

Bullitt County Public Schools

1040 Highway 44 East Shepherdsville, Kentucky 40165

502-869-8000 Fax 502-543-3608 www.bullittschools.org

DATE: May 21, 2018

TO: Keith Davis, Superintendent

FROM: Bret Highley ARH

RE: Change Order #8 – Bullitt Lick Middle School Roof Abatement and Replacement

Attached for the Board's review and approval is Change Order #8, for EH Construction, LLC in the amount of \$387,605.95. This change order request is due to unforeseen asbestos and concrete that has overstressed the existing structure and needs to be replaced.

There are two found conditions at the roof that present life, safety and welfare issues at the school: (1) Asbestos containing materials and (2) Excess weight on the structure beyond what it is designed to support.

This was an unforeseen condition due to two reasons -(1) no documentation was made available to the A/E team that reflected a 2-3 inch layer of concrete over an existing ballasted roof and (2) the concrete layer prevented roof corings from reaching the layers of asbestos in the roofing below it. Studio Kremer Architects stated that in their experience, they had never seen layers of concrete used as a method to encapsulate asbestos at a roof.

Before this request, EH Construction, LLC contract amount is \$9,090,991.96. Adding \$387,605.95 will bring the contract amount to \$9,478,597.91.

Please let me know if you need additional information regarding this request.

Attachment:

- AIA Change Order #8
- KDE Supplemental Information Form
- EH Construction Cost Break Down
- Studio Kremer Change Order Request

Venuestar

Equal Education and Employment Institution

AIA° Document G701^{$\circ} – 2017$ </sup>

Change Order

Contract For: General Construction	Change Order Number: 008
	Change Order Humber. 000
Date: September 11, 2017	Date: 5-18-2018
ARCHITECT: (Name and address)	CONTRACTOR: (Name and address)
Studio Kremer Architects	EH Construction, LLC
1231 S Shelby Street	1188 E Blue Lick Road
Louisville, KY 40203	Shepherdsville, KY 40165
	ARCHITECT: (Name and address) Studio Kremer Architects 1231 S Shelby Street Louisville, KY 40203

(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

See Architect's justification letter, attached, for detailed description of change in scope.

The original Contract Sum was	\$ 8,967,416.93
The net change by previously authorized Change Orders	\$ 123,575.03
The Contract Sum prior to this Change Order was	\$ 9.090,991.96
The Contract Sum will be increased by this Change Order in the amount of	\$ 387,605.95
The new Contract Sum including this Change Order will be	\$ 9,478,597.91

The Contract Time will be increased by Zero (0) days. The new date of Substantial Completion will be

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

Studio Kremer Architects ARCHITECT (Firm name) 4 aurine IGNATURE

Catherine Noble Ward, AIA PRINTED NAME AND TITLE

5-18-2018 DATE

EH Construction,	LLC
CONTRACTOR (F)	irm name)
Miles	This
SIGNATURE	(1)

Mike Rippy, Project Manager PRINTED NAME AND TITLE

5-18-2018 DATE

Bullitt County Board of Education OWNER (Firm name)

SIGNATURE

Keith Davis, Superintendent PRINTED NAME AND TITLE

DATE

1

KENTUCKY DEPARTMENT OF EDUCATION 702 KAR 4:160

BG #: Change Order No.:008			
District Fa District: <u>Bullitt County Schools</u> Code: <u>071</u> Na	cility me: <u>Bullitt Lick Middle Scho</u>	ool	School Code: 018
Project: Renovations & Addition Time Exte	nsion Required: Yes X No	lf	yes, byday(s)
Date of Change Order: <u>5/18/2018</u> Change Order	Amount: X Increase	Deci	rease 🛛 Unchanged
1 This Requested Change Order Amount + /		\$	387 605 95
2 Remaining Construction Contingency Balance: (inclu	ding line 1 above)	\$	115,192.54
3. Change in A/E Fee for this Change Order +/-	mentredo litra-los la se	\$	6,000.00
4. Change in CM Fee for this Change Order +/-		\$	n/a
Contract change reason code: Reduction of Scope X Found Condition	Expansion of Scope		Improved Plans/Specs
Change Order Description and Justification:	Cost Benefit to Owner:	(0)	
COR No.08 : EH Construction alerted Studio Kremer Architects and BCPS district staff to an unforeseen condition at the roof on April 27, 2018. The roof composition found at BLMS is different than what was assumed based on original documents. The roof composition found lead the A/E and Construction team to believe the original roof was left in place and a new roof was built over it that included a 2" – 3" layer of light weight concrete. The roof layers are noted and illustrated below:	welfare issues present on the asbestos and (2) overstressi Dealing with this issue during project results in redundancy already mobilized on site to having to reinitiate a project contractor remobilization and	e roo ing c g an y of c perfo and d ge	of. (1) the issue of of the existing structure. active construction contractors' who are orm work and not double pay for neral conditions.

Due to the layer of concrete, Studio Kremer Architects sent this information to Slesser Engineering, the structural engineer, to review the total weight of the roof assembly and see if the structure is overstressed due to the added weight of the light weight concrete and additional layers of roofing material. Slesser Engineering found the structure is 20% overstressed with just the dead load (weight) considered and 60% overstressed with both dead load (weight) and live load (snow, people, wind, etc.) considered. In addition to the matter of added weight – the (3) layers of built-up roofing just below the concrete and styrofoam layers is comprised of asbestos containing material. This was not in Environmental Health Management's report because during their coring of the existing roof, the concrete layer that was present (which no one had anticipated based on the documentation made available to the A/E team) stopped their core and they had assumed they had hit the roof deck. Testing Method - (10) 5-inch diameter cores have been taken at the locations of the new plumbing vents to be installed. The cores were weighed by GEM Engineering and the following weights were sent to the A/E team for review. Based on the initial structural analysis by Slesser Engineering – they found the existing structure is designed to support a roof assembly weight of 15 psf maximum (this includes the roof itself plus the Tectum roof deck). The existing structure is not designed to hold the existing weight of roofing, as found from the roof cores. Working together with EH Construction, the design team looked at options for selectively demolishing specific layers of the roof and encapsulating the asbestos layer but found this is not possible. The reason for this is two-fold: (1) the ballast layer cannot be disturbed due to the asbestos layer being directly below it, which would require abatement, and (2) the

ballast layer's weight exceeds the allowable maximum load once a new foam roof is added on top of it. Because of both the risk of asbestos contamination and the ballast layer causing the roof to exceed allowable weight limits we are in a position to only recommend one option to deal with the existing roof condition the existing roof assembly must be removed in its entirety down to the existing tectum roof deck.

Have contract unit prices been utilized to support the cost associated with this change order?

Yes X No If no, provide a detailed cost breakdown which separates labor, material, profit and overhead.

Cost Breakdown: Refer to the attached Change Order Request for a cost breakdown by material and labor. It was found that the work outlined in the change order did not have associated unit prices to utilize.

Total Change Order Amt .:		Labor	Materials			Profit & Overhead*	Bond & Insurance	
\$387,605.95	\$	146,116.80	\$	198,401.47	\$	43,087.68	\$	
% of Total Change Order Amt.:		37.7%		51.2 %		11.1%		%

*Profit & Overhead shall not exceed 15% of net cost of change order

Is the cost for this change order supported by an alternate bid or competitive price quote(s)?

Yes X No If no, explain why The work can be handled by trades already on site who are familiar with the building and can accomplish the work quickly within the outlined construction timeframe.

atturin 5-19-2018 Studio Kremer Architect's Signature Date

N/A Construction Manager's Signature

Date

Board of Education Designee's Signature Date 5-21-18 Date

Finance Officer's Signature

Change Order Supplemental Info - 2013





EH CONSTRUCTION, LLC **GENERAL CONTRACTORS • CONSTRUCTION MANAGERS** P.O. BOX 910 **BROOKS, KY 40109** (502) 957-7471 · FAX (502) 957-3420

May 18, 2018

Studio Kremer Architects 1231 Shelby Street Louisville, KY 40203

Re: Bullitt Lick Middle School/COR #7/Roof Abatement

Full Roof Abatement

Entire Roof	\$366,062.11
GC 7.5% Overhead & Profit	\$ 21,543.84

Total Cost

\$387,605.95

ABATEMENT WORK WILL HAVE IMPACT ON OVERALL PROJECT SCHEDULE. ABATEMENT WORK CAN ONLY BE PERFORMED WHILE BUILDING IS UNOCCUPIED. IF THE CHANGE ORDER IS APPROVED, A FORMAL CHANGE ORDER MUST BE WRITTEN AND APPROVED NO LATER THAN JUNE 1'2018 FOR WORK TO BE SCHEDULED AND PERFORMED THIS SUMMER BREAK. DUE TO THE LABOR ENTISTY OF WORK REQUIRED, MULTIPLE TRADES INVOLVED, AIR CLEARANCES AND WEATHER, EVEN IF APPROVED BY JUNE 1ST THE RE-ROOF PORTION OF THE PROJECT MAY EXTEND PAST CONTRACT COMPLETION DATE RESULTING IN EXTENDED GENERAL CONDITIONS FOR THE CONTRACTOR DUE TO THIS UNFORSEEN CONDITION.

Sincerely,

Nih Thing

Mike Rippy EH Construction, LLC



May 17, 2018

Mr. Mike Rippy EH Construction P.O. Box 910 Brooks, KY 40109

Direct: 502-957-7471 Fax: 502-957-3420

Subject: Change Order Request for Roof Abatement Bullitt Lick Middle School 555 W Blue Lick Road Shepherdsville, Kentucky

Dear Mr. Rippy

Per your request, Abatement Solution Technologies (AST) is pleased to submit our charge order request to perform the Roof Abatement as requested in the email dated May 11, 2018. AST will perform the roof abatement in accordance with the following 3 options:

Option #1: Abatement of the roof penetrations for the roof drains, alcoves and exhaust fans (21-4'x 6' areas, 3 - 4'x 13' Firewall Alcove area, 7 - 18"x 18" Exhaust Fan Openings).

Option #2: Abatement of up to 700 LF of roof edge / flashing.

Option #3: Abatement of entire roof (up to 63,500 SF) to the Tectum decking.

Roof Abatement Options	Labor		Materials / Equipment / Waste		Overhead & Profit (7.5%)		Total	
Option 1: Roof Penetrations Only	\$ 7	,060.56	\$	8,218.47	\$	944.29	\$	16,223.22
Option 2: Roof Edge Only	\$ 5	5,124.60	\$	2,740.39	\$	745.52	\$	12,686.21
Option 3: Entire Roof	\$ 146	6,116.80	\$1	98,401.47	\$2	1,543.84	\$.	366,062.11

AST will perform the services on a lump sum basis for the prices listed below.

Conditions

The following assumptions and conditions were developed exclusively for this project:

> Kentucky Certified Asbestos Supervisors and Workers will be utilized.

444 Terry Boulevard • Louisville, Kentucky 40229 • 502-635-5051 • Fax 502-635-5598 abatementsolutionstech.com



Change Request for Roof Abatement Bullitt Lick Middle School 555 W Blue Lick Road Shepherdsville, Kentucky

- > The work area will not be occupied during abatement activities.
- > Disposal will be made in a certified landfill with records made available to the owner.
- > AST will have unencumbered access to the work area.
- > Owner will provide access to electric and water service at no charge to AST.
- > The removal of equipment, piping, or any other obstruction from work areas is not included in this proposal.
- > All waste is non-hazardous.
- > The price assumes a 40 hour work week. Overtime is not included.
- AST is not responsible for "drying" in the building and will not be responsible for any leaking of water into the building which may occur as a result of the abatement services. AST understands that General Contractor is responsible for securing the roof in a water tight manner at the end of each day that the Roof Abatement services are performed.
- Abatement and demolition services are destructive in nature. Though AST will utilize standard care during the performance of these services, AST will not be responsible for the repair of damage to remaining building materials as result of these services.
- The price is based on the scope of work described above. If additional abatement or demolition is necessary or requested, a change to the scope of work and price will be necessary.

Qualifications

AST is well qualified for this service, having completed years of abatement projects. AST's field personnel have completed several training courses, including the AHERA asbestos training class, HUD lead paint training, the 40-hour OSHA HAZWOPER, its associated 8-hour refresher, confined space entry, mold remediation training, water restoration and structural drying training, and CPR/first aid.

Please indicate your acceptance of this proposal by signing below or by forwarding a Purchase Order number to AST. The prices in this proposal are valid for 30 days. AST appreciates the opportunity to submit this proposal. Please feel free to contact Matt Rudolph at (502) 558-8190 or by email (matthew.rudolph@astl.com) with comments or questions.

Respectfully submitted,

Matt Rudolph

Matt C. Rudolph, CHMM Vice President of Environmental Services Abatement Solutions Technologies, Inc.

Attachments: BLMS – Required Abatement



Change Request for Roof Abatement Bullitt Lick Middle School 555 W Blue Lick Road Shepherdsville, Kentucky

NOTICE TO PROCEED

Name / Title:

Signature:

Date:



May 18, 2018



CHANGE ORDER REQUEST NO. 008

FROM: Studio Kremer Architects

PROJECT: BULLITT LICK MIDDLE SCHOOL RENOVATION AND ADDITION BG# 17-148 ska# 2016-86

EH Construction alerted Studio Kremer Architects and BCPS district staff to an unforeseen condition at the roof on April 27, 2018. The roof composition found at BLMS is different than what was assumed based on original documents. The roof composition found lead the A/E and Construction team to believe the original roof was left in place and a new roof was built over it that included a 2'' - 3'' layer of light weight concrete. The roof layers are noted and illustrated below:

Newer Roof over Original

3) Layers Built Up Roofing	
"-3" Light Weight Concrete	
" Foam Board	
riginal Roof	
allast	
3) Layers Built-up Roofing(CONTAINS)ASBESTOS)	
" Insulation/Cover Board	
" Tectum Deck	
911 Total Dupting ABOVE Joist (3) LAYERS. (TO GRAVEL STOP)	
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Aleuna K III Concrete	-
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Due to the layer of concrete, Studio Kremer Architects sent this information to Slesser Engineering, the structural engineer, to review the total weight of the roof assembly and see if the structure is overstressed due to the added weight of the light weight concrete and additional layers of roofing material. Slesser Engineering found the structure is 20% overstressed with just the dead load

(weight) considered and 60% overstressed with both dead load (weight) and live load (snow, people, wind, etc.) considered.

In addition to the matter of added weight – the (3) layers of built-up roofing just below the concrete and styrofoam layers is comprised of asbestos containing material. This was not in Environmental Health Management's report because during their coring of the existing roof, the concrete layer that was present (which no one had anticipated based on the documentation made available to the A/E team) stopped their core and they had assumed they had hit the roof deck.

Testing Method - (10) 5-inch diameter cores have been taken at the locations of the new plumbing vents to be installed. The cores were weighed by GEM Engineering and the following weights were sent to the A/E team for review.

Sample #	Sample Core Dia.	Core Sample Weight	Calculated Weight per sq. ft
1	5.75"	4.70 lbs	26.1
2	5.75"	4.61 lbs.	25.6
3	5.75"	3.35 lbs.	18.6
4	5.75"	4.44 lbs.	24.6
5	5.75"	5.01 lbs.	27.8
6	5.75"	5.53 lbs.	30.7
7	5.75"	5.00 lbs.	27.7
8	5.75"	4.49 lbs.	24.9
9	5.75"	4.70 lbs.	26.1
10	5.75"	4.91 lbs.	27.2

Based on the initial structural analysis by Slesser Engineering – they found the existing structure is designed to support a roof assembly weight of **15 psf maximum** (this includes the roof itself plus the Tectum roof deck). The existing structure is not designed to hold the existing weight of roofing, indicated above.

Working together with EH Construction, the design team looked at options for selectively demolishing specific layers of the roof and encapsulating the asbestos layer but found this is not possible. The reason for this is two-fold: (1) the ballast layer cannot be disturbed due to the asbestos layer being directly below it, which would require abatement, and (2) the ballast layer's weight exceeds the allowable maximum load once a new foam roof is added on top of it. Because of both the risk of asbestos contamination and the ballast layer causing the roof to exceed allowable weight limits we are in a position to only recommend one option to deal with the existing roof condition - the existing roof assembly must be removed in its entirety down to the existing tectum roof deck.

The new roof assembly will include the following layers with weights noted, below. This roof system is included in the original bid for the project.

12.19 psf
8.9 psf
0.70 psf
1.0 psf
0.70 psf
0.89 psf

Construction schedule and impacts on the substantial completion date:

EH Construction made the A/E Team and the District aware that work on the roof must be completed during a limited time window. This is both due to weather and the nature of abatement of asbestos. Abatement work cannot be done while students occupy the facility, which is why they need this summer break to complete work. If this change order is approved by June 1st, they believe they can complete the work over the scheduled summer break and will make every effort to do so. However, the application of the foam roof material requires certain weather conditions – the relative humidity cannot exceed 80% and the outside temperature cannot drop below 50 degrees Fahrenheit. Should this summer have an excess amount of rain, the work could be delayed. EH Construction believes they will need 50 calendar days to complete this work. Should work be delayed to a point that extends into the next school year, they will request additional time to their contract to complete the work during the summer and will make every effort to do so, but they wanted to bring it to the attention of the the A/E team, the Board of Education and the District that a contract time extension may be requested should conditions this summer prove unfavorable.

Based on this Proposal Request, EH Construction is requesting a **\$387,605.95** change in contract sum and a **0-day calendar extension** (at this time) to complete the outlined scope of work. This work is being handled on a lump sum basis, with a reduction in overhead and profit to allow this change order to fall below the prescribed KDE maximum threshold of 15% for contractor/subcontractor overhead and profit.

We have reviewed the additional cost associated with full demolition of the existing roof assembly and abatement of the asbestos found at the roof. This change order includes 63,500 square feet of roof abatement/demolition yielding a unit cost of \$6.10 per square foot. Studio Kremer agrees with the quantities of material and labor required for this work as presented by EH Construction. We understand this change order is sizable and results in taking a large portion of the remaining contingency for this project – but feel this is the only recommended course of action to take because it will be correcting two issues that affect health, safety and wellness of Bullitt County students and staff. Based upon the information provided we recommend that the Bullitt County Board of Education approve the Change Order as presented. **Studio Kremer Architects**

Pote March Ward

Cate Noble Ward | Architect

Enclosures:

- 1.) EH Construction's COR #007 Roof Abatement and Demolition
- 2.) Image of roofing layers taken in the field, for reference.
- 3.) KDE Supplemental Instruction for Change Order #008
- 4.) AIA Document G701-2017 Change Order #008