

Date Issued: 08/03/2016

Murphy + Graves Project No. 1316

Project: LFUCG PSOC PH 2

Attachments: RFP Marcum Engineering

Issued by: Baccus Oliver, Marcum Engineering via Andrea Bradford

Subject: Electrical Room 142 Ductless Split Cooling Unit

See attached RFP from Marcum Engineering.

Provide a proposal for the scope of work described in these documents, complete with breakdown.

PUBLIC SAFETY OPERATIONS CENTER PHASE 1B
LEXINGTON FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KENTUCKY
MURPHY GRAVES TRIMBLE ARCHITECTS NO. 1316
MARCUM NO. 13618

MPE REQUEST FOR PROPOSAL

TO: Andrea Bradford, Murphy Graves Trimble

CC: Steve Cherry, Murphy Graves Trimble
Jim Leake, Murphy Graves Trimble
Johnny Baucum, Marcum Engineering

FROM: Baccus L. Oliver, Marcum Engineering

DATE: August 1, 2016

SUBJECT: RFP 13 – Electrical Room 142 Ductless Split Cooling Unit

RATIONALE:

Since commissioning, Electrical Room 142 was found to be consistently warm (in the upper 70s) when outdoor air temperatures are above approximately 80 deg F. Marcum Engineering has reviewed records and the as-built conditions. The contribution to the high heat load is due to be the large UPS system which rejects 36,000 BTUH in lieu of the 18,000 BTUH allowed. The UPS system supports both Phase 1B and Phase 2 (911) electrical loads. The large cooling load required for the UPS will present additional problems in the winter as that VRV systems cannot support a heat recovery system that is predominately in heating mode with one zone requiring cooling. Therefore, the addition of VRV Fan Coils will not satisfy the cooling dominate load during the winter.

The solution is the addition of a 3 Ton cooling only unit. This unit will provide the cooling needed for the UPS during the winter and the additional cooling needed during the summer. A 3 Ton ductless split system can handle the localized heat gain from the UPS. Meanwhile, the heating and cooling of the space will continue to be supplied by the two (2) existing VRV units. This solution will maintain a room temperature of approximately 72 degrees F (as approved by LFUCG).

This RFP covers the following: addition of the cooling only system; connection of the system to an emergency powered circuit; and limited integration of the unit into the Building Management System.

INSTRUCTIONS:

Reference Drawings H1.1 and E1.3 and the attached Sketches XME01 and XME02. The Contractor shall provide a proposal for the following:

- Furnish HVAC equipment as indicated.
- Install HVAC system as indicated.
- Label and set thermostats as indicated.
- Install electrical power as indicated.
- Modify BMS HVAC controls and integrate Daikin remote controller as indicated on Sketch XME02.

Proposal shall provide breakdown of all costs by material and labor and any Unit Prices that apply.

ATTACHMENTS:

1. Sketch XME01
2. Sketch XME02

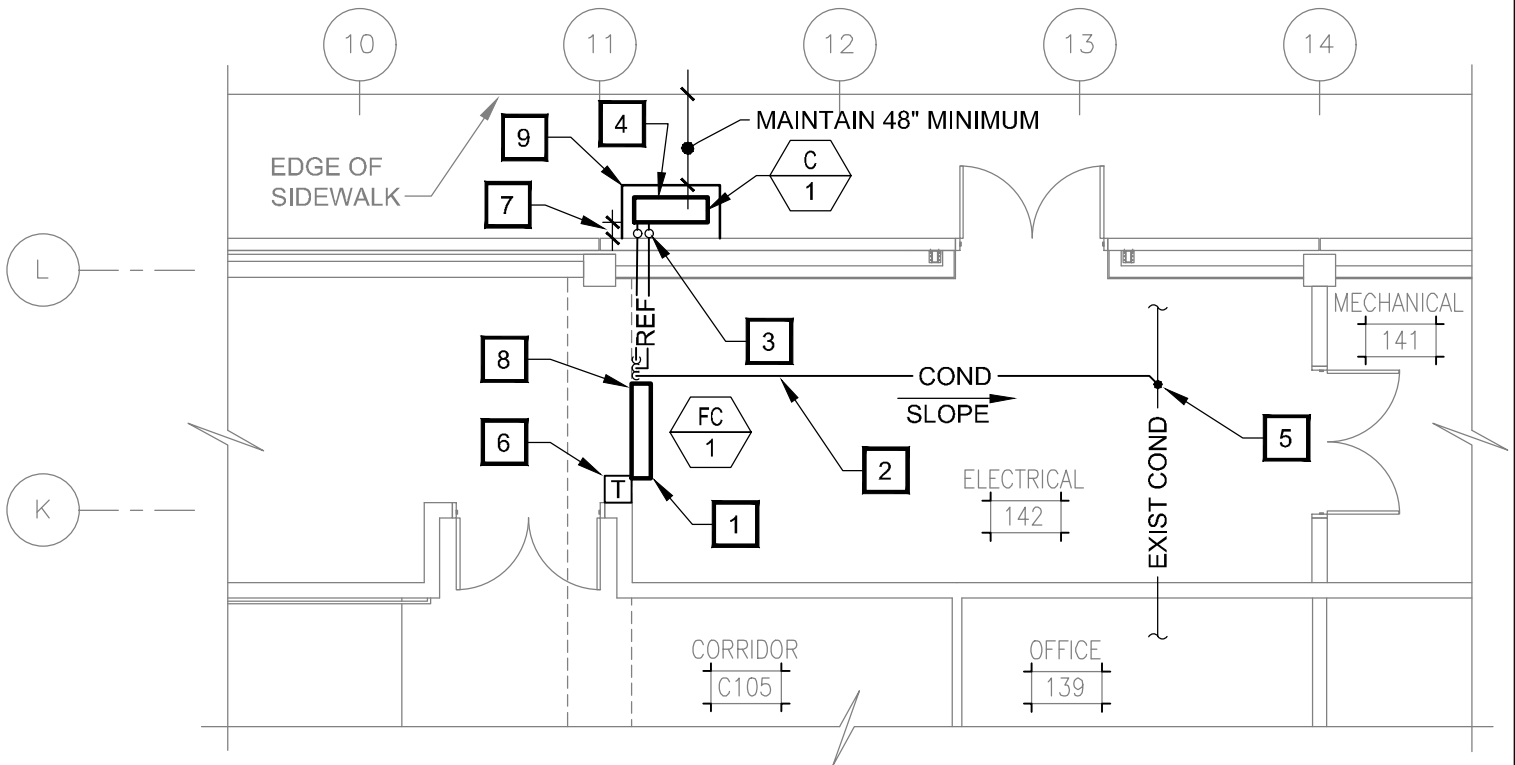
END OF DOCUMENT

CONSTRUCTION NOTES

#

(APPLIES TO THIS DRAWING ONLY)

1	MOUNT INDOOR UNIT AND REFRIGERANT PIPING ON SIDE OF EXISTING CONCRETE ROOF BEAM.
2	ROUTE CONDENSATE PIPING HIGH AS PRACTICAL. COORDINATE WITH EXISTING CONDITIONS.
3	ROUTE REFRIGERANT PIPING UP AND PENETRATE WALL AT BEAM ELEVATIONS. COORDINATE WITH EXISTING ELECTRICAL PANELS AND COMPONENTS.
4	SECURE OUTDOOR UNIT TO STAND AND SECURE STAND TO CONCRETE SIDEWALK WITH ANCHOR BOLTS.
5	CONNECT NEW 1" CONDENSATE PIPING TO EXISTING CONDENSATE PIPING. SLOPE DOWN FROM UNIT TO EXISTING. FIELD VERIFY EXISTING LOCATION.
6	INSTALL THERMOSTAT ABOVE EXISTING AND LABEL EACH RESPECTIVELY AS: "VRVD-142A/142B = HEATING & COOLING" AND "FC-1 = COOLING ONLY". THE CONTRACTOR SHALL CHANGE THE VRV SET-POINTS TO 74°F COOLING AND 65°F HEATING WITHIN THE DDC PROGRAMMING. THE CONTRACTOR SHALL SET THE COOLING ONLY THERMOSTAT FOR FC-1 TO 72°F OF YEAR AROUND OPERATION.
7	DO NOT EXCEED 8" UNLESS MANUFACTURER REQUIRES MORE CLEARANCE.
8	ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A NEW 2P20A BRANCH BREAKER IN THE AVAILABLE SPACE OF PANEL EA2 AND EXTEND 2-#12'S, #12 GRD. IN 1/2" CONDUIT TO C-1, FURNISH AND INSTALL A 2P30A NON-FUSED NEMA 3R DISCONNECT AND MAKE FINAL CONNECTION TO C-1 IN LIQUID TIGHT FLEXIBLE METAL CONDUIT. COORDINATE WITH MECHANICAL CONTRACTOR AND FURNISH AND INSTALL POWER CONNECTION BETWEEN OUTDOOR UNIT AND INDOOR UNIT.
9	EQUIPMENT STAND. SEE HVAC SCHEDULE.



PARTIAL FLOOR PLAN - AREA A

SCALE: 1/8"=1'-0"



500 SOUTH 17th STREET
PADUCAH, KENTUCKY 42002-0120
PHONE - 270.444.9274 FAX - 270.443.1904

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PROJECT NO.	13618
DATE:	8-1-16
DRAWN BY:	MW
SCALE:	NOTED

ELECTRICAL ROOM 142 DUCTLESS SPLIT COOLING UNIT

LFUCG PUBLIC SAFETY OPERATIONS CENTER
PHASE 1B - RENOVATION

REFERENCE DRAWING
H1.1, E1.3

SKETCH NO.

XME01

DUCTLESS SPLIT COOLING ONLY SYSTEM EQUIPMENT SCHEDULE

INDOOR UNIT MARK	MFG.	MODEL NUMBER	DESCRIPTION	AREA SERVED	APPROX. UNIT WEIGHT (LBS.)	MAX. AIRFLOW (CFM)	TOTAL COOLING CAPACITY (MBH)	SEER	OUTDOOR UNIT MARK	MFG.	MODEL NUMBER	APPROX. UNIT WEIGHT (LBS.)	VOLTAGE / PHASE	MCA (AMPS)	MOCP (AMPS)	REMARKS AND ACCESSORIES
FC-1	DAIKIN	FTXS36LVJU	WALL MOUNT	ELEC 142	40	770	36.0	17.9	C-1	DAIKIN	RXS36LVJU	200	208V / 1Ø	19.5	20	SEE BELOW

REMARKS AND ACCESSORIES:

1. PROVIDE ENTIRE UNIT WITH FIVE (5) YEAR PARTS AND LABOR WARRANTY (NON-PRORATED) AND COMPRESSORS WITH EXTENDED WARRANTY FOR A TOTAL OF FIVE (5) YEARS (NON-PRORATED).
2. COOLING CAPACITIES BASED ON 95°F AMBIENT AIR TEMPERATURE AND 80°F db/67°F wb INDOOR AIR TEMPERATURE.
3. MAINTAIN MANUFACTURER'S MINIMUM RECOMMENDED CLEARANCES.
4. FURNISH AND INSTALL REFRIGERANT PIPING SIZED AND ROUTED PER THE MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE UNIT WITH WASHABLE, ANTI-MICROBIAL, LONG-LIFE AIR FILTER.
6. PROVIDE UNIT WITH FULL R-410A REFRIGERANT CHARGE.
7. INDOOR UNIT SHALL BE POWERED BY OUTDOOR UNIT.
8. PROVIDE UNIT WITH LOW AMBIENT KIT CAPABLE OF OPERATION TO 0° F db.
9. PROVIDE UNIT WITH MANUFACTURER'S WIRED, WALL MOUNTED THERMOSTAT AND REMOTE CONTROLLER THAT ALLOWS INTEGRATION WITH BMS FOR THE FOLLOWING: RUN, SOP, AND RUN STATUS. ADD GRAPHICS AND THESE POINTS TO THE TRANE DDC SYSTEM.
10. PROVIDE UNIT WITH AT MINIMUM 18" TALL EQUIPMENT STAND MADE OF STEEL ANGLE, WELDED ALL AROUND, AND ABLE TO SECURELY ATTACH TO EXISTING CONCRETE SIDEWALK. THE STAND SHALL BE PRIMED AND PAINTED. DO NOT OVERSIZE STAND TO NEEDLESSLY REDUCE EXISTING SIDEWALK WIDTH.
11. PROVIDE UNIT WITH CONDENSATE DRAIN PUMP TO BE POWERED BY AND MOUNTED WITHIN INDOOR UNIT.
12. THE THERMOSTAT SHALL BE SET TO 72°F FOR 24/7/365 OPERATION.

NO OTHER MANUFACTURERS ALLOWED



500 SOUTH 17th STREET
PADUCAH, KENTUCKY 42002-0120
PHONE - 270.444.9274 FAX - 270.443.1904

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PROJECT NO.
13618

DATE:
8-1-16

DRAWN BY:
MW

SCALE:
NOTED

DUCTLESS SPLIT COOLING UNIT SCHEDULE

LFUCG PUBLIC SAFETY OPERATIONS CENTER
PHASE 1B - RENOVATION

REFERENCE DRAWING

XME01

SKETCH NO.

XME02



CHURCHILL McGEE, LLC

1315-C West Main Street
phone (859) 389-6976

Lexington, Kentucky 40508
fax (859) 389-6986

Pricing Proposal for PR #60

Project: Public Safety Operations Center	Thursday, August 18, 2016
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Project Number: MGT 1316

PRICING PROPOSAL

PR #60 RM 142 Cooling

	GBMC	Total
Material	\$16,248.24	\$16,248.24
Labor	\$4,480.00	\$4,480.00
	Arrow Electric	Total
Material	\$1,165.81	\$1,165.81
Labor	\$1,261.00	\$1,261.00
	Total	\$23,155.05
	CM Overhead	\$3,473.26
	Change Order Total	\$26,628.31

From approved submittal the Unit has a 4 week lead time. From receiving material it would be 10 working days for install.

We hereby authorize the above change order to be completed

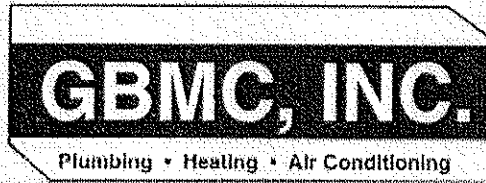
Additional work is to be performed under the same conditions as specified in the original contract unless stipulated otherwise.

Date: _____ Owners Signature: _____

Churchill McGee LLC

Date: _____ Authorized Signature: _____

NOTE: The above referenced change order revisions will only modify the original contract scope of work as specifically addressed in this change order. All other terms and conditions of the original contract will not change.



August 17, 2016

Churchill McGee, LLC
1315-C West Main Street
Lexington, KY 40508

Attn: Nathan Churchill

Re: Lexington Public Safety - CO#008

Dear Nathan:

Please find below, our cost associated with PR #60, for the above referenced project.

HVAC Eq W/Extended Warranty	\$11,720.69
Insulation	948.75
Controls	1,595.05
Materials (including painted stand)	1,983.75
Labor to install 64 hours @ \$70.00	4,480.00
TOTAL	\$20,728.24

NOTE: WE EXCLUDE ELECTRICAL, COMMISSIONING, ROOFING

If we can be of further service, please don't hesitate to call our office.

Sincerely,

Christopher K. Gibson
Christopher K. Gibson

CKG/lw



Change Proposal

Client Address:

Churchill McGee, LLC
1315-C West Main Street
Lexington, Kentucky 40508
Telephone: (859) 389-6976
Fax: (859) 389-6986
Contact: Jeff Griffith

Ref #1 CE #20
Date: 8/18/2016
Project Name: LFUCG Public Safety Operations Center
Project Number: 20-10-2109 LFUCG Public Safety Operations Center
Contract #: Dated Feb., 4th, 2015
Page Number: 1

Work Description

With Respect to PR# 60, Arrow Electric offers the following for your consideration:

Furnish/install a new 2pole 20amp circuit breaker in existing panel EA2.
Furnish/install a new 30amp 2pole 250volt non-fused nema3R disconnect for condensor C-1.
Furnish/install conduit/wiring from panel to C-1 and then interconnect with indoor unit.
Daikin unit, line sets, controls, etc provided by others.
Furnish/install outlet for condensate pump.
Furnish/install grounding/bonding of outside condensing unit.

We reserve the right to correct this quote for errors and omissions.

This quote covers direct costs only and we reserve the right to claim for impact and consequential costs.

This price is good for acceptance within 10 days from the date of receipt.

We request a time extension of 0 days.

We will supply and install all materials, labor, and equipment as per your instructions on **PR #60**.

Item Description

Description	Qty	Total Mat.	Total Hrs.
1/2" CONDUIT - EMT	75	33.64	2.87
3/4" CONDUIT - EMT	30	27.39	1.32
3/4" CONN SS STL - EMT	2	4.01	0.28
3/4" COUPLING SS STL - EMT	3	7.06	0.16
1/2" CONN COMP STL - EMT	4	9.25	0.57
1/2" COUPLING COMP STL - EMT	9	24.54	0.89
1/2" BUSHING GRDG INSUL 150 DEG - STEEL	2	16.29	0.06
3/4" 1-H STRAP - EMT - STEEL	5	2.17	0.37
1/2 OR 3/4" CONDUIT SNAP CLOSE CLIP W/ 1/4-20 THRD HOLE	8	3.29	0.63
1/2 OR 3/4" CONDUIT+BOX SUPPORT W/ 9/32" MNTG HOLE	2	7.84	0.21
1/2" FLEX - ALUMINUM	3	3.15	0.12
1/2" CONN FLEX DC SQUEEZE STRAIGHT	2	2.31	0.28
1/2" FLEX - LIQUIDTIGHT METALLIC - GRAY	3	7.31	0.16
1/2" CONN STRAIGHT - LIQUIDTIGHT DIECAST	2	7.55	0.41
3/4" SLEEVE & SEAL	2	38.08	0.55
#12 THHN BLACK	374	91.29	2.65
#12 THHN GREEN	34	8.30	0.24
#3/0 RHH / RHW / USE	25	223.50	0.65
1-H CABLE STRAP	3	2.35	0.08
WIRE CONN RED	14	2.42	1.16
WIRE CONN RED (#16 TO #10)	3	0.53	0.29
4x 1 1/2" SQ BOX COMB KO	1	5.75	0.32
4" SQ 1G PLSTR RING 5/8" RISE	1	3.67	0.03
GROUND SCREW W/ INSUL #12 LEAD	1	3.15	0.04
#1/0 - #250 OR 1/2 - 5/8" ROD OR #3 - #4 BAR RUN TO #3/0 - #250	2	62.92	0.42
#2/0 - #4/0 RUN TO # 1 - #3/0 TAP FIG H AL/CU CONN	1	21.12	0.34

Change Proposal

Client Address:

Churchill McGee, LLC
 1315-C West Main Street
 Lexington, Kentucky 40508
 Contact: Jeff Griffith

Date: 8/18/2016
Project Name: LFUCG Public Safety Operations Center
Project Number: 20-10-2109 LFUCG Public Safety Operations Center
Contract #: Dated Feb., 4th, 2015
Page Number: 2

Description	Qty	Total Mat.	Total Hrs.
1/4-20x 1 3/4 WEDGE ANCHOR - 1 1/8" MIN DEPTH	4	0.89	0.44
1/4-20 MACHINE SCREW ANCHOR	10	7.95	1.10
1/4" THREADED ROD - PLTD	30	20.88	1.03
1/4-20 HEX NUT - PLTD STL	12	0.26	0.33
#8x 1 P/H SELF-TAP SCREW	3	0.24	0.12
#10x 1 P/H SELF-TAP SCREW	10	0.90	0.41
1G DUPLEX REC PLATE - PLASTIC IVY	1	0.50	0.04
20A 125V DUP REC - IVY (SG)	1	18.68	0.28
20A 2P BREAKER BOLT-ON	1	74.85	0.34
30A 250/600V DSN SW NON-FUS - NEMA 3R	1	349.20	1.52
#12/2C + GRD MOTOR TERM	1	0.00	0.67
#12/3C EQUIPMENT TERM	1	0.00	0.67
HAND DIG/BURY CABLE	1	0.00	2.20
Totals	687	1,099.82	24.25

Summary

MATERIAL

Material Tax	(@ 6.000 %)	65.99
Material Total		1,165.81
JOURNEYMAN	(24.25 Hrs @ \$52.00)	1,261.00

Final Amount

\$2,426.81

CLIENT ACCEPTANCE

CCN #: 20	_____
Final Amount: \$2,426.81	_____
Name:	_____
Date:	_____
Signature:	_____
Change Order #:	_____
I hereby accept this quotation and authorize the contractor to complete the above described work.	



October 28, 2016

Mr. Steve Cherry
Murphy Graves Trimble
3399 Tates Creek Road, STE 250
Lexington, KY 40502

Re: Proposal Review
MGT PR – CRAC Unit Air Flow Adjustments
Emergency Operations Center Phase 1B
Lexington Fayette Urban County Government
Lexington, Kentucky
Marcum No. 13618

Steve,

Marcum has reviewed the attached Proposal Request in the amount of \$1,564.00 and find it to be in line with the work requested. Marcum would recommend acceptance of this change amount.

Please let me know if you have any questions.

Sincerely,

MARCUM ENGINEERING, LLC

A handwritten signature in black ink, appearing to read 'Johnny Baucum', with a long horizontal flourish extending to the right.

Johnny Baucum, Construction Administrator

Attachment: GBMC CRAC CO

Cc: Andrea Bradford, MGT
Jim Leake, MGT
Baccus Oliver, Marcum Engineering



October 19, 2016

Churchill McGee, LLC
1315-C West Main Street
Lexington, KY 40508

Attn: Nathan Churchill

Re: Lexington Public Safety - CO#010

Dear Nathan:

Please find below, our cost associated with the changes requested to reduce the CFM'S on the CRAC units to 80% of design and adjust the refrigerant charge per the Engineers request in an effort to reduce noise, at the above referenced project.

Adjust CRAC Unit (Sheaves, Belts, T&B)	\$1,360.00
15% Profit & Overhead	204.00
TOTAL	\$1,564.00

If we can be of further service, please don't hesitate to call our office.

Sincerely,

Christopher K. Gibson

CKG/lw



SOMERSET - CUMBERLAND ELECTRIC SPLY
 1800 E. HWY 80
 SOMERSET, KY 42501-1289
 606-679-8513
 Fax 606-679-6543

Quotation

EXPIRATION DATE	QUOTE NUMBER
12/09/2016	S201058278
SOMERSET - CUMBERLAND ELECTRIC SPLY 1800 E. HWY 80 SOMERSET, KY 42501-1289 606-679-8513 Fax 606-679-6543	PAGE NO.
	1 of 1

QUOTE TO:

SHIP TO:

ARROW ELECTRIC CO INC
 P.O. BOX 36215
 LOUISVILLE, KY 40233-6215

ARROW ELECTRIC CO INC
 P.O. BOX 36215
 LOUISVILLE, KY 40233-6215

CUSTOMER NUMBER	CUSTOMER PO NUMBER	JOB NAME / RELEASE NUMBER	SALESPERSON		
17794			Kira Costanza		
GIVEN BY		SHIP VIA	TERMS	DATE	FREIGHT EXEMPT
		BID	Vendor Terms	11/09/2016	No
ORDER QTY	ITEM NUMBER / DESCRIPTION		UNIT PRICE	EXT PRICE	
7ea	FSR WB-X2-GNG WB-X2 SERIES		116.960/ea	818.72	
This is a Breakout from initial quote on 11/4/14					

Thank you for your order! Your satisfaction is our number one goal!

Please visit our website at www.capeelectric.com

Any questions call MATT SMITH at 270-534-0066 or e-mail @
m.w.smith@capeelectric.com

All Prices are subject to change without notice!

Taxes are not included
For terms and conditions see www.capeelectric.com

Subtotal	818.72
S&H Charges	0.00
Amount Due	818.72



Change Proposal

Client Address:

Churchill McGee, LLC
 1315-C West Main Street
 Lexington, Kentucky 40508
 Telephone: (859) 389-6976
 Fax: (859) 389-6986
 Contact: Jeff Griffith

Ref #1
Date: 11/4/2016
Project Name: LFUCG Public Safety Operations Center
Project Number: 20-10-2109 LFUCG Public Safety Operations Center
Contract #: Dated Feb., 4th, 2015
Page Number: 1

Work Description

Credit for not providing FSR interface boxes as discussed.
 Installed adequate boxes per coordination.

We reserve the right to correct this quote for errors and omissions.

This quote covers direct costs only and we reserve the right to claim for impact and consequential costs.
 This price is good for acceptance within **10** days from the date of receipt.
 We request a time extension of **0** days.
 We will supply and install all materials, labor, and equipment as per your instructions.

Item Description

Description	Qty	Total Mat.	Total Hrs.
12x 12x 6" BOX HNGD CVR - NEMA 1	-7	-818.72	-3.71
Totals	-7	-818.72	-3.71

Summary

MATERIAL			
Material Tax	(@ 6.000 %)		-49.12
Material Total			-867.84
JOURNEYMAN	(-3.71 Hrs @ \$52.00)		-192.92
Markup	(@ -15.000 %)		-159.11

Final Amount **-\$1,219.87**

CLIENT ACCEPTANCE

CCN #: 21	_____
Final Amount: \$-1,219.87	_____
Name:	_____
Date:	_____
Signature:	_____
Change Order #:	_____

I hereby accept this quotation and authorize the contractor to complete the above described work.