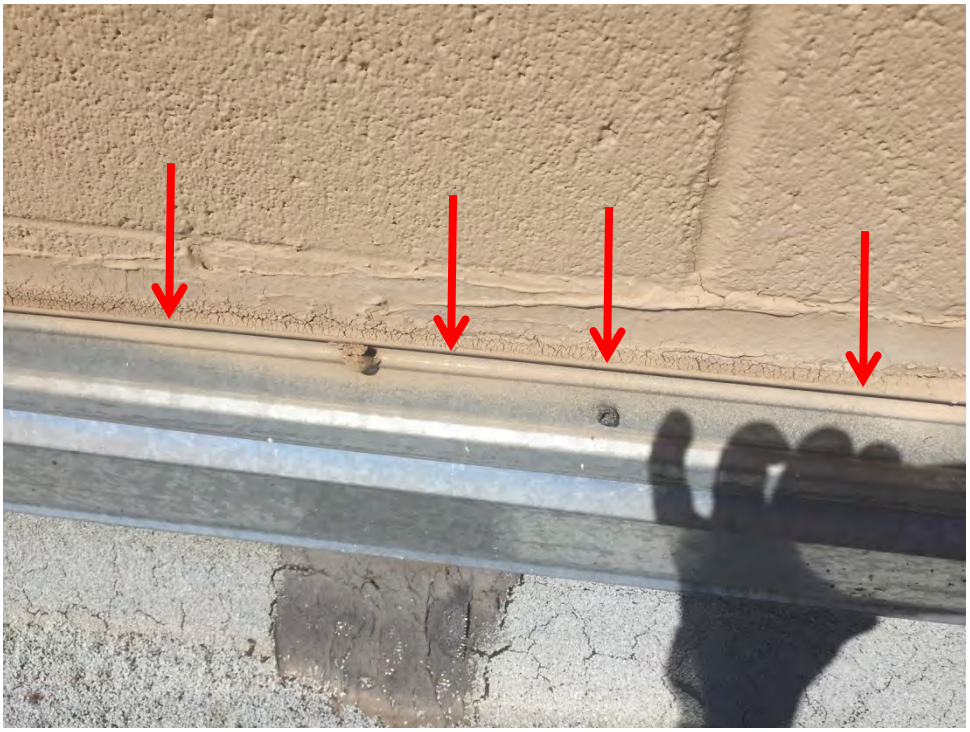
Overview photograph of buckling at the cap sheet that was patched incorrectly with roofing plastic. The plastic has shrunk and the crack has reopened.



The red circle is identifying alligatoring[1]. Over time, constant sun exposure weakens the asphalt and causes it to dry out. As it dries out in the sun, it becomes brittle and cracks. Once it cracks, it no longer is functioning as the top layer in the weatherproofing system. This condition is typical and found throughout the roof systems of the school. RTC observed this in several areas below the Reglet[2] and isolated areas throughout the roof field.

[1] Alligatoring is a characteristic in asphalt, which occurs during aging. Exposed asphalt inherently over time loses volatile oils, in conjunction with oxidation caused by UV exposure and creates a pattern of cracks. These cracks resemble alligator hide.

[2] Reglet flashing is installed between a wall (or the back side of a parapet wall) and a roof. The Reglet flashing is combined with counter flashings to avoid leaks in one of the most crucial areas of a roof, which is a ninety-degree edge.



The red arrows are identifying cracked and deteriorated sealant at the Reglet to masonry wall intersection. This condition is most likely allowing moisture behind the Reglet and below the roof system. This condition is typical throughout the roof systems.



The cap sheet at the mechanical curbs have alligatored and cracked. The cracking and alligatoring extends into the three (3) course at the corner. This is a typical condition observed throughout the roof systems.



Area of ponding[3] in front of the primary and overflow scuppers. This condition was noted at isolated locations and not typical throughout.

[3] When storm water is unable to drain, water will pool in the low areas. Over time, with each passing storm, the weight of the storm water will deflect the structural system beyond the structures bending point, thus allowing a bigger puddle to form. As a bigger puddle forms more weight is applied to the structural system causing more bending, allowing an even bigger puddle, then more weight, until the structure fails.



Roof scupper three (3) course repair has alligatored, cracked and shrunk allowing the fiber tape to become exposed (red arrows). This repair is no longer performing as intended. This condition was noted at isolated locations and not typical throughout.

DISCUSSION & RECOMMENDATIONS

The BUR cap sheet has buckled and cracked in several areas throughout the roofs inspected. This buckling and tearing, as concluded by the destructive testing completed by others, is caused by the gaps between the insulation boards. In addition to the buckling identified throughout the roof systems, the existing cap sheet oils have dried out that has created several areas of alligatoring, a condition often due to ultra violet radiation and subsequent embrittlement of the roof membrane. The alligatoring has produced cracks through the surface bitumen, once the crack splits it allows moisture into the roofing system.

School facility staff has attempted several isolated repairs to correct ongoing water intrusions. However, almost all of the repair areas observed have already failed.

Based on the survey and the items documented herein RTC believes there are several different options for roof replacement or roof renovations. However, we believe there are two (2) reasonable options for corrective measures, with OPTION A being the preferred recommendation.

- OPTION A is to install a cover board and DUROLAST fully adhered polyvinyl chloride (PVC) membrane over the existing BUR roof system. This option includes preparation of the existing buckles and refastening of the existing insulation board.

- OPTION B is to remove the existing bituminous roofing systems down to the deck and install either a new bituminous or a fully adhered PVC roof system following all manufacturers' recommendations and industry standards.

OPTION A

OPTION A when installed per the DUROLAST specifications and details then inspected by a DUROLAST quality assurance technician this will include a no dollar limit (NDL) warranty for both materials and labor for a twenty (20) year period. This warranty will also feature no exclusions for ponded water, biological of algaecide attack and shall also include the first fifteen (15) years of consequential damage coverage for up to twenty (20) million dollars.

A licensed, bonded and insured roofing contractor to:

- Provide a product manufacturer to engage third party testing firm to conduct roof pull test to verify tensile integrity and compliance with all wind uplift requirements. Areas with loose cap sheet can be repaired and refastened to the deck as necessary to meet all wind uplift requirements.

- Roof surface preparation to includes but not limited to cleaning, cutting and then fastening down existing buckles.

- Remove and dispose of all base flashings.

- Overlay entire existing system with a ¼" fire rated hard board (DensDeck). Mechanical fasten board at a rate of sixteen (16) fasteners per four (4) by eight (8) foot sheet. Fasteners to be installed per manufacturer recommendations. The fastening of the new ¼" hard board will also penetrate the existing fiberboard, which will meet those standards and will prevent any cupping.

- Install new fully adhered Durolast polyvinyl chloride single ply system over the new DensDeck (hardboard).

OPTION B

If a tear off is preferred in lieu of OPTION A, several roofing systems would accommodate the existing structure. However, we are recommending two (2) roof systems based on the existing conditions, labeled 1B and 2B as outlined below.

1B) Remove the existing bituminous roof system down to the existing roof deck and replace with a new fully adhered poly vinyl (PVC) roof system.

OR

2B) Remove the existing bituminous roof system down to the existing roof deck and replace with a new bituminous roof system.

Either roof system would provide a manufacturer product warranty, along with a contractor's installation warranty; contract length and terms would be dependent on the type of roof product installed. Below is a brief benefit summary of the PVC and MB roof systems below.

PVC Benefits:

- The PVC roofing membrane is made by a process of heat welding seam technology, that not only allows for virtually one single piece of PVC roofing to cover an entire roof's surface and eliminate seams and joints, but also provides excellent flexibility. This makes PVC roofing applicable to practically any shaped surface.
- Installation process is relatively quick and simple.
- The material itself is extremely durable, and has high resistance to punctures and impact, as well as fire propagation and flame exposure resistance.
- PVC roofing also has good tolerance for thermal movement because of its flexibility, and is exceptionally tough against contamination and rooftop soiling.
- PVC roofing is virtually maintenance free, as it is both waterproof and dirt resistant.
- Typically woven with fabrics such as glass fiber and polyester, the PVC roofing membrane can provide up to 80% solar reflectivity, thereby reducing heat island effects and cooling costs.
- PVC roofing is aesthetically appealing, and suitable to both old and new structures.
- Roof life expectancy of twenty (20) years.
- Twenty (20) year product manufacturer warranty.

Bituminous Roofing Benefits:

- Proven track record of performance.
- Superior waterproofing characteristics.
- Broad range of application methods.
- Wide choice of top-surfacing, including "Cool Roofing" options.
- With insulation, provides an even, better performing building component.
- High tensile strength.
- Available as part of a fire, wind, and/or hail rated roofing system.
- Competitive life-cycle cost.
- Available with flame-free and VOC-free installation.
- Roof life expectancy of ten (10) to fifteen (15) years.
- Ten (10) or fifteen (15) year product manufacturer warranty.

OPTION A COST SUMMARY (COVER BOARD & NEW PVC)

Below is the OPTION A preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling and the installation of the cover board and fully adhered 50mil polyvinyl chloride membrane will take approximately ten (10) weeks, weather permitting.

Scope of Work Summary	Estimated Cost
• Install cover board and new PVC roof system at BLDG # 300 (includes all associated patio BUR's)	$ 116,950.00
• Install cover board and new PVC roof system at BLDG # 500 (includes all associated patio BUR's)	$ 207,000.00
• Install cover board and new PVC roof system at BLDG # 800 (includes all associated patio BUR's)	$ 72,300.00
• Install cover board and new PVC roof system at BLDG # 1000 (includes all associated patio BUR's)	$ 127,800.00
• Install cover board and new PVC roof system at BLDG # 1100 (includes all associated patio BUR's)	$ 44,500.00
• Install cover board and new PVC roof system at BLDG # 1200 (includes all associated patio BUR's)	$ 127,800.00
• Install cover board and new PVC roof system at BLDG # 1400 (includes all associated patio BUR's)	$ 71,700.00
• A/E Design & Construction Administration Fees	$ 21,062.00
• Permitting	$ 4,500.00
TOTAL :	**$ 793,612.00**

OPTION 1B COST SUMMARY (PVC)

Below is the OPTION 1B preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling, removal of the existing roof system and the installation of the new PVC roof system will take approximately ten (10) weeks, weather permitting.

Scope of Work	Estimated Cost
• Remove existing roof system and install new PVC roof system at BLDG # 300 / 500 / 800/ 1000 / 1100 / 1200 / 1400	$ 1,591,742.78
• A/E Design & Construction Administration Fees	$ 21,062.00
• Permitting	$ 4,500.00
TOTAL :	**$ 1,617,499.36**

OPTION 2B COST SUMMARY (BUR)

Below is the OPTION 2B preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling, removal of the existing roof system and the installation of the new BUR roof system will take approximately ten (10) weeks, weather permitting.

Scope of Work	Estimated Cost
• Remove existing roof system and install new BUR roof system at BLDG # 300 / 500 / 800/ 1000 / 1100 / 1200 / 1400	$ 823,664.59
• A/E Design & Construction Administration Fees	$ 21,062.00
• Permitting	$ 4,500.00
TOTAL :	**$ 849,226.59**

EXECUTIVE SUMMARY

The existing roof system(s) have multiple areas where it has failed creating water intrusions into the interior of the building. The destructive testing completed by others confirms that the existing insulation board fasteners were improperly spaced and located. The UV degradation of the cap sheet is visible throughout the roofs where the oils from the roof ply have dried out and in some locations created an alligator condition. The alligator condition and the drying out of the oils have led to cracking and embrittlement of the roof ply.

Continuing to perform isolated roofing repairs to the existing roof systems is no longer sufficiently correcting the ongoing water intrusions. The roofing systems are in need of renovation to correct the existing conditions. There are two recommended renovation options, OPTION A and OPTION B. Either option will correct the problematic roofing conditions but OPTION A is the preferred recommendation. OPTION A is a substantial cost savings when compared to OPTION B and includes a no dollar limit (NDL) warranty of twenty (20) years for labor and material. This warranty has no exclusions for ponded water, biological of algaecide attack and will also include the first fifteen (15) years of consequential damage coverage for up to twenty (20) million dollars.

Below is a cost summary of the recommended renovation OPTION A contained herein.

OPTIONA	***Total Cost (EST.)***
PVC Overlay	$ 768,050.00
A/E & C/A FEES	$ 21,062.00
Permitting	$ 4,500.00
TOTAL:	**$ 793,612.00**

RTC has based the recommendations and findings in this report upon all information available at the time this report was drafted. RTC reserves the right to alter any recommendations in this report should new information be made known or available during demolition or reconstruction of the project.

Any and all recommendations in this report are provided to the current Owner of this property and are specific only to the property listed in this report. Prior to commencement of any work, a comprehensive asbestos survey, including a written report, should be available and located on the school property.

Thank you for allowing Red Tree Consulting the opportunity to provide you with these professional consulting services. Please do not hesitate to contact us at your convenience with any questions or concerns you may have.

Sincerely,



Michael L. Crow,
Managing Partner
Ph 602.989.2433
mcrow@redtreeco.com

APPENDIX 1

PROGRESSIVE ROOFING

MEMBER NATIONAL ROOFING CONTRACTORS ASSOCIATIONS

LIMITED WARRANTY

Owner: Tolleson USD
9419 W. Van Buren St
Tolleson, AZ 85353

Project: Tolleson HS #4 @ Copper Canyon
9126 W. Camelback Rd.
Glendale, AZ

Warranty Period: 11/01/05-10/31/07

Warranty No: 5101-3-226

Scope: Built up Roofing

For the warranty period indicated above, Progressive Roofing warrants to the owner that Progressive Roofing will, subject to the Terms, Conditions, Limitations, Definitions set forth below, repair any leak caused by a defect in the roofing system or in the workmanship performed by Progressive Roofing.

Terms, Conditions, Limitations, and Definitions

1. The roofing system is limited to mean roof membrane, insulation and accessories, which were provided and installed by Progressive Roofing.
2. Progressive Roofing shall have no obligation under this warranty until Progressive Roofing has received payment in full for all materials, supplies, services, warranty cost and other cost which are included in, or incidental to, the roofing system.
3. In the event a leak should occur in the roofing system: (a) The Owner must give written notice to Progressive Roofing within five (5) days of any occurrence of a leak. By so notifying Progressive Roofing, the Owner authorizes Progressive Roofing or its designee to investigate the cause of the leak. (b) If upon investigation, Progressive Roofing determines that the leak is caused by a defect in the system or in the workmanship performed by Progressive Roofing, the Owner's sole and exclusive remedy and Progressive Roofing's liability shall be limited to the repair of the leak. (c) Should the investigation reveal that the leak is caused by something other than causes set forth in (b) above; investigation and repair cost will be paid by the Owner. Failure by Owner to pay for these costs shall render this roofing system warranty null and void. If the cause of the leak is determined by Progressive Roofing to be outside the scope of this warranty, Progressive Roofing shall advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense which, if the Owner properly makes, will permit this warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to make these repairs in a reasonable manner and within a reasonable time shall render this warranty null and void.
4. No alterations shall be made to the roofing system. Progressive Roofing must perform all repairs and tenant improvements for the duration of the warranty period. Failure of the Owner to pay all invoices for repairs and tenant improvements shall render this warranty null and void.
5. Progressive Roofing shall have no obligation under this warranty, or any other liability, now or in the future, if a leak or damage is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to, winds in excess of 50 MPH, hurricanes, tornadoes, wind gust exceeding Force 7 on the Beufort Scale, hail, lightning, earthquakes, atomic radiation, insects, or animals; (b) Failure of the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not limited to those items listed above; (c) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, etc.; (d) Condensation of infiltration of moisture in, through, or around the walls, coping rooftop hardware or equipment, building structure or underlying or surrounding materials; (e) Any acid, oil, animal fat, or harmful chemical which comes in contact with the roofing system, which damages the system, or which impairs the system's ability to resist leaks; (f) Damage caused by insects and other vermin; (g) Damage to roof system resulting from traffic, storage or movement of materials or equipment, lack of positive drainage and building design or construction; (h) Failure to give proper notice as set forth in paragraph 3(a) above.
6. During the term of this warranty, Progressive Roofing, its designated representative or employees, shall have free access to the roof during regular business hours.
7. Progressive Roofing's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this warranty.
8. This warranty shall be transferable subject to Progressive Roofing's inspection, written approval and receipt of warranty transfer fee, if applicable.

Mark E. Farrell, Vice President

November 14, 2005
Date

PROGRESSIVE SERVICES, INC. D.B.A. PROGRESSIVE ROOFING

HOME OFFICE
23 N. 35TH AVENUE
PHOENIX, AZ 85009
(602) 278-4900
FAX (602) 278-6896
ESTIMATING FAX (602) 278-8014

4222 W. JEREMY PLACE
TUCSON, AZ 85741
(520) 744-6707
FAX (520) 744-3770
ESTIMATING FAX (800) 844-8321

13195 TOWNSEND-WINONA RD
FLAGSTAFF, AZ 86004
(520) 714-0688
FAX (520) 714-0677
ESTIMATING FAX (800) 844-8321

3953 W. OQUENDO RD
LAS VEGAS, NV 89118
(702) 798-3973
FAX (702) 798-3954
ESTIMATING FAX (800) 844-8321

047565 C-42 (AZ) 073961 L-42 (AZ) 082788 C-05 (AZ) 082792 BE (AZ) 082793 AE (AZ) 577294 C-39 (CA) 034331 GS-21 (NM) 22625 C-15A (NV)

GAF MATERIALS CORPORATION

"Quality You Can Trust Since 1886...
From North America's Largest Roofing Manufacturer"

Guarantee Services
1361 Alps Road
Building 11-2
Wayne, NJ 07470
(800) 766-3411, Option #2

February 23, 2006

TOLLESON UHSO
9419 N. VAN BUREN STREET
TOLLESON, AZ 85353

Re: TOLLESON 1-5 @ COPPER CANYON- PERFORMING ARTS CTR
9126 W. CAMELBACK ROAD
GLENDALE, AZ 85307
Guarantee #: G2005-00008326

Dear TOLLESON UHSO:

Thank you for choosing a GAF Materials Corporation GAFGLAS DIAMOND PLEDGE:10 Guarantee for your roofing system. We believe that you've made the best and safest choice to protect your property for years to come.

We've enclosed the following items in this package:

- ❑ Your Guarantee - please keep this in your files. You'll need it in the unlikely event that there is a problem with your roof, or if you should sell the property.
- ❑ Well Roof™ Advantage Information Sheet - we can help you extend your Diamond Pledge Guarantee coverage length for an additional 25% at no charge! This sheet gives you a quick explanation of the Well Roof program, requirements, and benefits. Contact us for more details!
- ❑ Roofing Solutions Reference Manual - explains the importance of regular roof maintenance, and can help you get started on setting up a roof maintenance program. Remember, regular inspections and maintenance are a requirement of any roofing system guarantee. After you've had a chance to read the manual, we suggest that you set up a time to discuss a maintenance program with Progressive Roofing Company, the GAF Master Select Commercial Roofing Contractor that installed your new roofing system.
- ❑ Scheduled Maintenance Checklists Booklet - provides you with suggested inspection checklists that you and your contractor can use for the life of your guarantee - and beyond.
- ❑ Stop Sign - attach this sign to the main point of entry to your roof system. It helps remind other trades that may need to access the roof about the importance of being careful with your investment. Your contractor can provide you with more if needed.

Remember, if you ever have any questions or concerns regarding your roofing system, we're here to help you at (800) 766-3411, Option #2 - or contact us at the e-mail address below. And thanks for choosing GAF!

Cordially,

Guarantee Services

E-mail: wguarantee@gaf.com

cc: Project File

GAF MATERIALS CORPORATION

No. GEWE4358-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 100

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 141.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX , AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kennedy
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4359-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 200

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 166.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: _____
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4360-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 300

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 173.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: _____
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF®

GAF MATERIALS CORPORATION

No. GEWE4361-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD 500

ADDRESS OF BUILDING 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 526.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kennedy
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4362-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 800

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 129.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kennedy
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4363-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 900

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 258.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX , AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kennedy
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4364-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1100

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 85.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX , AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kenney
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. GEWE4365-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1200

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 130.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kimmel
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF®

GAF MATERIALS CORPORATION

No. GEWE4366-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1300

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 192.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: _____
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF®
GAF MATERIALS CORPORATION

No. GEWE4367-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

Diamond Pledge™ "No Dollar Limit"

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1400

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 116.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX , AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

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The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kenny
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF®
GAF MATERIALS CORPORATION

No. GEWE4368-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

Diamond Pledge™ No Dollar Limit

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1500

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 21.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of $500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of $500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTIAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470
By: Margaret Kenna
Authorized Signature

August 19, 2004
Date

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COMTS587A

GAF MATERIALS CORPORATION

No. G2005-00008326

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

Diamond Pledge™ No Dollar Limit

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UHSO, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON 1-5 @ COPPER CANYON- PERFORMING ARTS CTR

ADDRESS OF BUILDING: 9126 W. CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 192.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX , AZ

DATE OF COMPLETION: 02/01/2006 EXPIRATION DATE: 02/01/2016

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mourbs or Lexsuco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below.

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

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1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornados, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic of any nature on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

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Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a $300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: _____
Authorized Signature Date

© 2005 GAF Materials Corporation 10/05

February 23, 2006

COMTS587A

APPENDIX 2



Richard Oros
Facility Director
Tolleson Union High School District
9801 W. Van Buren St.
Tolleson, AZ 85353

Project: Copper Canyon High School, 9126 W. Camelback Rd. Tolleson, AZ 85305

Inspection Date: September 3, 2012

Inspectors: Jerry Brown, Randy Surls, Ernie Duran

Industry Standards: National Roofing Contractors Association.

WRECORP was retained to inspect the installation of the roof system at Copper Canyon High School. This report contains WRECORP's preliminary opinions on the existing conditions found at the time of the investigation.

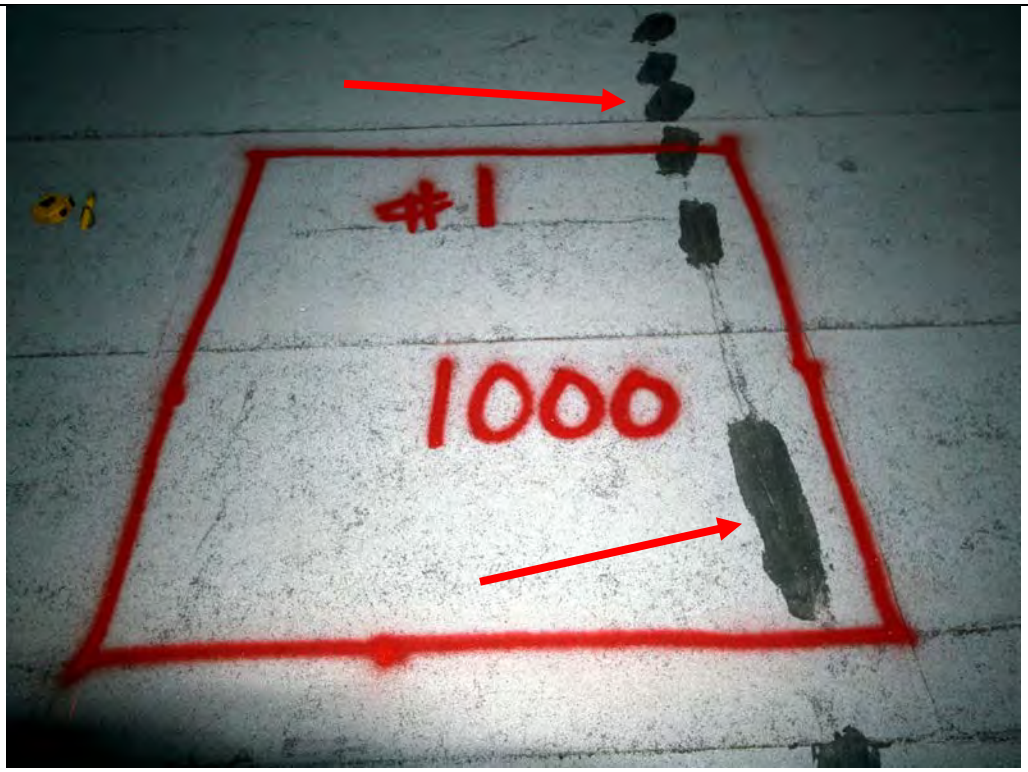
All opinions, conclusions and/or recommendations within this report are subject to change in the event that any additional information is discovered or brought to the attention of WRECORP.

Summary of Conditions

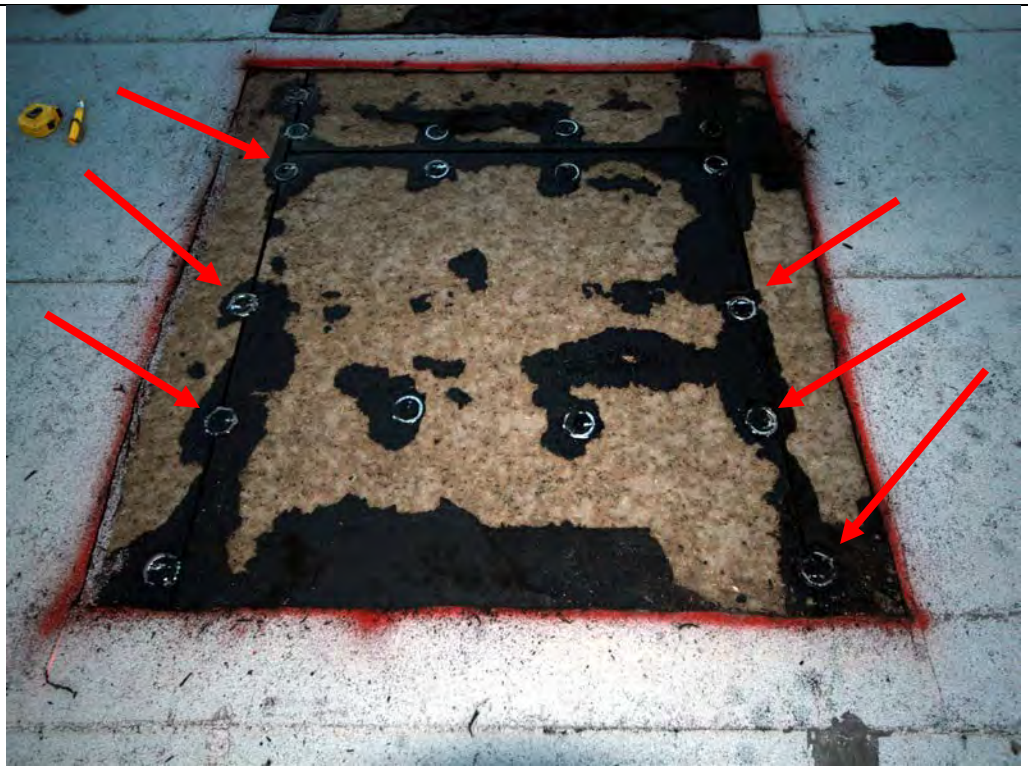
- The two buildings investigated are typical of all buildings on campus with this type of roof system.
- Buckling and fracturing of membrane is typical and systemic.
- Gaps in the insulation are typical and systemic.
- Gaps in the insulation are causing the membrane to buckle and fracture.
- The air conditioning of the buildings could be felt blowing up through the gaps in the insulation. This condition was typical and systemic.
- Positioning of the insulation boards not being on top of a flute is typical and systemic.
- Incorrect fastening pattern is typical and systemic.
- The insulation board is the size and type specified but does not meet the minimum thickness to span the flute size on this type of metal deck.
- Roofing system must be installed perpendicular to the insulation board.



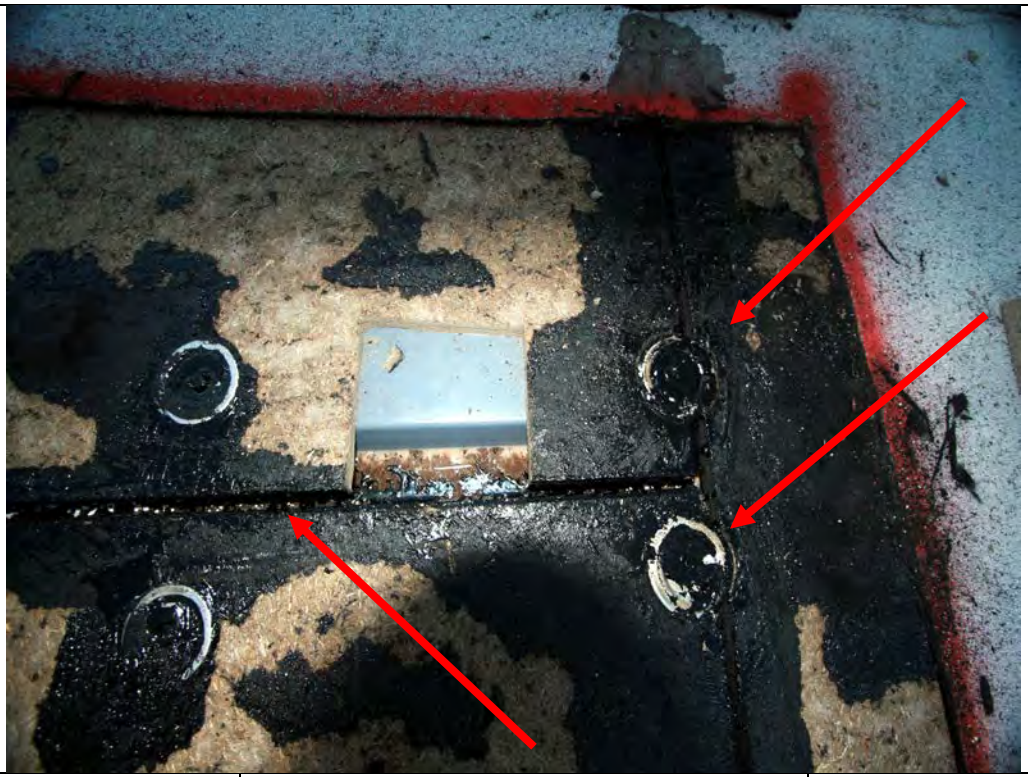
Copper Canyon High	Photo 1	Date: 9/3/12
Description: Bldg. 1000 identification		



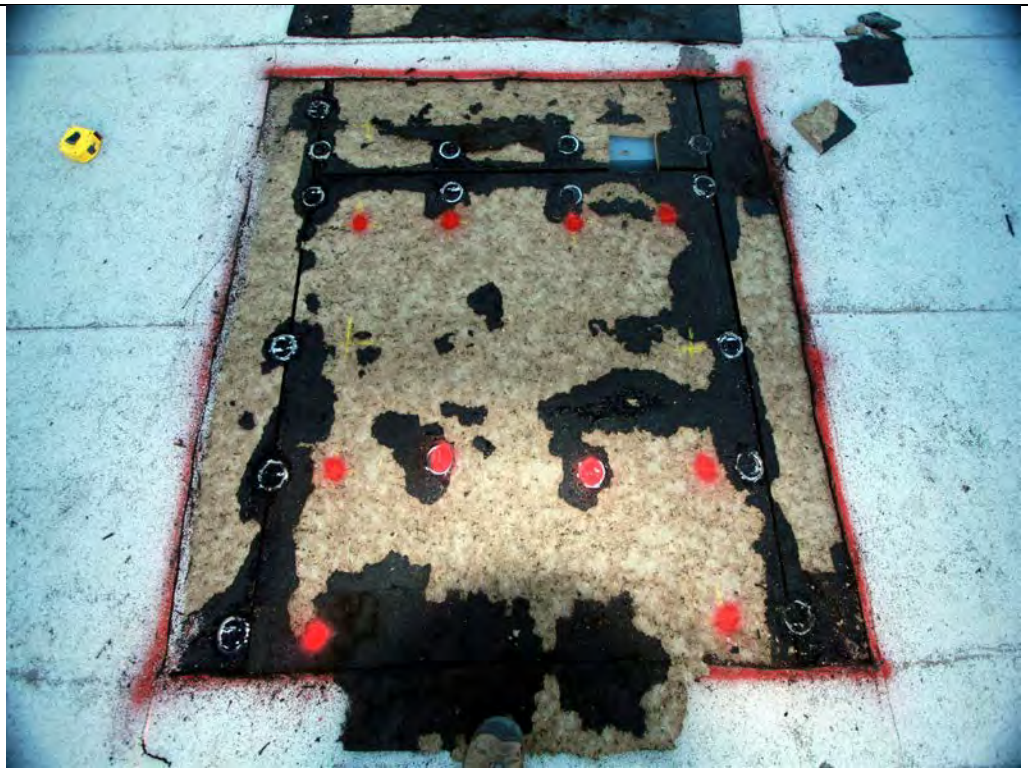
Copper Canyon High	Photo 2	Date: 9/3/12
Description: Bldg. 1000 test sample #1		



Copper Canyon High	Photo 3	Date: 9/3/12
Description: Bldg. 1000 fasteners and plates installed at incorrect locations. The arrows show that the fasteners were used to try to secure two separate boards.		



Copper Canyon High	Photo 4	Date: 9/3/12
Description: Bldg. 1000 close up view of fastener spacing and location along with large gap at joints.		



Copper Canyon High	Photo 5	Date: 9/3/12

Description: Bldg. 1000 red dots show where fastener spacing should have been located to be in compliance.

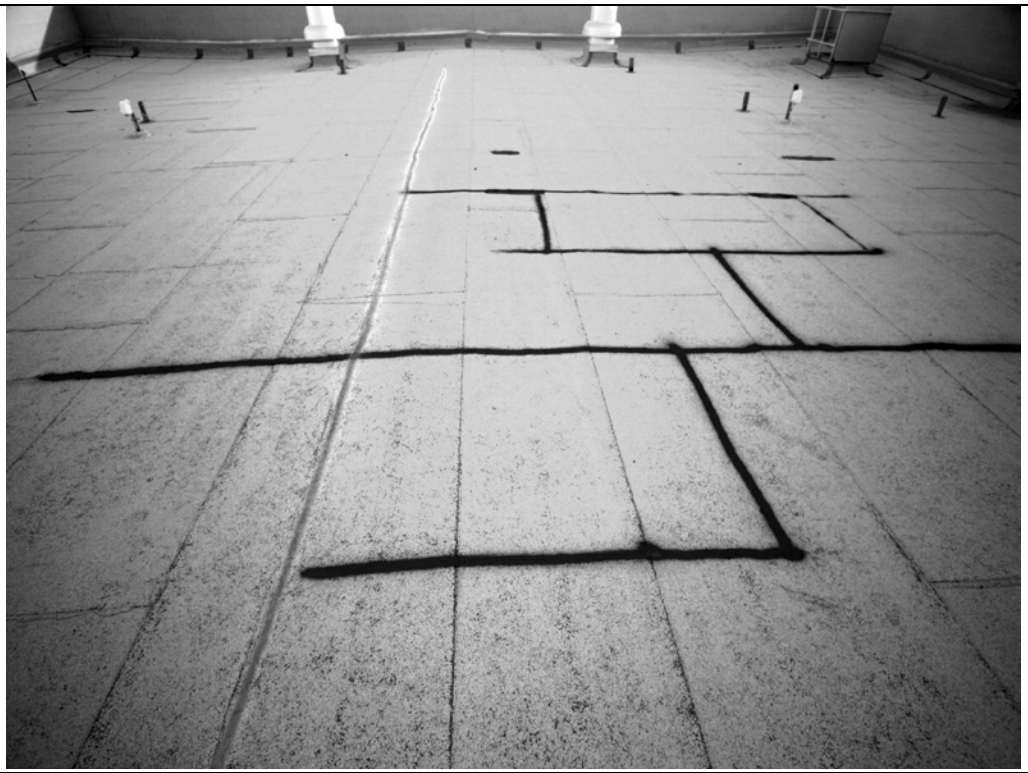


Copper Canyon High	Photo 6	Date: 9/3/12

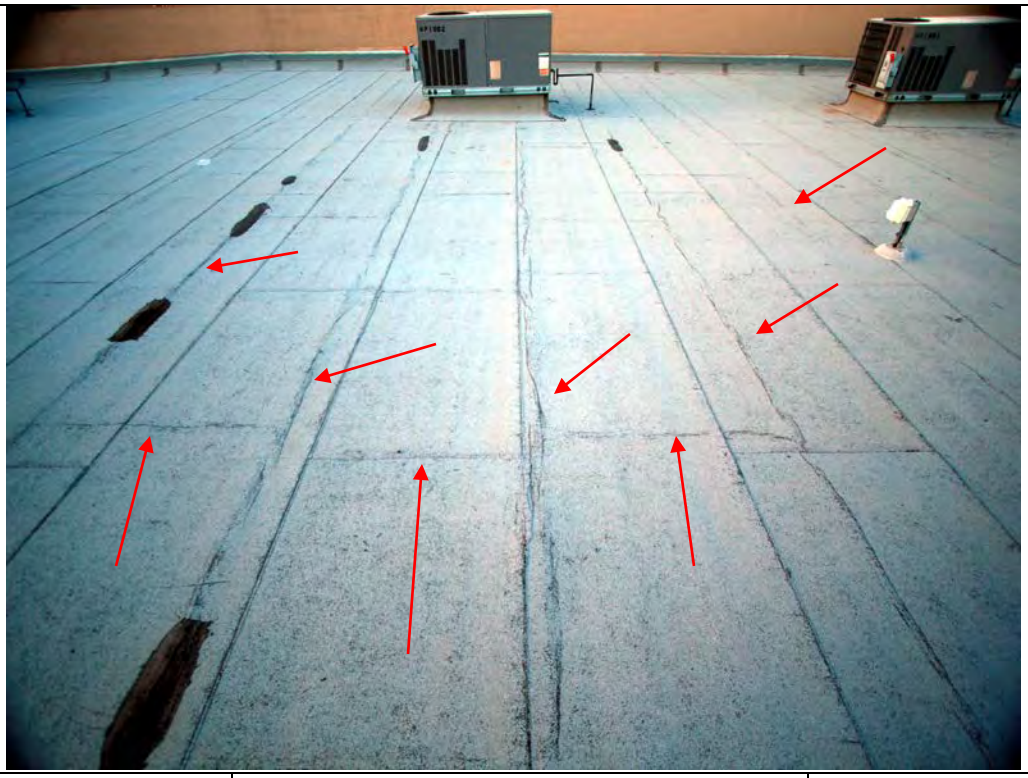
Description: Bldg. 1000 3” plates were used (in compliance) but spacing and location are not in compliance. Large gap at insulation joint.



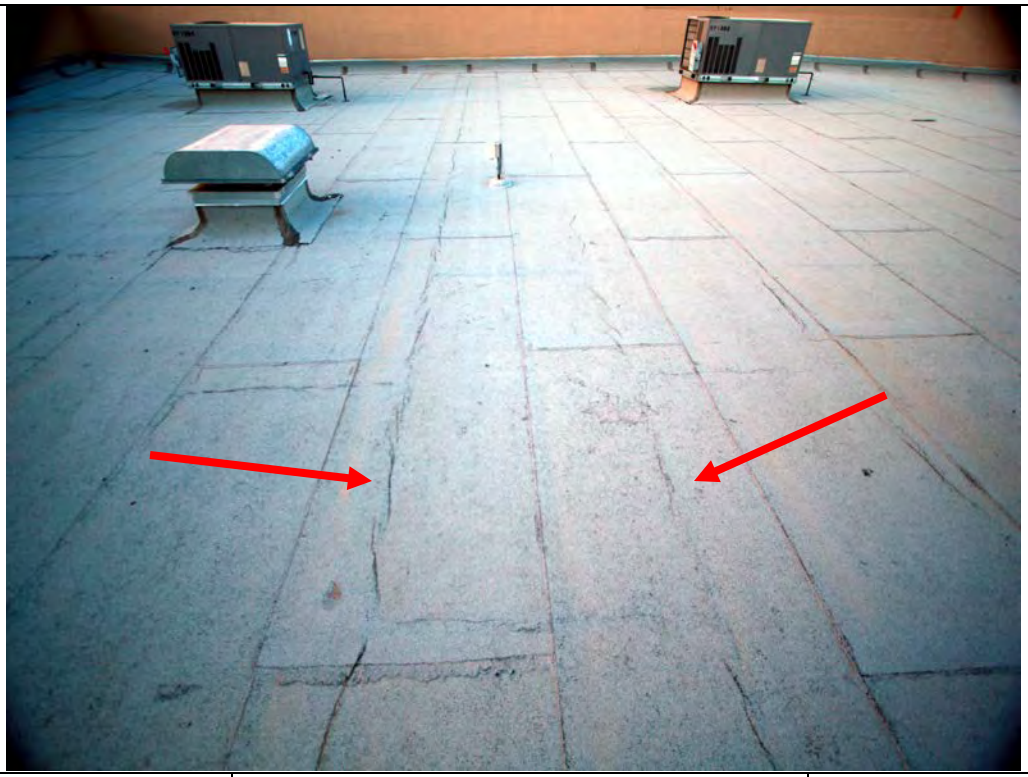
Copper Canyon High	Photo 7	Date: 9/3/12
Description: Bldg. 1000 marking paint was used to mark typical buckling of membrane.		



Copper Canyon High	Photo 8	Date: 9/3/12
Description: Bldg. 1000 marking paint marking typical buckling.		



Copper Canyon High	Photo 9	Date: 9/3/12
Description: Bldg. 1000 arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 10	Date: 9/3/12
Description: Bldg. 1000 arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 11	Date: 9/3/12
Description: Bldg. 1000 ponding due to scuppers not being sumped.		



Copper Canyon High	Photo 12	Date: 9/3/12
Description: Bldg. 1000 ponding due to scuppers not being sumped.		



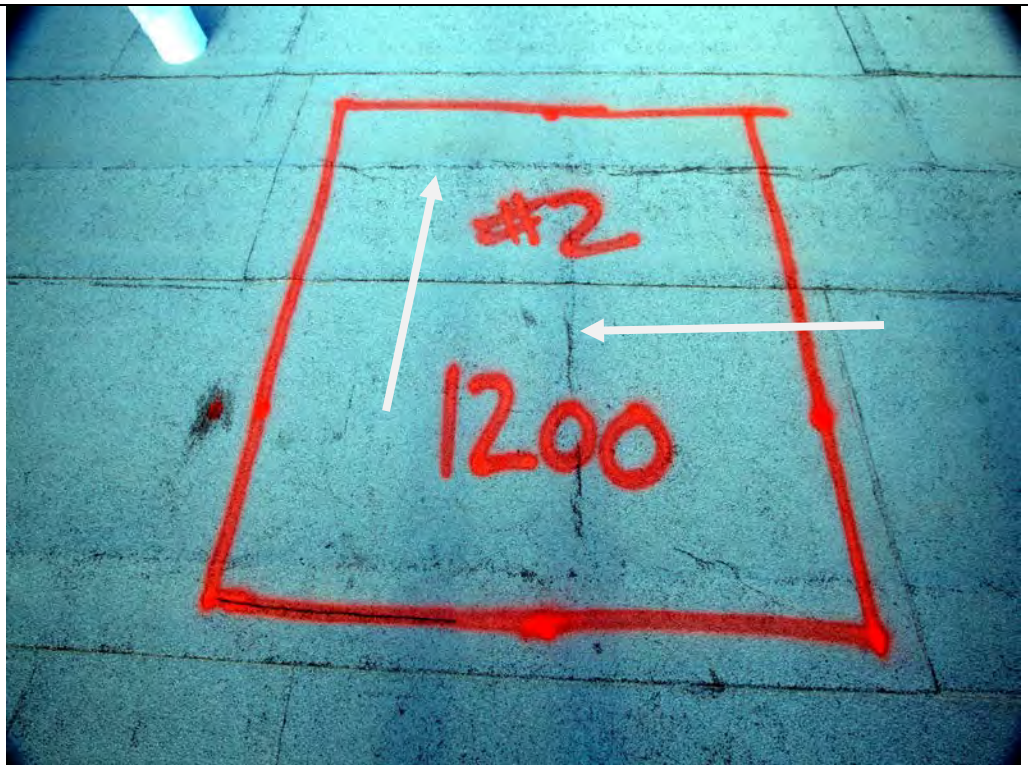
Copper Canyon High	Photo 13	Date: 9/3/12
Description: Bldg. 1000 ponding due to scuppers not being sumped.		



Copper Canyon High	Photo 14	Date: 9/3/12
Description: Bldg. 1000 ponding due to scuppers not being sumped.		



Copper Canyon High	Photo 15	Date: 9/3/12
Description: Bldg. 1200 identification.		



Copper Canyon High	Photo 16	Date: 9/3/12
Description: Bldg. 1200 sample #2 and arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 17	Date: 9/3/12
Description: Bldg. 1200 large gaps at insulation joints causing the buckling and fracturing in the above photo 16.		



Copper Canyon High	Photo 18	Date: 9/3/12
Description: Bldg. 1200 close up to show large gap between insulation boards.		



Copper Canyon High	Photo 19	Date: 9/3/12

Description: Bldg. 1200 incorrect fastener spacing and location.

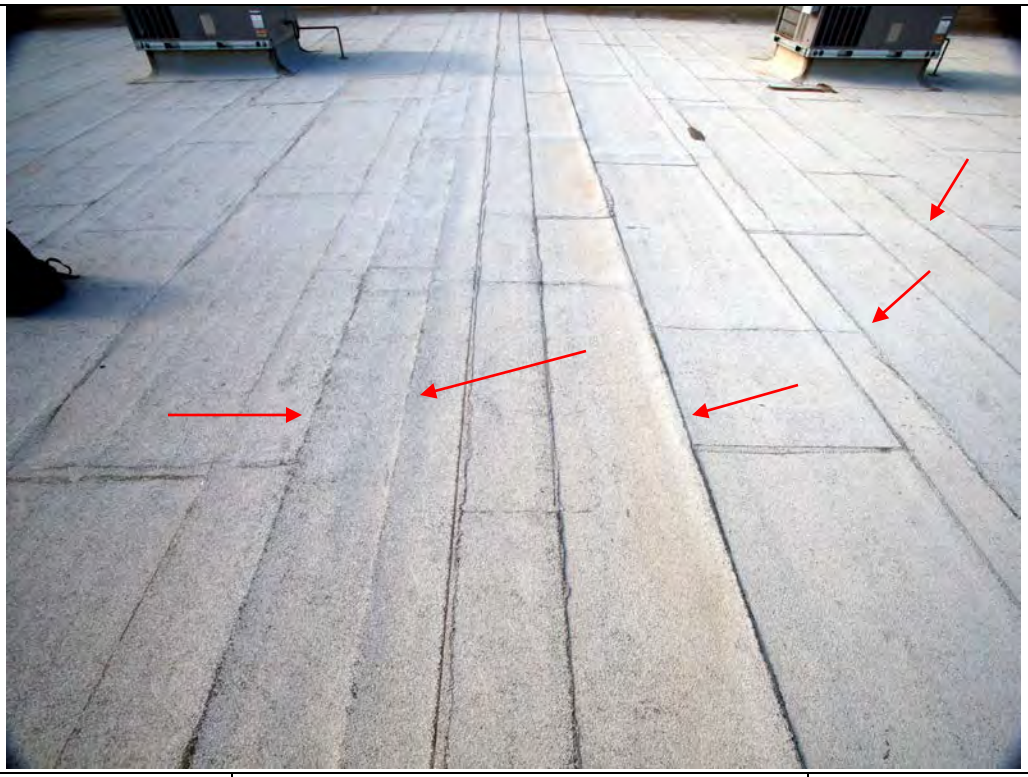


Copper Canyon High	Photo 20	Date: 9/3/12

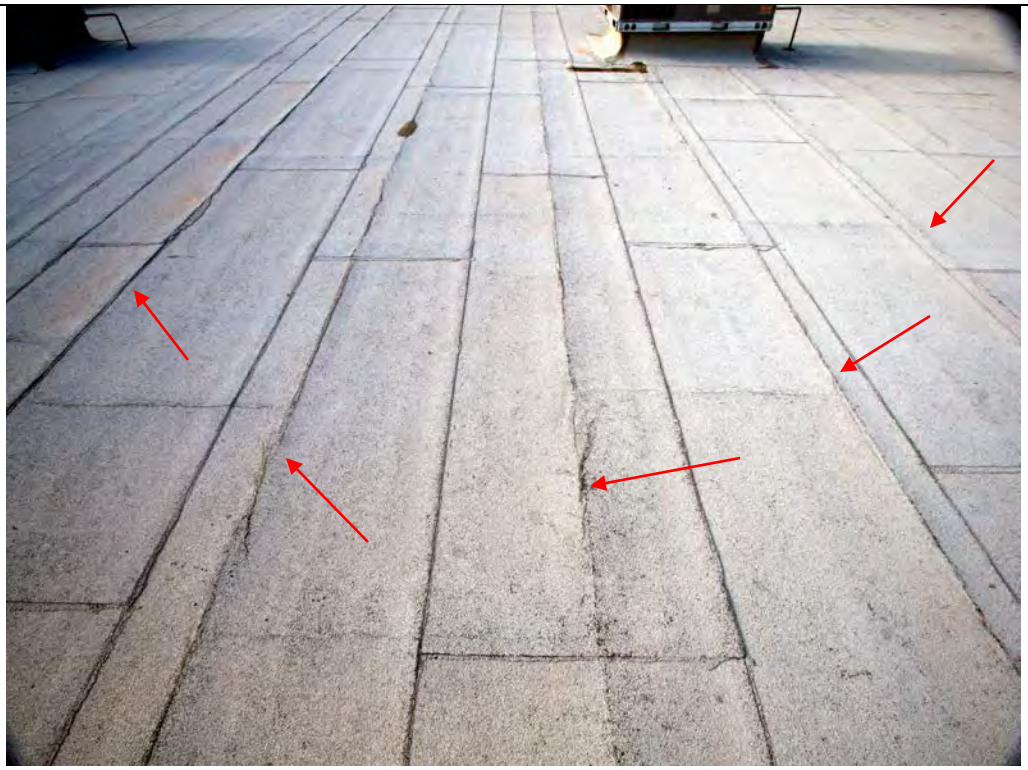
Description: Bldg. 1200 incorrect fastener spacing and locations.



Copper Canyon High	Photo 21	Date: 9/3/12
Description: Bldg. 1200 insulation buckling due to incorrect fastener spacing and location.		



Copper Canyon High	Photo 22	Date: 9/3/12
Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 23	Date: 9/3/12
Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 24	Date: 9/3/12
Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.		



Copper Canyon High	Photo 25	Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High	Photo 26	Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing. From left to right, buckle starting to fracture, membrane is fractured, buckle has yet to fracture.

Conclusion

The inspection found the roof system not to be installed per industry standards and manufacturer's recommendations. The gaps in between the insulation board are the primary cause of the buckling of the membrane. The buckles and fractures are located directly over the gaps in the insulation boards. The roofing system was not run perpendicular to the insulation boards causing buckles, splits, cracks and/or fractures. The fastening patterns do not meet the standards set forth for wind uplift requirements, therefore the roofs are subject to blow offs during high wind conditions.

To correct this condition the roof the roofing system should be torn off down to the insulation board. A new insulation board mechanical fastened over the existing board. Install a new 20 year roof system.

See attached documents for reference and backup information.

Jerry L. Brown, RRO 9/11/2012

Consultant/Inspector Date

- Compressive Strength — It would have sufficient strength to resist damage from roof system construction operations and normal rooftop traffic.

The 10 properties listed would be found in an ideal roof insulation. However, in real-world conditions, no single commercial product currently available has all these ideal properties. Therefore, it is recommended that designers choose materials that have properties best suited to specific project conditions.

1.2 Design Criteria for the Specification of the Installing of Rigid Roof Insulation

The following criteria should be considered by designers of roof assemblies containing rigid roof insulation:

- On steel roof decks, the steel deck flutes' direction, rigid insulation board's orientation and membrane layout should be designed to accommodate the satisfactory anchorage of roof system components and facilitate application of the membrane and installation of temporary tie ins and water cutoff details. Refer to"Tie-ins" and "Water Cutoffs" in the Glossary. However, with built-up roof (BUR) membranes reinforced with organic felt, it is recommended that the insulation application specification call for the insulation to be applied in such a manner that the organic membrane be laid perpendicular to the longer dimension of the top insulation boards. This recommendation stems from the organic felt's tensile strength characteristics — the tensile strength is greater in the machine direction. This will help reduce the possibility of the membrane splitting.
- On steel roof decks, insulation boards should be firmly supported on their longer dimensions, if rectangular, by the bearing surfaces or top flanges of the steel roof deck. The first layer of insulation boards should not cantilever over open steel deck flutes. Otherwise, the insulation and membrane may not be sufficiently supported to provide for long-term, successful performance of the roof system.
- In practice, steel decks may be installed incorrectly, with minor curves or small incremental errors in overlaps. As successive insulation boards are installed on the deck, at some point the insulation edge may begin to fall off at the center of the top flange of the steel deck panels. Unless corrected, some of the insulation panels may be installed incorrectly, with the long dimension of the boards not directly supported by the top flange of the deck panels. When this condition is encountered, additional labor will be required to correct the insulation installation.
- In low-slope membrane roof construction, a double layer of insulation as illustrated is preferred.

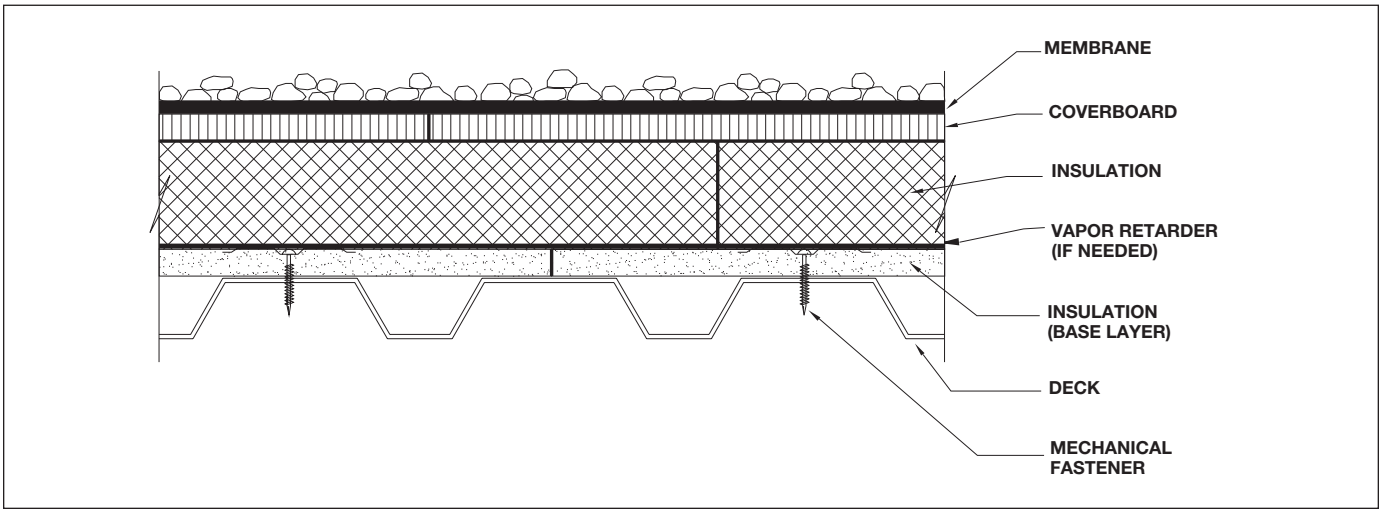


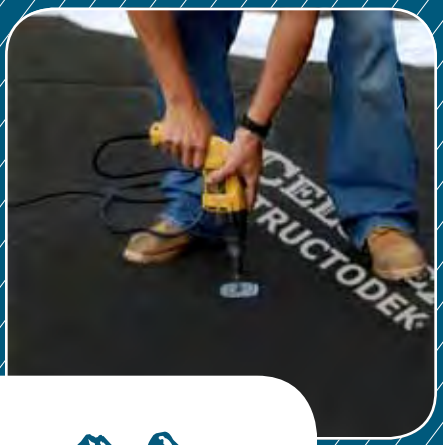
Figure 1: Cross section of a compact "warm" roof assembly. The individual neighboring components are in direct contact with one another. The lower R-value insulation is placed under the vapor retarder, next to the roof deck.

Experience and research reported by James E. Lewis in the paper "Thermal Evaluation of the Effects of Gaps Between Adjacent Roof Insulation Panels" from the *Proceedings of the DOE-ORNL Workshop on Mathematical Modeling of Roofs* has shown that a minimum of two layers of rigid insulation can provide the following benefits to low-slope roof systems:

— *Increased roof system thermal performance.* With double-layer insulation roof systems, it is preferable that only the bottom layer of insulation be mechanically fastened to roof decks that are appropriate for mechanical attachment. The second layer of insulation then can be adhered to the base layer or, if present, to the vapor retarder installed on top of the first layer with hot bitumen or approved adhesive. When a ballasted membrane







CELOTEX™

STRUCTODEK®

HIGH DENSITY ROOFING FIBERBOARD

CELOTEX
BLUE RIDGE™
FIBERBOARD

Product Overview

For more than 85 years, the name CELOTEX has been a standard bearer for quality fiberboard roof insulation. CELOTEX STRUCTODEK is now manufactured by BLUE RIDGE FIBERBOARD, INC., a subsidiary of W. R. MEADOWS. Be assured that BLUE RIDGE will continue the longstanding CELOTEX tradition of delivering a quality product and providing superior service to the low-slope roofing market at a competitive price. STRUCTODEK high density roofing fiberboard has been tested and approved by major systems manufacturers who create today's roofing systems.

STRUCTODEK is available in various thicknesses, coating, and panel sizes to meet your needs. The product offers many benefits, including:

- Classified in UL Class A rated roof systems. See classification details in "Compliances" section.
- Structurally rigid and dimensionally stable board, easily handles heavy foot traffic and wheeled loads.
- Superior adhesion without excess absorption.
- Insulation properties with R-values ranging from 1.3 to 5.0
- Lightweight and easy to install, without the irritating fiberglass dust of glass mat faced gypsum board.
- Easily handles hot asphalt; non-blistering.
- Cuts with an utility knife.
- Offered in coated one-side (C1S), integral coated six sides (C6S), and uncoated (natural).

STRUCTODEK

THE SOLUTION FOR A WIDE VARIETY OF LOW-SLOPE APPLICATIONS AND SYSTEMS.

Applications

- Insulation board
- Cover board
- Re-roof/re-cover board

STRUCTODEK Features

- Water absorption value of ≤7% (7% max per ASTM C 208)
- UL Class A roofing systems classified component. See www.ul.com Certification Directory File No.TGFU.R20803.
- 1-60 and 1-90 systems approval per FM Approvals Standard 4450/4470 (see RoofNav for approvals)
- Reduces asphalt bitumen absorption in coated one-side product
- Maximum protection on all exposed surfaces with an integral coated-six-side treatment
- Compressive Strength, 48 psi @ 15% deformation on ½" STRUCTODEK High Density

Thickness (nominal)	1/2"	25/32"	1"	1 1/2"	2"
Board Sizes	4' x 4' 4' x 8'	4' x 4' 4' x 8'	2' x 4' 4' x 4' 4' x 8'	2' x 4' 4' x 4'	2' x 4' 4' x 4'
Boards/Unit	4' x 4' = 90 4' x 8' = 90	4' x 4' = 60 4' x 8' = 60	2' x 4' = 90 4' x 4' = 45 4' x 8' = 45	2' x 4' = 60 4' x 4' = 30	2' x 4' = 46 4' x 4' = 23
Squares/Unit	4' x 4' = 14.40 4' x 8' = 28.80	4' x 4' = 9.60 4' x 8' = 19.20	2' x 4' = 7.20 4' x 4' = 7.20 4' x 8' = 14.40	2' x 4' = 4.80 4' x 4' = 4.80	2' x 4' = 3.68 4' x 4' = 3.68
Weight Per Square Foot (lb/ft^2)	0.700	1.060	1.375	2.100	2.750
Flute Span	1 5/8" (40mm)	2 5/8" (67mm)	2 5/8" (67mm)	4 3/8" (111mm)	4 3/8" (111mm)
R-Value	1.3	1.9	2.5	3.8	5.0

Compliances

- ASTM C 208, Type II, Grade 1 and 2; ASTM C 209
- FM Approved Class 1 per FM Standard 4450/4470
- CAN/CSA-A247-M86 Insulating Fiberboard Type 1
- Canadian Construction Materials Centre, Listing CCMC #13186-L
- Classified by Underwriters Laboratories, Inc. to US Standard ANSI/UL 790 and Canadian Standard CAN/ULC-S107
- Miami-Dade County, Florida; NOA No. 10-0120.04; Expiration Date 09/18/13
- CAN/ULC-S706 -09 Standard for Wood Fibre Insulating Boards for Buildings, Type II, Class 1 and Class 2

CLASSIFIED C UL US

FM APPROVED

CELOTEX BLUE RIDGE™ FIBERBOARD

STRUCTODEK and Leed

STRUCTODEK is an environmentally friendly product that can help a design team earn LEED credits. The use of STRUCTODEK may contribute to the following LEED credits:

- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials
- MR Credit 6: Rapidly Renewable Materials
- IEQ 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products

Fastening Pattern Requirements

For fastening patterns, refer to FM RoofNav and/or membrane manufacturer for specific assembly requirements.

UL "P" Assembly Requirements

Consult UL certification File No. TGFU.R20803 or system manufacturer for more information about specific systems.

Systems Manufacturers Approval

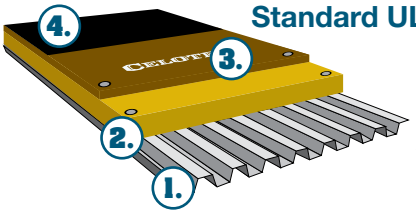
Additional joint listings from these manufacturers can be found in the current versions of the UL Roofing Materials and Systems Directory and FM Approvals/RoofNav.

AFM Corp.
Atlas Roofing Corp.
Bitec Inc.
Bondcote Corp.
Burkeline Roofing Systems
Carlisle SynTec Inc.
Centimark Corp.
Conklin Co. Inc.
Cooley Roofing Systems
Duro-Last Roofing Inc.
Ecology Roof Systems
Environmental Roofing Systems
ER Systems
Firestone Building Products Co.
Flex Membrane International
Flexible Products
GAF Materials Corp.
Garland Co. Inc.
GenFlex Roofing Systems
Haartz-Mason Inc.
Henry Co.
Hydro Stop Inc.
Hyload Inc.
IB Roof Systems
Imperial Adhesives
Intec/Permaglas
Johns Manville
Lexcan Industrial Supply Ltd.
Liquid Plastic
Malarkey Roofing Co.
Mule-Hide Products
Performance Roof Systems
Polyethane Systems Inc.
Polyglass USA
Sarnafil Inc.
Seaman Corp. Building Systems
Siplast Inc.
Soprema Inc.
SPI Inc.
Stafast Roofing Products
Stevens Roofing Systems
Stymo Chem Int. Inc.
Tamko Roofing
The Garland Co.
Tremco Inc.
Tri Ply
US Intec Inc.
US Ply
Versico Inc.
WP Hickman Systems Inc.

*Check with specific membrane manufacturer for system warranty approval and required fastening pattern.

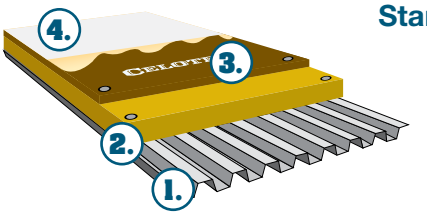
Roofing Systems Applications Recommendations

Single-Ply, Mechanically Attached	Modified Bitumen Cold	BUR Hybrid
Single-Ply, Fully Adhered	Modified Bitumen Mopped	Self-Adhered
Single-Ply, Ballasted	BUR Ply Sheets	Spray Foam (SPUR)



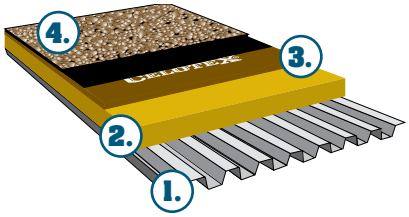
Standard UL Class A/FM 1-90 Mechanically Attached Single-Ply System

1. Metal deck
2. 1 ½" rigid foam insulation
3. ½" STRUCTODEK HD fiberboard roof board
4. Mechanically attached EPDM, TPO, PVC, CSPE single-ply membrane



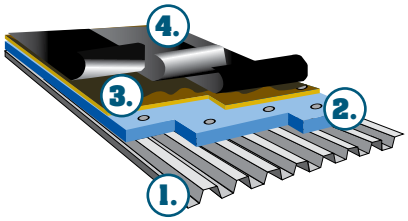
Standard UL Class A/FM 1-90 Fully Adhered Single-Ply System

1. Metal deck
2. 1 ½" rigid foam insulation
3. ½" STRUCTODEK HD fiberboard roof board
4. Fully adhered EPDM, TPO, PVC, CSPE single-ply membrane (solvent and water-based adhesive)



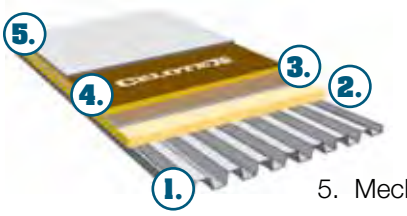
Standard UL Class A/FM 1-90 Single-Ply Ballasted System

1. Metal deck
2. 1 ½" rigid foam insulation
3. ½" STRUCTODEK HD fiberboard roof board
4. Ballasted EPDM, TPO, PVC, CSPE



Standard UL Class A/FM 1-90 Modified Bitumen System Cold/Hot Mopped

1. Metal deck
2. 1 ½" rigid foam insulation
3. ½" STRUCTODEK HD fiberboard roof board
4. SBS, APP cold or hot mopped



Standard UL Class A/FM 1-90 Re-roof, Single-Ply

1. Metal deck
2. Existing insulation
3. Existing roofing assembly
4. ½" STRUCTODEK HD fiberboard roof board
5. Mechanically attached, fully adhered, or ballasted single-ply roofing membrane

Contact Manufacturer for Technical Information / Warnings / Warranty Information

For further information on SOUNDSTOP, including data sheet, installation procedures, guide specs, and MSDS, visit **www.blueridgefiberboard.com**.

CUSTOMER SERVICE EASTERN REGION AND CANADA 800-233-8721

CUSTOMER SERVICE WESTERN AND SOUTHWESTERN REGION 800-535-4088

TECHNICAL SUPPORT 800-596-9699

info@blueridgefiberboard.com

www.blueridgefiberboard.com

U.S. GREEN BUILDING COUNCIL MEMBER

1/12-10M

DATA SHEET

STRUCTODEK®

NO. 002

Insulation Board

JULY 2012
(Supersedes July 2010)

DESCRIPTION

CELOTEX STRUCTODEK is not only an integral roofing system component; it also makes roofing easier with physical properties that generate structural rigidity and dimensional stability.

The fiberboard composition of STRUCTODEK possesses natural bonding qualities, resulting in superior adhesion capabilities. Adhesive tightly grasps the fibers of STRUCTODEK without causing excess absorption, providing a solid and secure roof system which bonds very well with many asphalt, coal tar, and cold-process adhesive products. The lightweight nature of STRUCTODEK is better than heavier alternatives and will keep the roof load below the specified maximum weight. STRUCTODEK is offered in coated one side (C1S), integral coated six-sides (C6S), and uncoated (natural).

USES

STRUCTODEK can be used as an insulation board, cover board, or re-roof/recover board. STRUCTODEK is a high-density roofing board and is designed for low-slope applications and systems.

SPECIFICATIONS

- ASTM C 208, Type II
- ASTM C 209
- UL Classified to Canadian Std CAN/ULC-S107 and US Std UL 790
- FM Approved Class 1 – FMRC Standard 4450/4470
- CAN/ULC-S706-09 Type II, Classes 1 and 2
- Canadian Evaluation CCMC #13186-L
- NOA 10-0120.04; Miami-Dade County, FL; Expiration date 09/18/13

MASTERFORMAT NUMBER AND TITLE

07 22 16 - Roof Board Insulation

FEATURES/BENEFITS

- Approved in UL Class A rated roof systems.
- Structurally rigid and dimensionally stable board easily handles heavy foot traffic and wheeled loads.
- Superior adhesion without excess absorption.
- Contributes to thermal insulation with R-values ranging from 1.3 to 5.0.
- Lightweight and easy to install, without the irritating fiberglass dust of glass mat faced gypsum board.
- Easily handles hot asphalt, non-blistering.
- Cuts with a standard utility knife.
- Compressive strength exceeds the Canadian standard at 10% deformation for ½" thickness.

PRECAUTIONS

Do not expose to open flame or excessive heat. May smoulder if ignited. If ignited, extinguish completely. Do not apply flame directly to material when installing a modified bitumen system. Material must be kept dry at all times; in storage and during application. Apply only as much STRUCTODEK in one day as can be covered by completed roofing system that day. Do not use as an underlayment for shingles. In re-roofing applications, all wet areas in old roof should be cut out and replaced. Before material is installed, remove all loose and protruding gravel. STRUCTODEK must not be used in close proximity to chimneys, heater units, fireplaces, steam pipes, or other surfaces which could provide long-term exposure to excessive heat (maximum 212° F) without adequate thermal protection. Consult appropriate heating appliance manufacturer's instructions before installation.

LEED INFORMATION

May help contribute to LEED credits:

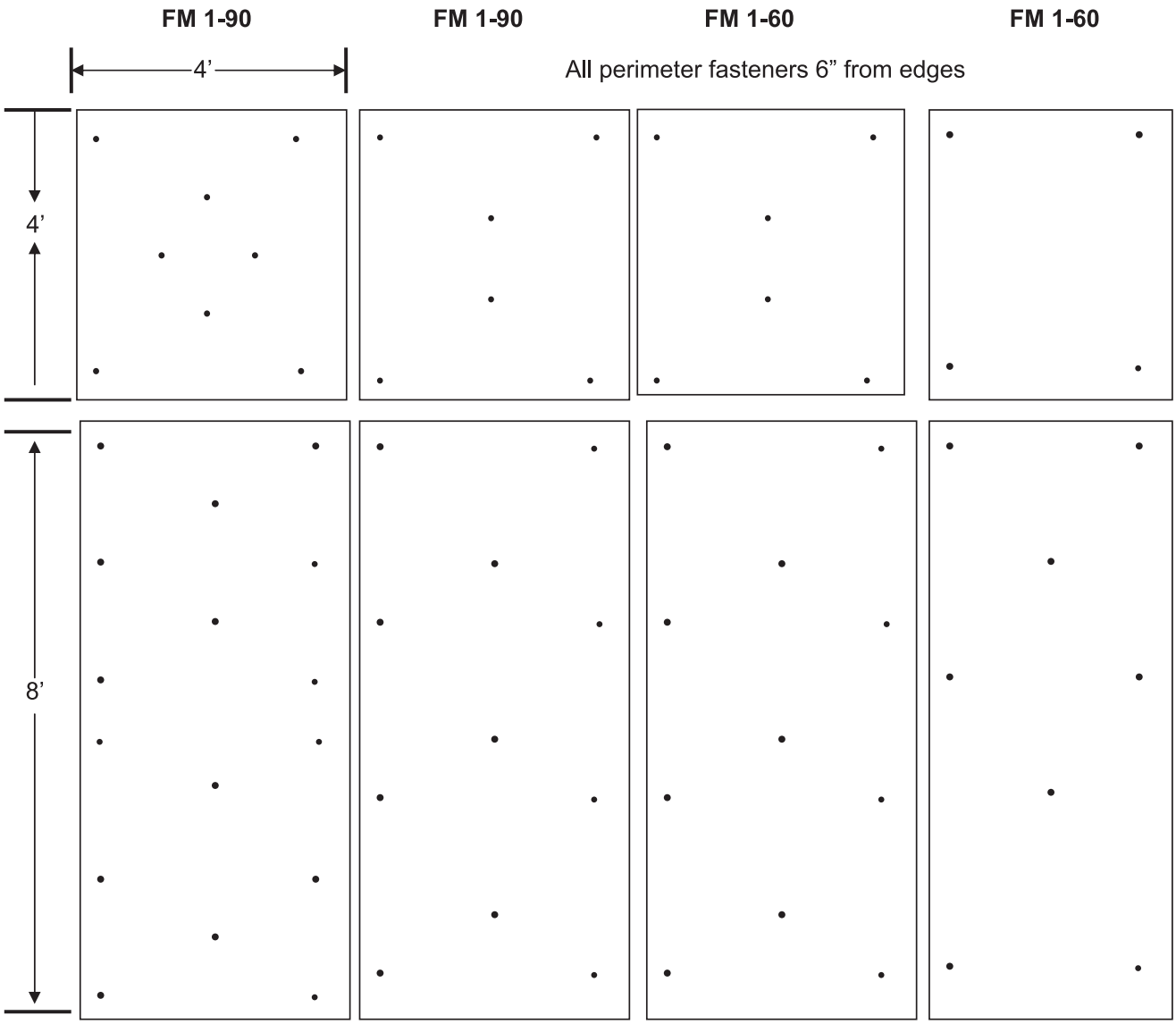
- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials
- MR Credit 6: Rapidly Renewable Materials
- IEQ Credit 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products

Thickness (nominal)	1/2"	25 / 32"	1"	1-1/2"	2"
Board Sizes	4' x 4'; 4' x 8'	4' x 4'; 4' x 8'	2' x 4'; 4' x 4'; 4' x 8'	2' x 4'; 4' x 4'	2' x 4'; 4' x 4'
Boards/Unit	4' x 4'; 4' x 8' = 90	4' x 4'; 4' x 8' = 60	2' x 4' = 90 4' x 4'; 4' x 8' = 45	2' x 4' = 60 4' x 4' = 30	2' x 4'; 4' x 4' = 46
Squares/Unit	4' x 4' = 15.20; 4' x 8' = 30.10	4' x 4' = 9.60; 4' x 8' = 19.20	2' x 4' = 6.72; 4' x 4' = 7.36; 4' x 8' = 14.72	2' x 4' = 4.48; 4' x 4' = 4.80	2' x 4' = 3.36; 4' x 4' = 6.72
Deflection at specified min. load, max inches	≤0.76" (≤19mm)	No ASTM Data	≤0.42" (≤11mm)	No ASTM Data	≤0.21" (≤5mm)
Flute Span	1 5/8" (40mm)	2-5/8" (67mm)	2-5/8" (67mm)	4-3/8" (111mm)	4-3/8" (111mm)
Compressive Strength 15% Def. ASTM C165	48 psi				

BLUE RIDGE FIBERBOARD

250 Celotex Dr.
Danville, VA 24541
1-866-850-8834
www.blueridgefiberboard.com • *info@blueridgefiberboard.com*

TYPICAL FM APPROVED FASTENING PATTERNS



1 Fastener per 2 sq. ft. Single Ply Roofing System Fully Adhered with 1” or thicker board or any Roofing System with ½” thick FM-190 Board

1 Fastener per 3 sq. ft. Built-Up Roofing System with 1” or thicker board

1 Fastener per 3 sq. ft. Single Ply Roofing System Fully Adhered with 1” or thicker board

1 Fastener per 4 sq. ft. Built-Up Roofing System with 1” or thicker board

LIMITED WARRANTY

BLUE RIDGE FIBERBOARD, INC. warrants at the time and place we make shipment, our material will be of good quality and will confirm with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

Disclaimer

The information contained herein is included for illustrative purpose only, and to the best of our knowledge, is accurate and reliable. BLUE RIDGE FIBERBOARD, INC. cannot however under any circumstance make any guarantee of results or assume any obligation or liability in connection with the use of this information. As BLUE RIDGE FIBERBOARD, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.

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6/15/15

RedTree
CONSULTING

Michael Crow
Principal
Managing Partner

2942 N 24th Street
Suite 114-436
Phoenix, AZ 85016

Ph 602.424.3468
mcrow@redtreeco.com

Copper Canyon High School

To: Mr. Richard Oros
Tolleson Union High School District
9801 West Van Buren Street
Tolleson, Arizona 85353

RE: Preliminary Budget
Copper Canyon High School
Roof Renovation Project

Mr. Oros,

Based on our report recommendations dated June 3, 2015 we have calculated the preliminary budget for the roof renovation project as follows:

- Install cover board and new 50mil PVC roof system at Building # 300
- Install cover board and new 50mil PVC roof system at Building # 500 (lower roofs)
- Install cover board and new 50mil PVC roof system at Building # 800
- Install cover board and new 50mil PVC roof system at Building # 1000
- Install cover board and new 50mil PVC roof system at Building # 1100
- Install cover board and new 50mil PVC roof system at Building # 1200
- Install cover board and new 50mil PVC roof system at Building # 1400
- Includes all associated eyebrows (patio roofs)
- A/E Design
- Structural Engineering Review
- Construction administration services.

Cost: **$ 793,612.00**

If you have any questions or concerns, please contact me at your convenience.

Thank you,



RedTree
CONSULTING

June 17, 2015

Mr. Richard Oros
Tolleson Union High School District
9801 West Van Buren Street
Tolleson, Arizona 85353

RE: ***Copper Canyon High School***
9126 West Camelback Road
Glendale, Arizona 85305

Mr. Oros,

Below are the proposed Architecture and Engineering fees for the roof surrounding structure renovation project at Building's 300, 500 (Lower Roofs), 800, 1000, 1100, 1200 and 1400.

DESCRIPTION	**ESTIMATED FEE**
Licensed Architect to draft required construction drawings, details and specifications for roof renovation project. Architect design scope of work also includes creating a work scope bid package for contractor solicitation, attending the pre-bid conference, answering any contractor bid questions and assisting in contractor selection.	$ 6,500.00
Licensed Structural Engineer to review existing as built construction drawings and load calculations. Structural Engineer to recalculate loads for new roof systems and ensure they comply with existing structures. Licensed Structural Engineer to provide registrant stamped cover letter for each building confirming new roof systems are allowable and safe with existing structures.	$ 3,750.00
Perform construction administration services for the roof renovation project. Architectural/Engineering services include but are not limited to:	
• Responding to Contractor's Requests for Information, Issuing of any A/E Supplemental Instructions, Processing any shop drawings and submittals, Processing any change orders, Reviewing and certifying contractor's application for payment, Reviewing any material test reports, Recording any changes to the contract documents and project closeout (Allowance of 16 Administration Hours).	$ 2,400.00
• Weekly site visit for construction progress, meeting with owner and contractor (10 weeks @ 4 hours per week).	$ 6,000.00
• Provide substantial and final completion services (2 site visits @ 4 hours a trip plus two (2) hours to draft substantial completion and punch list documents).	$ 1,200.00
• Expenses (allowance of $ 462.00 for mileage and $ 750.00 for reprographics).	$ 1,212.00
Any additional time required to complete the construction administration for the referenced project will be billed at $185 per hour with prior owner approval. Additional site visits are invoiced at four (4) licensed architect labor hours plus mileage/expenses ($ 638.50/trip).	
TOTAL:	**$ 21,062.00**

Reimbursable expenses for reprographic work, etc are at cost plus 10%. Mileage is reimbursed at current IRS mileage rate at the time of work. Additional work is at standard hourly rates and will be defined and approved in writing by Owner prior to commencement of work.

Thank you for allowing Red Tree Consulting Group the opportunity to provide these services to you. We look forward to providing you a comprehensive solution. Red Tree will confirm any change to the above scope of work prior to executing any additional services. If you have any questions regarding this estimated fee proposal, please feel free to contact me at your convenience.

Thank you,



Michael L. Crow
Managing Partner
602.989.2433
mcrow@redtreeco.com

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Tombstone Unified 007BRG

Background – Tombstone Unified (Huachuca City ES - HVAC replacement)
Tombstone Unified has submitted a Building Renewal Grant request for the replacement of the HVAC system on Building 1009 at Huachuca City Elementary School .

Tombstone Unified, located 190 miles southeast of Phoenix has three schools. Huachuca City School is comprised of nine buildings constructed between 1957 and 1995, totaling 61,910 square feet. Building 1009 was constructed in 1995, totaling 11,008 square feet.

The HVAC system is about 14 years old and has failed. The district has received a proposal for $9,993. Professional design services for review of the HVAC specifications and statute require review of the roof structure and an allowance of $3,000.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Tombstone Unified (Huachuca City ES - HVAC replacement
Staff recommends that Tombstone Unified be awarded $14,300 in Building Renewal Grant funding for the HVAC replacement on Building 1009 at Huachuca City Elementary School. This includes $1,307 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tombstone Unified** be awarded $14,300 in Building Renewal Grant funding for the HVAC replacement on Building 1009 at Huachuca City Elementary School. This includes $1,307 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tombstone_USD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Application_2126_-_HCS_AC_Unit.pdf	Signed BRG Application	7/30/2015	Cover Memo
PMC_Proposal_R2_-_Huachuca_City_ES_D-1_RTU.pdf	HVAC Replacement Proposal	7/30/2015	Cover Memo
Microsoft_Office_Outlook_-_Memo_Style.pdf	Existing Unit information	7/30/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tombstone Unified**
BRG Project Number: **020201101-1009-007BRG** Cochise County
Project Description: **HVAC replacement**
Architect of Record: Pueblo Mechanical
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost: (cost estimate provided by architect or contractor)		**$ -**
Contingency		**$ 1,307**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 12,993
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 12,993**
Total SFB Funded Project Cost:		**$ 14,300**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 14,300**
Total Project Cost:		**$ 14,300**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/22/2015 9:22:56 AM **Application ID:** 2126

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tombstone Unified District

Superintendent: Robert Devere

Contact Person: John Livingston

Contact Phone Number: 928-814-9598

Contact Email: jlivingston@tombstone.k12.az.us

School Site: Huachuca City School

Buildings: 1009 9-Primary 4-6

Application Title: AC Unit on Classroom D1

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The unit has failed and we are not sure of the damage. The AC PAC unit was installed in 2001 and has reached its maximum useful life. The unit services a classroom cluster.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

The district has no Capital funds available. This unit is critical to providing education in our Huachuca City School facility and needs to operate as severe classroom temperatures will result without it.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Robert Devere
Superintendent Printed Name

Robert Devere 7/22/15
Superintendent Signature Date

Pueblo Mechanical & Controls, Inc.

(800) 840-9170

PROPOSAL - Huachuca City Elementary D-1 RTU Replacement

Mohave JOC #14G-PMAC2-0903

PMC Proposal #:15-07-035R2

From: Pueblo Mechanical and Controls, Inc. **Date:** July 29, 2015

Attn: Lindsey Cleal
Tombstone Unified School District #1
411 N 9th St
Tombstone, AZ 85638

Dear Lindsey,
Pueblo Mechanical and Controls appreciates the opportunity to look at this project and is pleased to provide the following proposal for Huachuca City Elementary D-1 RTU Replacement.

Scope of Work:

- Remove and properly dispose of existing Carrier gas/electric RTU
- Provide and install new (4) ton, Carrier 48HCEA05E3M6-0B0A0 side discharge, gas electric unit to match existing unit performance, including duct mounted CO2 sensor, hi-eff economizer with barometric relief, medium static motor, belt drive, with hail guards
- Set new unit on existing platform curb
- Connect to existing SA and RA duct, with transitions and flex connectors as required
- Remove DAT sensor from old unit, and install in new unit
- Connect condensate drain to existing trap
- Connect to existing gas service as necessary
- Connect to existing electrical service, providing new whip and fused disconnect
- Crane service
- 2 year warranty on labor and material

We Exclude The Following:

- Repair or replacement of any existing device not included above found to be inoperable
- Structural review (to be provided by SFB)
- Certified air balance
- Shift or premium labor rates
- Engineering permits and fees.
- Asbestos abatement, testing, reporting.
- Any work not included in scope of work listed above.

Material, service, & labor subtotal [Includes AZDOR TPT compliance]:		**$**	**9,992.79**
Bonding:	**N/A**	**$**	**N/A**
Total Cost:		**$**	**9,992.79**

There is a 3.2% fee associated with our accepting credit cards for payment.

ALL PRICES QUOTED ABOVE ARE VALID FOR 120 DAYS

6771 E. Outlook Drive, Tucson, AZ 85756 ● 11052 N. 24th Avenue, Phoenix, AZ 85029
Office - (800) 840.9170 ● Fax - (888) 473-4374
www.pueblo-mechanical.com
AZ LIC: CR-39 # ROC176640 ● AZ LIC: B-01 # ROC173953 ● AZ LIC: CR-74 # ROC260462

All projects over $100,000 must be individually bonded, projects under this amount are at the discretion of the customer; if the project is under $100,000; by accepting this proposal you agree to waive bonding for this project. If you require bonding; please contact Pueblo Mechanical immediately and we will provide a quote for the bonding amount.

We look forward to providing this important service please call if you have any questions.

Best Regards,

Mark Christiansen
Business: (800) 840-9170
Cellular: (520) 631-5026
mark@pueblo-mechanical.com

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

Name	Signature	Date

Due to the high cost of equipment and/or extended nature of this project progress billing may be required; if a purchase order is created for this project the owner agrees to accept progress billing for demonstrated and verifiable completed work and/or arrival of equipment items pending installation.

Dan Demland

From: John Livingston [jlivingston@tombstone.k12.az.us]
Sent: Wednesday, July 22, 2015 7:24 AM
To: Dan Demland; Robert Devere
Subject: PAC Unit at Huachuca City School: Tombstone USD

Hello Dan:
we have located the age of the HVAC unit at Huachuca City School.
It was manufactured in 2001.

> Re HCS D1 RTU, it is a
> 48HJE005-631 480v3ph gaspack
> #2301G21605
> Mfg Date 2001
> Nominal 4ton capacity
>
> So, do you want us to now submit a new BRG app for $12,000 to replace and install a compete new PAC unit?
>
> Let me know, and I will submit it this a.m..
> Thanks!
> John Livingston
> Business Manager Tombstone USD

WARNING: This email may be confidential/privileged. If you have received it (and any attachments) in error, please delete and notify the sender immediately. You must not copy, distribute, disclose, store, or take any action in reliance on it.

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STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Tuba City Unified 006BRG
Background - Tuba City Unified (Dzil Libeil ES - drinking water compliance)
Tuba City Unified has submitted a Building Renewal Grant request for engineering and water purification system replacement to reduce the mineral deposits and provide safe drinking water for all buildings at Dzil Libeil Elementary School.

Tuba City Unified, located 220 miles north of Phoenix, has seven schools. Dzil Libeil Elementary School is comprised of three buildings constructed between 1997 and 1998, totaling 36,304 square feet.

SFB staff visited the site and found the existing system to be cannibalized and inoperable (see attached pictures). The system appears to provide safe drinking water to the kitchen only. The school has been out of drinking water compliance for years; however, the district has been providing bottled water for staff and students.

The district contracted with an architecture firm in 2000 to design a site purification system that never came to fruition. Estimated construction cost at the time was $185,000.

The district has received a proposal that will provide point-of-use reverse osmosis drinking water units in all classrooms and kitchen for $24,204. This system will comply with all federal and state drinking water standards.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Tuba City Unified (Dzil Libeil ES – drinking water compliance)
Staff recommends that Tuba City Unified be awarded $35,000 in Building Renewal Grant funding to replace the existing water purification system and install water treatment to comply with the current drinking water standards in all buildings at Dzil Libeil Elementary School. This includes $10,796 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tuba City Unified** be awarded $35,000 in Building Renewal Grant funding to replace the existing water purification system and install water treatment to comply with the current drinking water standards in all buildings at Dzil Libeil Elementary School. This includes $10,796 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tuba_City_USD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	Grant Application	8/3/2015	Cover Memo

2014_Water_Tests.pdf	2014 Water Tests	7/22/2015	Cover Memo
Tuba_City_Proposal_(Revised_7_21_15).docx	Proposal for Replacement	8/3/2015	Cover Memo
IMG_0958.JPG	Piping Removed from System	7/22/2015	Cover Memo
IMG_0957.JPG	Existing RO System	7/22/2015	Cover Memo
IMG_0959.JPG	Existing RO System 2	7/22/2015	Cover Memo
IMG_0960.JPG	Existing RO System 3	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tuba City Unified**
BRG Project Number: **030215120-9999-006BRG** Coconino County
Project Description: **Drinking water compliance**
Consultant: Analytical Water Systems, LLC
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 24,204**
Contingency		**$ -**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ 10,796
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 10,796**
Total SFB Funded Project Cost:		**$ 35,000**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 35,000**
Total Project Cost:		**$ 35,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 5/26/2015 4:13:32 PM **Application ID:** 2028

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tuba City Unified District

Superintendent: Dr. Harold Bgay

Contact Person: Paul Huber

Contact Phone Number: 9283806138

Contact Email: phuber@tcusd.org

School Site: Dzil Libei Elementary School

Buildings:

1001	100
1002	101
1003	102

Application Title: Engineering water purification replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Cameron School has had a water issue for a long time. the water is very hard and ruins plumbing fixtures (flush valve, faucets, etc.)we contacted BESP, LCC to give us an estimate for the engineering cost to modify the system. our students at the school are and have been drinking bottled water for many years. We need to upgrade the system to eliminate the hardness as well as the arsenic content of the water

Project Category: Special Systems

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Superintendent Printed Name

Superintendent Signature

Date

0403011 (Teacher Lounge) 140668 (4082514-01) Drinking Water (Grab) Sampled: 08/28/14 06:42 Received: 08/29/14 09:45

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			UL#AZ0432						
EPA 552.2									
Dibromoacetic acid	<0.0010	0.0010	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Dichloroacetic acid	<0.0010	0.0010	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Monobromoacetic acid	<0.0010	0.0010	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Monochloroacetic acid	<0.0020	0.0020	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Total HAA5	<0.0020	0.0020	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Trichloroacetic acid	<0.0010	0.0010	mg/L	1	194792	09/10/14 00:00	09/10/14 00:00	EPA 552.2	
Surrogate: SS-2-Bromopropionic acid		*98 %*		*70-130*	*194792*	*09/10/14*	*09/10/14*	*EPA 552.2*	
			Legend Technical Services of Arizona, Inc.						
Volatile Organic Compounds									**Q4**
Bromodichloromethane	<0.0005	0.0005	mg/L	1	B4I0070	09/03/14 10:00	09/03/14 19:32	EPA 524.2	
Bromoform	<0.0005	0.0005	mg/L	1	B4I0070	09/03/14 10:00	09/03/14 19:32	EPA 524.2	
Chloroform	<0.0005	0.0005	mg/L	1	B4I0070	09/03/14 10:00	09/03/14 19:32	EPA 524.2	
Dibromochloromethane	<0.0005	0.0005	mg/L	1	B4I0070	09/03/14 10:00	09/03/14 19:32	EPA 524.2	
Total THMs	<0.0005	0.0005	mg/L	1	B4I0070	09/03/14 10:00	09/03/14 19:32	EPA 524.2	
Surrogate: 1,2-Dichlorobenzene-d4		*101 %*		*70-130*	*B4I0070*	*09/03/14*	*09/03/14*	*EPA 524.2*	
Surrogate: 1,2-Dichloroethane-d4		*96 %*		*70-130*	*B4I0070*	*09/03/14*	*09/03/14*	*EPA 524.2*	
Surrogate: 4-Bromofluorobenzene		*91 %*		*70-130*	*B4I0070*	*09/03/14*	*09/03/14*	*EPA 524.2*	
Surrogate: Pentafluorobenzene		*96 %*		*70-130*	*B4I0070*	*09/03/14*	*09/03/14*	*EPA 524.2*	

0403011 (Entry Point Well #1) 140669 (4082514-02) Drinking Water (Grab) Sampled: 08/28/14 06:55 Received: 08/29/14 09:45

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			Legend Technical Services of Arizona, Inc.						
Total Metals									
Arsenic	**0.0341**	0.0010	mg/L	1	B4I0050	09/02/14 16:45	09/03/14 18:19	EPA 200.8	
Copper	**0.12**	0.01	mg/L	1	B4I0051	09/02/14 16:45	09/04/14 18:09	EPA 200.7	
Lead	**0.0108**	0.0010	mg/L	1	B4I0050	09/02/14 16:45	09/03/14 18:19	EPA 200.8	

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4I0050 - EPA 200.8										
Blank (B4I0050-BLK1)				*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	<0.0010	0.0010	mg/L							
Lead	<0.0010	0.0010	mg/L							
LCS (B4I0050-BS1)				*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0231	0.0010	mg/L	0.0250		92	85-115			
Lead	0.0241	0.0010	mg/L	0.0250		96	85-115			
LCS Dup (B4I0050-BSD1)				*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0251	0.0010	mg/L	0.0250		101	85-115	8	20	
Lead	0.0263	0.0010	mg/L	0.0250		105	85-115	9	20	
Matrix Spike (B4I0050-MS1)		**Source: 4082514-02**		*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0614	0.0010	mg/L	0.0250	0.0341	109	70-130			
Lead	0.0381	0.0010	mg/L	0.0250	0.0108	109	70-130			
Matrix Spike (B4I0050-MS2)		**Source: 4090133-08**		*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0292	0.0010	mg/L	0.0250	0.0009	113	70-130			
Lead	0.0291	0.0010	mg/L	0.0250	0.0006	114	70-130			
Matrix Spike Dup (B4I0050-MSD1)		**Source: 4082514-02**		*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0619	0.0010	mg/L	0.0250	0.0341	111	70-130	0.9	20	
Lead	0.0383	0.0010	mg/L	0.0250	0.0108	110	70-130	0.4	20	
Matrix Spike Dup (B4I0050-MSD2)		**Source: 4090133-08**		*Prepared: 09/02/14 Analyzed: 09/03/14*						
Arsenic	0.0275	0.0010	mg/L	0.0250	0.0009	106	70-130	6	20	
Lead	0.0273	0.0010	mg/L	0.0250	0.0006	107	70-130	6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4I0051 - EPA 200.7										
Blank (B4I0051-BLK1)				*Prepared: 09/02/14 Analyzed: 09/04/14*						
Copper	<0.01	0.01	mg/L							
LCS (B4I0051-BS1)				*Prepared: 09/02/14 Analyzed: 09/04/14*						
Copper	1.00	0.01	mg/L	1.00		100	85-115			
LCS Dup (B4I0051-BSD1)				*Prepared: 09/02/14 Analyzed: 09/04/14*						
Copper	1.01	0.01	mg/L	1.00		101	85-115	0.6	20	
Matrix Spike (B4I0051-MS1)		**Source: 4082514-02**		*Prepared: 09/02/14 Analyzed: 09/04/14*						
Copper	1.14	0.01	mg/L	1.00	0.12	102	70-130			
Matrix Spike Dup (B4I0051-MSD1)		**Source: 4082514-02**		*Prepared: 09/02/14 Analyzed: 09/04/14*						
Copper	1.14	0.01	mg/L	1.00	0.12	102	70-130	0.6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Water Solutions, LLC
4002 E. Taro Ln Phoenix, AZ 85050 ***(602)412-0475***
analyticalwater@gmail.com

Terry L. Moore, P.E.

July 21, 2015

Mr. Paul Huber
Tuba City Unified School Dist. #15
P.O. Box 87
Tuba City, AZ 86045

RE: Proposal For Water System
Dzil Libei Elementary School
Tuba City, Arizona

Dear Mr. Huber:

It gives us great pleasure to offer our services to furnish and install the following water processing equipment for the Dzil Libei Elementary School in Tuba City, Arizona.

Install reverse osmosis units and related equipment in the class rooms as described along with replacing the pressure tanks and reverse osmosis unit behind the kitchen:

Class Room #152 – 1- R/O Unit w/ 3 Gal Pressure Tank & Faucet
Class Room #151 – 1- 3 Gal Pressure Tank & Faucet

Class Room #150 – 1- R/O Unit w/3Gal Pressure Tank & Faucet

Class Room #146 – 1- R/O Unit w/3 Gal Pressure Tank & Faucet
Class Room #145 – 1- 3 Gal Pressure Tank & Faucet

Class Room #144 – 1-R/O Unit w/3 Gal Pressure Tank & Faucet

Work Room #138 – 1-R/O Unit w/3 Gal Pressure Tank & Faucet

Class Room #187 – 1 R/O Unit w/3 Gal Pressure Tank & Faucet

Kinder Room #158 – 1 R/O Unit w/3 Gal Pressure Tank & Faucet

Class Room #111 – 1-R/O Unit w/3 Gal Pressure Tank & Faucet
Work Room #112 – 1-3 Gal Pressure Tank & Faucet

Exam Room #118 – 1-R/O Unit w/3 Gal Pressure Tank & Faucet

Common Area #128 – 4 R/O w/ Pressure Tanks if Needed

Replace Existing pressure tanks with2 – 119 Gallon Bladder Pressure Tank Behind Kitchen

Replace Existing Reverse Osmosis Unit behind kitchen with New 2 – 4x40, 2 Membrane Reverse Osmosis , 4,000 Gallon per Day

Proposed Cost

9 - Watts Reverse Osmosis WQC4RO13, 100 Gallon per day,
Four Stage @ $611.55 ea……$5,503.95

3 - Watts WTM FAG-C Faucet W/3 Gallon Pressure Tank @ $141.28 ea…….. 423.84

2 - Watts 119 Gallon Bladder Pressure Tanks @ $1,011.40 ea……... 2,022.80

1 - Watts R4 x 40 Reverse Osmosis Unit, 4,000 Gallon per Day……. 5,569.50

1 - Lot Misc. Tubing, Pipe & Fittings……... 750.00

4 – Watts WQ4RO13 Reverse Osmosis Units @ $611.55 ea……..… 2,446.20

Plumbing to connect Drinking Fountains to R/Os……..…… 500.00

Total Equipment	$ 17,216.23
Sale Tax	1,247.47
Labor	3,640.00
Per Diem & Mileage	2,100.00
Total Cost	**$24,203.70**

Pricing subject to change pending physical inspection of school and site.

Water Fountains subject to inspection and may have to be replaced. Deduct $100.00 for each fountain if pressure tanks inside fountains are useable. Further deduction possible after site inspection. Add $982.00 plus tax and $100.00 labor for each water fountain that needs replaced (Elkay Wall Mount).

Price does not include any chlorination or disinfection . It is assumed that the water pressure to the class rooms and unit behind the kitchen is a minimum of 50 psi.

Please call should you have any questions.

Sincerely,

Maurice Lee
ANALYTICAL WATER SOLUTIONS, LLC


1
2
3
INSTRUCTION MANUAL
ROmate






FLANDERS
PRECISION AIRE

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Tucson Unified 019BRG

Background – Tucson Unified (Valencia MS – repair boiler)

Tucson Unified has submitted a Building Renewal Grant request to repair the boiler at Valencia Middle School. The tubes are leaking and are in need of replacement.

Valencia Middle School is comprised of 4 buildings constructed between 1990 and 2001, totaling 98,115 square feet.

The district received a proposal of $29,528 for the re-tubing.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Tucson Unified (Valencia MS – repair boiler)
Staff recommends that Tucson Unified be awarded $32,500 in Building Renewal Grant funding for the boiler repair at Valencia Middle School. This includes $2,972 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tucson Unified** be awarded $32,500 in Building Renewal Grant funding for the boiler repair at Valencia Middle School. This includes $2,972 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tucson_USD_019BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	BRG Application	7/23/2015	Cover Memo
TUSD_-_Valencia_Retube_Job.pdf	Re-tube Proposal	8/7/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tucson Unified**
BRG Project Number: **100201557-9999-019BRG** **Pima County**
Project Description: Repair boiler
Consultant: n/a
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 29,528**
Contingency		**$ 2,972**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 32,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 32,500**
Total Project Cost:		**$ 32,500**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 4/13/2015 12:36:53 PM **Application ID:** 1978

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tucson Unified District

Superintendent: Dr. H. T. Sanchez

Contact Person: Marcus E. Jones, R.A.

Contact Phone Number: 520-225-4882

Contact Email: marcus.jones@tusd1.org

School Site: Valencia Middle School

Buildings: 9999 School Wide

Application Title: Retubing of a Clever Brooks Boiler

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The Valencia Middle School Boiler, by the end of the heating season, had developed a considerable amount of water leakage from the inner tubes. This project would fully replace all of the inner tubes.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There are no insurance sources or other funding available for this work.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Superintendent Printed Name

Superintendent Signature Date

McCook Boiler & Pump Company

1063 E. 36th St, PO Box 26643, Tucson, AZ 85726 Phone 520-623-5788
2764 N. Green Valley Pkwy #395, Henderson, NV Phone 702-241-1690
63 East 11400 South #174, Sandy, UT 84070 Phone 801-360-2044

TO: TUSD – Valencia Middle School
ATTN: Ray Ph. 403-8320
EMAIL: raymond.stoddard@tusd1.org
DATE: 4/8/15
SUBJECT: Retubing of a Cleaver Brooks Boiler at Valencia Middle School

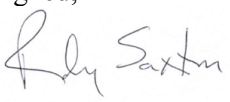
Ray,
McCook Boiler and Pump Company is pleased to offer the following Proposal for the installation of new 2" Steel Boiler Tubes into a Cleaver Brooks #CBE700-100 Boiler at TUSD - Valencia Middle School in Tucson, AZ. The scope of work and the pricing defined hereafter are to be considered part of the formal proposal document. We hereby propose to furnish all the materials and perform all the labor necessary for the completion of the following:

1. The removal of the old tubes and the clips from the Cleaver Brooks Boiler.
2. The installation of the Steel Boiler Tubes into the Boiler by rolling the new Steel Boiler Tubes into the Tube Sheets.
3. The hydrotesting of the Boiler to check for any leaks and closing up the Boiler Doors with new gaskets.
4. The testing firing of the Boiler to check for proper operation and putting the Boiler back into service.

Included in this Contract: Rentals and Freight from the Tube Supplier. The removal and disposal of the old tubes.
Exclusions: If any problems are found during this work, we will bring them to your attention. If problems are found with the tube sheets (Cracking/Warping), there will be additional charges.
Notes: This work has been quoted to be done during normal working hours.

PRICING AND PURCHASE ORDER INFORMATION:
TOTAL: $29,528.00
Payment Terms: ½ Down, Balance Due Upon Completion
Please Make PO Out To: McCook Boiler & Pump Co.
PO BOX 26643
Tucson, AZ 85726

Signed,



Randy Saxton
Sales Manager

ACCEPTED BY:

*SIGNATURE*_____
TITLE_____
DATE_____

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Tucson Unified 020BRG

Background – Tucson Unified (Palo Verde HS – repair ADA chair lift)

Tucson Unified has submitted a Building Renewal Grant request for the replacement of parts and components of an ADA chair lift that does not work and no longer complies with ADA requirements at Building 1001 at Palo Verde High Magnet School.

Palo Verde High Magnet School is comprised of 4 buildings constructed between 1961 and 1993, totaling 339,627 square feet. Building 1001 was constructed in 1961, totaling 330,943 square feet.

The district received proposals totaling $44,258 for the required work to replace the components and make the required structural changes.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Tucson Unified (Palo Verde HS – repair ADA chair lift)
Staff recommends that Tucson Unified be awarded $53,200 in Building Renewal Grant funding for the replacement of parts and components of an ADA chair lift at Building 1001 at Palo Verde High Magnet School. This includes $8,942 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tucson Unified** be awarded $53,200 in Building Renewal Grant funding for the replacement of parts and components of an ADA chair lift at Building 1001 at Palo Verde High Magnet School. This includes $8,942 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tucson_USD_020BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	BRG Application	8/2/2015	Cover Memo
PV_Chairlift_Proposal.pdf	Kittle Proposal	8/2/2015	Cover Memo
KLS_Palo_Verde_Proposal.doc	KLS Proposal	8/2/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tucson Unified**
BRG Project Number: **100201620-1001-020BRG** **Pima County**
Project Description: Repair ADA chairlift
Consultant: n/a
Contractor: Kittle

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 44,258**
Contingency		**$ 8,942**
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 53,200**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 53,200**
Total Project Cost:		**$ 53,200**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/31/2015 11:56:46 AM **Application ID:** 2149

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tucson Unified District

Superintendent: Dr. H.T. Sanchez

Contact Person: Marcus E. Jones, R.A.

Contact Phone Number: 520-225-4882

Contact Email: marcus.jones@tusd1.org

School Site: Palo Verde High Magnet School

Buildings: 1001 PALH1001

Application Title: ADA Access - Chairlift Installation

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

This project will provide ADA compliant access to the basement of Palo Verde High School.

Project Category: General Renovations

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Kennon dkennon@azsfb.gov 602-364-0538

Superintendent Printed Name

Superintendent Signature Date

KITTLE DESIGNCONSTRUCTION
BUILDING OUR COMMUNITY

2539 N. Balboa Ave., #125
Tucson, AZ 85705
Office: 520-299-0404
Fax: 520-299-0477
www.kittlearizona.com
ROC 170436

2097.00 KDC Job No.
06/24/15 Date

CHANGE ORDER 9

Project Name:
Palo Verde High School FRC
Owner: TUSD

Prepared by: Dennis Buchanan

Summary Description of Work	**Cost**
Remove and replace lift componants per structural shetch provided and State of Arizona certification requirements	
Supervision	$570
Demolition and concrete cutting	$630
Concrete for new footings	$1,480
Structural steel per sketch	$5,198
Framing and drywall	$1,700
Relocate door frame and provide a new door snf closer	$1,095
Painting	$325
Flooring	$125
Elevator installation and certification	$20,000
Electrical	$1,150
Retractable ramp.	$500

Subtotal		$32,773
Overhead	10%	$3,277
Subtotal		$36,050
Profit	5%	$1,803
Subtotal		$37,853
Tax	included	$0
Subtotal		$37,853
Bond	3.0%	$1,136
Total		**$38,988**

Authorization to Proceed:

Owner

Date

Please return this signed change order to Kittle Design and Construction, thank you.

K L S Electric Inc.
PMB# 318
9420 E. Golf Links
Tucson, AZ 85730-1335
Phone (520) 573-9104 Fax (520) 573-9227

Bid Proposal for: Palo Verde security
Date of Bid:
Time of Bid:
K L S Estimator Ken Slade

It is the intent of K L S Electric Inc. to furnish and install all: labor, tools, materials, equipment, services, and related accessories necessary for the complete installation of electrical work shown on the drawings, specifications addendum's, and requirements of Federal, State, and Local codes. Install all ¾" conduit, boxes and wire per (REVISED by TUSD Mark Smith) drawing, including (1) security panel (2) keypads (11) motion sensors.

Number of Addendum's Observed:

EXCLUSIONS:

1. Bond
2. Taxes
3. Permits
4. Cutting, Painting, Patching
5. Trench and backfill (exterior MS)
6. Plywood Backboards
7. Broken ceiling tiles
8. Programming
9. All head end termination
10.
11.
12.
13.
14.

****

Base Bid $ 5,270.00

Thank you for considering our bid.

K L S Estimator.

Ken Slade

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item c.•**

Subject:

BRG - Construction Award
Valley Union 008BRG

Background – Valley Union (Valley Union HS – HVAC replacement)

Valley Union has submitted a Building Renewal Grant request to replace the HVAC units on Building 1004 at Valley Union High School. The units have failed and need to be replaced.

Valley Union, located 104 miles southeast of Tucson, has one school. Valley Union High School is comprised of 11 buildings constructed between 1950 and 2007, totaling 59,812 square feet. Building 1004 was constructed in 1975, totaling 4,697 square feet.

The district received a proposal for professional design services at $8,500 for the assessment of the HVAC system, with the construction estimated at $30,000.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Valley Union (Valley Union HS – HVAC replacement)
Staff recommends that Valley Union be awarded $42,300 in Building Renewal Grant funding for the HVAC replacement assessment, design, and construction on Building 1004 at Valley Union High School. This includes $3,800 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Valley Union** be awarded $42,300 in Building Renewal Grant funding for the HVAC replacement assessment, design, and construction on Building 1004 at Valley Union High School. This includes $3,800 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Valley_UHSD_008BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	BRG Application	8/3/2015	Cover Memo
Assessment_of_Heating___Cooling_System_at_Jackson_Building-_Valley_Union_High-signed.pdf	Assessment, design proposal	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Valley Union**
BRG Project Number: **020522201-1004-008BRG** **Cochise County**
Project Description: HVAC replacement
Consultant: BESP
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 30,000**
Contingency		**$ 3,800**
Architecture / Engineering (A&E) Fees		$ 8,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 8,500**
Total SFB Funded Project Cost:		**$ 42,300**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 42,300**
Total Project Cost:		**$ 42,300**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 6/9/2015 1:55:29 PM **Application ID:** 2044

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Valley Union High School District

Superintendent: Ron Aguallo

Contact Person: Ron Aguallo

Contact Phone Number: 5206423492

Contact Email: ron.aguallo@vuhs.net

School Site: Valley Union High School

Buildings: 1004 CR* Building

Application Title: HVAC Jackson Building

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The A/C unit on the Jackson Bldg. has become inoperable. Also the swamp coolers are to the point beyond repair and the heating units are now more than 20 years old and becoming inefficient. The units have served the district well but are now beyond there lifetime. The district believes that this qualifies as a school facilities project due to a serious need for a/c and heating services for the academic and physical well being of our students and protection of our computer equipment. and construction to remedy the problem. Recommend removing the five a/c-heating units and replace with one large gas pack/heat pump unit capable of doing both a/c;heating,also reduces mechanical on roof from 5 units to 1.This would an expense in excess of the district's adopted budget for the current fiscal year. The seriousness threatens the functioning of the school district, protection of property and the health, welfare or safety of all VUHS staff/students. Estimated cost $25,000

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Valley Union High School District does not have the finances available to cover the cost to remedy this situation. Insurance will not cover HVAC, according to insurance the problem is due to wear/tear/age of units.

Building Renewal Grant Application

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Superintendent Printed Name

Superintendent Signature Date

BESP, LLC
138 E. La Vieve Ln
Tempe, AZ 85284
Tel: (602) 377-2679 Fax: (480) 629-5645
sameerpandey@besp.us
www.besp.us

August 2, 2015

Amy Warn
Business Manager
Valley Union High School
4088 E. Jefferson Rd.
Elfrida, AZ 85610

Ref: Assessment of Heating & Cooling System at Jackson Building-Valley Union High School

Dear Amy,

Per SFB/district's request, BESP assessed a heating/cooling system at Jackson Building on July 29, 2015. It is noted that the district has recently replaced a unit serving a computer room. The remaining two (2) classroom spaces are served by evaporative coolers and reznor heaters as indicated in the attached building layout.

Per our evaluation, heating and cooling system in the classroom spaces need to be upgraded to air-conditioning system. We estimate that each classroom space has a cooling load of three and half (3 1/2) tonnage. The existing heating supply and return air openings can be re-used. The existing electrical system may need to be upgraded.

A design and installation cost to replace the evaporative coolers at two (2) classroom spaces is estimated as following:

Scope: Replace existing evaporative coolers with air-conditioning units; connect to existing supply and return heating ductwork.

1) Design Services Fee - $8,500

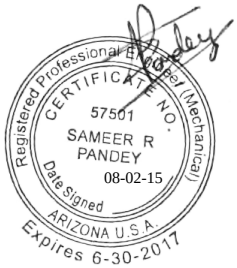
   a. Design & Documentation
      i. Design/Load calculation/Specifications for new air-conditioning units
      ii. Produce detailed mechanical & electrical drawings
      iii. Perform structural analysis by a certified structural engineer
      iv. Produce construction documents
      v. Prepare and review bid documents

   b. Construction Administration
      i. Submittal review
      ii. Site visit/meeting
      iii. Installation verification
      iv. Close-out documentation review

2) Estimated construction/installation cost - $30,000

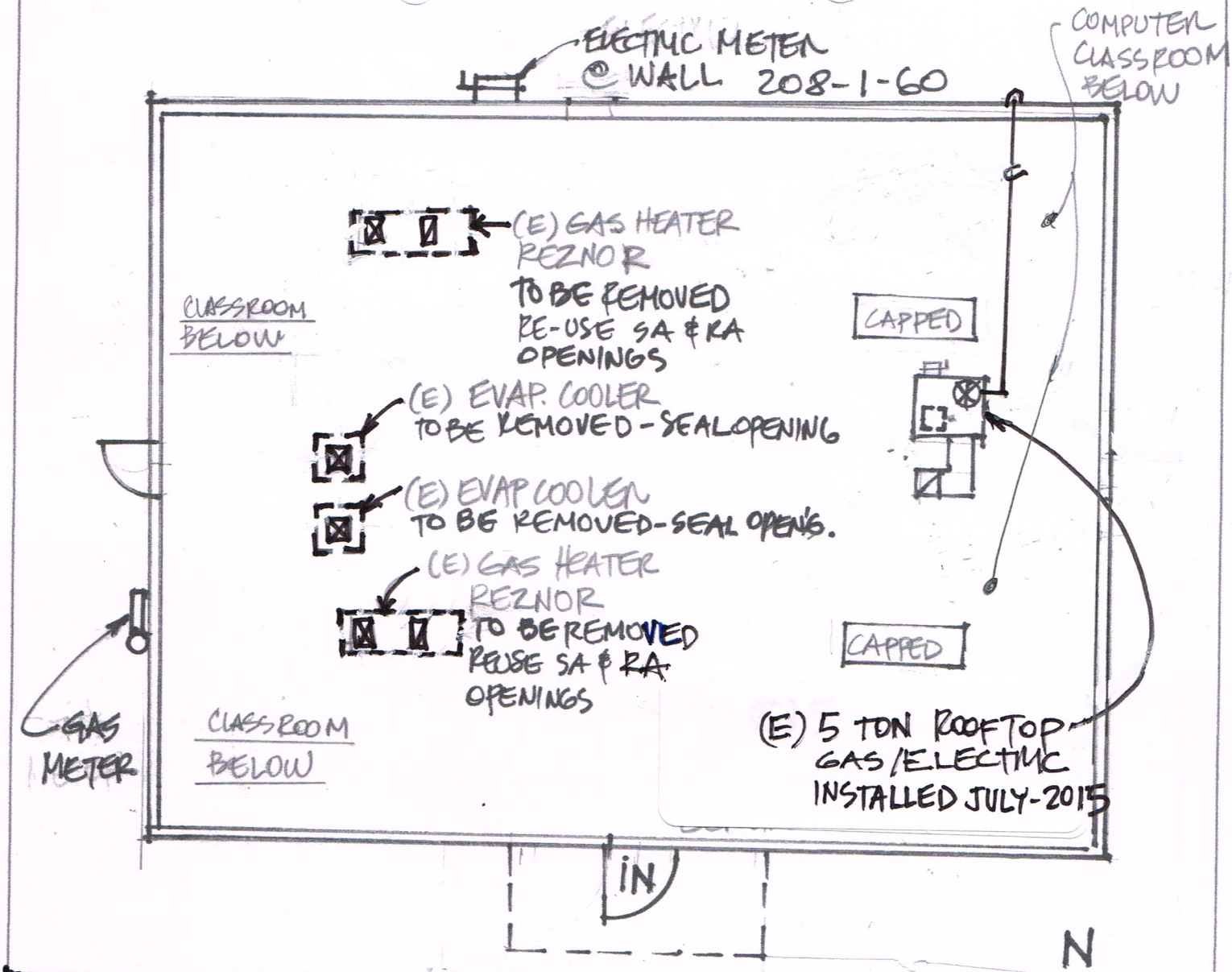
Please let us know if you have any questions or need clarifications.

Sincerely,



Sameer R Pandey PE (Mech), CEM, LEED
Principal Engineer, BESP

Attachment:
1. Existing Layout-Jackson Building: Valley Union High School



DEMO NOTES

1. EXIST. EVAP. COOLER TO BE REMOVED SEAL ROOF OPENING. CAP WATER
2. EXIST. REZNOR HEATER TO BE REMOVED. SA & RA OPENING TO BE REUSED. GAS LINES TO BE REUSED

HVAC DEMO ROOF PLAN

JACKSON BLDG.

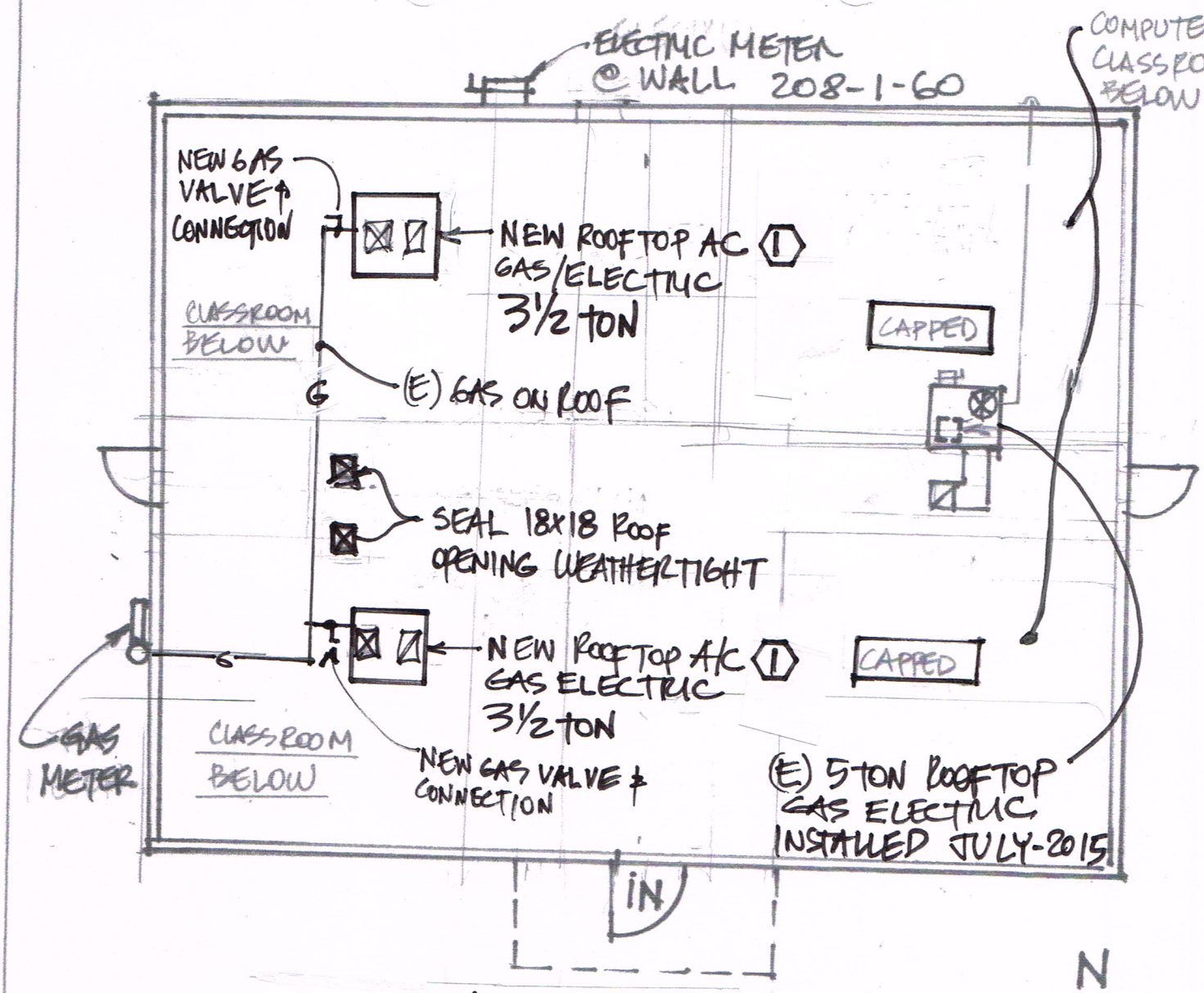
3/32" - 1'-0"

Building Energy Solutions Provider

PROJECT: VALLEY UNION HIGH SCHOOL
4088 W. JEFFERSON RD. ELFRIDA AZ

SCOPE: EVAP. COOLING TO A/C CONVERSION

DATE: 8-2-15
BY: JUAN
DWG: SK-1
PAGE: 1 OF 2



HVAC NEW ROOF PLAN

JACKSON BLDG.

3/32" – 1'-0"

NEW WORK

(1) PROVIDE AND INSTALL NEW 3½ TON ROOFTOP UNIT - 208-1-60 GAS/ELECTRIC. EQUAL TO CARRIER, TRANE, YORK, RHEEM. RECONNECT GAS, PROVIDE NEW P-TRAP & CONDESATE. VERIFY CONVERSION CURB SIZE.

Building Energy Solutions Provider

PROJECT: VALLEY UNION HIGH SCHOOL
4088 W. JEFFERSON RD. ELFRIDA AZ

SCOPE: EVAP. COOLING TO A/C CONVERSION

DATE: 8-2-15
BY: JUAN
DWG: SK-2
PAGE: 2 OF 2

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Ash Creek Elementary 006BRG

Background – Ash Creek Elementary (Ash Creek ES – correct water intrusion issues)

Ash Creek Elementary has submitted a Building Renewal Grant request for the assessment of water penetration issues on building 1001 at Ash Creek Elementary School. The Trust was contacted concerning mold in the building and has determined that the mold is a result of water penetration issues.

Ash Creek Elementary, located 200 miles southeast of Phoenix, has one school. Ash Creek Elementary School is comprised of 11 buildings constructed between 1900 and 1994, totaling 21,432 square feet. Building 1001 was constructed in 1980, totaling 660 square feet.

The district received a proposal for professional design services in the amount of $9,985 for the assessment of the water penetration issues.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Ash Creek Elementary (Ash Creek ES– correct water intrusion issues)

Staff recommends that Ash Creek Elementary be awarded $9,985 in Building Renewal Grant funding for a water penetration assessment on building 1001 at Ash Creek Elementary School.

Board Action Requested:
Board approval of the staff recommendation that **Ash Creek Elementary** be awarded $9,985 in Building Renewal Grant funding for a water penetration assessment on building 1001 at Ash Creek Elementary School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Ash_Creek_ESD_006BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_BRG.pdf	Signed BRG	8/2/2015	Cover Memo
AshCreekBldg1001_Proposal.pdf	Architect Proposal	8/2/2015	Cover Memo
Barclay_Email.pdf	Trust Email	8/2/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Ash Creek Elementary**
BRG Project Number: **020453101-1001-006BRG** Cochise County
Project Description: **Correct water intrusion issues**
Architect of Record: Robert Polcar Architects (480-675-9760)
Contractor: TBD

Board Approval Date: 8/19/15

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E) Fees		$ 9,985
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 9,985**
Total SFB Funded Project Cost:		**$ 9,985**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 9,985**
Total Project Cost:		**$ 9,985**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 6/17/2015 7:13:17 AM **Application ID:** 2051

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Ash Creek Elementary District
Superintendent:	Sue Shepard
Contact Person:	Sue Shepard
Contact Phone Number:	520-824-3340
Contact Email:	wranglerzzz@hotmail.com
School Site:	Ash Creek Elementary School
Buildings:	1001 Classroom A

Application Title: Kindergarten room

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The kindergarten room roof leaks and is causing damage inside the classroom.

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Sue Shepard
Superintendent Printed Name

Sue Shepard
Superintendent Signature

6-17-15
Date

August 3, 2015

To: Sue Shepard, Superintendent
Ash Creek Elementary School District No. 53
Ash Creek, Arizona

Re: Building Assessment Classroom No. 1001

Sue,

Thank you for giving us the opportunity to submit a proposal for design services for this project. Our understanding of the scope of work is as follows:

Scope of Project

- The campus is located in Ash Creek, Arizona and contains approximately 10 buildings.
- The far northeast building, Classroom Building No. 1001, is indicating deflection of the roof structure.
- The building interior has been inspected by The Trust and is currently being evaluated for environmental contaminants.
- Casual visual inspection indicates deterioration of the exterior finish and waterproofing system, as well as structural wood stud framing.

Scope of Services

- We will make an inspection with a team to include environmental and material testing, structural engineering and a building contractor to remove and patch back the building exterior wall finish in several locations.
- We will provide a report with recommendations, including a rough floor plan.
- If in the course of the inspections the building appears salvageable we will provide a rough construction estimate that can be taken to the School Facilities Board for project funding.

Fee

The fee for the services, as described above, including site inspection, consultant, destructive testing and final report would be as outlined below. The fee includes travel expense.

Inspection/drawing	$1,780
Structural Review	$2,400
Environmental	$3,225
Destructive Testing	$980
Report	$1,600
Total	$9,985

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096

Not included are: soils boring or tests, state, city or county permits if required, plan reviews and building permit fees if required.

Additional services such as extra on-site inspections, additional engineering beyond the scope, etc. if requested, would be $100/hr. for an architect, $110/hr. for civil and $125/hr. for structural engineer. If required as part of the additional services mileage would be billed at $0.43/mile, printing and delivery billed at cost.

We are listed as a vendor in Procure AZ as well as 1GPA (#13-95P). We are in compliance with all current State of Arizona insurance requirements.

Again, thanks for the opportunity; we look forward to working with you on this project.

Sincerely,



Bob Polcar, RA
Robert Polcar Architects, Inc.

.cc Dan Demland

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096

Dan Demland

From: Grant Barclay [grant.barclay@crs-info.com]
Sent: Tuesday, June 16, 2015 8:40 AM
To: wranglerzzz@hotmail.com
Cc: Dan Demland
Subject: Ash Creek elementary kindergarten room 1004

Mrs. Shephard,
During the visit of the kindergarten room 1004 last fall to inspect the mold growth I have determined that it is being caused by a damaged/leaking roof.

I am currently putting a schedule together to remediate the mold that was found on the South wall. We will have the interior of the South wall remediated and repaired before the beginning of school.

Thanks!

Grant Barclay
Project Manager
Comprehensive Risk Services
Grant.barclay@crs-info.com
520-661-4222

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Ash Creek Elementary 007BRG

Background – Ash Creek Elementary (Ash Creek ES – correct drainage issues)

Ash Creek Elementary has submitted a Building Renewal Grant request to correct drainage issues and on Building 1007 at Ash Creek Elementary School. Rain water comes directly off the roof and lands on newly placed concrete sidewalk (SFB funded FY2015) that will cause premature failure to the sidewalk.

Ash Creek Elementary, located 200 miles southeast of Phoenix, has one school. Ash Creek Elementary School is comprised of 11 buildings constructed between 1900 and 1994, totaling 21,432 square feet. Building 1001 was constructed in 1980, totaling 660 square feet.

The district received a proposal for professional design services in the amount of $2,960.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Ash Creek Elementary (Ash Creek ES - correct drainage issues)
Staff recommends that Ash Creek Elementary be awarded $2,960 in Building Renewal Grant funding to design and correct the drainage on Building 1007 at Ash Creek Elementary School.

Board Action Requested:
Board approval of the staff recommendation that **Ash Creek Elementary** be awarded $2,960 in Building Renewal Grant funding to design and correct the drainage on Building 1007 at Ash Creek Elementary School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Ash_Creek_ESD_007BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_BRG.pdf	Signed BRG Application	8/2/2015	Cover Memo
AshCreekGutters_Proposal.pdf	Architect Proposal	8/2/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Ash Creek Elementary**
BRG Project Number: **020453101-1007-007BRG** Cochise County
Project Description: **Correct drainage issues**
Architect of Record: Robert Polcar Architects (480-675-9760)
Contractor: TBD

Board Approval Date: 8/19/15

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E) Fees		$ 2,960
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 2,960**
Total SFB Funded Project Cost:		**$ 2,960**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 2,960**
Total Project Cost:		**$ 2,960**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date: 7/29/2015 8:37:55 AM **Application ID:** 2146

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Ash Creek Elementary District
Superintendent:	Sue Shepard
Contact Person:	Sue Shepard
Contact Phone Number:	520-824-3340
Contact Email:	wranglerzzz@hotmail.com
School Site:	Ash Creek Elementary School
Buildings:	1007 Office

Application Title: Gutter

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Need to install a gutter on the main office building

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Sue Shepard
Superintendent Printed Name

Sue Shepard 7-29-15
Superintendent Signature Date

07/29/2015 09:19 5208243410 Ash Creek Elementary #3983 P.001/001

August 3, 2015

To: Sue Shepard, Superintendent
Ash Creek Elementary School District No. 53
Ash Creek, Arizona

Re: Design Services to install Office Building gutter and correct drainage

Sue,

Thank you for giving us the opportunity to submit a proposal for design services for this project. Our understanding of the scope of work is as follows:

Scope of Project

- The campus is located in Ash Creek, Arizona and contains approximately 10 buildings.
- We have recently completed a project to replace the sidewalks throughout the campus.
- During the course of the sidewalk replacement work it became apparent the Office Building lacks adequate roof and site drainage and that this contributes to the deterioration of the adjacent sidewalks.

Scope of Services

- We will provide a design to install a new gutter and downspout system for the Office Building, as well as indicate on a plan a method for channeling the rainwater away from the building.
- We will assist in bidding the project and selecting a contractor.
- We will provide construction administration services, make a site inspection during construction and review and approve contractor pay requests.

Fee

The fee for architectural services, as described above, including site inspection, construction drawings and construction administration would be as outlined below. The fee includes travel expense.

Initial Inspection	$980
Site Sketch/Details	$800
Bidding	$200
Construction Admin	$980
Total	$2,960

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096

Not included are: environmental testing, state, city or county permits if required, plan reviews and building permit fees if required.

Additional services such as extra on-site inspections, additional engineering beyond the scope, etc. if requested, would be $100/hr. for an architect, $110/hr. for civil and $125/hr. for structural engineer. If required as part of the additional services mileage would be billed at $0.43/mile, printing and delivery billed at cost.

We are listed as a vendor in Procure AZ as well as 1GPA (#13-95P). We are in compliance with all current State of Arizona insurance requirements.

Again, thanks for the opportunity; we look forward to working with you on this project.

Sincerely,



Bob Polcar, RA
Robert Polcar Architects, Inc.

.cc Dan Demland

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Lake Havasu Unified 030BRG
Background – Lake Havasu Unified (Starline ES – roof replacement)
Lake Havasu Unified has submitted a Building Renewal Grant request for professional services to investigate and report on the condition of the existing built-up roofs on all buildings at Starline Elementary School.

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Starline Elementary School is comprised of five buildings built between 1974 and 1981, totaling 51,255 square feet.

The roof membrane is failing. The district's architect has submitted a proposal to assess the roof at $2,500.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Starline ES – roof replacement)
Staff recommends that Lake Havasu Unified be awarded $2,500 in Building Renewal Grant funding to investigate and report on the condition of the existing built-up roofs on all buildings at Starline Elementary School.

Board Action Requested:
Board approval of the staff recommendation that **Lake Havasu Unified** be awarded $2,500 in Building Renewal Grant funding to investigate and report on the condition of the existing built-up roofs on all buildings at Starline Elementary School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_030BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-730141423-0001.pdf	documents	7/30/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201104-9999-030BRG** Mohave County
Project Description: **Roof replacement**
Architect of Record: EMC2
Contractor: TBD

Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency ①		**$ -**
Architecture / Engineering (A&E)		$ 2,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 2,500**
Total SFB Funded Project Cost:		**$ 2,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 2,500**
Total Project Cost:		**$ 2,500**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

School Facilities Board **BUILDING RENEWAL GRANT**

SFB BR 900-08 **Project Application Form**

Building Renewal Grant Application

Initial Submission Date:

Resubmittal Date:

Application ID: 2123

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az.us

School Site: Starline Elementary School

Buildings: 9999 School Wide

Application Title: Starline roof replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Starline roof membrane replacement. (see attached) This quote does not address asbestos or lead testing.

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance to cover this project

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise Minor

Superintendent Printed Name

Denise J. Minor

Superintendent Signature

7-23-15

Date

Emc2
Architects ▪ Planners, PC
Learning Places & Growing Spaces

Emc2 GROUP ARCHITECTS PLANNERS, PC
1635 North Greenfield Road
Suite 144
Mesa, AZ 85205

P 480 830 3838
F 480 830 3860
T 800 372 6849

www.emc2architects.com

July 15, 2015

Lake Havasu Unified School District #1
2200 Havasupai BLVD
Lake Havasu City, AZ 86403

RE: Starline Roof Membrane Replacement

Emc2 is pleased to offer this proposal for architectural and engineering services on the above noted project. Emc2 brings 30 plus years of experience in planning, design and renovation of educational projects throughout Arizona. We have assembled a design team with the expertise and skills required to assist in designing and permitting your facility.

Project Understanding:

We understand that the proposed scope of this project to include survey and assessment of the built-up roof at Starline Elementary as noted below. The intent of the project is to review the installation and document the condition of these systems based on physical observation and input from facility staff. After the survey a report will be issued along with a scope document to establish a fee for the engineering design and construction administration services to replace the roof system on Starline Elementary.

Preliminary selection of replacement shall be performed as necessary for the purpose of estimating probable construction costs. We further understand that this will be an SFB funded project using Building Renewal Grants.

Scope of Work:

Our services for this project will consist of the following. Services not indicated below are considered outside of our basic scope and will be provided upon request as an additional service.

General:

1. One site investigation including travel with necessary engineering staff to observe the systems associated with this project. Investigation is limited to accessible areas only. Roof will need to be cored to analyze existing condition.
2. Meetings are not anticipated as part of the review. Communications will be part of the site investigation, by e-mail or telephone.
3. All mechanical equipment will need to be removed and replaced in order to accomplish the necessary roof flashings.

Architectural:

1. Survey the condition of the existing roof, and all existing roof penetrations.

Structural:

1. Survey the condition of the existing roof mounted air conditioning equipment and other roof mounted items and determine if the existing supports will carry the new proposed loads based on the new roof products that will meet current SFB Requirements.

Mechanical:

1. Survey the condition of the existing roof mounted air conditioning units.

Plumbing:

1. Survey of plumbing systems is not included in this proposal.

Electrical:

1. Survey electrical and controls for air conditioning units.

Fee:

Our basic professional design services fee for the work outlined above will be a lump sum fee as follows:

Report and Scope Preparation: $2,500.00

All work will be procured through the 1GPA Cooperative Purchasing Agreement, contract Number 1GPA - #12-18. All fees associated with the purchasing agreement will be paid by Emc2. All work shall be billed monthly based on the percentage of completion.

Additional Services:
Additional services will be performed at our standard 2015 billing rates as follows:

1. Architect	$145.00
2. Project Manager	$110.00
3. Senior Engineer	$165.00
4. Engineer	$140.00
5. CADD Operator	$ 85.00
6. Estimator	$110.00
7. Secretary/Clerical	$ 55.00
8. Outside Services	Cost plus 10%

We will begin immediately upon receipt of a signed contract or purchase order. Emc2 is prepared to meet your schedule requirements.

Please feel free to call if there are any comments or concerns regarding our proposal. I would be happy to discuss this proposal further.

Sincerely,

Emc2 GROUP Architects Planners, PC

Richard J. Clutter, AIA
President

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Lake Havasu Unified 031BRG

Background – Lake Havasu Unified (Lake Havasu HS – exterior reseal)
Lake Havasu Unified has submitted a Building Renewal Grant request for professional services for the investigation of the exterior surfaces and possible leaks into the buildings at Lake Havasu High School.

Lake Havasu Unified, located 185 miles northwest of Phoenix, has ten schools. Lake Havasu High School is comprised of ten buildings constructecd between 1969 and 2003, totaling 272,074 square feet.

The buildings are experiencing water intrusion issues. The district's architect submitted a proposal for the investigation at $2,500.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Lake Havasu Unified (Lake Havasu HS – exterior reseal)
Staff recommends that Lake Havasu Unified be awarded $2,500 in Building Renewal Grant funding for the investigation of the exterior surfaces and possible leaks into the buildings at Lake Havasu High School.

Board Action Requested:
Board approval of the staff recommendation that **Lake Havasu Unified** be awarded $2,500 in Building Renewal Grant funding for the investigation of the exterior surfaces and possible leaks into the buildings at Lake Havasu High School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Lake_Havasu_USD_031BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-812105047-0001.pdf	backups	8/12/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Lake Havasu Unified**
Project Number: **080201207-9999-031BRG** Mohave County
Project Description: **Exterior reseal**
Architect of Record: EMC2
Contractor: TBD

Board Approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency ①		**$ -**
Architecture / Engineering (A&E)		$ 2,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection (structural and geo-tech)		$ -
Total Additional Cost:		**$ 2,500**
Total SFB Funded Project Cost:		**$ 2,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 2,500**
Total Project Cost:		**$ 2,500**

① Contingency may only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Building Renewal Grant Application

Initial Submission Date:

Application ID: 2125

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Lake Havasu Unified District

Superintendent: Denise Minor

Contact Person: John Simpson

Contact Phone Number: 928-208-6457

Contact Email: jsimpson@havasu.k12.az,us

School Site: Lake Havasu High School

Buildings: 9999 School Wide

Application Title: High School Building Painting Project

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Lake Havasu High School Weatherization Project (See Attached) This quote does not address asbestos or lead testing.

Project Category: Surfaces

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is no insurance to cover this project

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Denise Miner

Superintendent Printed Name

Denise L. Miner

Superintendent Signature

7-23-15

Date

Emc2
Architects ■ Planners, PC

Learning Places & Growing Spaces

Emc2 GROUP ARCHITECTS PLANNERS, PC
1635 North Greenfield Road
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Mesa, AZ 85205

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T 800 372 6849

www.emc2architects.com

July 30, 2015

Missy Wood
Director, Business Services
Lake Havasu Unified School District #1
2200 Havasupai BLVD
Lake Havasu City, AZ 86403

RE: Lake Havasu High School Weatherization project

Dear Missy,

Following please find our assessment for application of an Arizona School Facilities Board Building Renewal Grant to weather proof exterior wall surfaces at the High School.

Exterior Wall Assessments:

The Lake Havasu High School includes 10 buildings with the original building built in 1969 and the latest being the Media Center Expansion in 2003. The original exterior wall systems are CMU with a full body stain at lower elevations and prefinished metal wall panels above. Exterior CMU walls were recently tested utilizing a Relim Tube Test. Wall areas tested failed to prevent moisture infiltration. The standard manufacturer's warranty for masonry waterproofing repellants and stains is 5 years. This places the wall system outside of the warranty period.

There is no preventive maintenance procedure for waterproofing and stains other than re-coating walls on a routine basis as the systems begin weather and performing routine caulking of joints. Coatings oxidize and degrade due to ultra-violet exposure over time.

Cost of Neglect:

Without the recommended re-coating the leakage and moisture infiltration will intensify as the existing coating continues to age and deteriorate. As leaking increases, consequential damage will occur to wall insulation, drywall and fixtures mounted to exterior walls.

Additional risk exists with indoor air quality due to mold growth, dry rot and rusting of metal components.

Scope of Work:

Our services for this project will consist of the following. Services not indicated below are considered outside of our basic scope and will be provided upon request as an additional service.

General:

1. One site investigation including travel with necessary staff to observe current conditions and preform Relim Tube Test at various locations of the high school exterior walls
2. Meetings are not anticipated as part of the review. Communications will be part of the site investigation, by e-mail or telephone.

Architectural:

1. Survey the condition of the walls and wall coatings.

Fee:

Our basic professional design services fee for the work outlined above will be a lump sum fee as follows:

Report and Scope Preparation: $2,500.00

All work will be procured through the 1GPA Cooperative Purchasing Agreement, contract Number 1GPA - #12-18. All fees associated with the purchasing agreement will be paid by Emc2. All work shall be billed monthly based on the percentage of completion.

Additional Services:

Additional services will be performed at our standard 2015 billing rates as follows:

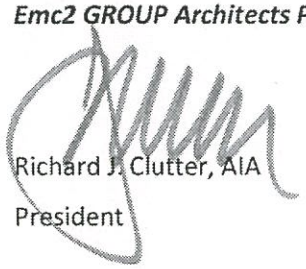
1.	Architect	$145.00
2.	Project Manager	$110.00
3.	Senior Engineer	$165.00
4.	Engineer	$140.00
5.	CADD Operator	$ 85.00
6.	Estimator	$110.00
7.	Secretary/Clerical	$ 55.00
8.	Outside Services	Cost plus 10%

We will begin immediately upon receipt of a signed contract or purchase order. Emc2 is prepared to meet your schedule requirements.

Please feel free to call if there are any comments or concerns regarding our proposal. I would be happy to discuss this proposal further.

Sincerely,

Emc2 GROUP Architects Planners, PC



Richard J. Clutter, AIA

President

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Prescott Unified 005BRG

Background – Prescott Unified (Granite Mountain ES – column repairs)

Prescott Unified has submitted a Building Renewal Grant request to repair the steel columns supporting the main entrance ramp to Building 1003 at Granite Mountain Middle School.

Prescott Unified, located 100 miles north of Phoenix, has nine schools. Granite Mountain Elementary School is comprised of six buildings constructed in 1976, totaling 93,516 square feet. Building 1003 totals 46,435 square feet.

The district has received a proposal from their architect for the bid and construction administration services in the amount of $2,400.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Prescott Unified (Granite Mountain ES – column repairs)
Staff recommends that Prescott Unified be awarded $2,400 in Building Renewal Grant funding for the architectural services needed for the repairs to the steel columns in Building 1003 at Granite Mountain Elementary School.

Board Action Requested:
Board approval of the staff recommendation that **Prescott Unified** be awarded $2,400 in Building Renewal Grant funding for the architectural services needed for the repairs to the steel columns in Building 1003 at Granite Mountain Elementary School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Prescott_USD_005BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
img-729145711-0001.pdf	Documents	7/29/2015	Backup Material

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Prescott Unified**
BRG Project Number: **130201060-1003-005BRG** **Yavapai County**
Project Description: **Column repairs**
Consultant: Michael Taylor Architects
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E) Fees		$ 2,400
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 2,400**
Total SFB Funded Project Cost:		**$ 2,400**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 2,400**
Total Project Cost:		**$ 2,400**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 7/15/2015 8:20:34 Am **Application ID:** 2039
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Prescott Unified District
Superintendent: Joe Howard
Contact Person: Shawn Vastine
Contact Phone Number: 928-237-0644
Contact Email: shawn.vastine@prescottschools.com
School Site: Granite Mountain Middle School
Buildings:

Application Title: Column Repair 9999 School Wide

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The Columns supporting the main entrance ramp to the cafeteria were repaired several years ago, but are now once again a safety issue and possibly failing.

Project Category: General Renovations

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Not covered by the Trust

Liaison: Breuer gbreuer@azsfb.gov 602-542-6139

Joseph W. Howard
Superintendent Printed Name

Superintendent Signature 7/7/15
Date

Michael Taylor Architects, Inc.

July 28, 2015

Mr. Shawn Vastine, Director of Facilities
Prescott Unified School District
146 South Granite Street
Prescott, Arizona 86303

Mr. Vastine,

Thank you for the opportunity to present this letter of proposal for architectural services. Taylor Architects is fully staffed to provide high-level services on this project in a timely manner and we look forward to continuing to work with you. Below you will find a brief description of the project as we understand it, a description of the services we will provide and a fee structure for those services.

LETTER OF PROPOSAL FOR ARCHITECTURAL SERVICES

PROJECT:

This project includes remedial work to structural concrete columns at Granite Mountain Middle School.

SERVICES:

Services for this Project include the following:

Bidding Phase Services-
During bidding the Architect will assist you in distributing bidding documents to qualified General Contractors for preparation of bids.

We will respond to questions with written addenda and will schedule a formal bid opening.

Following the bid opening, the Architect will assist you in evaluating the bids to determine if they are complete and responsive and will assist in reviewing the presented data and checking references if necessary. We will also assist in the preparation of a contract for construction with the selected General Contractor.

Construction Phase Services-
During construction, the Architect will periodically visit the site to determine if the project is being constructed in accordance with the Construction Documents.

The Architect will review Applications for Payment for progress billings from the Contractor and will authorize those applications as appropriate.

Upon completion of the Project, the Architect will do a final review with the Owner and the Contractor to assemble a "punch list" of items requiring attention prior to final completion.

Services not included as a part of this proposal include the following:

1. Off site improvements design including utility main extensions
2. Topographic or boundary surveys
3. Geotechnical soils investigation
4. Structural Engineering services
5. Site or Civil engineering services
6. Town and ADEQ certifications
7. Municipal fees
8. Fire suppression system design
9. Interior Design services

Additional services may be added at your discretion.

FEES:

For the above listed services we propose a fixed fee of: **$2,400.00**

Expenses such as printing, plotting and mailings would be billed additionally at cost plus twenty percent (20%). There would be no expense billing for travel. Billings will be monthly for the work completed during the previous month and invoices unpaid after fifteen days will bear interest at two percent (2%) per month. A retainer is not requested prior to commencing the work. This proposal assumes the architect's liability is limited as stated below.

LIMIT OF LIABILITY STATEMENT: **In recognition of the relative risks and benefits of the project to both the client and the architect, the risks have been allocated such that the client agrees, to the fullest extent permitted by law, to limit the liability of the architect to the client for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes, including attorney's fees and costs and expert witness fees and costs, so the that total aggregate liability of the architect to the client shall not exceed the architect's total fee for services rendered on this project. It is intended that this limitations apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.**

If the terms of this agreement are acceptable, please sign below indicating your acceptance. Upon receipt of a signed copy of this letter and the requested retainer we will schedule the work. We look forward to the opportunity to work with you and appreciate your confidence in Taylor Architects. If you have any additional questions about the project or this proposal, please feel free to contact me.

Respectfully submitted,

MT 7.29.15

Michael Taylor, AIA — Date
Michael Taylor Architects, Inc

Agreed,

For Prescott Unified School District — Date

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Sahuarita Unified 002BRG

Background – Sahuarita Unified (Sahuarita MS – cafeteria soffit repairs)

Sahuarita Unified has submitted a Building Renewal Grant request for the repair of the cafeteria soffit on Building 1003 at Sahuarita Middle School. The Arizona Trust has completed an inspection and identified the soffit as a fall hazard.

Sahuarita Unified, located 138 miles southeast of Phoenix, has eight schools. Sahuarita Middle School is comprised of seven buildings constructed between 1965 and 2000, totaling 94,137 square feet. The cafeteria Building 1003 was constructed in 1972, totaling 28,257 square feet.

During a regular visit from the Trust, it was noted that the cafeteria soffit had begun to fall and their Engineer did an assessment The Engineer determined that the soffit is failing and is need of repairs. The district has a proposal of $16,600 for design and assessment services to correct the soffit failure.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Sahuarita Unified (Sahuarita MS – cafeteria soffit repairs)
Staff recommends that Sahuarita Unified be awarded $16,600 in Building Renewal Grant funding for the design and repairs of the soffit on Building 1003 at Sahuarita Middle School.

Board Action Requested:
Board approval of the staff recommendation that Sahuarita Unified be awarded $16,600 in Building Renewal Grant funding for the design and repairs of the soffit on Building 1003 at Sahuarita Middle School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Sahuarita_USD_002BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Building_Renewal_Grant-Form_Cent_Cafe.pdf	Signeed BRG	7/23/2015	Cover Memo
Claim_No._2014001269T_-_Sahuarita_M.S._-_Cafeteria_Bldg._-_Report.pdf	Trust Report	7/22/2015	Cover Memo
20150721131245.pdf	Architect Proposal	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Sahuarita Unified**
BRG Project Number: **100230103-1003-002BRG** **Pima County**
Project Description: **Cafeteria soffit repair**
Consultant: Swaim and Associate
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E) Fees		$ 16,600
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 16,600**
Total SFB Funded Project Cost:		**$ 16,600**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 16,600**
Total Project Cost:		**$ 16,600**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 6/4/2015 11:08:19 AM Application ID: 2040

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name:	Sahuarita Unified District
Superintendent:	Dr. Manuel Valenzuela
Contact Person:	George Emerson
Contact Phone Number:	520-981-7894
Contact Email:	gemerson@sahuarita.net
School Site:	Sahuarita Middle School
Buildings:	1003 C

Application Title: Centeral Cafeteria

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The Central cafeteria exterior walkway ceiling are falling and needs to be repaired. This building servers as the main cafeteria to three schools SMS, SIS, and SPS. This is an unsafe condition and needs to be addressed. Please

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Attached is the letter from the TRUST our insurance company.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Dr. Manuel Valenzuela
Superintendent Printed Name

Manuel G. Valenzuela
Superintendent Signature

7-23-15
Date

GERVASIO & ASSOC., INC.
CONSULTING ENGINEERS
77 EAST THOMAS ROAD, SUITE 120
PHOENIX, ARIZONA 85012
(602) 285-1720 • (602) 285-1530 (FAX)

May 5, 2015

Mrs. Sue Zittel **via Email: szittel@the-trust.org**
ARIZONA SCHOOL RISK RETENTION TRUST, INC.
333 East Osborn Road
Suite 300
Phoenix, AZ 85012

RE: SAHUARITA MIDDLE SCHOOL - CAFETERIA BUILDING
350 West Sahuarita Road, Sahuarita, Arizona
FAILING CEILING INVESTIGATION
Trust Claim No. 2014001269T
G&A Job No. 8012.4 F

Dear Mrs. Zittel:

In accordance with your request, we have completed our investigation of the failing exterior walkway ceiling of the Cafeteria Building at the above referenced location. The following letter report presents our findings, conclusions and recommendations, and includes:

Appendix A: Field Notes & Photo Location Plan
Appendix B: G&A Structural Calculations Dated 05/01/15
Appendix C: G&A Conceptual Repair Sketch

During our investigation by Marlene Betani, P.E., of Gervasio & Assoc., Inc. (G&A) on April 6, 2015, we took thirty-five (35) digital photographs. A digital copy of the photographs has been provided.

Our assignment was limited to determining the cause of the failing exterior walkway ceiling.

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

The Cafeteria Building is an approximately 108 ft. x 143 ft. one-story structure constructed circa 1973. The roof framing system is plywood over TJL-type open web joists with wood top and bottom chords and hollow steel tube webs. The joists are spaced at 4 ft. on center and have 2-2x6 top chord extensions on the east and west sides of the building that cantilever past the exterior walls to form a covered walkway. The roof has a ridge along the center in the north-south direction and is roofed with a built-up type roofing with a sprayed-on white coating. The roof joists are supported by steel beams and columns and the exterior walls are non-bearing light gage metal studs.

In early February 2015, the ceiling of the overhang above the walkway dropped as much as 2 in. along the west side of the building and it was shored to prevent it from collapsing. While on site, we requested that additional shoring be placed under the ceiling near the southwest corner of the building where there was a noticeable sag in the fascia. The ceiling is composed of 3/4 in. thick lath and plaster fastened to 2x4 ceiling joists spaced at 24 in. on center. The ceiling joists are connected to the fascia framing which is constructed of a metal fascia panel over plywood connected to 2x4 vertical studs spaced at 4 ft. on center. The vertical studs are connected to a continuous 2x4 flat-wise which is nailed to the underside of the 2-2x6 joist top chord extensions with 4 - 16d box nails in withdrawal. At joints in the 2x4 flat, only 2 - 16d box nails are effective in carrying the ceiling and fascia loads. See the Field Notes in Appendix A for a sketch of the overhang construction.

There are water stains on the fascia plywood and some of the 2x wood members, but no signs of wood fungal decay were visible. The water appears to have entered the walkway ceiling space through a gap between the top of the plywood fascia panel and the exterior roof edge flashing. This gap can only occur where the nails in withdrawal at the bottom of the joist top chord extension have already started to slip (Photos A19 & A22). This means that the nails started to slip some time ago.

We also looked inside the walkway ceiling on the east side of the building where the construction is the same as the area that failed. There is a small gap, approximately 1/8 in. wide, between the members connected by nails in withdrawal but no signs of water intrusion or separation of the fascia and the roof edge flashing (Photos A32 & A33).

The north and south sides of the building also have an overhang. The building drawings show the fascia in direct contact with the top and bottom chords of a parallel roof truss along the edge of the roof. It is highly likely that the fascia and ceiling framing is connected with nails loaded laterally. A laterally loaded connection has fasteners that are loaded in shear whereas nails in withdrawal are in tension. Laterally loaded nails are capable of supporting much higher loads than those in withdrawal and they are significantly less affected by wood shrinkage. Thus, the north and south overhangs are not at a similar risk of failure as the east and west sides.

We performed calculations to determine if the nails in withdrawal are overloaded by the weight of the ceiling and fascia. Because the joist top chord extensions were built as part of the prefabricated wood joists, it is highly likely that the wood was kiln dried to approximately 15% or less moisture content and therefore, not subject to moisture content reductions required by the National Design Specification for Wood Construction (NDS). Our calculations show that the nails in withdrawal were <u>not</u> overstressed based on NDS requirements (See Appendix B).

We conclude that the walkway ceiling has failed due to nails pulling out in withdrawal. The water staining was not the cause, but the result of the nails slipping. Installing nails in withdrawal is not good wood construction practice and is a predictable failure. Experienced engineers and contractors avoid using this

type of connection. While the NDS provides allowable load values for nails in withdrawal, we do not recommend this type of connection regardless of how lightly loaded. In the arid southwest, the equilibrium moisture content of wood is approximately 6-7%. Even kiln dried wood with 15% moisture content can lose moisture and the wood fibers around the nails can shrink and loosen their grip on the nails. Since this building was constructed approximately 42 years ago, the moisture content of the wood has reached equilibrium in that time.

We recommend that the walkway overhang ceiling framing on both the east and the west sides of the building be repaired by adding a vertical strap at each of the joist top chord extensions as shown in our conceptual repair sketch in Appendix C. The sketch is intended for cost estimating purposes only. The conceptual repair uses connections that rely on nails that are laterally loaded rather than in withdrawal.

This letter is based on the facts and evidence known to us as of this date and may be amended if new facts and/or evidence are presented or discovered.

We appreciate the opportunity to provide this service and welcome any questions.

Sincerely,

GERVASIO & ASSOC., INC.



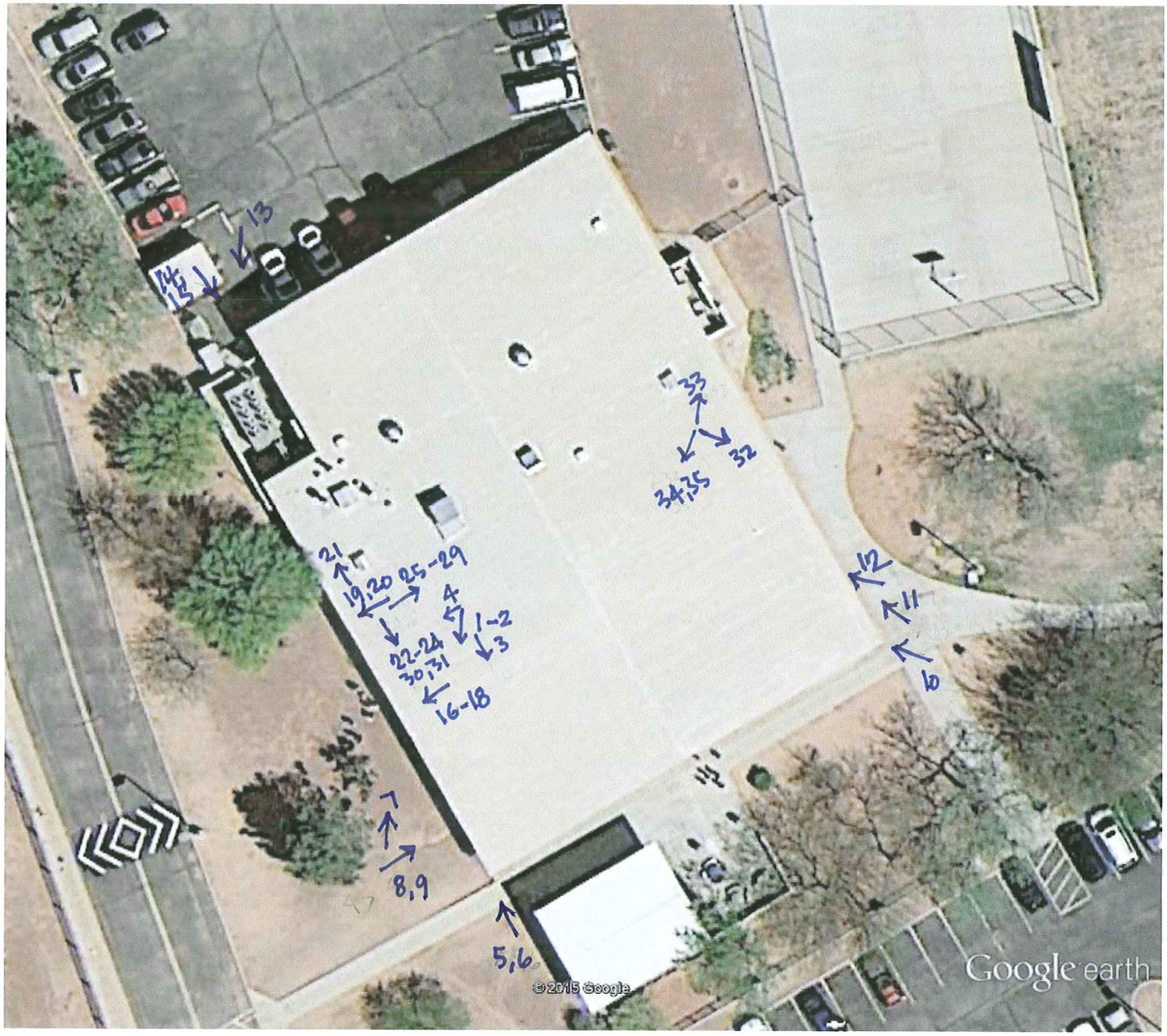
Marlene Betani, P.E.
Forensic Structural Engineer

MB:rz

Enclosures

APPENDIX A

FIELD NOTES & PHOTO LOCATION PLAN



Google earth

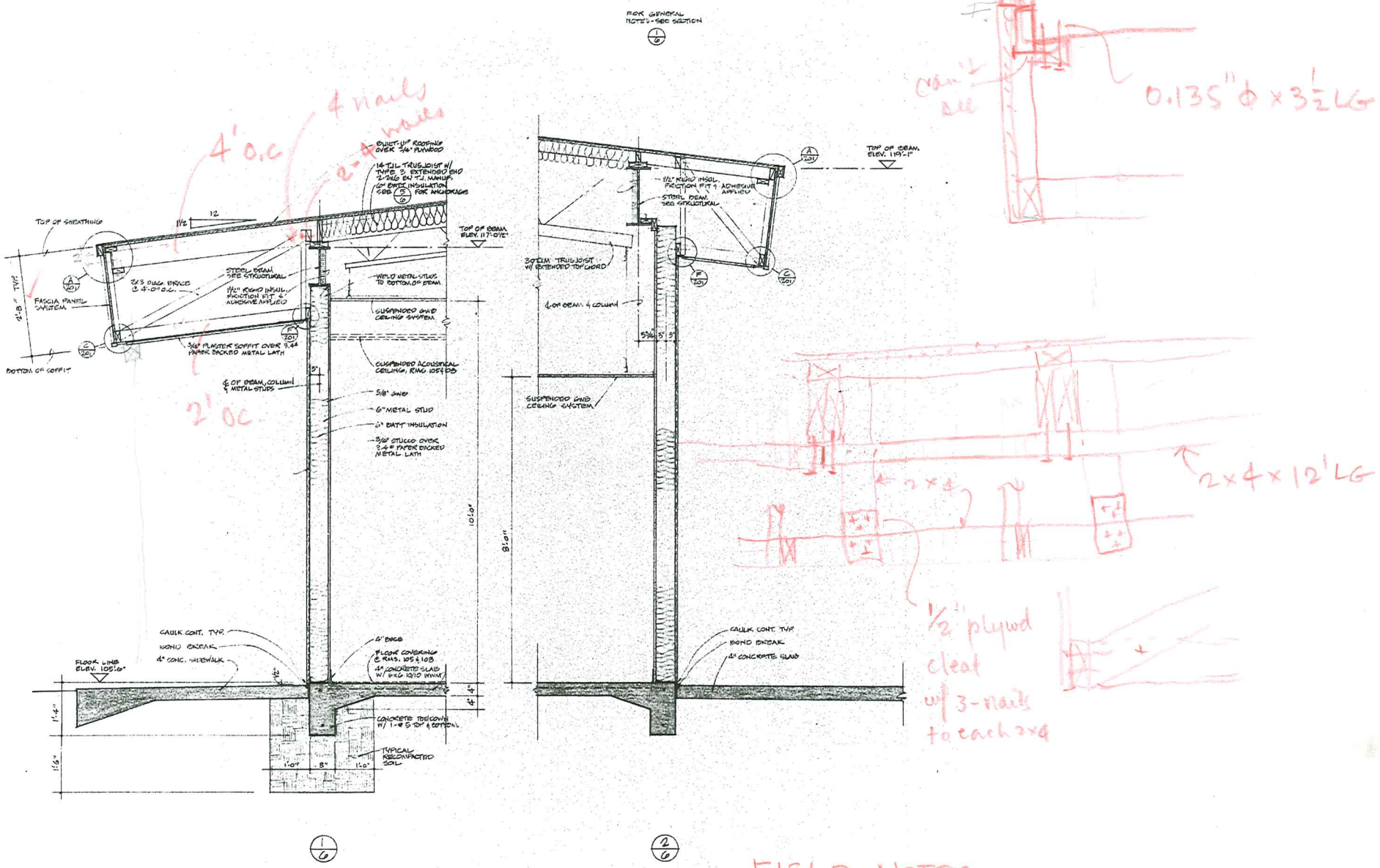
feet 100
meters 40

Sahuarita Middle School
Cafeteria Building

350 W. Sahuarita Rd., Sahuarita, AZ

Photo Location Plan

G&A Job No. 8012.4
Photo Set A
Taken 4/6/15
by MB



1/6 2/6

FIELD NOTES
4/6/15 by MB

JOB NO. M 7772

APPENDIX B

G&A STRUCTURAL CALCULATIONS
DATED 05/01/15

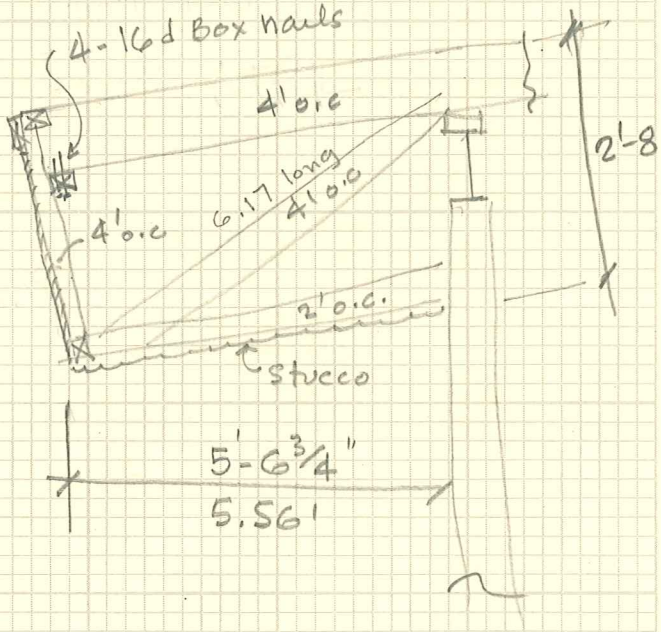
GERVASIO & ASSOC. INC.
CONSULTING ENGINEERS
(602) 285-1720 • 77 East Thomas Road, Suite 120
PHOENIX, ARIZONA 85012-3115

Date 4/15 Job No. 8012.4
By MB Sheet No. 1

Find Load on Nails in Withdrawal at Joist top chord extension

Connections are at 4'-00.c.

2x4@24 ceiling :	0.8psf x 4x2.78 =	8.9
stucco ceiling :	10psf x 4x2.78 =	111.2
2x4 brace at 4' :	1.28plf x 6.17/2 =	3.9
2-2x4 cont	: 2x 1.28 x 4 =	10.2
1-2x4 vert	1.28 x 2.67 =	3.4
½" plywood at fascia	1.5x2.67x4 =	16.0
fascia panel	1.0x2.67x4 =	10.7
misc		0.7
		65#



Nails are 0.135"ϕ x 3½" long = 16d Box nail

Table 11.2C NDS

W = 32 #/in into side grain of main member

$W' = C_D \times C_M \times 32\,\#/in = 0.9 \times 32\,\#/in \times (3.5" - 1.5") \times 1.0 = 57.6\,\#$

Dead Load Cm ← Wood is part of prefab joist - most likely kiln dried lumber.

At splice in horiz cont 2x4 below Joist top chord extension,

2 nails support the load

$T_a = 2 \times 57.6\,\# = 115.2\,\# > 65\,\#$ ok

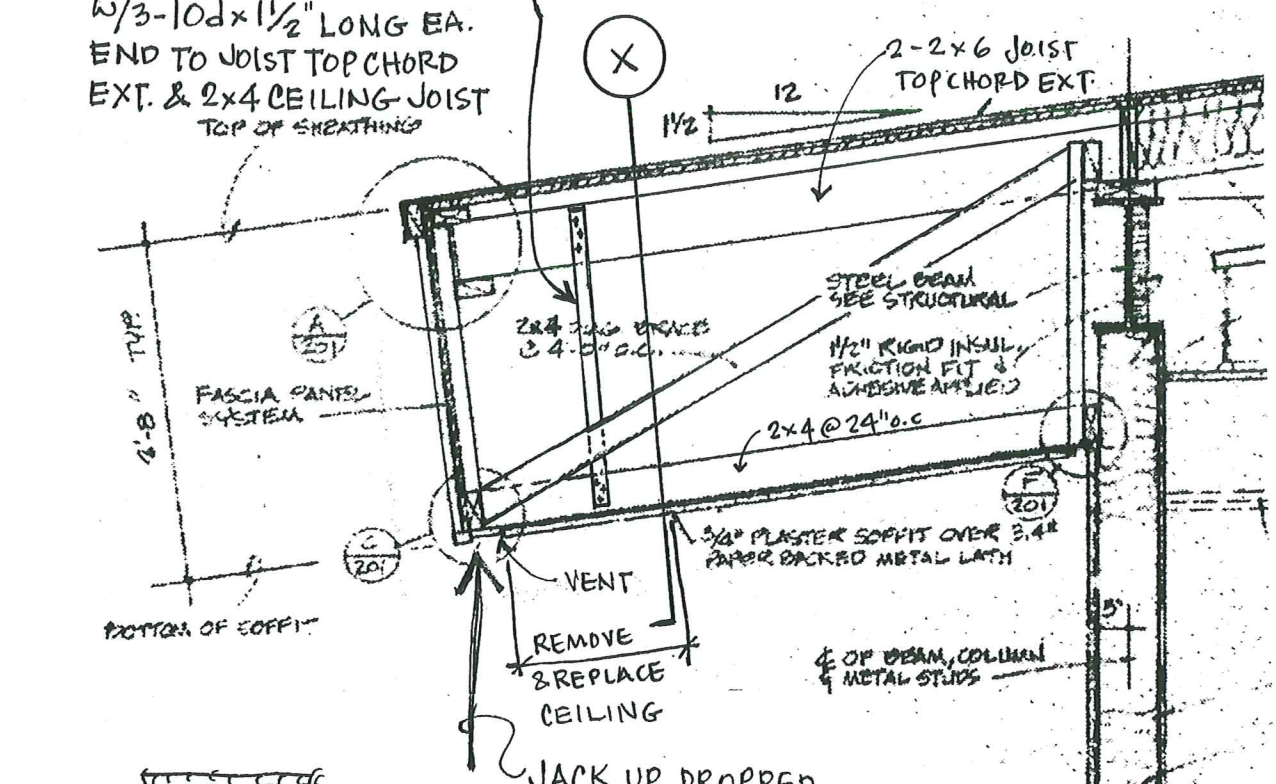
Registered Professional Engineer (Structural) CERTIFICATE NO. 20389 MARLENE BETANI Date Signed 5/1/15 ARIZONA, U.S.A. Expires 06/30/2015

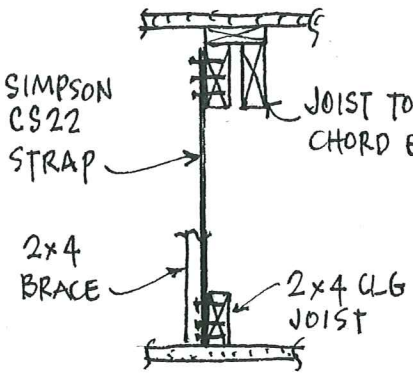
Marlene Betani

APPENDIX C

G&A CONCEPTUAL REPAIR SKETCH

PROJECT





X SECTION

1 WALKWAY CEILING SECTION

EAST & WEST SIDES OF THE CAFETERIA BUILDING

GERVASIO & ASSOC., INC.
CONSULTING ENGINEERS
77 East Thomas Road, Suite 120
Phoenix, Arizona 85012
602-285-1720 FAX 602-285-1530

SAHUARITA MIDDLE SCH.
350 W. SAHUARITA ROAD
SAHUARITA, ARIZONA

CONCEPTUAL NOT FOR CONSTRUCTION

Job No.	8012.4
Date	5.1.15
By	MB
Sheet No.	SS-1

This drawing is an instrument of service. It is the property of GERVASIO & ASSOC., INC., and may not be reproduced or reproduction hereof used without permission.

swaim
ASSOCIATES LTD
ARCHITECTS AIA

July 21, 2015

George Emerson
Facilities Director
Sahaurita Unified School District
350 W Sahuarita Road
Sahaurita, AZ 85629

RE: Fee Proposal for Sahaurita Middle School Soffit Repairs

Dear George:

I respectfully submit the following fee for your consideration. The scope of work includes:

- Assessment of recommended approach
- Construction drawings for bidding
- Monitor bidding process
- Perform construction meetings
- Evaluate Payment Applications
- Perform a punch list

Assessment Through Construction	
Swaim Associates	$ 9,000.00
Schneider	3,500.00
M3 Engineering	3,000.00
Print Bid Sets (Allowance)	1,000.00
Total Assessment Through Construction	**$16,500.00**

Please call to discuss this proposal if you have any questions. Thank you for the opportunity to provide these services.

Sincerely,

MB

Mark Bollard, AIA

7350 E SPEEDWAY 210
TUCSON, ARIZONA 85710
(520) 326-3700 FAX 326-1148

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Toltec Elementary 004BRG
Background – Toltec Elementary (Arizona City ES - repair music ceiling)
Toltec Elementary has submitted a Building Renewal Grant request for repair of the ceiling in the music classroom Building 1002 at Arizona City Elementary School. It appears that the ceiling is over-stressed and has partially collapsed.

Toltec Elementary, located 65 miles southeast of Phoenix, has two schools. Arizona City Elementary School is comprised of two buildings constructed in 2002 and 2013, totaling 89,399 square feet. Building 1002 was built in 2013, totalin 21,899 square feet.

The music classroom ceiling has been over-stressed due to the “cloud” and lights that have been attached to it. The extra weight is causing the "cloud" to sag and droop. The attachment of the lights and “cloud” must be redesigned to correct current collapse and prevent further failure.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation - Toltec Elementary (Arizona City ES - repair music ceiling)
Staff recommends that Toltec Elementary be awarded $1,500 in Building Renewal Grant funding for professional services for the design of the repair of the ceiling in the music classroom Building 1002 at Arizona City Elementary School.

Board Action Requested:
Board approval of the staff recommendation that **Toltec Elementary** be awarded $1,500 in Building Renewal Grant funding for professional services for the design of the repair of the ceiling in the music classroom Building 1002 at Arizona City Elementary School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Toltec_ESD_004BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
DistrictFundingRequest.pdf	BRG Application	8/4/2015	Cover Memo
Arizona_City_Elem._School_-_Report.pdf	Trust Forensic Report	8/4/2015	Cover Memo
Toltec-lights_fee_proposal.pdf	Architect Proposal	8/4/2015	Cover Memo
Toltec_Clg_Pics.docx	Ref Pictures	8/4/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Toltec Elementary**
BRG Project Number: **110422102-1002-004BRG** Pinal County
Project Description: **Repair music ceiling**
Architect of Record: Robert Polcar Architects, Inc.
Contractor: TBD

Board approval: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ -**
Contingency		**$ -**
Architecture / Engineering		$ 1,500
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		
Total Additional Cost:		**$ 1,500**
Total SFB Funded Project Cost:		**$ 1,500**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 1,500**
Total Project Cost:		**$ 1,500**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 12/8/2014 8:25:13 AM **Application ID:** 1707

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Toltec School District

Superintendent: Bryan McCleney

Contact Person: Hector Longoria

Contact Phone Number: 520-709-8763

Contact Email: hlogoria@toltecsd.org

School Site: Arizona City Elementary (formerly Toltec Elementary School)

Buildings: 1001 Elementary

Application Title: Music room ceiling

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The music room ceiling has begun to fall apart and has started coming down. Appears the weight is to great for the supports.

Project Category: Surfaces

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There was no event that would cause insurance coverage

Liaison: Demland ddemland@azsfb.gov 602-542-6567

Superintendent Printed Name

Superintendent Signature Date

GERVASIO & ASSOC., INC.
CONSULTING ENGINEERS
77 EAST THOMAS ROAD, SUITE 120
PHOENIX, ARIZONA 85012
(602) 285-1720 • (602) 285-1530 (FAX)

January 20, 2015

Mr. Jeff Van Handel
TOLTEC SCHOOL DISTRICT
3315 North Toltec Road
Eloy, AZ 85131

RE: ARIZONA CITY ELEMENTARY SCHOOL
12115 Benito Drive, Arizona City, Arizona
CEILING FAILURE INVESTIGATION
G&A Job No. 4219.1 F

Dear Mr. Van Handel:

In accordance with your request, we have performed a limited investigation of the failing ceiling in the two (2) Music Rooms at the above referenced location. The following letter report presents our findings, conclusions and recommendations, and includes:

Appendix A: Field Notes & Photo Location Plans

We are also enclosing one (1) copy of thirty (30) digital photos taken during our January 9, 2015 site visit by Marlene Betani, P.E., of Gervasio & Assoc., Inc. (G&A) and one (1) CD of the photographs.

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

The school building is a one-story structure constructed circa 2002. At the Music Rooms, the roof is supported by open web steel joists. The joists span in the east/west direction over the Music Rooms. The base ceiling is constructed of gypsum wallboard that is attached to hat channels spaced at approximately 16 in. on center which are wired directly to the bottom chord of the joists (Photos A16 & A17). To improve the sound characteristics of the room, 4 ft. x 4 ft. x 1 inch thick texture faced fiberglass insulation board was attached to the gypsum board ceiling. The fiberglass board edges were attached to 1 x 4 wood strips that were screwed to the gypsum board (Photos A29 & A30). These wood strips were located approximately 3 in. from the metal furring strip. A decorative wood strip was attached over the fiberglass board joints to hide them from view. The light fixtures were attached to the decorative wood strips (Photos A19 & A25-A28).

The part of the ceiling system that is failing is the attachment of the 1x4 wood strips to the gypsum board. The wood strips are screwed to the gypsum board with a combination of course and fine threaded screws (Photos A2 & A3). The weight of the fiberglass board, wood strips, and light fixtures apply a tension load on the screws. The screws are ineffective when loaded in tension, so over time, the combined weight of the fiberglass board, wood strips, and ceiling fixtures caused the screws to slip and pull through the gypsum board.

We examined the ceiling plane at eye level and view the top of the roof above the Music Rooms (Photos A23, A24, A29 & A30). The planes of the roof and gypsum wallboard ceiling are flat and even without sags, dips, excessive deflection, or other signs of distress.

We conclude that the roof structure and gypsum wallboard ceiling are not a part of the ceiling failure. The failure is due to inadequate attachment of the acoustical fiberglass panels.

We recommend that the 1x4 wood strips above the fiberglass panels be secured to the gypsum wall board with 3/16 inch diameter toggle bolt anchors at 16 in. maximum on center. The gypsum wallboard should be anchored to the hat channel closest to the wood strip with #6 Type 'S' HiLo buglehead self-drilling, self-tapping steel screws at 8 in. maximum on center.

This letter is based on the facts and evidence known to us as of this date and may be amended if new facts and/or evidence are presented or discovered.

We appreciate the opportunity to provide this service and welcome any questions.

Sincerely,

GERVASIO & ASSOC., INC.



Marlene Betani, P.E.
Forensic Structural Engineer

MB:blm

Enclosures

APPENDIX A

FIELD NOTES &
PHOTO LOCATION PLANS

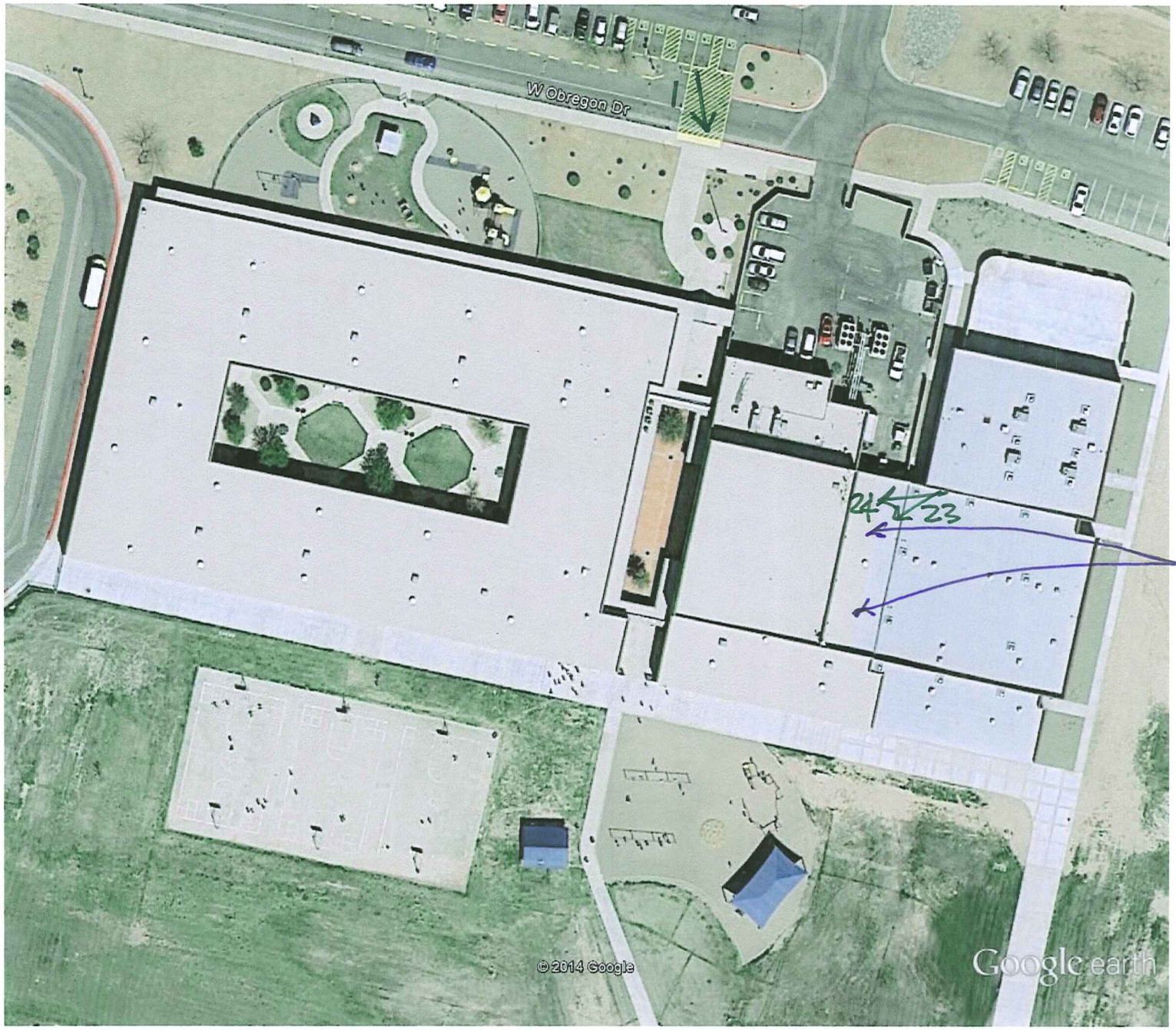


Photo Set A
Taken 1/9/15
by MB

Google earth

feet 500
meters 100

North

4219.1
Sheet No. 1

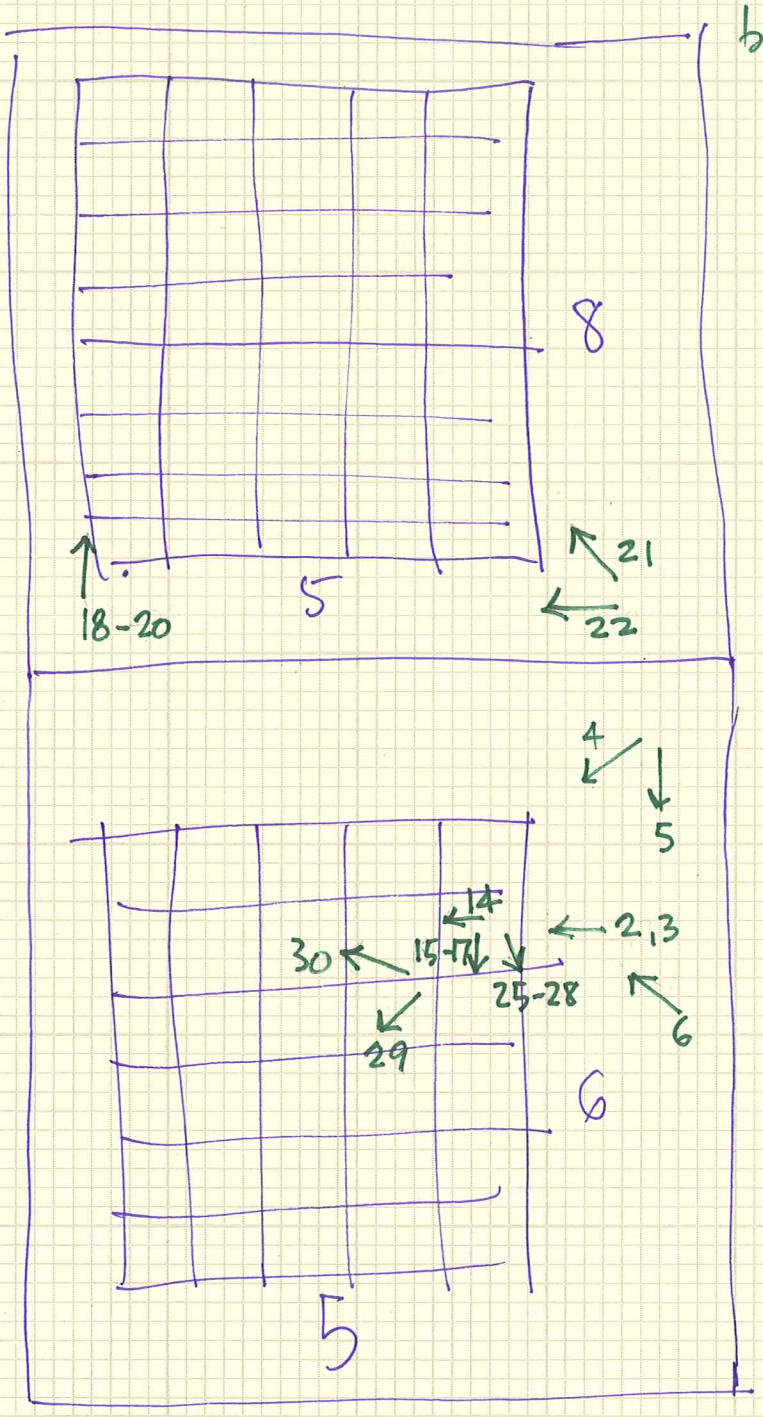
Photo Locations & Field Notes 1/9/15 by MB

GERVASIO & ASSOC. INC.
CONSULTING ENGINEERS
(602) 285-1720 • 77 East Thomas Road, Suite 120
PHOENIX, ARIZONA 85012-3115

Date 1/9/15 Job No. 4219.1

By MB Sheet No. 2

Photo Set A
Taken 1/9/15
by MB



Roof Area ~
30 x 95

Music Rooms
Photo Location Plan

January 26, 2015

To: Hector Longoria
Toltec School District
hlongoria@toltecsd.org

Re: Design Services for Lighting Grid Support
Arizona City Elementary School

Hector,

Thank you for giving us the opportunity to submit a proposal for design services for this project. Our understanding of the scope of work is as follows:

Scope of Project

- There are two classrooms in which an indirect lighting system was installed, suspended from the gypsum board ceiling. Also installed to the underside of the ceiling were sound deadening boards held in place with wood batten strips.
- The light fixtures were fastened to the wood batten strips, which in turn are fastened to the gypsum board, not to any structural element. The weight of the light fixtures are pulling down the batten strips and putting stress on the wiring at the electrical junction boxes.
- Facilities have had to install temporary posts to support the battens and lights. The rooms are currently unusable.

Scope of Services

- Verify existing conditions as they pertain to the lights and battens.
- Provide details as necessary to reattach the sound board and batten system as well as to secure the light fixtures and wiring.
- We will provide an estimated cost for the construction work.
- A structural evaluation of the building is not included.
- Construction Administration services are not included.

Fee

The fee for architectural services, as described above, including on-site inspection and estimated cost would be $1,500. The fee includes travel expenses.

Not included are: state, city or county permits if required, plan reviews and building permit fees if required, asbestos or mold testing, destructive testing.

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096

Additional services include extra on-site inspections, construction bidding or construction administration services. Additional engineering beyond the scope, etc. if requested, would be $75/hr. for an architect, $110/hr. for electrical and mechanical engineer and $125/hr. for civil and structural engineer. If required as part of the additional services mileage would be billed at the current state rate, printing and delivery billed at cost.

We are listed as a vendor in Procure AZ as well as 1GPA (#13-103). We are in compliance with all current State of Arizona insurance requirements.

Again, thanks for the opportunity; we look forward to working with you on this project.

Sincerely,



Bob Polcar, RA
Robert Polcar Architects, Inc.

.cc Dan Demland

ROBERT POLCAR ARCHITECTS, INC
ARCHITECTURE • PLANNING • INTERIORS
4226 N. 84th Place, Scottsdale, Arizona 85251
p| 480.675.9760 c| 602.363.4096









STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item d.•**

Subject:

BRG - Design Award
Tucson Unified 018BRG

Background – Tucson Unified (Miller ES – roof replacement)

Tucson Unified has submitted a Building Renewal Grant request to replace the roof on Building 1001 at Miller Elementary School. The roof has failed and is in need of replacement.

Miller Elementary School is comprised of 5 buildings constructed between 1962 and 1992, totaling 44,952 square feet. Building 1001 was built in 1981, totaling 39,792 square feet.

The district has had the roof assessed and received a proposal of $14,229 for the professional design services and an estimated construction cost of $255,900.

Criteria for Eligibility
Pursuant to A.R.S. §15-2032, Building Renewal Grant Funds are only available to correct primary building renewal projects.

The district meets this criteria including doing preventative maintenance.

Staff Recommendation – Tucson Unified (Miller ES – roof replacement)
Staff recommends that Tucson Unified be awarded $272,829 in Building Renewal Grant funding for the professional design services and estimated construction cost to replace the roof at Building 1001 at Miller Elementary School. This includes $2,700 in contingency that may only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tucson Unified** be awarded $272,829 in Building Renewal Grant funding for the professional design services and estimated construction cost to replace the roof at Building 1001 at Miller Elementary School. This includes $2,700 in contingency that may only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tucson_USD_018BRG_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
SFB_BRG_App_#_831_Miller_Roof.pdf	Signed BRG Application	7/24/2015	Cover Memo
15-02-09MilMarcusJones.pdf	Architect Proposal	7/24/2015	Cover Memo
15-02-09_FINAL_Miller_Roofing_Observation.pdf	Roof Assessment	7/24/2015	Cover Memo

SCHOOL FACILITIES BOARD **BUILDING RENEWAL GRANT**

Detail of Additional Cost and Contingency
_X_ Building Renewal Grant Fund

District: **Tucson Unified**
BRG Project Number: **100201308-1001-018BRG** **Pima County**
Project Description: Roof replacement
Consultant: Herzog Associates
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ 255,900**
Contingency		**$ 2,700**
Architecture / Engineering (A&E) Fees		$ 14,229
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 14,229**
Total SFB Funded Project Cost:		**$ 272,829**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 272,829**
Total Project Cost:		**$ 272,829**

Contingency shall only be used with SFB staff approval.

Building Renewal Grant Application

Initial Submission Date: 5/23/2014 3:33:47 PM **Application ID:** 831

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tucson Unified District

Superintendent: Dr. H. T. Sanchez

Contact Person: Marcus E. Jones, R.A.

Contact Phone Number: 520-225-4882

Contact Email: marcus.jones@tusd1.org

School Site: Miller Elementary School

Buildings: 1001 MILE1001

Application Title: Miller Elementary Roof Replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

The existing roof at Miller Elementary Roof has reached the end of its useful life and needs to be replaced. The majority of the roof area is covered with shingles with several built-up roof areas including the kitchen/cafeteria area. This roof is considered the District's most critical roof replacement need. The severe rain experienced this Fall proved this to be a urgent problem. The District has the roof inspection and has obtained a quote for replacement based on the report generated from the inspection.

Project Category: Roofing

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

There is not insurance coverage that can address this critical need.

Liaison: Demland ddemland@azsfb.gov 602-542-6567

DR. H. T. SANCHEZ

Superintendent Printed Name

Building Renewal Grant Application

Marcus E. Jones FOR DR. H.T. SANCHEZ 6.6.14

Superintendent Signature Date

HERZOG
ASSOCIATES, PLLC
ARCHITECTURE
PLANNING\DESIGN

Steven P. Herzog, AIA, LEED-AP

February 9, 2015

Mr. Marcus Jones, R.A.
Director, Architecture and Engineering
Engineering and Planning Services
Tucson Unified School District
2025 East Winsett Street
Tucson, AZ 85719

RE: RE-ROOFING
Miller Elementary School
6951 S. Camino da la Tierra. Tucson, Arizona 85746

Dear Marcus:

Please consider this revised proposal for professional Architectural services associated with the re-roofing of Miller Elementary School. This proposal includes the entire roof (both shingled and built-up sections).

This proposal includes construction drawings and specifications for re-roofing (including tear-off) and contract administration.

We assume TUSD would like to replace the roofing with an "Architectural" shingle similar to the existing and the flat decks with a 4-ply built up roof / granular cap sheet, new copings and flashings. There is no way of knowing the condition of the underlying wood deck until such time that the existing shingles are removed and the replacement of damaged areas may be required. Our estimate of probable construction cost is $255,900.00.

Our fee for the above services is as follows:

2.	Construction Documents:	
	2.1 Drawings & Specifications:	$ 7,367.00
	Sub Total:	**$ 7,367.00**
3.	Construction Administration:	
	3.1 Bidding Assistance:	$ 1,344.00
	3.2 Administration:	$ 3,928.00
	3.3 Site Visits:	
	Pre-Final	$ 795.00
	Final	$ 795.00
	Sub Total:	**$ 6,862.00**

Total:	**$ 14,229.00**

If you have any questions, please call.

Sincerely,



Steven P. Herzog, AIA, LEED-AP

ROOFING OBSERVATION

MILLER ELEMENTARY SCHOOL

6951 S. Camino De La Tierra
Tucson, Arizona 85746

TUCSON UNIFIED SCHOOL DISTRICT

Engineering and Planning Services

2025 N. Winsett Street

Tucson, Arizona 85719

January 2015

HERZOG
ASSOCIATES, PLLC
ARCHITECTURE
PLANNING\DESIGN
2975 N. COUNTRY CLUB RD.
TUCSON, AZ 85716.1911
TELEPHONE: 520.325.5847
www.herzogassociates.com

\ TABLE OF CONTENTS

1. BACKGROUND
2. EXISTING CONDITIONS
3. RECOMMENDTIONS
4. ROOF PLAN/PHOTOS
5. ESTIMATED PROBABLE COST

I.

Herzog Associates, pllc was retained to perform a visual inspection of the asphalt composition shingle roof areas at Miller Elementary School. Our review included the main building only, not include any of the accessory structures on campus. The inspection did not include any destructive analysis.

Background:

Constructed in 1980, Miller Elementary School roof design consists of a combination of sloped areas of asphalt composition shingles draining to a perimeter gutter system relieved by leaders and downspouts as well as flat areas of roofing (4-ply and TPO) which drain through roof drains. Overflow is provided by parapet canales onto the asphalt shingles. The height of the overflow canales is in most cases more then 4 inches above the drain. The approximate shingled area is 43,622 square feet. The shingles are mechanically attached to a wood deck. Slope appears to be greater than 3:12. The age of the existing shingles is not known. The attic area is ventilated through “box” vents located within the lower portion of the slope. Ridge venting is not provided. Evidence of previous repair is evident in numerous areas of the roof.

There are ten separate sections of flat roof deck (as noted on the plan). While section “D” is a new single ply membrane the other areas are either covered with a granular cap sheet or an emulsion coating. The approximate area of the flat roof decks is 6,757 square feet. Records indicate repair to sections “A”, “B”, “C”, and “E” in 2013. Leaks were reported by office staff below sections “C” and “J” and stained ceiling panels and damaged gypsum soffits were observed.



Aerial

Shingles:

The existing three tab asphalt shingles are weather worn and losing their granules which have accumulated in the drainage gutters. The general condition of the surface is poor. Shingles are cracked and are missing tabs (photos 10 & 36). Areas of shingles (south and east exposure) show surface cracks and failure most likely do to wind damage (photo 31). Fasteners have loosened and worked their way through to the surface of the shingles in many areas. This is most readily observable at the metal flashings and the ridge shingles (photo 14 & 56).

The heavy surface deterioration of the shingles exposes the underlying asphalt composition to increased UV exposure which leads to accelerated deterioration of the asphalt through oxidation. The shingles become brittle and lose their ability to retain the granules. As such the shingles are easily damaged by wind and rain. Shingled decks in this condition can allow moisture to reach the wood deck substrate. Seasonal cycles can, over time cause the deck to rot. Determining the condition of the existing decking was beyond the scope of this report.

The shingles are near the end of their life expectancy and should no longer be depended upon to provide weather protection.



Photo 10



Photo 36



Photo 31



Photo 14



Photo 56

Flashings:

Parapet flashing have had surface fasteners applied to secure the counter flashing from uplift. The fasteners are backing out exposing the penetration to the weather (photo 6). The caulking at the surface applied reglets is old and brittle. Shrinkage along the bead has recessed below the level of the reglet which will allow water to accumulate (photo 12). In one area the counter flashing has slipped along the rake flashing exposing it to the weather and damaging the gutter below (photo 5 & 7). The sealant at the roof “box” ventilators is also brittle and cracking.



Photo 6



Photo 12



Photo 5



Photo 7

Gutters and Downspouts:

The shingled roof areas drain to an aluminum gutter system integral to the fascia. The gutters are connected to a series of leaders and downspouts. The downspouts within the center court are connected to a storm drain system while the perimeter downspouts drain onto the sidewalks. With the exception of the accumulated aggregate from the asphalt composition shingles the gutters were clean (photo 17). Gutter seams appear lose in areas and water staining can be seen along some of the soffits and classroom interiors. TUSD staff reported leaks in the Records Room, the Health Office, Classrooms #3, 4, 6, 7 and 17 as well as the Multipurpose Room (photos 72, 73). The gutters have sustained damage in places, leaders are not connected to downspouts and two leaders are missing. Evidence of repair at some of the leaders is visible (photo 69).



Photo 17



Photo 69



Photo 72



Photo 73

Flat Roof Decks:

The age of the flat roof decks could not be determined. With the exception of area “D” the decks are in various stages of serviceability. Repairs are numerous; several sections have been re-coated, base flashings re-sealed and copings patched in an effort to limit water infiltration. All areas of flat deck lack perimeter cant strips at the parapet walls placing stress on the base flashings. And crickets are not installed on the up hill side of any of the equipment curbs.

Area A:

The granular cap sheet appears to be in serviceable condition; however, cracks where observed in the base flashings and repairs evident at the parapet corners and roof drains (photo 77 &78).



Photo 77



Photo 78

Area B:

The deck and parapet coping were recently coated with emulsion. Standing water was observed at the base of the crickets leading to the roof drains (photo 79 & 80).



Photo 79



Photo 80

Area C:

Deck and parapet coping were recently coated with emulsion. Longitudinal splits were observed in two places (photo 81). Crickets are not installed on the up hill side of the equipment curbs (photo 83).



Photo 81

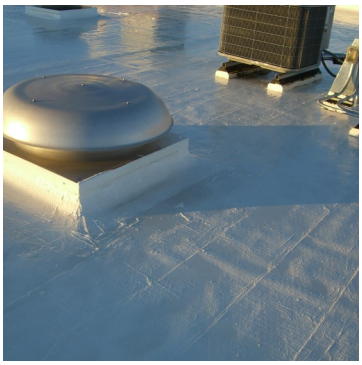


Photo 83

Area D:

New single ply roofing (TPO) in serviceable condition. Standing water observed at the base of the roof drain. (photo 84)



Photo 84

Area E:

Deck and parapet coping were recently coated with emulsion.



Photo 86

Areas F, G, H:

The granular cap sheet appears to be in serviceable condition; however cracks were observed in the base flashings and numerous repair efforts are evident in parapet corners. The lack of a perimeter cant strip puts stress on the base flashing creating a potential point of failure.



Photo 89-F



Photo 92-G



Photo 94-H



Photo 95-H

Area I:

The emulsion coating is failing along the shingle line (see photo 43). Extensive soffit damage noted below (see photo 67). This section of roofing requires replacement with re-shingling.



Photo 43



Photo 67

Area J:

This section is no longer in serviceable condition and should be replaced with re-shingling. The intersection of the masonry parapet, its base flashing and the tie into the shingles shows signs of numerous repair attempts (photo 48). Staff reports leaks in the office area below.



Photo 48

III.

Recommendations:

Shingles:

Based on field observation the asphalt composite shingles have exceeded their life expectancy and should be replaced. Due to the poor condition of the shingles we would recommend a complete tear-off of the existing shingles and underlayment down to the existing wood deck. The existing deck should be examined for integrity and signs of dry rot. Any questionable areas of decking should be replaced prior to re-roofing.

All surface applied reglets, flashings and couter flashings should be replaced and flashings and counter flashings provided where missing. All lead jacks, vent, valley and step flashings should be replaced. Cap flashings where they contact the shingled roof areas will require replacement as well.

The two small sections of flat roofing on the west side of the building will require replacement when re-shingling occurs.

The gutter system should have all joints, seams and laps re-sealed with special attention paid to the points where the leaders penetrate the gutter. New leaders should be provided where missing and the existing joints and laps re-sealed. The aluminum fascia and soffit should be repaired and straightened. Water damaged areas of the gypsum board soffit should be replaced.

As the original design only allowed for attic ventilation, the possibility of installing a continuous ridge vent would need to be discussed with a qualified Structural Engineer. Cutting back the ply-wood deck to provide free ventilation area at the ridge may compromise the seismic diaphragm of the existing deck. The addition of blocking may be required to comply with the panel edge nailing requirements.

With a complete “tear-off” of the existing shingle roofing system an increase in the overall dead load is not anticipated.

Flat Roof Decks:

The flat roof decks (with the exception of area “D”) have reached the end of their serviceable life and should no longer be depended upon for weather protection. While continued maintenance may extend the life of areas “A”, “F”, “G”, and “H”, it is not possible without sampling to determine the condition of the underlying deck and we recommend replacement at the same time as re-shingling to avoid any further deterioration of the substrate. The existing areas of built-up roofing should be removed entirely and the existing wood deck examined for integrity and signs of dry rot. Any questionable areas of decking should be replaced prior to re-roofing. All mechanical units, exhaust fans and roof top equipment will have to be removed for the proper flashing of the equipment curbs. The existing copings are not suitable for re-use and should be replaced.

Probable Cost:

Estimated probable construction cost for the re-roofing including a complete tear-off, 30 year “Architectural” shingles on a high temperature self adhered base sheet, a 3 ply built-up roof with a granular cap sheet (4-ply total), new copings, flashings and minor repair work to the fascia and gutter system is $255,900.00.

See detailed estimate for further information.

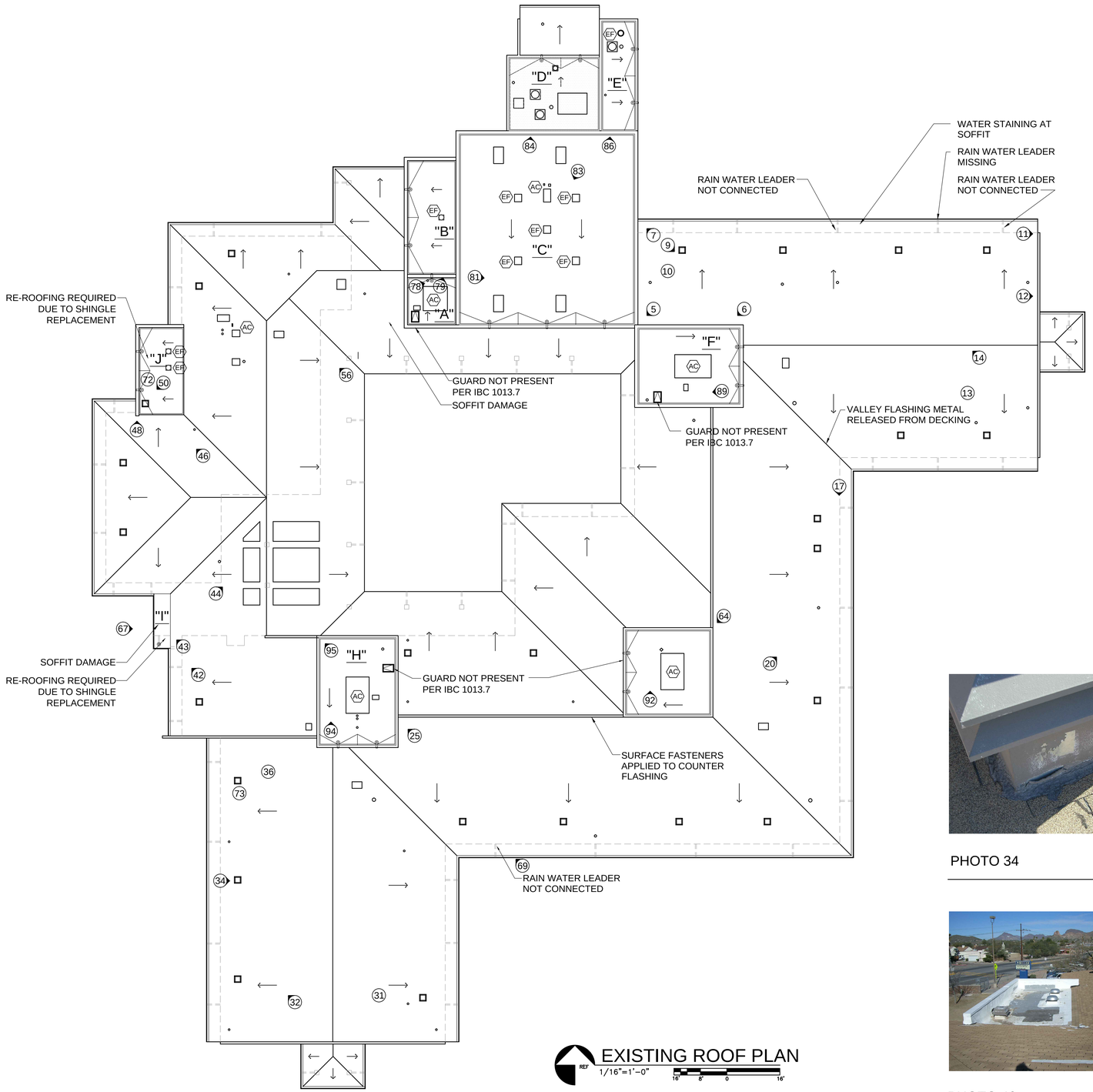
Costs for soffit repair and painting are not included in the estimate.

III.



EXPIRES: 03:31:2015

Respectfully Submitted;



EXISTING ROOF PLAN
1/16"=1'-0"


PHOTO 9


PHOTO 11


PHOTO 13


PHOTO 18


PHOTO 20


PHOTO 25


PHOTO 32

PHOTO 34


PHOTO 42


PHOTO 44

PHOTO 46


PHOTO 50


PHOTO 64


PHOTO 67

HERZOG
ASSOCIATES, plc
ARCHITECTURE
PLANNING DESIGN

2975 N COUNTRY CLUB ROAD
TUCSON, AZ 85716-1911
TELEPHONE: 520-325-5847
FACSIMILE: 520-325-5849
WWW.HERZOGASSOCIATES.COM

MILLER ELEMENTARY SCHOOL
6951 S. Camino De La Tierra Tucson, Arizona 85746
TUCSON UNIFIED SCHOOL DISTRICT
RE-ROOFING

EXISTING ROOF PLAN

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January 2015
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REVISIONS
PROJECT NO.
114

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SHEET XXX OF XXX

Compusult

Construction Cost Consulting
5923 East Pima Street
Tucson, Arizona 85712
520•882•4044 voice
520•323•0544 fax

TUSD Celebrate the US! TUCSON UNIFIED SCHOOL DISTRICT

Statement of Probable Cost

Miller Elementary School
Re-roof

Tucson, Arizona

by Compusult

February 9, 2015

Compusult applies diligence and judgment in locating and using reliable sources of information. This Statement of Probable Cost is made on Compusult's knowledge of the project and experience. Compusult has no control over the costs of labor, equipment or materials or over the contractor's method of pricing. Compusult makes no warranty expressed or implied as to the accuracy of such opinions as compared to the bid or actual costs.



_____
Harold H. McGrath III, LCPE
Compusult, Inc.

Miller Elementary School Re-roof

Loc: Tucson, AZ
Job #: 15007
Project Size: 48900 SQFT
Estimator: T. McGrath, LCPE

Compusult, Inc.
5923 East Pima Street
Tucson AZ 85712
Phone: (520)882-4044

RptLine No	ItemCode	Description	Quantity	UM	Lab.Unit	Mat.Unit	Eqp.Unit	Sub.Unit	Tot.UnitCost	TotalCost
Miller Elementary School Re-roof										
SITE WORK										
SITE PREPARATION										
GENERAL DEMOLITION										
1	0201.001	REMOVE BUILT-UP ROOF	6,287	SQFT	0.9500				0.950	5,973
2	0201.002	REMOVE SHINGLE ROOFING	42,630	SQFT	0.6800				0.680	28,988
****** Total GENERAL DEMOLITION**										**34,961**
***** Total SITE PREPARATION**										**34,961**
**** Total SITE WORK**										**34,961**
ROOFING										
ROOF COVERINGS										
ROOFING MEMBRANES										
3	0750.100	BUILT-UP ROOF SYSTEM	7,553	SQFT	2.1100	3.920			6.030	45,545
****** Total ROOFING MEMBRANES**										**45,545**
TRAFFIC TOPPING & PAVING MEMBERS										
4	0755.100	FIRE RATED GWB	6,287	SQFT	0.2600	0.660			0.920	5,784
****** Total TRAFFIC TOPPING & PAVING MEMBERS**										**5,784**
ROOFING SHINGLES										
5	0730.200	ASPHALT 30 YR SHINGLES	42,630	SQFT	0.8900	1.650			2.540	108,280
****** Total ROOFING SHINGLES**										**108,280**
ROOF INSULATION										
6	0755.000	1/2" PROTECTION BOARD	6,287	SQFT	0.3600	0.500			0.860	5,407
7	0755.005	BEVELED ROOF INSUL AVG 6"	320	SQFT	0.9000	2.100			3.000	960
****** Total ROOF INSULATION**										**6,367**
FLASHING & SHEETMETAL TRIM										
8	0762.039	24 GA GALV IRON SHEETMETAL	2,875	LNFT	2.5595	2.980			5.540	15,926
9	0762.040	DOWNLEADER	1	EACH	53.2500	105.000			158.250	158
****** Total FLASHING & SHEETMETAL TRIM**										**16,084**
***** Total ROOF COVERINGS**										**182,060**
**** Total ROOFING**										**182,060**
*** Total Miller Elementary School Re-roof**			**48,900**	**SQFT**	**2.0539**	**2.384**			**4.438**	**217,021**
Total Gross Cost										**217,021**

Tucson Unified School District
Miller Elementary School Re-roof
Tucson, Arizona
Preliminary Estimate
February 9, 2015

Compusult, Inc.
5923 East Pima Street
Tucson, Arizona 85712
520-882-4044

Project Summary

Summary of Project Costs		Project GSF:	48,900	Cost/GSF
0. Demolition			$35,000	$0.72
1. Substructure			$0	$0.00
2. Superstructure			$0	$0.00
3. Exterior Closure			$0	$0.00
4. Roofing			$182,100	$3.72
5. Interior Construction			$0	$0.00
6. Interior Finishes			$0	$0.00
7. Building Specialties			$0	$0.00
8. Equipment			$0	$0.00
9. Furnishings			$0	$0.00
10. Special Construction			$0	$0.00
11. Conveying Systems			$0	$0.00
12. Plumbing			$0	$0.00
13. Fire Protection			$0	$0.00
14. H.V.A.C.			$0	$0.00
15. Electrical			$0	$0.00
A. Building Construction			**$217,100**	**$4.44**
B. Site Work			$0	$0.00
C. Subtotal			**$217,100**	**$4.44**
D. Contingency	2.00%		$4,300	$0.09
E. General Conditions	5.00%		$11,100	$0.23
F. Contractor's Fee	3.00%		$7,000	$0.14
G. Bonds & Insurance	1.50%		$3,600	$0.07
H. Tax	5.27%		$12,800	$0.26
I. Total Construction Cost w/o Escalation			**$255,900**	**$5.23**

Alternates & Allowances

Alternate #1 - TPA Roofing in lieu of Built-up Roofing **$17,800**

Exclusions: Exterior soffit or interior ceiling repair and small flat roof north of auditorium.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item e.•**

Subject:

EDC - Supplemental Award
Balsz Elementary 001EP

Background – Balsz Elementary (David Crockett ES - replace chilled water loop)

On April 1, 2015, the Board awarded $7,412 in Emergency Deficiencies Correction funding to replace the chilled water loop at David Crockett Elementary School (project number 070431102-9999-001EP).

The investigation is completed and it has been determined by the Engineer that some modifications are required to help the system continue its useful life. The design fees required for these repairs are $2,500, while the construction has been estimated at $25,000.

Initial award 4/1/2015	
Professional assessment	$7,412
Supplemental funding requested:	
Estimated construction cost	$25,000
Construction Administration	$2,500
Contingency	$2,800
Total supplemental funding	$30,300
Total project cost	$37,712

Criteria for Eligibility
A.R.S. §15-2022, paragraph E.: For the purposes of this section, "emergency" means a serious need for materials, services or construction or expenses in excess of the district's adopted budget for the current fiscal year that seriously threatens the functioning of the school district, the preservation or protection of property or public health, welfare or safety.

Staff Recommendation – Balsz Elementary (David Crockett ES – replace chilled water loop)
Staff recommends that Balsz Elementary be awarded an additional $30,300 in Emergency Deficiencies Correction funding for repairs to the chilled water loop system at David Crockett Elementary School (project number 070431102-9999-001EP). This includes $2,800 in contingency that will only be used with SFB staff approval and brings the total project cost to $37,712.

Board Action Requested:
Board approval of the staff recommendation that **Balsz Elementary** be awarded an additional $30,300 in Emergency Deficiencies Correction funding for repairs to the chilled water loop system at David Crockett Elementary School (project number 070431102-9999-001EP). This includes $2,800 in contingency that will only be used with SFB staff approval and brings the total project cost to $37,712.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Balsz_ESD_001EP_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Crockett_Pipe_Corrosion_Testing_Report-Updated-signed.pdf	Engineer Estimate	7/22/2015	Cover Memo

SCHOOL FACILITIES BOARD **EMERGENCY DEFICIENCIES CORRECTIONS**

Detail of Additional Cost and Contingency
_X_ Emergency Deficiencies Corrections Fund

District: **Balsz Elementary**
EP Project Number: **070431102-9999-001EP** Maricopa County
Project Description: **Replace chilled water loop**
Consultant: Building Energy Solutions Provider (602-377-2679)
Contractor: TBD

Board approval: 4/1/2015
Supplemental award: 8/19/15

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Emergency Deficiencies Base Cost		**$ 25,000**
Contingency		**$ 2,800**
Architecture / Engineering (A&E) Fees		$ 7,412
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ 2,500
Testing & Inspection		$ -
Total Additional Cost:		**$ 9,912**
Total SFB Funded Project Cost:		**$ 37,712**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 37,712**
Total Project Cost:		**$ 37,712**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 230
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

BESP, LLC
219 S. William Dr. # 129
Gilbert, AZ 85233
Tel: (602) 377-2679 Fax: (480) 629-5645
sameerpandey@besp.us
www.besp.us

July 2, 2015

Tim Leedy
Director of Business Services
Balsz Elementary School District
4825 E. Roosevelt St.
Phoenix, AZ 85008

RE: Corrosion Testing of Chilled Water Pipes at Crockett Elementary School-Balsz ESD

Background:

Crockett Elementary School is supported by an air-cooled chiller. The 2", 3" and 4" cast iron pipes return and supply water to the buildings. The district had replaced section of the pipes at the cafeteria, and had shown concerns of pipes corroding internally.

BESP performed a site assessment and inspected chilled water pipes at Crockett Elementary. During the process, water was flushed out of the strainers for visual inspection at two locations. It was noted that water was 'dark brown' in color with a number of noticeable 'iron flakes'. However, an extent of interior pipe corrosion could not be determined during the process.

BESP recommended a visual inspection of the interior of the supply and return pipes to determine corrosion, and a quality of the existing pipes. The BESP/district through Pueblo Mechanical cut one (1) foot section of supply/return pipe, each from cafeteria, building 500, and building 600.

The inspection of the three (3) pipe samples showed deposition of 'iron flakes' on inner lining of the pipes. Structurally, the inner lining of the pipes seem intact, with no significant sign of failure or corrosion. We believe, the deposition of dirt is an impact of the start of a proper water treatment, which was not carried out properly for a period of time.

Recommendation:

1) The three (3) pipe samples are structurally intact with no significant signs of corrosion. This cannot be directly correlated to the safety of an entire supply and return pipes. However, It does help us conclude that entire piping system is not in an immediate danger of failure, and do not need to be replaced right away. BESP does recommend the district to keep a close watch on any signs of leakage in both supply and return pipes.

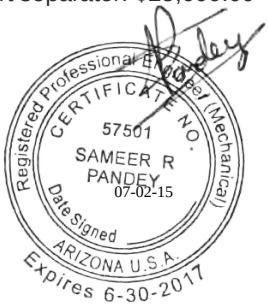
2) The dirt collected in the piping system needs to be flushed out. The dirt restricts the water flow, and contributes to the improper maintenance of the space temperature. The district may have to hire an outside vendor to flush the dirt out of the piping system.

3) It is recommended to install dirt separator in the system, which would automatically flush the system in the future. The dirt separator shall be installed on the return side of the pipe close to the air-cooled chiller.

Cost:

1) Estimated cost to flush the system and install dirt separator: $25,000.00
2) BESP's design and administrative fee: $2,500

Prepared By,



Sameer R Pandey PE (Mech.), CEM
Principal Engineer, BESP
602-377-2679 (cell) sameerpandey@besp.us

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item f.•**

Subject:

EDC - Construction Award
Tuba City Unified 005EP
Background – Tuba City Unified (Tuba City JHS – replace chilled water pumps and controls)
Tuba City Unified has submitted an Emergency Deficiencies Correction request for the design to replace the chilled water pumps and controls to a revised system for all buildings at Tuba City Junior High School.

Tuba City Unified, located 220 miles north of Phoenix, has seven schools. Tuba City Junior High School is comprised of three buildings constructed between 1963 and 2003, totaling 106,687 square feet.

Staff has reviewed the project and determined it is unknown when and how the pumps and controls failed. It appears there has not been any preventive maintenance. Only one of the two air cooled chillers were operating. Two engineering firms concur that the existing pump design is adequate for that school; therefore, redesigning the equipment is not necessary and would incur added cost.

The proposal for this work includes replacement of all pumps and controls at a cost of $124,610; however, it does not include testing and balancing services, or energy management controls which would require additional funding.

Criteria for Eligibility
A.R.S. §15-2022, paragraph E.: For the purpose of this section, "emergency" means a serious need for materials, services or construction or expenses in excess of the district's adopted budget for the current fiscal year that seriously threatens the functioning of the school district, the preservation or protection of the property or public health, welfare or safety.

Staff Recommendation – Tuba City Unified (Tuba City JHS – replace chilled water pumps and controls)
Staff recommends that Tuba City Unified be awarded $120,000 in Emergency Deficiencies Correction funding to replace the chilled water pumps and controls for all buildings at Tuba City Junior High School.
This includes $24,000 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tuba City Unified** be awarded $148,610 in Emergency Deficiencies Correction funding to replace the chilled water pumps and controls for all buildings at Tuba City Junior High School. This includes $24,000 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tuba_City_USD_005EP_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Signed_Application.pdf	Signed Application	8/3/2015	Cover Memo
Tuba_City_Jr__H_S__booster_pump_replacement_Proposal__7-17-15.pdf	HACI Proposal for Pumps and Controls	7/29/2015	Cover Memo
HACI_Chiller_Report.pdf	HACI Chiller Report	7/29/2015	Cover Memo
IMG_0875.JPG	Photo_Exisitng pumps	7/29/2015	Cover Memo

IMG_0887.JPG	Photo_ Valve broken and requires replacement	7/29/2015	Cover Memo
IMG_0877.JPG	Photo_Controls	7/29/2015	Cover Memo

SCHOOL FACILITIES BOARD **EMERGENCY DEFICIENCIES CORRECTION**

Detail of Additional Cost and Contingency
_X_ Emergency Deficiencies Correction Fund

District: **Tuba City Unified**
BRG Project Number: **030215130-9999-005EP** Coconino County
Project Description: **Replace chilled water pumps and controls**
Consultant: HACI
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 124,610**
Contingency		**$ 24,000**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 148,610**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 148,610**
Total Project Cost:		**$ 148,610**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Emergency Deficiencies Correction Funding Application

Initial Submission Date: 7/23/2015 12:38:54 PM **Application ID:** 2132
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tuba City Unified District
Superintendent: Harold Bergay
Contact Person: Paul Huber
Contact Phone Number: 9283806138
Contact Email: phuber@tcusd.org
School Site: Tuba City Junior High School
Buildings: 9999 School Wide

Application Title: Pump and VFD replacment Junior High school

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

currently only 2 of the 8 CHWS pumps are working All VFD are running in a by-pass mode and need to be replaced. possibly one leaking boiler needs to be replaced.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding Was money to address this issue included in your adopted budget for this fiscal year? **Y**

Current fiscal year building renewal expenditures:	$383,610.00
Current balance of unrestricted capital:	$867,751.00

Please outline any associated insurance coverage.

the current balance of unrestricted capital is earmarked for new furniture in the proposed ne K-5 building as well as bus replacements that are needed ASAP.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Dr. Harold Begay
Superintendent Printed Name

Emergency Deficiencies Correction Funding Application

~~Superintendent Signature~~ _____ ~~Date~~ 7-23-15

Emergency Deficiencies Correction Funding Application

Initial Submission Date: 7/23/2015 1:33:40 PM **Application ID:** 2134
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tuba City Unified District
Superintendent: Harold Bergay
Contact Person: Paul Huber
Contact Phone Number: 9283806138
Contact Email: phuber@tcusd.org
School Site: Gap Primary School
Buildings: 9999 School Wide

Application Title: Install watertreatment for chiller, replace defective VFD's

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

chiller water treatment needs to be reactivated, two VFD's need to be replaced with phase protection

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding Was money to address this issue included in your adopted budget for this fiscal year? **N**

Current fiscal year building renewal expenditures:	$383,610.00
Current balance of unrestricted capital:	$867,751.00

Please outline any associated insurance coverage.

capital funding is earmarked for furniture at the new K-5 school in addition some of our buses need to be replaced, high mileage and old.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Dr. Harold Begay
Superintendent Printed Name

Superintendent Signature 7-23-15 Date

Building Renewal Grant Application

Initial Submission Date: 7/23/2015 12:46:17 PM **Application ID:** 2133
Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tuba City Unified District
Superintendent: Harold Bergay
Contact Person: Paul Huber
Contact Phone Number: 9283806138
Contact Email: phuber@tcusd.org
School Site: Dzil Libei Elementary School
Buildings: 9999 School Wide

Application Title: replace and ceritfy Backflow, replace expasion tank

Description of Problem
Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

repair or replace one circulating pump Replace Backflow preventer and certify. install water treatment for chiller

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding

Amount of Local funds planned for this project	$0.00

Please outline any associated insurance coverage.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

DR. HAROLD BEGAY
Superintendent Printed Name

Superintendent Signature 7-23-15
Date

HACI Service, LLC
2108 West Shangri-La Road
Phoenix, AZ 85029-4812
Phone: 602-944-1555
Fax: 602-678-0266

ROC B-01 # 257479, ROC # 200617
ROC # 200618, ROC # 200619, ROC # 200620

Repairs to the existing CHW booster pump skid & Controllers

The undersigned proposes to furnish, install and service under warranty the work hereinafter outlined, upon the terms and conditions and in accordance with the following specifications.

JOB NAME:	Tuba City Jr. High School	Date:	7/17/2015
JOB ADDRESS:	Warrior Drive	Attn:	Paul Huber
	Tuba City, AZ. 86045	phone:	928-283-1093
HACI BID #:	15-S-1096	email:	phuber@tcusd.org

DEMO:
Demo, remove, & haul off (8) existing pumps
Demo, remove, & haul off (2) existing control panels

EQUIPMENT:
Furnish and install (4) Grundfos #150S50 pump replacement assemblies
Furnish and install (4) Grundfos #385S150 pump replacement assemblies
New pumps to match the existing specs

PIPING:
Furnish and install new mechanical couplings & fittings for the pump replacement
Furnish and install new fiberglass pump/pipe insulation as necessary - match existing

ELECTRICAL WIRING:
Furnish and install (2) AMT Quadplex controllers w/ VFD
Disconnect & reconnect the existing EMS contorls
Terminate all wiring for a fully functional system

MISC. INCLUSIONS:
Startup, Testing, & Training
2 Year parts & labor warranty
Bond costs
Travel & per diem costs

MISC. EXCLUSIONS:
Permits & fees
Engineering & plan development
Test & Balance Services
EMS Controls (*) except as stated above
Fire Alarm Interlocks
Painting, Prime or Finish
Quick ship costs
Any item not specifically included above
Delays by others
Premium (overtime) labor

CLARIFICATIONS:
Proposal is valid for (30) days
HACI reserves the right to review material cost prior to the acceptance of any fixed price contract over 90 days
We assume this proejct to be done during normal business hours
There is a 6-8 week lead time for the new pump parts from date of order
HACI to provide (3) copies of the pump O&M in a format TBD
We are replacing the pumps & controllers in place of existing - no relocation included

WARRANTY SERVICE:

1. After installation, our qualified representative will start, test and provide instruction on use of the equipment.
2. All equipment, materials and labor furnished by us will bear a one year warranty from the date of start-up. Copies of the manufactures warranties will be supplied upon installation of the equipment.
3. Service under this warranty will be provided promptly by us during normal working hours. Warranty service does not include maintenance such as filter or fuse replacement.

TOTAL: **$124,609.64**

ACCEPTANCE OF PROPOSAL

The enclosed pricing, terms, & conditions are satisfactory and are hereby accepted.
You are authorized to perform the work as specified.

Customer Name: _____ Date: _____

Customer Signature: _____ PO #: _____

Thank you for the opportunity to offer a quote for this project. If you have any questions, or need further clarification, please contact me @ 602-803-5107.

Sincerely,

Kevin D. Flores

Project Manager
HACI SERVICE

Location:	Primary School Chiller #3
Make	Carrier
Model #	30RAN050J-611
Freon	R-22
Hi/Lo	**450 PSI / 278 PSI**
Phase	0-3
Lbs.	**45**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
FLA	20.2
LRA	135
Serial No.	2103F33683
Note:	Chiller unit runs Good. No Alarms. Unit is 12 years old as of 03/25/15. Water treatment is recommended. Needs to be cleaned and boards need to be cleaned. Door gasket may need to be replaced. Bearing on circulating pumps need to be greased.
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

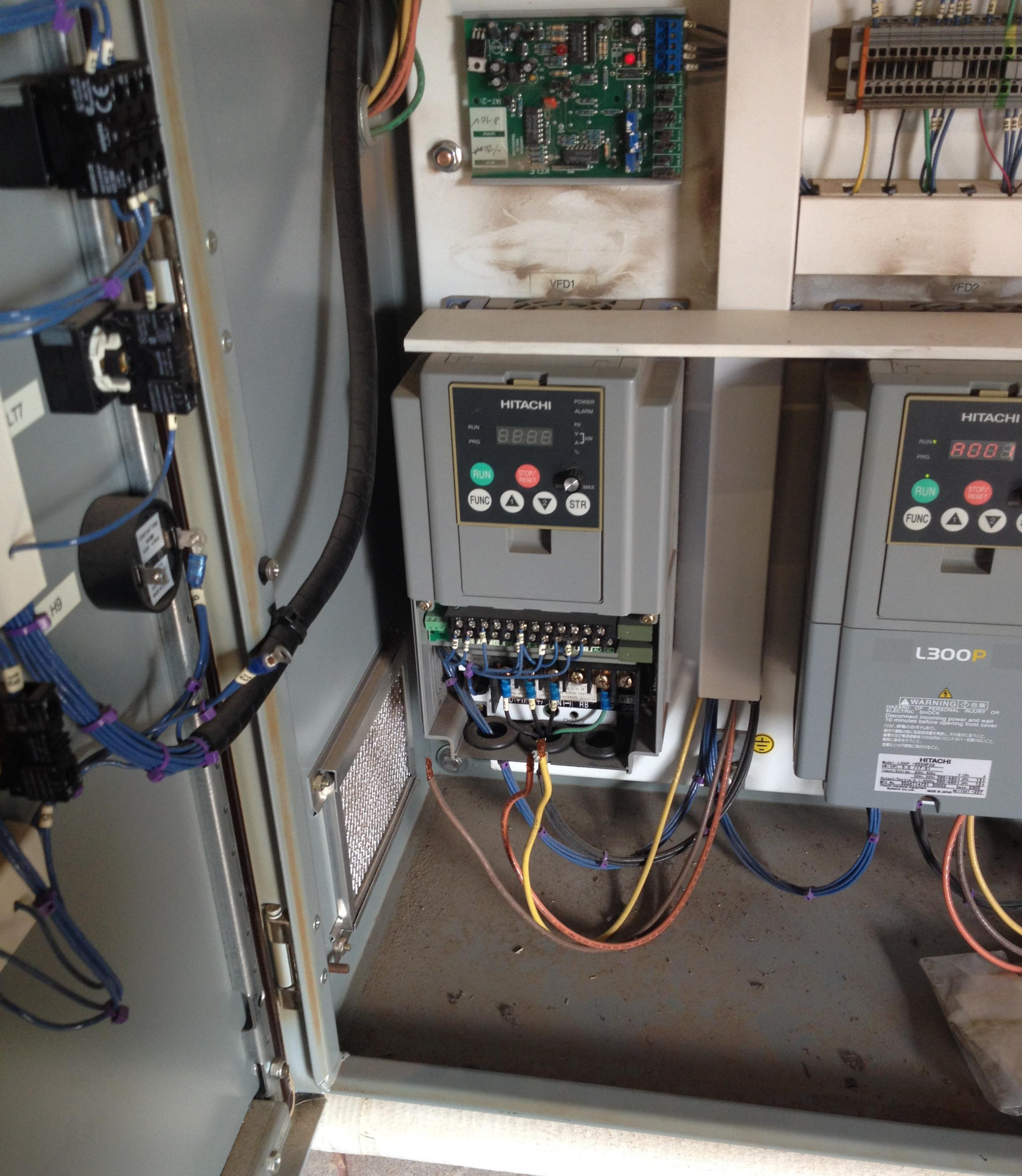
Location:	Jr. High School Chiller #1
Make	Carrier
Model #	30GTN070-631FG
Freon	R-22
Hi/Lo	**450 PSI / 278 PSI**
Phase	0-3
Lbs.	**139**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	166
MOCP	225
Serial No.	5104F73270
Note:	Water Treatment is recommended. Unit needs to be cleaned. Chiller works good. Boards need to be cleaned, possibly replaced. Power phase protectors needed for VFD's and Chillers. VFD's need to be replaced VFD Info: Hitachi (4-VFD's) M#L300P-055HFU2 KW/(HP): 5.5/(7.5) 0-3 480 VAC MOCP: 12 amps Hitachi M#L300P-110FU2 KW/(HP) 11/(15) 0-3 480V MOCP:24 amps
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

Location:	Jr. High Chiller #2
Make	Carrier
Model #	30GTN070-E-621G2
Freon	R-22
Hi/Lo	**450 PSI / 278 PSI**
Phase	0-3
Lbs.	**139**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	166
MOCP	225
Serial No.	0403F13479
Note:	Water treatment recommended. Unit needs to be cleaned. Boards need to be cleaned. Door gasket needs to be replaced.
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

Location:	High School Chiller #1
Make	Carrier
Model #	30RBA13066-05707
Freon	R-410
Hi/Lo	**656 PSI / 445 PSI**
Phase	0-3
Lbs.	**140**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	276.5
MOCP	300
Serial No.	4405Q80403
Note:	Circulating pumps not working. VFO is by passed/APS Power supply. Overload phase protection is needed for unit & VFD's. Unit and Boards need to be cleaned. Water treatment is recommended.
Solution/Recommendation:	Recommend that circulating pumps & VFD's get replaced or fixed. Add Water treatment. Glyco add to water. VFD's: Hitachi (4 pc) M# L300P-055HFU2 kw/(hp) 5.5/(7.5) 0-3 480 MOCP: 13 amps. Hitachi (3pc) M# L300P-075HFU2 KW/(HP) 7.5/(10.0) 0-3 480v MOCP:18amps
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015


PCWP-1
C.W.
PCWP-2
C.W.




VFD1
VFD2
HITACHI
POWER
ALARM
RUN
PRG
RUN
STOP/
RESET
FUNC
STR
L300P
WARNING
HAZARD OF PERSONAL INJURY OR
ELECTRIC SHOCK
Disconnect incoming power and wait
10 minutes before opening front cover.

STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item f.•**

Subject:

EDC - Construction Award
Tuba City Unified 006EP
Background – Tuba City Unified (Tuba City HS – replace chilled water pumps and controls)
Tuba City Unified has submitted an Emergency Deficiencies Correction request for the design to replace the chilled water pumps and controls on a revised system for all buildings at Tuba City High School.

Tuba City Unified, located 220 miles north of Phoenix, has seven schools. Tuba City High School is comprised of nine buildings constructed between 1973 and 2001, totaling 260,075 square feet.

Staff has reviewed the project and determined it is unknown when and how the pumps and controls failed. It appears the original construction was not completed and there has not been any preventive maintenance. Only one of the three air cooled chillers is operational.

The proposal for this work includes replacement of all pumps and controls at a cost of $103,106. This cost does not include testing and balancing services or energy management controls which would require additional funding. Two engineering firms concur that the existing pump design is adequate for that school; therefore, redesigning the equipment is not necessary and would incur additional cost.

Criteria for Eligibility
A.R.S. §15-2022, paragraph E.: For the purpose of this section, "emergency" means a serious need for materials, services or construction or expenses in excess of the district's adopted budget for the current fiscal year that seriously threatens the functioning of the school district, the preservation or protection of the property or public health, welfare or safety.

Staff Recommendation – Tuba City Unified (Tuba City HS – replace chilled water pumps and controls)
Staff recommends that Tuba City Unified be awarded $120,000 in Emergency Deficiencies Correction funding to replace the chilled water pump and controls for all buildings at Tuba City High School. This includes $16,894 in contingency that will only be used with SFB staff approval.

Board Action Requested:
Board approval of the staff recommendation that **Tuba City Unified** be awarded $120,000 in Emergency Deficiencies Correction funding to replace the chilled water pump and controls for all buildings at Tuba City High School. This includes $16,894 in contingency that will only be used with SFB staff approval.

ATTACHMENTS:

File Name	Description	Upload Date	Type
Tuba_City_USD_006EP_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Grant_Application.pdf	Grant Application	8/3/2015	Cover Memo
Tuba_City_H_S__booster_pump_replacement_Proposal__7-17-15.pdf	Pumps and Controls Proposal by HACI	7/29/2015	Cover Memo
HACI_Chiller_Report.pdf	HACI Chiller Report	7/29/2015	Cover Memo
IMG_0900.JPG	Photo_Pumping System	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **EMERGENCY DEFICIENCIES CORRECTION**

Detail of Additional Cost and Contingency
_X_ Emergency Deficiencies Correction Fund

District: **Tuba City Unified**
BRG Project Number: **030215240-9999-006EP** Coconino County
Project Description: **Replace chilled water pumps and controls**
Consultant: HACI
Contractor: TBD

Board Approval Date: 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost:		**$ 103,106**
Contingency		**$ 16,894**
Additional Cost:		
Architecture / Engineering (A&E) Fees		$ -
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ -**
Total SFB Funded Project Cost:		**$ 120,000**
District or Local Funds:		$ -
SFB Board Approved Amount:		**$ 120,000**
Total Project Cost:		**$ 120,000**

Contingency shall only be used with SFB staff approval.

School Facilities Board
1700 W. Washington, Suite 104
Phoenix, AZ 85007
Phone: (602) 542-6501
FAX: (602) 542-6529

Emergency Deficiencies Correction Funding Application

Initial Submission Date: 5/26/2015 4:15:25 PM **Application ID:** 2130

Resubmittal Date:

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: Tuba City Unified District

Superintendent: Dr. Harold Bgay

Contact Person: Paul Huber

Contact Phone Number: 9283806138

Contact Email: phuber@tcusd.org

School Site: Tuba City High School

Buildings:

1001	100
1003	300
1004	400
1005	500
1006	600
1008	65
1009	75

Application Title: Engineering Waterpump replacement

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

We currently have chilled water supply and return pumps that failed. the current pumps need to sent out to get repaired. we ask BESP, LLC Consulting Engineers, BESP to provide us an estimate for the redesign of the pumping system at the High School and the Junior High School to replace the current horizontal pumps with regular centrifugal pumps that can be repaired by our maintenance staff.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding Was money to address this issue included in your adopted budget for this fiscal year? **N**

Current fiscal year building renewal expenditures:	$0.00
Current balance of unrestricted capital:	$0.00

Please outline any associated insurance coverage.

Emergency Deficiencies Correction Funding Application

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Superintendent Printed Name

Superintendent Signature Date

HACI Service, LLC
2108 West Shangri-La Road
Phoenix, AZ 85029-4812
Phone: 602-944-1555
Fax: 602-678-0266

ROC B-01 # 257479, ROC # 200617
ROC # 200618, ROC # 200619, ROC # 200620

Repairs to the existing CHW booster pump skid & Controllers

The undersigned proposes to furnish, install and service under warranty the work hereinafter outlined, upon the terms and conditions and in accordance with the following specifications.

JOB NAME:	Tuba City High School	Date:	7/17/2015
JOB ADDRESS:	Warrior Drive	Attn:	Paul Huber
	Tuba City, AZ. 86045	phone:	928-283-1093
HACI BID #:	15-S-1096	email:	phuber@tcusd.org

DEMO:
Demo, remove, & haul off (7) existing pumps
Demo, remove, & haul off (2) existing control panels

EQUIPMENT:
Furnish and install (6) Grundfos #230S100 pump replacement assemblies
Furnish and install (1) Grundfos #475S200 pump replacement assembly
New pumps to match the existing specs

PIPING:
Furnish and install new mechanical couplings & fittings for the pump replacement
Furnish and install new fiberglass pump/pipe insulation as necessary - match existing

ELECTRICAL WIRING:
Furnish and install (1) AMT Triplex controller w/ VFD
Furnish and install (1) AMT Quadplex controller w/ VFD
Disconnect & reconnect the existing EMS contorls
Terminate all wiring for a fully functional system

MISC. INCLUSIONS:
Startup, Testing, & Training
2 Year parts & labor warranty
Bond costs
Travel & per diem costs

MISC. EXCLUSIONS:
Permits & fees
Engineering & plan development
Test & Balance Services
EMS Controls (*) except as stated above
Fire Alarm Interlocks
Painting, Prime or Finish
Quick ship costs
Any item not specifically included above
Delays by others
Premium (overtime) labor

CLARIFICATIONS:
Proposal is valid for (30) days
HACI reserves the right to review material cost prior to the acceptance of any fixed price contract over 90 days
We assume this proejct to be done during normal business hours
There is a 6-8 week lead time for the new pump parts from date of order
HACI to provide (3) copies of the pump O&M in a format TBD
We are replacing the pumps & controllers in place of existing - no relocation included

WARRANTY SERVICE:

1. After installation, our qualified representative will start, test and provide instruction on use of the equipment.
2. All equipment, materials and labor furnished by us will bear a one year warranty from the date of start-up. Copies of the manufactures warranties will be supplied upon installation of the equipment.
3. Service under this warranty will be provided promptly by us during normal working hours. Warranty service does not include maintenance such as filter or fuse replacement.

TOTAL: **$103,105.66**

ACCEPTANCE OF PROPOSAL

The enclosed pricing, terms, & conditions are satisfactory and are hereby accepted.
You are authorized to perform the work as specified.

Customer Name: _____ Date: _____

Customer Signature: _____ PO #: _____

Thank you for the opportunity to offer a quote for this project. If you have any questions, or need further clarification, please contact me @ 602-803-5107.

Sincerely,

Kevin D. Flores

Project Manager
HACI SERVICE

Location:	Jr. High Chiller #2
Make	Carrier
Model #	30GTN070-E-621G2
Freon	R-22
Hi/Lo	**450 PSI / 278 PSI**
Phase	0-3
Lbs.	**139**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	166
MOCP	225
Serial No.	0403F13479
Note:	Water treatment recommended. Unit needs to be cleaned. Boards need to be cleaned. Door gasket needs to be replaced.
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

Location:	High School Chiller #1
Make	Carrier
Model #	30RBA13066-05707
Freon	R-410
Hi/Lo	**656 PSI / 445 PSI**
Phase	0-3
Lbs.	**140**
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	276.5
MOCP	300
Serial No.	4405Q80403
Note:	Circulating pumps not working. VFO is by passed/APS Power supply. Overload phase protection is needed for unit & VFD's. Unit and Boards need to be cleaned. Water treatment is recommended.
Solution/Recommendation:	Recommend that circulating pumps & VFD's get replaced or fixed. Add Water treatment. Glyco add to water. VFD's: Hitachi (4 pc) M# L300P-055HFU2 kw/(hp) 5.5/(7.5) 0-3 480 MOCP: 13 amps. Hitachi (3pc) M# L300P-075HFU2 KW/(HP) 7.5/(10.0) 0-3 480v MOCP:18amps
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

Location:	**High School Chiller #2**
Make	Carrier
Model #	30RBA13066-05707
Freon	R-410
Hi/Lo	**656 PSI / 445 PSI**
Phase	0-3
Lbs.	
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	276.5
MOCP	300
Serial No.	4405Q80404
Note:	Unit needs to be cleaned. Boards need to be checked and cleaned. If there is water damage, boards need to be replaced. Water treatment recommended for unit and system.
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015

Location:	**High School Chiller #3**
Make	Carrier
Model #	30RBA25066-05707
Freon	R-410
Hi/Lo	**656 PSI / 445 PSI**
Phase	0-3
Lbs.	
VAC	460 Volts
Max/Min VAC	506 Volts / 414 Volts
MCA	502.0
MOCP	600
Serial No.	4206Q82461
Note:	Unit needs to be cleaned. Boards also need to be cleaned. Door gasket needs to be replaced to prevent water damage. Water treatment is recommended.
Solution/Recommendation:	
Inspection Conducted by:	Stephen Chimerica-Goldtooth & Peter Paddock
Dated:	03/25/2015



STATE OF ARIZONA
SCHOOL FACILITIES BOARD

Meeting Date: August 19, 2015 **Agenda Item g.•**

Subject:

EDC - Design Award
St. Johns Unified 002EP
Background – St Johns Unified (St Johns HS – HVAC replacement)
St. Johns Unified has submitted an Emergency Deficiencies Correction request for the replacement of the HVAC system on Building 1002 at St. Johns High School.

St. Johns Unified, located 217 miles northeast of Phoenix, has four schools. St. Johns High School is comprised of six buildings constructed between 1976 and 2007, totaling 155,740 square feet. Building 1002 was built in 1982, totaling 56,030 square feet.

The SFB awarded a Building Renewal Grant about a year ago to replace the roof and mechanical curbs (project number 010201205-9999-001BRG) on this same building. Staff has put this project on hold until this HVAC issue is resolved.

Upon completion of the design of the new BRG roof, it was communicated to Staff that the existing roof-mounted HVAC units were not designed properly. After further review, it appears the district chose to abandoned the existing chiller and boiler units and had four package units installed on the roof, which does not meet the heating and cooling loads of the building and is causing the roof structure to be overstressed.

The auditorium HVAC design and construction originally had four air-cooled chillers that totaled approximately 140 tons and a couple of large boilers for heating. In 2004/2005, the district contracted with an architect/engineer to design a new HVAC system and abandon the old system in place. After the new system was installed, it was apparent that it was undersized and inadequate. The district later hired another HVAC mechanical engineer to review the design of the undersized system. The report issued by the mechanical engineer confirmed what was believed to be the cause of their problems. Additionally, the 2005 retro HVAC system was installed on the roof. As a result, the structure must be retrofitted to meet current roof loads if the equipment is to remain.

The complexity of the needed repair/replacement requires total re-engineering to meet current building and ASHRAE requirements. The district received a proposal for the re-engineering and Staff recommends Phase I funding of the engineering proposal line items as shown on the attached proposal for design.

Criteria for Eligibility
A.R.S. §15-2022, paragraph E.: For the purpose of this section, “emergency” means a serious need for materials, services or construction or expenses in excess of the district’s adopted budget for the current fiscal year that seriously threatens the functioning of the school district, the preservation or protection of the property or public health, welfare or safety.

Staff Recommendation – St Johns Unified (St Johns HS – HVAC replacement)
Staff recommends that St. Johns Unified be awarded $47,900 in Emergency Deficiencies Correction funding for professional services to develop construction bid documents for HVAC upgrades and removal of the existing HVAC on the roof of Building 1002 at St. Johns High School.

Board Action Requested:

Board approval of the staff recommendation that **St. Johns Unified** be awarded $47,900 in Emergency Deficiencies Correction funding for professional services to develop construction bid documents for HVAC upgrades and removal of the existing HVAC on the roof of Building 1002 at St. Johns High School.

ATTACHMENTS:

File Name	Description	Upload Date	Type
St_Johns_USD_002EP_Vertical_Sheet.pdf	Vertical Sheet	8/12/2015	Executive Summary
Application_Form_signed.pdf	Signed Application	8/3/2015	Cover Memo
LSW_Engineers_Proposal.pdf	Proposal for Design	8/3/2015	Cover Memo
KPFF_Letterhead_-_St__Johns_Auditorium_215021.pdf	Structural Report	8/3/2015	Cover Memo
Al_Nichols_Engineering.pdf	Forensic HVAC Report	8/3/2015	Cover Memo
IMG_0621.JPG	Photo_Abandon Chiller Unit	8/3/2015	Cover Memo
IMG_0620.JPG	Photo_Abandon Chiller Unit2	8/3/2015	Cover Memo
St__Johns_High_School_Inspection_Report.pdf	HACI Chiller Report	8/3/2015	Cover Memo

SCHOOL FACILITIES BOARD **EMERGENCY DEFICIENCIES CORRECTION**

Detail of Additional Cost and Contingency
_X_ Emergency Deficiencies Correction Fund

District: **St Johns Unified**
BRG Project Number: **010201205-1002-002EP** **Apache County**
Project Description: HVAC replacement
Consultant: LSW Engineers
Contractor: TBD

Board approval 8/19/2015

	School Facilities Board Action Approved as recommended by Staff	Staff Rec. or Approved
Base Cost		**$ -**
Contingency		**$ -**
Architecture / Engineering (A&E) Fees		$ 47,900
Survey & Required Reports, Printing, Permits, Advertising, Etc.		$ -
Testing & Inspection		$ -
Total Additional Cost:		**$ 47,900**
Total SFB Funded Project Cost:		**$ 47,900**
District Share (Local Funds):		$ -
SFB Board Approved Amount:		**$ 47,900**
Total Project Cost:		**$ 47,900**

Contingency shall only be used with SFB staff approval.

Emergency Deficiencies Correction Funding Application

Initial Submission Date:
Resubmittal Date:

Application ID: 2145

Please provide as much of the requested information as possible. SFB staff will assist in developing required information that is not currently available.

District Name: St Johns Unified District

Superintendent: Ed Burgoyne

Contact Person: Nelson Davis

Contact Phone Number: 928-337-2255 ext 1017

Contact Email: ndavis@sjusd.net

School Site: St Johns High School

Buildings: 1002 Auditorium

Application Title: New High School Auditorium HVAC System

Description of Problem

Please include a detailed description of the issues, as well as a description of and a copy of any professional studies, citations or reports from government entities, recommended solutions, and any cost information or estimates. If additional space is needed, please attach.

Attached are KPFF auditorium roof structure study, LSW proposal for engineering for new HVAC System, system investigation letter by HACI. KPFF opinion is "Open web steel joists supporting the largest amount of ducts and pipes along the joist span and roof mounted HVAC units, in addition to existing loads, are structurally inadequate, with two over stressed diagonal web members near the supported ends of the joist." If these units remain, the structure will have to be upgraded to meet today's structural codes therefore those costs are too excessive. Additionally the heating and cooling is insufficient for the auditorium.

Project Category: HVAC

Are any of the above-described issues in buildings or part of buildings that are leased to another entity, including a district sponsored charter school? N

Available Funding Was money to address this issue included in your adopted budget for this fiscal year? **N**

Current fiscal year building renewal expenditures:	$0.00
Current balance of unrestricted capital:	$207,265.00

Please outline any associated insurance coverage.

The district does not have sufficient money to remedy this problem. There is $11,594 remaining balance in the building renewal fund. We have District Capital Needs list that totals approx. $600,000.

Liaison: Cruse pcruse@azsfb.gov 602-364-1193

Edward R. Burgoyne
Superintendent Printed Name

Superintendent Signature

7/28/2015
Date

LSW Engineers
ARIZONA, INCORPORATED

July 21, 2015

St. Johns Unified School District
P.O. Box 3030
450 South 13th West
St. Johns, AZ 85396

Attn: Nelson Davis

Re: St. Johns High School Auditorium HVAC Upgrade
LSW Proposal No. PR2015-161

Mr. Davis:

We are pleased to offer our engineering services for upgrade of the HVAC system serving the Auditorium at St. Johns High School located in St. Johns, Arizona.

PROJECT UNDERSTANDING

This project is understood to be the upgrade of the existing HVAC serving the auditorium including the following:

1. Replacement of the existing air cooled condensing units (4 total) that originally served the auditorium air handling systems and have been abandoned in place.

2. Replacement and / or repair of the existing interior air handling units (4 total) that originally served the auditorium and lobby and have been abandoned in place.

3. Addition of new hot water boilers to serve the auditorium air handling systems. The boilers shall be placed on the exterior of the building within a chain link enclosure.

4. Modification of the existing HVAC ductwork serving the auditorium as required to change the system from the current packaged rooftop HVAC units back to interior air handling systems as originally designed.

5. Addition of new DDC controls as required for the upgraded auditorium HVAC system.

6. Revision of the existing electrical distribution as required for the new HVAC system configuration.

It is our understanding that the design of this project will include the number, type, and schedule of deliverables as defined below. The construction duration for this project is understood to be 4 months.

Design Development

1. Design development drawings showing all main mechanical, plumbing and electrical systems equipment locations and sizes.
2. Mechanical, plumbing, and electrical systems equipment cut sheets for review.
3. Routing of mechanical duct and piping mains.
4. Mechanical zoning layout and thermostat locations for review.
5. Preparation of an estimate of probable construction cost for the project.

95% Construction Documents

1. Completion of the engineering design drawings.
2. Completion of the engineering specifications.

100% Construction Documents

1. Finalizing the design drawings and specifications addressing the Authority Having Jurisdiction (AHJ) Plan Review and Owner comments.

SCOPE OF WORK

Our engineering services for this project will consist of the following. Services not indicated below are considered outside of our basic scope and will be provided upon request as an additional service.

Mechanical

The mechanical system for this project is anticipated to include:

1. Complete heating, cooling and ventilation load calculations.
2. Design to revise and / or preplace the existing mechanical HVAC system for this upgrade project.
3. Design of split system DX air-cooled condensing units, and all associated ductwork, air distribution, refrigerant and condensate piping, and controls.
4. Design of centralized heating hot water plant including boilers, pumps, piping, piping accessories and controls. Existing interior hot water piping will be reused where possible.
5. Design of interior air handling units (4 total) serving the auditorium and lobby space, and all associated ductwork, air distribution, and controls. This shall include retrofitting the existing interior air handling systems or replacement of these

systems based upon their current condition. Existing ductwork will be reused where possible.

Plumbing

The plumbing system for this project is anticipated to include:

1. Sizing and routing of the domestic cold water make-up piping for the heating hot water system.

2. Sizing and routing of the natural gas or propane piping for connection to the new gas-fired heating system boilers.

Electrical

The electrical system for this project is anticipated to include:

1. Our design includes connection to the existing power distribution system within this facility. It is assumed that the existing power distribution system is adequate for this project and design to increase the capacity, modify or replace this is not assumed as part of the scope of this project.

2. Site Lighting: Our design includes building mounted site lighting as required for illumination of exterior HVAC equipment areas.

Architectural

1. Design of exterior equipment enclosure.

GENERAL

Our scope will include the following general engineering services for the project:

1. Site investigation by three of our staff to observe the systems associated with this project (site investigation is limited to accessible areas only).

2. Design meetings are not included as part of this project. Project coordination will be accomplished during our site investigation and subsequent email or telephone correspondence.

3. Design using the most recent version of AutoCAD. We have included preparation of AutoCAD floor plans of the areas or work as needed.

4. Prepare an estimate of probable construction cost for the mechanical, plumbing, and electrical systems designed.

5. One final set of signed and sealed drawings provided in electronic portable document format (PDF).

6. One final set of signed and sealed specifications provided in electronic portable document format (PDF) or sheet specifications/notes on the drawings.

7. Our construction phase services will include the following:

   a. Review of the Contractor shop drawings, RFI's and COR's.

   b. Perform up to five (5) field observations during construction to confirm that the work is proceeding in accordance with the plans and specifications and prepare a written report on our findings. Special inspections as required by the local authority having jurisdiction will require additional services.

   c. Review the Contractor prepared Operation & Maintenance Manual.

   d. Prepare record drawings in AutoCAD format from the Contractor prepared redlines. No verification of accuracy is included; and therefore the record drawings will not be signed and sealed.

8. LSW's estimated design time through completion of construction documents is eight (8) weeks after receipt of the signed fee proposal, the final backgrounds and all equipment cut sheets.

PROFESSIONAL FEE

Our fee for the work outlined above is a lump sum amount as follows:

Site Investigation	$5,400.	PHASE I
Construction Documents (MPE)	37,000.	
Construction Documents (Architectural)	3,000.	
Bidding	1,500.	PHASE II
Construction Phase Services		
Submittal Review, Office Time	10,200.	
Field Observations (5 total)	7,700.	
Record Drawings	1,800.	
Total	$66,600.	
Estimated Reimbursable Expenses (mileage, meals, lodging)	$2,500.	PHASE I

NOTE: This fee includes all travel expenses incurred within the metropolitan Phoenix area. Travel outside the metropolitan Phoenix area will be billed as a reimbursable expense including, but not limited to, travel, rentals, meals, lodging, and reasonable incidental expenses.

This fee does not include plotting or printing of sets of our drawings or other discipline's drawings for interprofessional coordination or distribution. We will provide PDF's to facilitate plotting of these submittals.

This fee is quoted on a lump sum basis. The breakdown of the fee into phases or tasks is for your convenience. The fee will be billed 100% at the end of the project, unless the scope of the project is changed by written agreement.

CLIENT SERVICES

Services requested of the Client and/or Owner includes the following:

1. Provide the following as required to assist us in the site investigation of existing conditions: facility access and an escort, ladders or other means to access overhead systems and equipment, and authorization for the use of cameras.
2. Provide copies of the existing construction documents.
3. Provide access to the building maintenance staff to answer questions.

EXCLUSIONS

1. Cost estimating.
2. Meetings or teleconference meetings beyond those listed.
3. All work associated with LEED certification of the project.
4. Building Information Modeling (BIM) [including COBie, Uniformat, MasterFormat, OmniClass, etc. input data or clash free modeling.
5. Design using Revit modeling.
6. Building energy consumption calculations or modeling.
7. Documenting energy code compliance of the building envelope or other systems not in our scope of services described above.
8. Utility company energy rebate data collection and/or submission.
9. Life cycle cost analysis.
10. All support or coordination work associated with an independent Commissioning Agent.
11. Functional testing or commissioning services.
12. Value engineering services or changes after completion of the associated design development documents.
13. Any design services caused by scope changes.
14. Work in relation to the delinquency or insolvency of the Contractor(s).

15. Project partnering meetings.

ADDITIONAL SERVICES

Additional services will be performed on an hourly basis at our standard billing rates or a separate fixed fee contract as determined by your firm. Our current rate structure is shown for your reference. Hourly contracted work will be invoiced based on our published LSW rate structure matching the time frame when the work is being completed.

2015:	Senior Engineer	$165./ hour
	Engineer	$140./ hour
	Field Observer	$105./ hour
	Senior Designer	$110./ hour
	Designer	$90./ hour
	CAD Operator	$80./ hour
	Clerical	$70./ hour
	Outside Services	Our cost

This proposal is effective for not more than 90 days.

LSW accepts the AIA B201 contract and requests that you prepare this document reflecting the terms and conditions of this proposal for our mutual execution prior to our beginning work.

We appreciate this opportunity and look forward to working with your firm on this project.

Regards,

LSW ENGINEERS ARIZONA, INC.

James H. D'Andrea, P.E.
Sr. Vice President

JHD:sm

Please indicate your acceptance of this proposal by signing and returning one copy of this letter for our files.

APPROVED: _____ DATE: _____

YOUR PROJECT / REFERENCE NO.:_____

2800 North Central Avenue, Suite 1010 Phoenix, AZ 85004 602.264.1010 kpff.com

July 1, 2015

Pat Cruse, Arizona School Facilities Board
St. Johns Unified School District #1
PO Box 3030
450 South 13 th West
St. Johns, AZ 85936

Subject: St. Johns High School Auditorium Roof Investigation
360 Redskin Drive, St. Johns, AZ 85936
KPFF Project No. 215021

Dear Mr. Cruse:

This letter presents the findings and recommendations resulting from our observations and analysis of the existing open web steel joist roof framing in the Auditorium Building of the St. Johns Unified School District. A site visit to observe the existing conditions of the roof framing were performed by Mr. Steve Wrublik of KPFF Consulting Engineers over April 16 and 17, 2015. With the assistance of facilities personnel, observations were made underside of the metal decking and open web steel joists, above the ceiling, through access into the roof framing that already existed. Geometric measurements of accessible open web steel joist chord and web members and panel points were recorded and a sample of the existing roofing materials was taken at the time of the observations.

The scope of these observations, analysis and recommendations is limited to provide opinion on the condition and capacity of the existing roof framing to support existing roofing and roof mounted HVAC units and to provide applicable recommendations on the observed existing conditions.

The condition of the open web steel joist framing, including the member connections appear to be structurally acceptable. No obvious deterioration, corrosion or damage to the trusses necessitating repair was observed from the accessed locations. The utilities for mechanical, electrical and plumbing observed above the ceiling appear to be consistent with the plans provided.

A structural analysis was performed on the existing open web steel joists based on different existing loading conditions. Open web steel joists ‘J1’ through ‘J8’, ‘J11’ through ‘J14’, and ’J17’ through ‘J19’ appear adequate to support existing loads from roofing, ceiling, plumbing, electrical and mechanical with no additional load carrying capacity. Reference attached ‘Joist Framing Key Plan’.

Open web steel joists ‘J9’ and ‘J10’, supporting the largest amount of ducts and pipes along the joist span and roof mounted HVAC units, in addition to existing loads, are structurally inadequate, with two overstressed diagonal web members near the supported ends of the joist. In order for joist ‘J9’ and ‘J10’ to be adequate to support the quantified loadings present, we recommend reinforcing or bracing the overstressed diagonal web members of the joists. Reference attached ‘Joist J9-10 Results’ sheet. The existing open web steel joists ‘J9’ and ‘J10’, after reinforced, would also be adequate to support the proposed replacement roof mounted HVAC unit, with mechanical curb attachment

on top of the second panel from joist ends and a maximum service weight of 2247 lbs, at a footprint of approximately 7ft x 11ft, provided that duct sizes are not increased, loading is distributed between multiple joists and the specified overstressed diagonal web members are structurally reinforced prior to unit installation.

Open web steel joists 'J15' and 'J16' are adequate to support the proposed replacement roof mounted HVAC unit, with mechanical curb attachment on top of the second panel from joist ends and a maximum service weight of 2247 lbs, at a footprint of approximately 7ft x 11ft, provided that duct sizes are not increased and loading is distributed between multiple joists. Any larger size unit will require additional reinforcement similar to joists 'J9' and 'J10', to be analyzed first. Reference attached 'Joist J15-16 Results' sheet.

Furthermore, placing an additional layer of built up roofing on top of the existing roofing adds unnecessary load, overstresses diagonal web members at all joists and is therefore not recommended and should be avoided.

Please note that the structural analysis performed was based on the assumption that steel chord and web members conformed to ASTM Specifications for Grade 50 steel and our recommendations are based on analysis of the structure using collected information, from field measurements and visual observations from the accessed location, for your use in developing options for moving forward with the mechanical and roofing system you choose.

Please call should you need further information.

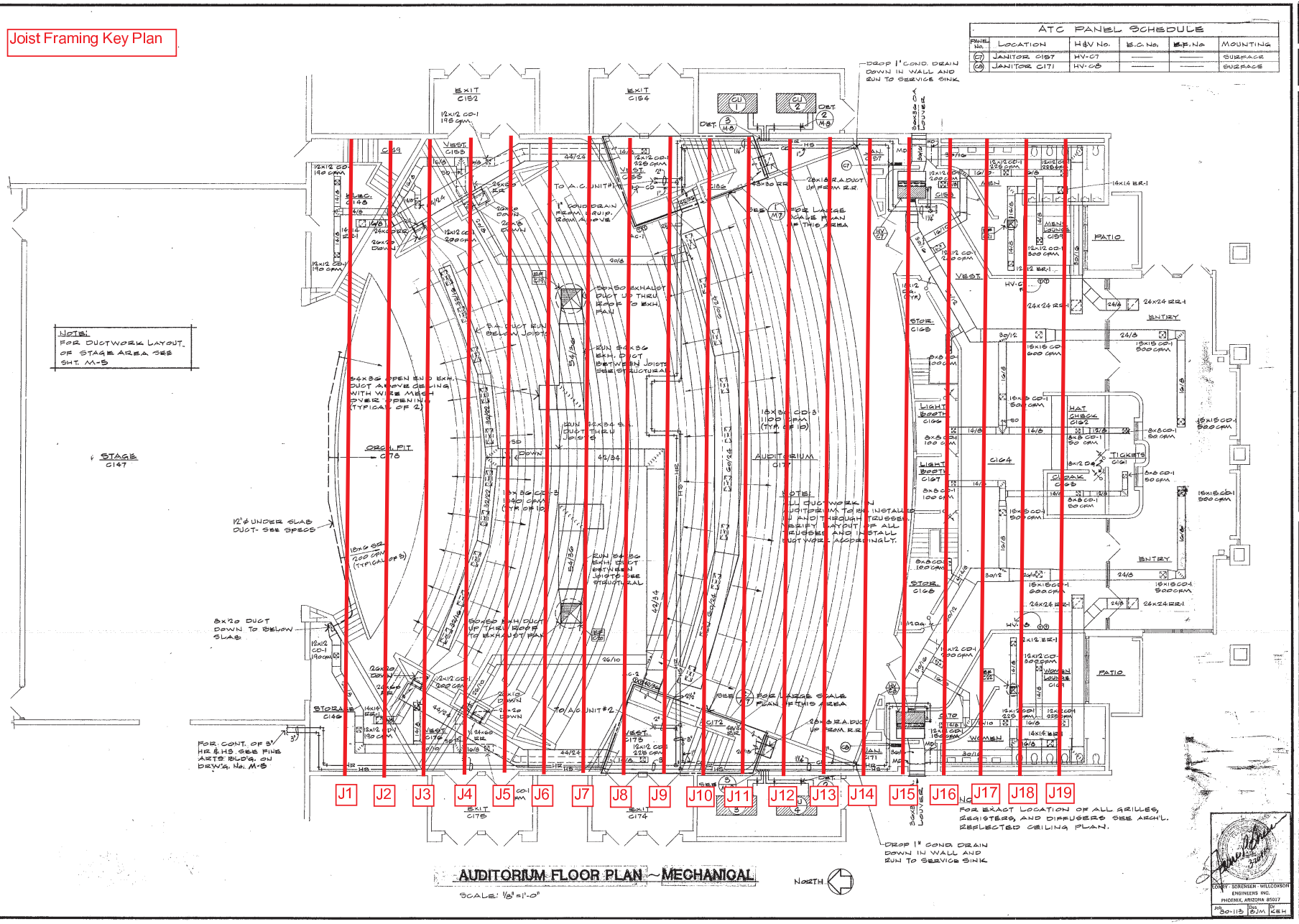
Sincerely,

KPFF Consulting Engineers

Steve Wrublik
Associate / Project Manager

CC: Tim Sepper

Joist Framing Key Plan



AUDITORIUM FLOOR PLAN ~ MECHANICAL

SCALE: 1/8" = 1'-0"

LOVRY · SORENSEN · WILLCOXSON ENGINEERS INC. PHOENIX, ARIZONA 85017

JOB 80-113 DW. BJM CK. KEH

SMILL · JUDD · RICHARDS & JOHNSON ARCHITECTS · PLANNERS 4645 EAST McKELLIPS RD · MESA, AZ 85205 962-0942 962-8637

ST. JOHNS HIGH SCHOOL ST. JOHNS ARIZONA

JOB NO. 80P-11459

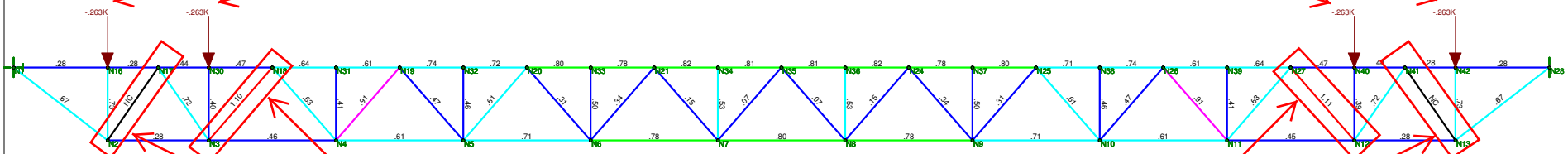
3/81

C

M6

Joist J9-10 Resuls

Existing Mechanical Unit
Loads at Points of Support



OVERSTRESSED
DIAGONAL WEB
MEMBERS

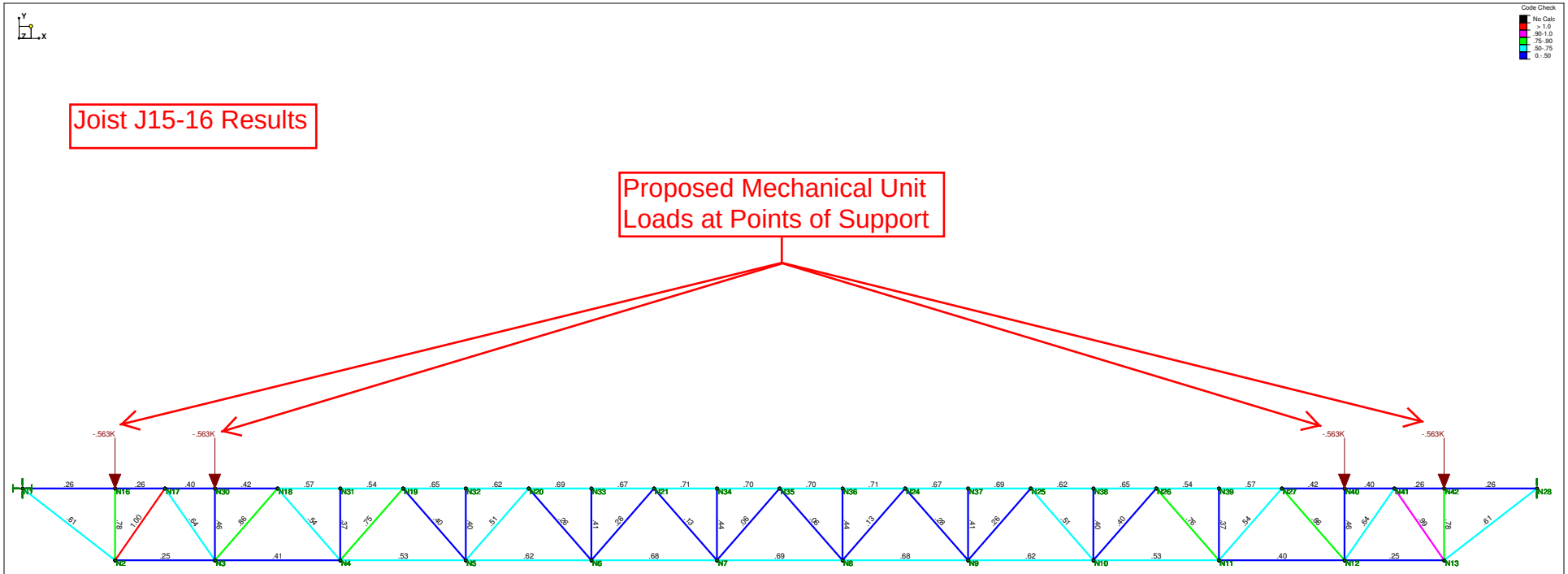
OVERSTRESSED
DIAGONAL WEB
MEMBERS

Member Code Checks Displayed
Loads: BLC 1, Mech Unit
Solution: Envelope

KPFF Consulting Engineers	St Johns HS Auditorium	July 1, 2015
SAW		2:33 PM
215021		St Johns HS Auditorium Roof-1A-Existing-Grad...

Joist J15-16 Results

Proposed Mechanical Unit
Loads at Points of Support



Member Code Checks Displayed
Loads: BLC 1, Mech Unit
Solution: Envelope

KPFF Consulting Engineers	St Johns HS Auditorium	July 1, 2015
SAW		2:35 PM
215021		St Johns HS Auditorium-Existing-Grade 50-OT...

E.

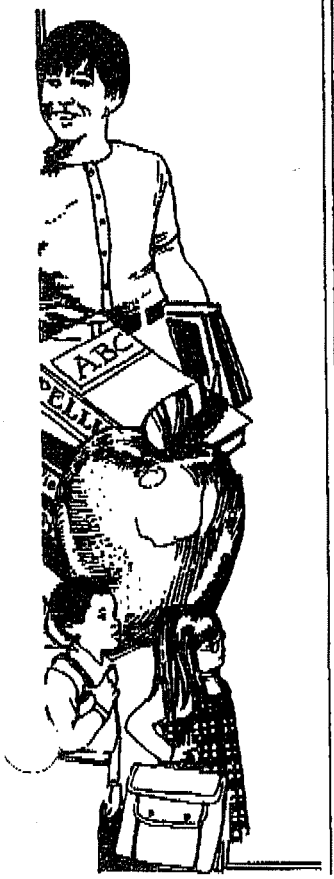
St. Johns Unified School District #1

P O Box 3030
St. Johns, AZ 85936

Phone: 928-337-2255
FAX: 928-337-2268

Mr. Larry Heap
Superintendent

Mrs. Pat Ulibarri
Business/Finance



To: Otis Connolly

From: Larry Heap

Date: 7-29-05

Re: Cooling in Auditorium

At our Work Study Session today, I was asked to have you get someone to determine what needs to be done to take care of the auditorium cooling problem.

Please get options and information in board backup form, for the September 2005 meeting.

Thanks

St. Johns Unified School District #1

Maintenance/Transportation Department

Larry Heap
Superintendent

Otis Connolly
Director

P.O. Box 3030
St. Johns, AZ 85936
Phone: 928-337-2508 Fax: 928-337-3908

To: Larry Heap

From: Otis Connolly OC

Date: August 30, 2005

Re: Auditorium cooling

Mr. Heap,

Following the request to evaluate the cooling at the Auditorium, I contacted Al Nichols Engineering in Tucson. Mr. Nichols has been used as a consulting engineer in various projects across the state.

I mailed the drawings, airflow balances and specs for the auditorium prior to SFB replacement. This included ratings for required and obtained results for airflow. I then included the new airflow results supplied at the check out of the project.

Mr. Nichol requested additional drawings of the building and he was supplied new drawings, and the closeout package from SFB. His findings are reported in the attached documents.

As previously thought, the air system is very inadequate and displays major design problems.

It is recommended that this be pursued through SFB and complaints be filed against the Architect and the Mechanical Engineer of the project.

Al Nichols Engineering, Inc.

MECHANICAL, PLUMBING, AUDITS, AND ENERGY CONSULTING ENGINEERING 10520 E. Seven Generations Way, 85747, Tucson, Arizona, (520) 760-0380 FAX 520 760-0258

August 29, 2005

St. Johns Unified School District #1
Otis Connolly, Maintenance Director
P.O. Box 3030
St. Johns, Arizona 85936

Reference: Preliminary Review of ASFB Drawings for Building "C" at the High School.

Dear Otis:

I have reviewed the drawings we received from you on August 27, 2005. It is clear that serious errors have occurred in the design of the mechanical systems in building "C" by the HCM (Harold C. Millett Architect Planner PC with R. J. Robinson Engineering, P.C.) design team. Below are my preliminary comments:

1. Auditorium seating and Orchestra pit area -

Originally the seating area was served with two air handler units with hot water heating and two nominal 18 ton condensing units for a total of 72 tons of cooling and approximately 1.7 million BTUH of heating. The space was also exhausted with two 12,000 cfm fans for a total of 24,000 cfm.

The rebuild drawings indicate that two Carrier 48HJF014 units were installed for a total of 24 tons of cooling, far short of the original design. The test and balance report list the air quantities at a total of 8,925 cfm. The original exhaust fans are still in place and exhaust 12,000 cfm each, yet, test and balance results are not reported. No explanation is given for the exhaust fans being removed or eliminated from the balance report during construction but points to a discovery that should have been explained at the time.

Outside ventilation air for the seating area in the rebuild totals 2,500 cfm. The 2000 IMC requires 15 cfm per person or enough for 166 students including the Orchestra Pit. The area method by code calculated occupancy at 150 students per 1,000 square feet or 2,340 students. Your stated seating capacity of 1,140 and 35 in the Orchestra Pit would require a minimum outside air of 17,625 cfm. The outside air requirements exceed

the installed supply air by 100%!

I have not been able to calculate the heating/cooling requirements due to the lack of the building insulation drawings but, clearly the Auditorium space design falls well below the standard of care for the design team. The standard of care for this project has not been met by the design.

2. Stage area -

The rebuild drawings indicate that one Carrier 48HJF007 unit was installed. The air quantities indicate that they were to be a nominal 7 1/2 tons, the model number however is that of a 6 ton unit with a total of 2,465 cfm and 750 cfm of outside air. The size of the unit is confirmed by the unit electrical requirements. The test and balance report does not list the model number but indicates that the air quantities were not met. The original exhaust fans are still in place and exhaust 7,830 each for a total of 15,660 cfm. While the exhaust fans are still listed on the drawings the test and balance report does not indicate any values.

Your stated stage occupancy of 100 students requires 1,500 cfm of outside air, or twice that provided by the installed unit. This space is clearly below the standard of care for the design team. Again, this standard of care was not met by the design team.

Indications from the information we have today indicate that the Carrier model unit number discrepancy may be common to all of the buildings in the remodel effort (i.e. 6 ton units where 7 1/2 ton units were designed). It is unusual that the exhaust fans on the drawings were not balanced and may have been eliminated. No explanation is given. The test and balance report does not list the outside air into each unit. This is also unusual.

Additional scrutiny of the drawing package is warranted. The actual operational difficulties experienced by you and your staff are explained by the preliminary study we have performed. If we can be of further assistance please call.

Sincerely yours,

Al Nichols, PE, CEM





St Johns High School

Inspection Report

WO#18708 **Don Hogue**

Overview

Inspect two, 1981 vintage, 40 ton McQuay DX split systems for re-commissioning as supplementary cooling for Auditorium.

Each split system consisting of 1) 46 ton AHU with DX cooling and Hot Water reheat, and 2) 20 ton Air Cooled DX Condensers.

Both systems originally controlled by pneumatic controls

Inspect original ducting, and modifications made during installation of roof top package units

In 2001 Hot Water Boiler decommissioned and removed, most likely due to underground leaks, leaving systems without heating. The two original split systems where decommissioned and abandoned in place, and four Carrier Gas Packs 2) 5ton and 2) 12.5 ton (using Propane) where installed over existing AHUs and entrance, these have been tied into original duct work.

Supply ducts where removed and capped at AHUs and tie-in. Return duct left in place and sealed. Electrical for AHUs removed and utilized for roof top package units.

Electrical and control circuits for all 4) condensing unit where removed back to common junction box at pad. Refrigerant also removed from 4) condensers.

Pneumatic controls boxes have been gutted and used as junction boxes for new Package units.

Scope

Customer would like to re-commission split systems for use as supplementary cooling systems. Current package units are under sized and unable to provide sufficient cooling in spring and fall during events in auditorium.

Equipment Inspected

West AHU- McQuay Model LSL228CH Serial 3MB00230-04

East AHU- McQuay Model LSL228CH Serial 3MB00229-04

1N Cond- McQuay Model ALP019AS Serial 3MB00448-08

2N Cond – McQuay Model ALP019AS Serial 3MB00447-08

1S Cond –McQuay Model ALP019AS Serial 3MB00446-08

2S Cond –McQuay Model ALP019AS Serial 3MB00445-08

2) Controls Cabinets

Duct Work

St Johns High School

Inspection Report

WO#18708 **Don Hogue**

Findings

West AHU-

Electrical Whip and disconnect removed. Electrical service was re-routed and used for 12.5 ton Gas Pack on roof. Will need to bring in new circuit from panel.

Supply ducts have been removed between drop for package unit and AHU, and will need to be re-installed with isolation dampers.

Return duct was left intact and sealed off from AHU with sheet metal.

DX coils will need to be cleaned. No visual sign of refrigerant leaks.

Fan is free spinning, bearing will need to be lubricated, bearings sounded otherwise serviceable (No power to unit could not test at speed).

Motor tests good electrically and is free spinning, will also need to be lubricated. Motor sheave and belts will need to be replaced. Recommend replacing motor with invert duty, and installing VFD for staging.

Condensate drain has been disconnected and will need to be tied back into drain.

Visible oil around TXV 2S refrigerant circuit

East AHU-

Electrical Whip and disconnect removed. Electrical service was re-routed and used for 12.5 ton Gas Pack on roof. Will need to bring in new circuit from panel.

Supply ducts have been removed between drop for package unit and AHU, and will need to be re-installed with isolation dampers.

Return duct was left intact and sealed off from AHU with sheet metal.

OA damper, one section damaged. Will need to be repaired or replaced.

DX coils will need to be cleaned. No visual sign of refrigerant leaks.

Fan is free spinning, bearing will need to be lubricated, bearings sounded otherwise serviceable (No power to unit could not test at speed).

Motor tests good electrically and is free spinning, will also need to be lubricated. Motor sheave and belts will need to be replaced. Recommend replacing motor with invert duty, and installing VFD for staging.

Condensate drain has been disconnected and will need to be tied back into drain.

Visible oil on suction line refrigerant circuit 1N.

Visible oil at TXV refrigerant circuit 2N

St Johns High School

Inspection Report

WO#18708 **Don Hogue**

1N Condenser

Electrical and control wiring and conduit removed back to common junction box at equipment pad. Will need to run new conduit and wiring for both. 40' each #8 conductors and 1" conduit for electrical, #14 conductors and ¾" conduit for control circuit.

Refrigerant removed from system at de-commissioning. Will need to pressurize, leak check, dehydrate, change drier core, remove/replace oil (see compressor mfg. spec. for type and qty.), and change. 1) drier core, approx.. 75# R-22.

Compressor tests low Meg-ohms <20. Winding to winding .9 ohms ~ (OK). No shorts or ground readings. Refrigerant removed, system was not pressurized with Nitrogen at de-commissioning possibly allowing moisture into system, causing low Meg-ohms.

Condenser motors test OK Meg-ohms >1000, and 1.0 ohms winding to winding. Condenser is infested with wasps, all three motors have mud nests in windings, recommend replacement of all three condenser motors. Condenser motor #1 has locked rotor. 3) .75 Hp motors 460v 1Ph. Order OEM from Mfg.

Control panel door missing. LP, HP, OP, and control relay will need to be replaced (exposed to elements). Replace listed controls, 25' #14 awg. stranded conductors, fabricate and install 16 ga. Sheet metal door (27 7/8"x28 ¾" with ¾" turn-in) and hinges.

Relays, contactors, and un-loader valves are intact and visually appear to be serviceable but will need to be tested on startup.

2N Condenser

Electrical and control wiring and conduit removed back to common junction box at equipment pad. Will need to run new conduit and wiring for both. 40' each #8 conductors and 1" conduit for electrical, #14 conductors and ¾" conduit for control circuit.

Refrigerant removed from system at de-commissioning. Will need to pressurize, leak check, dehydrate, change drier core, remove/replace oil (see compressor mfg. spec. for type and qty.), and change. 1) Drier core, approx. 75# R-22.

Compressor tests low Meg-ohms <20. Winding to winding .9 ohms ~ (OK). No shorts or ground readings. Refrigerant removed, system was not pressurized with Nitrogen at de-commissioning possibly allowing moisture into system, causing low Meg-ohms.

Condenser motors test OK Meg-ohms >1000, and 1.0 ohms winding to winding. Condenser motor #1 has locked rotor. 1) .75 Hp. motors 460v 1Ph. Order OEM from Mfg.

HP, LP, OP, Relays, contactors, and un-loader valves are intact and visually appear to be serviceable but will need to be tested on startup.

St Johns High School

Inspection Report

WO#18708 **Don Hogue**

1S Condenser

Electrical and control wiring and conduit removed back to common junction box at equipment pad. Will need to run new conduit and wiring for both. 40' each #8 conductors and 1" conduit for electrical, #14 conductors and ¾" conduit for control circuit.

Refrigerant removed from system at de-commissioning. Will need to pressurize, leak check, dehydrate, change drier core, remove/replace oil (see compressor mfg. spec. for type and qty.), and change. 1) Drier core, approx. 75# R-22.

Compressor tests low Meg-ohms <20. Winding to winding .9 ohms ~ (OK). No shorts or ground readings. Refrigerant removed, system was not pressurized with Nitrogen at de-commissioning possibly allowing moisture into system, causing low Meg-ohms.

Condenser motors test OK Meg-ohms >1000, and 1.0 ohms winding to winding. Condenser motor #1 has locked rotor. 1) .75 Hp. motors 460v 1Ph. Order OEM from Mfg.

HP, LP, OP, Relays, contactors, and un-loader valves are intact and visually appear to be serviceable but will need to be tested on startup.

2S Condenser

Electrical and control wiring and conduit removed back to common junction box at equipment pad. Will need to run new conduit and wiring for both. 40' each #8 conductors and 1" conduit for electrical, #14 conductors and ¾" conduit for control circuit.

Refrigerant removed from system at de-commissioning. Will need to pressurize, leak check, dehydrate, change drier core, remove/replace oil (see compressor mfg. spec. for type and qty.), and change. 1) Drier core, approx. 75# R-22.

Compressor tests low Meg-ohms <20. Winding to winding .9 ohms ~ (OK). No shorts or ground readings. Refrigerant removed, system was not pressurized with Nitrogen at de-commissioning possibly allowing moisture into system, causing low Meg-ohms.

Condenser motors test OK Meg-ohms >1000, and 1.0 ohms winding to winding. Condenser motor #1 has locked rotor. 1) .75 Hp. motors 460v 1Ph. Order OEM from Mfg.

HP, LP, OP, Relays, contactors, and un-loader valves are intact and visually appear to be serviceable but will need to be tested on startup.

Duct Work

Duct work appears to be original and intact. Packaged units tied in directly above existing AHUs.

Supply ducts have been remove at tie in and Existing AHUs. Will need to be replaced, and isolation dampers installed.

Return ducts where left intact and sealed at existing AHUs with sheet metal mixed air dampers left in place, East OA damper will need to be repaired or replaced.

St Johns High School

Inspection Report

WO#18708 **Don Hogue**

Duct work for front entrance has been isolated on both east and west sides and 2) 5 ton package units installed.

Could not find isolation point.

Will need to confirm on prints. Customer to supply original and modified prints.

Recommend considering re-opening ducts and installing isolation dampers for staging and redundancy.

Controls

Original controls are pneumatic. Compressor and supply air lines have been removed.

Recommend installing DDC controls, and incorporating 4) new package units for better staging and control options.