



Case No.: 13-1282-EL-EEC

Mercantile Customer: University of Cincinnati Rieveschl Hall

Electric Utility: Duke Energy

**Program Title or
Description: HVAC**

Rule 4901:1-39-05(F), Ohio Administrative Code (O.A.C.), permits a mercantile customer to file, either individually or jointly with an electric utility, an application to commit the customer's existing demand reduction, demand response, and energy efficiency programs for integration with the electric utility's programs. The following application form is to be used by mercantile customers, either individually or jointly with their electric utility, to apply for commitment of such programs in accordance with the Commission's pilot program established in Case No. [10-834-EL-POR](#)

Completed applications requesting the cash rebate reasonable arrangement option (Option 1) in lieu of an exemption from the electric utility's energy efficiency and demand reduction (EEDR) rider will be automatically approved on the sixty-first calendar day after filing, unless the Commission, or an attorney examiner, suspends or denies the application prior to that time. Completed applications requesting the exemption from the EEDR rider (Option 2) will also qualify for the 60-day automatic approval so long as the exemption period does not exceed 24 months. Rider exemptions for periods of more than 24 months will be reviewed by the Commission Staff and are only approved up the issuance of a Commission order.

Complete a separate application for each customer program. Projects undertaken by a customer as a single program at a single location or at various locations within the same service territory should be submitted together as a single program filing, when possible. Check all boxes that are applicable to your program. For each box checked, be sure to complete all subparts of the question, and provide all requested additional information. Submittal of incomplete applications may result in a suspension of the automatic approval process or denial of the application.

Any confidential or trade secret information may be submitted to Staff on disc or via email at ee-pdr@puc.state.oh.us.

Section 1: Mercantile Customer Information

Name: **University of Cincinnati Rieveschl Hall**

Principal address: **51 Goodman Drive, Suite 260, Cincinnati, OH 45221**

Address of facility for which this energy efficiency program applies:

318 College Drive Cincinnati, Ohio 45221

Name and telephone number for responses to questions:

Megan Fox, (513)287-3367

Electricity use by the customer (check the box(es) that apply):

- ☒ The customer uses more than seven hundred thousand kilowatt hours per year at the above facility. (**Refer to Appendix A for documentation.**)
- ☐ The customer is part of a national account involving multiple facilities in one or more states. (Please attach documentation.)

Section 2: Application Information

A) The customer is filing this application (choose which applies):

- ☐ Individually, without electric utility participation.
- ☒ **Jointly with the electric utility.**

B) The electric utility is: **Duke Energy**

C) The customer is offering to commit (check any that apply):

- ☐ Energy savings from the customer's energy efficiency program. (Complete Sections 3, 5, 6, and 7.)
- ☐ Capacity savings from the customer's demand response/demand reduction program. (Complete Sections 4, 5, 6, and 7.)
- ☒ **Both the energy savings and the capacity savings from the customer's energy efficiency program. (Complete all sections of the Application.)**

Section 3: Energy Efficiency Programs

A) The customer's energy efficiency program involves (check those that apply):

- ✓ Early replacement of fully functioning equipment with new equipment. (Provide the date on which the customer replaced fully functioning equipment, and the date on which the customer would have replaced such equipment if it had not been replaced early. Please include a brief explanation for how the customer determined this future replacement date (or, if not known, please explain why this is not known)).

Customer completed Rieveschl Hall HVAC Upgrades for Levels 400, 500, 600 and 700 (New VAV reheat HVAC, VAV Laboratory Exhaust and DDC controlled Systems with Occupancy-Based Controls) in April 2013

- ☐ Installation of new equipment to replace equipment that needed to be replaced. The customer installed new equipment on the following date(s): _____.
- ☐ Installation of new equipment for new construction or facility expansion. The customer installed new equipment on the following date(s): _____.
- ☐ Behavioral or operational improvement.

B) Energy savings achieved/to be achieved by the energy efficiency program:

- 1) If you checked the box indicating that the project involves the early replacement of fully functioning equipment replaced with new equipment, then calculate the annual savings [(kWh used by the original equipment) - (kWh used by new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: 2,367,207 kWh
Refer to Appendix B for calculations and supporting document

- 2) If you checked the box indicating that the customer installed new equipment to replace equipment that needed to be replaced, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by the higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____kWh

Please describe any less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 3) If you checked the box indicating that the project involves equipment for new construction or facility expansion, then calculate the annual savings [(kWh used by less efficient new equipment) - (kWh used by higher efficiency new equipment) = (kWh per year saved)]. Please attach your calculations and record the results below:

Annual savings: _____kWh

Please describe the less efficient new equipment that was rejected in favor of the more efficient new equipment.

- 4) If you checked the box indicating that the project involves behavioral or operational improvements, provide a description of how the annual savings were determined.

Section 4: Demand Reduction/Demand Response Programs

A) The customer's program involves (check the one that applies):

- ☒ **Coincident peak-demand savings from the customer's energy efficiency program.**
- ☐ Actual peak-demand reduction. (Attach a description and documentation of the peak-demand reduction.)
- ☐ Potential peak-demand reduction (check the one that applies):
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a tariff of a regional transmission organization (RTO) approved by the Federal Energy Regulatory Commission.
 - ☐ The customer's peak-demand reduction program meets the requirements to be counted as a capacity resource under a program that is equivalent to an RTO program, which has been approved by the Public Utilities Commission of Ohio.

B) On what date did the customer initiate its demand reduction program?

The new equipment was installed in April 2013

C) What is the peak demand reduction achieved or capable of being achieved (show calculations through which this was determined):

230 kW

Refer to Appendix B for calculations and supporting documentation.

Section 5: Request for Cash Rebate Reasonable Arrangement (Option 1) or Exemption from Rider (Option 2)

Under this section, check the box that applies and fill in all blanks relating to that choice.

Note: If Option 2 is selected, the application will not qualify for the 60-day automatic approval. All applications, however, will be considered on a timely basis by the Commission.

A) The customer is applying for:

☒ **Option 1: A cash rebate reasonable arrangement.**

OR

☐ Option 2: An exemption from the energy efficiency cost recovery mechanism implemented by the electric utility.

OR

☐ Commitment payment

B) The value of the option that the customer is seeking is:

Option 1: A cash rebate reasonable arrangement, which is the lesser of (show both amounts):

☒ A cash rebate of **\$92,500. Refer to Appendix C for documentation.** (Rebate shall not exceed 50% project cost.

Option 2: An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider.

☐ An exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for ____ months (not to exceed 24 months). (Attach calculations showing how this time period was determined.)

OR

☐ A commitment payment valued at no more than \$_____. (Attach documentation and

calculations showing how this payment amount was determined.)

OR

- ☐ Ongoing exemption from payment of the electric utility's energy efficiency/peak demand reduction rider for an initial period of 24 months because this program is part of the customer's ongoing efficiency program. (Attach documentation that establishes the ongoing nature of the program.) In order to continue the exemption beyond the initial 24 month period, the customer will need to provide a future application establishing additional energy savings and the continuance of the organization's energy efficiency program.)

Section 6: Cost Effectiveness

The program is cost effective because it has a benefit/cost ratio greater than 1 using the (choose which applies):

- ☐ Total Resource Cost (TRC) Test. The calculated TRC value is: _____
(Continue to Subsection 1, then skip Subsection 2)
- ✓ Utility Cost Test (UCT) . The calculated UCT value is **5.35** (Skip to Subsection 2.) **Refer to Appendix D for calculations and supporting documents.**

Subsection 1: TRC Test Used (please fill in all blanks).

The TRC value of the program is calculated by dividing the value of our avoided supply costs (generation capacity, energy, and any transmission or distribution) by the sum of our program overhead and installation costs and any incremental measure costs paid by either the customer or the electric utility.

The electric utility's avoided supply costs were _____.

Our program costs were _____.

The incremental measure costs were _____.

Subsection 2: UCT Used (please fill in all blanks).

We calculated the UCT value of our program by dividing the value of our avoided supply costs (capacity and energy) by the costs to our electric utility (including administrative costs and incentives paid or rider exemption costs) to obtain our commitment.

Our avoided supply costs were **\$1,058,845**.

The utility's program costs were **\$105,265**.

The utility's incentive costs/rebate costs were **\$92,500**.

Refer to Appendix D for calculations and supporting documents.

Section 7: Additional Information

Please attach the following supporting documentation to this application:

Narrative description of the program including, but not limited to, make, model, and year of any installed and replaced equipment.

A copy of the formal declaration or agreement that commits the program or measure to the electric utility, including:

- 1) any confidentiality requirements associated with the agreement;
- 2) a description of any consequences of noncompliance with the terms of the commitment;
- 3) a description of coordination requirements between the customer and the electric utility with regard to peak demand reduction;
- 4) permission by the customer to the electric utility and Commission staff and consultants to measure and verify energy savings and/or peak-demand reductions resulting from your program; and,
- 5) a commitment by the customer to provide an annual report on your energy savings and electric utility peak-demand reductions achieved.

Refer to Offer Letter following this application

A description of all methodologies, protocols, and practices used or proposed to be used in measuring and verifying program results. Additionally, identify and explain all deviations from any program measurement and verification guidelines that may be published by the Commission.



DUKE ENERGY
Mercantile Self Direct Program
139 East Fourth Street
Cincinnati, OH 45202
513 629 5572 fax

May 14, 2013

Mr. Maurice DuPont
University of Cincinnati – Rieveschl Hall
3000 Glendora Avenue
Cincinnati, Ohio 45221

Subject: Your Application for a Duke Energy Mercantile Self-Direct Rebate

Dear Mr. DuPont:

Thank you for your Duke Energy Mercantile Self Direct rebate application. As noted in the Energy Conservation Measure (ECM) chart on page two, a total rebate of \$92,500.00 has been proposed for your HVAC project completed in the 2013 calendar year. **All Self Direct Rebates are contingent upon approval by the Public Utilities Commission of Ohio (PUCO).**

At your earliest convenience, please indicate if you accept this rebate by

- providing your signature on page two
- completing the PUCO-required affidavit on page three.

Please return the documents to my attention via fax at 513-629-5572 or e-mail to SelfDirect@Duke-Energy.com. Upon receipt, Duke Energy will submit the necessary documentation to PUCO. Following PUCO's approval, Duke Energy will remit payment.

At Duke Energy, we value your business and look forward to working with you on this and future energy efficiency projects. We hope you will consider our Smart Saver® incentives, when applicable. Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Grady Reid, Jr.".

Grady Reid, Jr
Product Manager
Mercantile Self Direct Rebates

cc: Deanna Bowden, Duke Energy
Rob Jung, Ecova
Thomas Crompton, Fosdick and Hilmer Inc

Please indicate your response to this rebate offer within 30 days of receipt.

☒ Rebate is accepted.

☐ Rebate is declined.

By accepting this rebate, University of Cincinnati affirms its intention to commit and integrate the energy efficiency projects listed on the following pages into Duke Energy's peak demand reduction, demand response and/or energy efficiency programs.

Additionally, University of Cincinnati also agrees to serve as joint applicant in any future filings necessary to secure approval of this arrangement as required by PUCO and to comply with any information and reporting requirements imposed by rule or as part of that approval.

Finally, University of Cincinnati affirms that all application information submitted to Duke Energy pursuant to this rebate offer is true and accurate. Information in question would include, but not be limited to, project scope, equipment specifications, equipment operational details, project costs, project completion dates, and the quantity of energy conservation measures installed.

If rebate is accepted, will you use the monies to fund future energy efficiency and/or demand reduction projects?

☒ YES

☐ NO

If rebate is declined, please indicate reason (optional):

Maurice DuPont

Maurice DuPont

May 15, 2013

Customer Signature



Printed Name
Charles E. Jake IV, Esq.
Assistant General Counsel
Assistant Contracting Officer

Date

5/24/2013

Proposed Rebate Amounts

Measure ID	Energy Conservation Measure (ECM)	Proposed Rebate Amount
ECM-1	Rieveschl Hall HVAC Upgrades for Levels 400, 500, 600 and 700 (New VAV reheat HVAC, VAV Laboratory Exhaust and DDC controlled Systems with Occupancy-Based Controls)	\$92,500
Total		\$92,500

Ohio

Public Utilities Commission

Application to Commit
Energy Efficiency/Peak
Demand Reduction
Programs
(Mercantile Customers
Only)

Case No.: ____ - ____ -EL-EEC

State of Ohio :

Maurice DuPont, Affiant, being duly sworn according to law, deposes and says that:

1. I am the duly authorized representative of:
University of Cincinnati
[insert customer or EDU company name and any applicable name(s) doing business as]
2. I have personally examined all the information contained in the foregoing application, including any exhibits and attachments. Based upon my examination and inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete.
3. I am aware of fines and penalties which may be imposed under Ohio Revised Code Sections 2921.11, 2921.31, 4903.02, 4903.03, and 4903.99 for submitting false information.

Maurice DuPont
Signature of Affiant & Title
UTILITY ENGINEER

Sworn and subscribed before me this 17th day of May,
2013 Month/Year

Korin Therese Landon
Signature of official administering oath

Korin Therese Landon
Print Name and Title Notary Public

My commission expires on 11/29/16

SIGNATURE AS TO FORM:

Charles E. Jake IV
Signature & Title

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Charles E. Jake IV, Esq.
Assistant General Counsel
Assistant Contracting Officer

Sworn & subscribed before me this
21st day of May, 2013.

Korin Therese Landon
Notary Public

My Commission Expires 11/29/16

10002117 01		
UNIVERSITY OF CINCINNATI		
3001 VINE		
CINCINNATI, OH 45219		
Bulked Electric Meter# 108026025, 105014030, 106995461, 108026022,& 106156664		
Date	Days	Actual KWH
10/1/2012	30	2,794,306
9/1/2012	29	2,283,192
8/1/2012	32	813,499
7/1/2012	29	178,402
6/1/2012	30	340,027
5/1/2012	32	214,344
4/1/2012	29	1,853,204
3/1/2012	29	1,363,270
2/1/2012	32	1,144,559
12/30/2011	30	3,214,879
11/30/2011	33	8,328,557
10/28/2011	29	9,780,527
Total		22,528,239

Appendix B - University of Cinti (Rieveschl Hall) Energy Savings Achieved

	Baseline Used			Post Project Actual			Hours of Operation	Savings	
	Description	Annual kWh	Summer Coincident kW	Description	Annual kWh	Summer Coincident kW		Annual kWh	Summer Coincident kW
ECM - 1	Existing Building with older HVAC equipment and controls	6,346,795	1,042	Rieveschl Hall HVAC Upgrades for Levels 400, 500, 600 and 700 (New VAV reheat HVAC, VAV Laboratory Exhaust and DDC controlled Systems with Occupancy-Based Controls)	4,141,013	828	8,760	2,205,782	214.0
Notes:	Energy consumption baseline, demand baseline and post project energy consumption basis are outlined in the following pages.								
After consideration of line losses, total energy savings are 2,367,207 kWh and 230 summer coincident kW . These values may also reflect minor DSMore modeling software									

DETAILED CALCULATIONS

Dec 2012 V1

Salesforce Opportunity Name 0
Project Name University of Cincinnati - MSD Custom- Rieveschl Hall HVAC Retrofit1

Application # CMO13-1297812
UOC-R. Hall-HVAC Ren Lvl 400-700

Rev. 2
State OH

Measure Description

The measure includes new HVAC equipment located at Level 300 and energy recovery systems located upon the roof. Fundamental HVAC, laboratory exhaust, and general exhaust systems improvements for the renovation of Levels 400, 500, 600, and 700 of Rieveschl Hall include the following:

- Eight existing 100% OA dual-duct HVAC units located in both the east and west mechanical rooms of Levels 400, 500, 600, and 700 were demolished, and the center areas of each floor are being renovated and served from two new central VAV HVAC systems.
- Two new 100% outside air custom air handling units, AHU's 1 & 2 totaling 235,000 CFM, sized for Levels 400, 500, 600, 700, and 800, were placed on Level 300. A hot water reheat coil was provided in the hot deck of each system to maintain the original dual-duct operating sequences.
- General exhausts and laboratory hood exhausts were separately ducted from lab hoods and the renovated areas to the roof, then combined and, to the greatest extent possible, connected to new roof-mounted laboratory exhaust energy recovery equipment (ERU's 1 & 2, totaling 140,000 CFM) to maximize energy recovery (thereby substantially decreasing the energy requirements of the facility), or to new variable volume laboratory exhaust fans, or new high-plume dilution exhaust fans.
- The new 500, 600, 700, and 800 Level HVAC and laboratory exhaust systems are variable volume type to minimize energy consumption. In addition, all HVAC and lab exhaust systems incorporate automatic occupied/unoccupied sequences of operation to closely match actual space conditioning demands at all times.
- All functions of the new HVAC systems and laboratory fume hoods are controlled by new direct digital controls, connected to the building's new Siemens DDC controls network for overall control of sequences of operation, scheduling, monitoring, and reporting.
- New DDC laboratory control modules monitor lab fume hoods' operation/sash position and air valves, supply air valves, and general exhaust valves, and maintain space-specific exhaust/supply offset CFM values, while implementing occupied and unoccupied control modes for each space.

During occupied mode, spaces are provided a minimum of 8 airchanges/hour (ACH), and during unoccupied mode the value is reset to minimum 4 ACH.

- Energy recovery run-around loop piping containing a glycol solution was installed from the roof-mounted energy recovery units to the new AHU's on Level 300, and all associated pumping, controls, and accessory devices were provided.

Baseline

The baseline is the pre-retrofit operation which is standard for MSD projects.

Savings Calculation Methodology

Savings are modeled using Trane Trace 700, 2012 version. The provided input values are reasonable. All savings are fan enduse savings; no chilled water savings are claimed which is a conservative approach.

Incremental Measure Cost (IMC)

Baseline choice is no action. The measure costs are from invoices provided by the applicant.

IMC Calculation

IMC (\$)	Baseline Cost (\$)	Measure Cost (\$)
\$8,915,488.00	\$0.00	\$8,915,488.00

References to source documents/back up files as appropriate

CMO13-1297812 Attachments.pdf

Attached Files

- ☒ Equipment Specs
- ☒ Calculations
- ☒ Cost Documentation



Savings Calculations (insert all appropriate calculations or simulation results below)

MONTHLY ENERGY CONSUMPTION

By FOSDICK & HILMER

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 2													
Baseline													
BASELINE - EXIST EQPT													
Electric													
On-Pk Cons. (kWh)	537,147	485,290	544,923	518,565	541,035	526,341	533,259	544,923	518,565	541,035	522,453	533,259	6,346,795
On-Pk Demand (kW)	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042
Hot Water from UC Central Utility Plant													
On-Pk Cons. (therms)	29,108	24,248	24,154	11,485	6,007	4,927	4,587	5,125	6,322	9,577	17,515	28,880	171,915
On-Pk Demand (therms/hr)	145	137	117	85	42	28	26	29	54	72	99	152	152
Chilled Water from UC Central Utility Plant													
On-Pk Cons. (therms)	8,647	7,120	6,823	7,011	18,190	25,347	24,152	26,648	12,828	7,653	6,878	8,751	160,049
On-Pk Demand (therms/hr)	19	18	17	14	87	114	148	136	110	30	17	19	148
Energy Consumption													
Building	311,203 Btu/(ft2-year)												
Source	568,564 Btu/(ft2-year)												
Floor Area 176,277 ft2													
Environmental Impact Analysis													
CO2	592,536,512 lbm/year												
SO2	4,112,104 gm/year												
NOX	1,027,542 gm/year												

By FOSDICK & HILMER

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 1	Proposed	PROPOSED - NEW EQPT											
Electric													
On-Pk Cons. (kWh)	347,562	314,172	356,074	336,403	354,401	347,623	347,780	361,192	338,598	353,576	339,857	343,775	4,141,013
On-Pk Demand (kW)	804	806	812	819	822	828	828	828	828	819	815	804	828
Hot Water from UC Central Utility Plant													
On-Pk Cons. (therms)	17,968	15,418	15,878	9,754	7,696	7,116	6,895	7,288	7,410	9,400	12,790	18,102	135,715
On-Pk Demand (therms/hr)	82	78	71	60	42	37	36	36	48	56	64	85	85
Chilled Water from UC Central Utility Plant													
On-Pk Cons. (therms)	7,185	6,183	6,504	7,700	15,704	19,870	19,270	20,590	12,319	8,807	6,901	7,249	138,281
On-Pk Demand (therms/hr)	17	15	15	16	57	71	69	84	70	25	15	16	69
Energy Consumption													
Building	235,612 Btu/(ft2-year)												
Source	403,549 Btu/(ft2-year)												
Environmental Impact Analysis													
	CO2 386,604,800 lbm/year												
	SO2 2,682,972 gm/year												
	NOX 670,428 gm/year												
Floor Area 176,277 ft2													

Appendix C -Cash Rebate Calculation

University of Cinti (Rieveschl Hall)

Measure	Quantity	Cash Rebate Rate	Cash Rebate
HVAC and Air Handling Improvements	1	50% of incentive that would be offered by the Smart \$aver Custom program	\$92,500
			\$92,500

Appendix D -UCT Value

University of Cinti (Rieveschl Hall)

Measure	Total Avoided Cost	Program Cost	Incentive	Quantity	Measure UCT
HVAC and Air Handling Improvements	\$1,058,845	\$105,265	\$92,500	1	5.35
Totals	\$1,058,845	\$105,265	\$92,500	1	

Total Avoided Supply Costs	\$1,058,845	Aggregate Application UCT	5.35
Total Program Costs	\$105,265		
Total Incentive	\$92,500		

Ohio Mercantile Self Direct Program

Application Guide & Cover Sheet

Questions? Call 1-866-380-9580 or visit www.duke-energy.com.

Email this form along with completed Mercantile Self Direct Prescriptive or Custom applications, proof of payment, energy savings calculations and spec sheets to SelfDirect@Duke-Energy.com. You may also fax to 1-513-629-5572.

Mercantile customers, defined as using at least 700,000 kWh annually are eligible for the Mercantile Self Direct program. Please indicate mercantile qualification:

- ☒ a single Duke Energy Ohio account
☐ multiple accounts in Ohio (energy usage with other utilities may be counted toward the total)

Please list Duke Energy account numbers below (attach listing of multiple accounts and/or billing history for other utilities as required):

Account Number	Annual Usage	Account Number	Annual Usage
1000-2117-01-6	121,656,338 kWh		

Self Direct rebates are available for completed Custom projects that have not previously received a Duke Energy Smart Saver® Custom Incentive. Self Direct incentives are applicable to Prescriptive measures that were installed more than 90 days prior to submission to Duke Energy and have not previously received a Duke Energy Prescriptive rebate.

Self Direct Program requirements dictate that certain projects that may be Prescriptive in nature under the Smart Saver program must be evaluated using the Custom process. Use the table on page two as a guide to determine which Self Direct program fits your project(s). Apply for Self Direct projects using the appropriate application forms in conjunction with this cover sheet. Where Mercantile Self Direct Prescriptive applications are listed, please refer to the measure list on that application. If your measure is not listed, you may be eligible for a Self Direct Custom rebate. Self Direct Custom applications, like Smart Saver Custom applications, should include detailed analysis of pre-project and post-project energy usage and project costs. Please indicate which type of rebate applications are included in the table provided on page two.

Please check each box to indicate completion of the following program requirements:

<input checked="" type="checkbox"/> All sections of appropriate application(s) are completed	<input checked="" type="checkbox"/> Proof of payment.*	<input checked="" type="checkbox"/> Manufacturer's Spec sheets	<input checked="" type="checkbox"/> Energy model/calculations and detailed inputs for Custom applications
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* If a single payment record is intended to demonstrate the costs of both Prescriptive & Custom projects, please include an additional document with an estimated breakout of costs for each Prescriptive and Custom energy conservation measure.

Application Type	Replaced equipment at end of lifetime or because equipment failed**	Replaced fully operational equipment to improve efficiency***	New Construction
Lighting	MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>	MSD Prescriptive Lighting <input type="checkbox"/>	MSD Prescriptive Lighting <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> Custom Lighting Worksheet <input type="checkbox"/>
Heating & Cooling	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input checked="" type="checkbox"/> MSD Custom General Worksheet <input checked="" type="checkbox"/>	MSD Prescriptive Heating & Cooling <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
Window Films, Programmable Thermostats, & Guest Room Energy Management Systems	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General and/or EMS Worksheet(s) <input type="checkbox"/>	MSD Prescriptive Heating & Cooling <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General and/or EMS Worksheet(s) <input type="checkbox"/>
Chillers & Thermal Storage	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Chillers & Thermal Storage <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
Motors & Pumps	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Motors, Pumps & Drives <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
VFDs	Not Applicable	MSD Prescriptive Motors, Pumps & Drives <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom VFD Worksheet <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> MSD Custom VFD Worksheet <input type="checkbox"/>	
Food Service	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Food Service <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
Air Compressors	MSD Custom Part 1 <input type="checkbox"/> MSD Custom Compressed Air Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom Compressed Air Worksheet <input type="checkbox"/>	MSD Prescriptive Process <input type="checkbox"/>
			MSD Custom Part 1 <input type="checkbox"/> MSD Custom Compressed Air Worksheet <input type="checkbox"/>
Process	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	MSD Prescriptive Process <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>
		MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>	
Energy Management Systems	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>	MSD Custom Part 1 <input type="checkbox"/> MSD Custom EMS Worksheet <input type="checkbox"/>
Chiller Tune-ups	MSD Prescriptive Chiller Tune-ups <input type="checkbox"/>		
Behavioral*** & No/Low Cost	MSD Custom Part 1 <input type="checkbox"/> MSD Custom General Worksheet <input type="checkbox"/>		

** Under the Self Direct program, failed equipment and equipment at the end of its useful life are evaluated differently than early replacement of fully functioning equipment. **All equipment replacements due to failure or old age will be evaluated via the Custom program.**

*** Please ensure that you include the age of the replaced equipment for measures classified as "Early Replacement" in your application as well as the estimated date that you would have otherwise replaced the existing equipment if you had not chosen a more energy efficient option.

**** Behavioral energy efficiency and demand reduction projects must be both measurable and verifiable. Provide justification with your application.

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



Proposed energy efficiency measures may be eligible for Self-Direct Custom rebates if they clearly reduce electrical consumption and/or demand as compared to the appropriate baseline.

Before you complete this application, please note the following important criteria:

- Submitting this application does not guarantee a rebate will be approved.
- Rebates are based on electricity conservation only.
- Electric demand and/or energy reductions must be well documented with auditable calculations.
- Incomplete applications cannot be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, beginning on page 6.

Notes on the Application Process

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact your Duke Energy Ohio, Inc account manager or the Duke Energy Smart Saver® team at 1-866-380-9580.

Every application must include calculations of the baseline electrical usage and the electrical usage of the proposed high-efficiency equipment/system. Monthly calculations are best. You, the Duke Energy Ohio customer, or your equipment vendor / engineer should perform these calculations and submit them to Duke Energy for review. *We strongly encourage the use of modeling software (such as eQuest or comparable) for complex projects.*

Upon receipt of your application, an acknowledgement email will be sent to you with an estimated response time based on an initial assessment of your application. The application review may include some communication to resolve any questions about the project or to request additional information. Applications that are received complete without missing information have a faster review time.

There are two ways to submit your completed application.

Email your scanned form to: SelfDirect@duke-energy.com

Or, fax your form to 513-629-5572

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



1. Contact Information (Required)

Duke Energy Customer Contact Information						
Company Name	University of Cincinnati					
Address	51 Goodman Drive, Suite 260					
Project Contact	Maurice DuPont					
City	Cincinnati	State	OH	Zip Code	45221	
Title	Utility Engineer					
Office Phone	513-556-1537	Mobile Phone	513-502-2185	Fax	513-556-4322	
E-mail Address	dupontmh@uc.edu					

Equipment Vendor / Contractor / Architect / Engineer Contact Information						
Company Name	Fosdick & Hilmer, Inc.					
Address	309 Vine Street, Suite 50					
City	Cincinnati	State	OH	Zip Code	45202	
Project Contact	Thomas D. Crompton, PE					
Title	Director of Mechanical Engineering					
Office Phone	513-419-4239	Mobile Phone	513-910-8588	Fax	513-241-3659	
E-mail Address	tcrompton@fheng.com					
Describe Role	Engineering Consultant					

Payment Information						
Payee Legal Company Name (as shown on Federal income tax return):	University of Cincinnati Consolidated Utilities					
Mailing Address	3000 Glendora Avenue					
City	Cincinnati	State	OH	Zip Code	45221	
Type of organization (check one) <input type="checkbox"/> Individual/Sole Proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Unit of Government <input checked="" type="checkbox"/> Non-Profit (non-corporation)						
Payee Federal Tax ID # of Legal Company Name Above:	31-6000989					
Who should receive incentive payment? (select one) <input checked="" type="checkbox"/> Customer <input type="checkbox"/> Vendor (Customer must sign below)						
If the vendor is to receive payment, please sign below: I hereby authorize payment of incentive directly to vendor:						
Customer Signature _____ Date____/____/____ (mm/dd/yyyy)						

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



2. Project Information (Required)

A. Please indicate project type:

- ☐ New Construction
- ☐ Expansion at an existing facility
- ☐ Replacing equipment due to equipment failure
- ☐ Replacing equipment that is estimated to have remaining useful life of 2 years or less
- ☒ Replacing equipment that is estimated to have remaining useful life of more than 2 years
- ☐ Behavioral, operational and/or procedural programs/projects

B. Please describe your project, or attach a detailed project description that describes the project.

The renovation of Rieveschl Hall has included major portions of levels 400, 500, 600, and 700 to provide new laboratory spaces and equipment for both teaching and research functions, along with lab support spaces, and associated staff offices. All renovated areas receive new VAV reheat HVAC systems and VAV laboratory exhaust systems, with DDC-controlled pressure-independent air valves on the supply air, general exhaust air, and fume hood exhaust. All new DDC control sequences were implemented in all renovated spaces, to include occupied/unoccupied modes (occupancy sensors in each space switch the HVAC and lighting between modes), plus space pressurization control to maintain design space pressure relationships. DDC laboratory control modules monitor the functions of the fume hoods' sash positions, fume hood air valves, general exhaust and supply air valves, and space thermostat input, and adjust all as appropriate for the mode of operation and to maintain a design offset CFM value between exhaust and supply, while maintaining space temperature setpoints. These sequences thus achieve the maximum permissible diversity of supply and exhaust airflows at any given instant. Generally, a minimum rate of 8 airchanges/hour (ACH) is used for laboratory occupied modes setpoint CFM, while the unoccupied mode permits turndown to a minimum of 4 ACH in all spaces.

New energy recovery laboratory exhaust fan systems (ERU-1 & -2, on roof, each consisting of twin constant volume high-plume dilution fans LEF-1 thru -4, plus glycol run-around loop energy recovery coils; total 140,000 CFM) were installed to serve the majority of lab exhausts; equipment size was limited by the structural limit of the roof. The pumped glycol run-around energy recovery loop is piped to two new central airhandling systems (AHU 1 & 2; total 235,000 CFM) installed in the 300 level of Rieveschl. These two 100% outside air AHU's are connected to a common supply air plenum which provides SA to all levels via new riser ducts installed within the project. The two AHU's consist of a total of nine identical VFD-driven plenum fans, energy recovery glycol coils, steam VIFB preheat coils, and CHW cooling coils. These AHUs' combined capacity is designed to serve the entire building.

Selected additional laboratory fume hood exhausts are served by two roof-mounted, VFD-driven, high-plume type LEF's (LEF-6 & -7; each 5,000 CFM) using the fan manufacturer's proprietary VAV hardware (variable discharge nozzle and controls) which maintains code-required minimum discharge velocity while operating the fans at reduced speed during off-peak periods of lesser fume hoods operation. All new lab exhaust hoods deemed less-frequently used, and not served by the previously described LEF's and energy recovery exhaust systems, are served by one new high-plume-dilution mixed flow constant volume LEF (LEF-5; 37,500 CFM). All constant volume LEF's (LEF-1 thru LEF-5) incorporate a modulating bypass air damper so that the laboratory exhaust air flow drawn from the building is variable volume, but the airflow through the fans is constant volume to maintain the required discharge velocity and plume height. All LEF's are

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



operated to maintain a setpoint static pressure in the exhaust duct mains, so as to meet the instantaneous exhaust airflow demand.

The above-described new systems replaced eight existing 1960's vintage constant volume 100% OA dual-duct HVAC systems and about 52 constant volume lab exhaust and general exhaust air fans. The remaining two existing HVAC systems will be replaced when the 800 level is renovated, and the capacity to serve that area is built into the two new AHU's. All existing systems had pneumatic and electric controls and ran in the same modes 7 days/week, 24 hours/day. All existing HVAC units utilized steam preheat coils, chilled water precool and cold deck coils, and hot water hot deck coils.

C. When did you start and complete implementation?

Start date 12/2009 (mm/yyyy) End date 4/2013 (mm/yyyy)

D. Are you also applying for Self-Direct Prescriptive incentives and, if so, which one(s)¹?
No

E. Please indicate which worksheet(s) you are submitting for this application (check all that apply):

- ☐ Lighting
- ☐ Variable Frequency Drive (VFD)
- ☐ Compressed Air
- ☐ Energy Management System (EMS)
- ☒ General (for projects not easily submitted using one of the above worksheets)

F. Please tell us if there is anything about your electrical energy projections (either for the baseline or the proposed project) that you are either unsure about or for which you have made significant assumptions. Attach additional sheets as needed.

Every effort has been made to model the baseline and proposed equipment operations in accordance with actual operating modes, controls, and schedules.

Required: Attach a supplier or contractor invoice or other equivalent information documenting the Implementation Cost for each project listed in your application. (Note: self-install costs cannot be included in the Implementation Cost)

3. Signature (Required – must be signed by Duke Energy customer)

Customer Consent to Release of Personal Information

¹ If your project involves some equipment that is eligible for prescriptive incentives and some equipment that is likely eligible for custom incentives, and if it is feasible to separate the equipment for the energy analysis, then the equipment will be evaluated separately. If it is not feasible to separate the equipment for analysis, then the equipment will be evaluated together in the custom application.

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



I, (insert name) Maurice Dupont, do hereby consent to Duke Energy disclosing my Duke Energy Ohio, Inc Account Number and Federal Tax ID Number to its subcontractors solely for the purpose of administering Duke Energy Ohio's Mercantile Self-Direct Program. I understand that such subcontractors are contractually bound to otherwise maintain my Duke Energy Ohio, Inc Account Number and Federal Tax ID Number in the strictest of confidence.

I realize that under the rules and regulations of the public utilities commission, I may refuse to allow Duke Energy Ohio, Inc to release the information set forth above. By my signature, I freely give Duke Energy Ohio, Inc permission to release the information designated above.

Application Signature

I certify that I meet the eligibility requirements of the Duke Energy Ohio, Inc Mercantile Self Direct Custom Incentives Program and that all information provided within this application is correct to the best of my knowledge. I agree to the terms and conditions set forth for this program. I certify that the numbers, energy savings, and responses shown on this form are correct. Further, I certify that the taxpayer identification number is current and correct. I am not subject to backup withholding because: (a) I am exempt from backup withholding; or (b) I have not been notified by the IRS that I am subject to backup withholding as a result of a failure to report all interest or dividends; or (c) the IRS has notified me that I am no longer subject to backup withholding. I am a U.S. citizen (includes a U.S. resident alien).

Maurice Du Pont

Duke Energy Ohio, Inc Customer Signature

Print Name Maurice Dupont

Date 21-December-2012; Revised 23-April-2013

**Mercantile Self Direct
Nonresidential Custom Rebate Application
PART 1**



Checklist for completing the Application

INCOMPLETE APPLICATIONS WILL RESULT IN DELAYS IN DUKE ENERGY PROCESSING YOUR APPLICATION AND NOTIFYING YOU CONCERNING ANY REBATES. Before submitting the application and the required supplementary information, use the following checklist to ensure that your application is complete and the information in the application is accurate. (Note: this checklist is for your use only – do not submit this checklist with your application)

Section No. & Title	Have You:
1. Contact Information	<input checked="" type="checkbox"/> Completed the contact information for the Duke Energy customer? <input checked="" type="checkbox"/> Completed the contact information for the equipment vendor / project engineer that can answer questions about the technical aspects of the project, if that is a different person than above?
2. Project Information	<input checked="" type="checkbox"/> Answered the questions A-E, including providing a description of your project. <input checked="" type="checkbox"/> Completed and attached the lighting, compressed air, VFD, EMS and/or General worksheet(s)?
3. Signature	<input checked="" type="checkbox"/> Signed your name? <input checked="" type="checkbox"/> Printed your name? <input checked="" type="checkbox"/> Entered the date?
Supplementary information (Required)	<input checked="" type="checkbox"/> Attached a supplier or contractor's invoice or other equivalent information documenting the Implementation Cost for projects listed in your application? (Note: self-install costs cannot be included in the Implementation Cost) <input checked="" type="checkbox"/> (If submitting the General Worksheet) attached calculations documenting the energy usage and energy savings for each project listed in your application?

If you have any questions concerning how to complete any portion of the application or what supplementary information is required, please contact:

- your Duke Energy account manager
- or,
- the Duke Energy Smart \$aver® team at 1-866-380-9580.

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



Instructions/Terms/Conditions

Note: Please keep for your records- do not submit with the application

1. Energy service companies or contractors may assist in preparing the application, but an authorized representative of the customer must sign this application to be eligible to participate in the Mercantile Self Direct Program. Completion of this application does not guarantee the approval of a Self Direct Custom Rebate.
2. Once all documentation requested in this application is received by *Duke Energy Ohio, Inc*, and any follow-up information requested by *Duke Energy* is received, the rebate amount for each Energy Conservation Measure (ECM) will be communicated to the customer. The rebate amount will be based on ECM energy savings and ECM incremental installation cost.
3. All rebates require approval by the Public Utilities Commission of Ohio. *Duke Energy Ohio, Inc* will submit an application for rebate on the customer's behalf upon customer attestation to program terms, conditions and requirements as outlined in the rebate offer letter and upon customer completion of attestation documents required by the Public Utilities Commission of Ohio.
4. *Duke Energy Ohio, Inc* will issue a Self Direct Custom Rebate check, based on the approved rebate amount for each ECM, upon receiving approval from the Public Utilities Commission of Ohio. *Duke Energy Ohio, Inc* does not guarantee PUCO approval.
5. With the application, the customer must provide a list of all sites where the ECMs were installed. *Duke Energy Ohio, Inc* requests that sites of similar size, hours of operation and energy consuming characteristics be grouped together in one application for the determination of the rebate amount. The application should identify the site where each unique ECM was installed.
6. Based on the information submitted with the application and the information gathered both before and after the initial installation of the ECM, *Duke Energy Ohio, Inc* will calculate the rebate amount for each ECM.
7. *Duke Energy Ohio, Inc* may conduct random site inspections of a sample of the locations where the ECMs are installed to verify installation and operability of the ECMs and to obtain information needed to calculate the Approved Incentive Amount.
8. Customers are encouraged to retain copies of all forms, invoices and supporting documentation for their records.
9. Approved rebates are valid for 6 months from the date communicated to the customer by *Duke Energy Ohio, Inc*, subject to the expiration of measure eligibility based on project completion dates and application submission deadlines as defined by PUCO. Customers are encouraged to execute their rebate offer contracts and PUCO-required affidavits promptly to ensure eligibility is not forfeited.

Mercantile Self Direct Nonresidential Custom Rebate Application PART 1



10. *Duke Energy Ohio, Inc* reserves the right to recover all unrecoverable costs associated with the project approval if the customer decides not to execute the rebate contract, after the project is approved by *Duke Energy Ohio, Inc*.
11. Projects financially supported by other funding sources will be evaluated on a case-by-case basis for potential partial funding from *Duke Energy Ohio, Inc*.
12. Participants must be *Duke Energy Ohio, Inc* nonresidential, mercantile customers with the project sites in the *Duke Energy Ohio, Inc* service territory.
13. Customers or trade allies may not use any *Duke Energy* logo without prior written permission.
14. Only trade allies registered with *Duke Energy* are eligible to participate.
15. All equipment must be new. Used or rebuilt equipment is not eligible for incentives. All old existing equipment must be removed on retrofit projects.
16. Disclaimers: *Duke Energy Ohio, Inc*
 - a. does not endorse any particular manufacturer, product or system design within the program;
 - b. will not be responsible for any tax liability imposed on the customer as a result of the payment of incentives;
 - c. does not expressly or implicitly warrant the performance of installed equipment. (Contact your contractor for details regarding equipment warranties.);
 - d. is not responsible for the proper disposal/recycling of any waste generated or obsolete or old equipment as a result of this project;
 - e. is not liable for any damage caused by the installation of the equipment nor for any damage caused by the malfunction of the installed equipment; and
 - f. reserves the right to change or discontinue this program at any time. The acceptance of program applications is determined solely by *Duke Energy Ohio, Inc*.



The General Worksheet is part 2 of the application. Do not submit this file without submitting a completed Part1 Custom Application document file, which can be found at www.duke-energy.com. This worksheet is for all projects that are not easily submitted through one of the other worksheets

Before you complete this application, please note the following important criteria:

◆◆◆◆◆ Submitting this application does not guarantee an incentive will be approved.

◆◆◆◆◆ already decided to proceed.

◆◆◆◆◆ Electric demand and/or energy reductions must be well documented with auditable calculations.

◆◆◆◆◆ Incomplete applications will not be reviewed; all fields are required.

Refer to the complete list of Instructions and Disclaimers, found in the Mercantile Self Direct Custom Application Part 1 document.

Please enter your information and data into the cells that are shaded.
Cells in white are locked and cannot be written over.

Duke Energy Customer Contact Information (Match the information in Application Part 1):

Name	Maurice Dupont
Company	University of Cincinnati

Equipment Vendor / Project Engineer Contact Information

Name	Thomas Crompton, PE
Company	Fosdick & Hilmer Engineers, 309 Vine Street, Suite 50, Cincinnati, OH 45202 tcrompton@fheng.com 513-241-5640

Before proceeding with the custom application, please verify that your project is not on the Self-Direct Prescriptive application.

The prescriptive incentive applications can be found at:

<http://www.duke-energy.com/ohio-large-business/smart-saver/mercantile-self-direct.asp>

Prescriptive rebate amounts are pre-approved.



List of Sites (Required)

App No.	
Rev.	

Provide a list of sites addressed by this custom incentive application

[illegible]

1 Site ID

Can be a store number, building name or other way to identify the location. If there is only one site involved in this application, then a Site ID is not necessary.

2 Account Numbers

Must match the facility of the proposed project(s). If there are multiple meters at a site, only include the meters that pertain to the project(s).



For each project, answer the following questions (use one worksheet per project)

Project Name: **Rieveschl Hall Renovations**

App No.	0
Rev.	0

How would you classify this project? (Place an x in all boxes that apply.)

Lighting		Heating/Cooling	X	Air Compressor		Energy Management System	
VFD		Motors/Pumps		Process Equipment		Other, describe below:	

Brief Project Description

Describe the Baseline (see note 3) Equipment/System	Describe the Proposed High Efficiency Project
The original HVAC systems were constant volume dual duct type, and lab exhaust was similarly constant volume, operating continuously (24/7).	VAV HVAC systems with DDC controls, individual occupied/unoccupied controls per space for HVAC, energy recovery from lab and general exhaust to supply air; some lab exhaust fans utilize VFD's.

If Existing Equipment is the Baseline, how many years of useful life remain or how many years until scheduled replacement? **10**

Detailed Project Description Attached? **Yes** (Required)

Operating Hours (see note 4)

24 x 7	Weekday		Saturday		Sunday		Weeks of Use in Year (see note 5)	Total Annual Hours of Use
	Start Hour	End Hour	Start Hour	End Hour	Start Hour	End Hour		
Yes							52	8,760

Energy Savings

	Baseline (see Note 3)	Proposed	Savings	Describe how energy numbers were calculated
Annual Electric Energy	6,348,386.8 kWh	4,142,060.4 kWh	2,206,326.4 kWh	Trane Trace 700 software was used to model the baseline and new work energy usage.
Electric Demand	724.7 kW	472.8 kW	251.9 kW	
Calculations attached	Yes	Yes	(Required)	

Simple Payback

Average electric rate (\$/kWh) on the applicable accounts (see note 6)	\$0.0855
Estimated annual electric savings	\$188,640.9
Other annual savings in addition to electric savings, such as operations, maintenance, other fuels	\$145,253.7
Incremental cost to implement the project (equipment & installation) (see note 7)	\$8,915,488.00
Copy of vendor proposal is attached (see note 8)	Yes
Simple Electric Payback in years (see note 9)	47.26168959
Total Payback in years	26.70150343

3 Baseline

Retrofit projects: the existing equipment is the baseline.

New construction projects: the baseline is the standard option in today's market, taking into account any applicable organizational, local, state or federal codes or standards currently in effect.

4 Operating Hours

Describe when the equipment is typically used. If the project is proposed for more than one site, provide any variations in operating hours between the sites on a separate sheet.

5 Weeks of Use in Year

If the equipment is not in use 52 weeks during the year (for example, during holiday or summer break), provide an explanation of when usage is not expected and why:

6 Average electric rate (\$/kWh)

If you do not know your average electric rate, use \$0.10/kWh.

7 Incremental cost to implement the project

Costs exclude self installation costs. Retrofit projects, incremental cost is the total cost of the proposed project. New construction or where the existing equipment must be replaced anyway, then incremental cost is the premium of the proposed high efficiency project over baseline.

8 Copy of vendor invoice is attached

Vendor invoices detailing costs of the project are always required.

New construction projects or where the existing equipment must be replaced anyway, vendor proposal of baseline must also be attached.

9 Simple Electric Payback

If the simple electric payback is less than 1 year, the rebate structure is affected. Double check average electric rate for correct payback.

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I. Executive Summary

The renovation of Rieveschl Hall has included major portions of levels 400, 500, 600, and 700 to provide new laboratory spaces and equipment for both teaching and research functions, along with lab support spaces, and associated staff offices. All renovated areas receive new VAV reheat HVAC systems and VAV laboratory exhaust systems, with DDC-controlled pressure-independent air valves on the supply air, general exhaust air, and fume hood exhaust. All new DDC control sequences were implemented in all renovated spaces, to include occupied/unoccupied modes (occupancy sensors in each space switch the HVAC and lighting between modes), plus space pressurization control to maintain design space pressure relationships. DDC laboratory control modules monitor the functions of the fume hoods' sash positions, fume hood air valves, general exhaust and supply air valves, and space thermostat input, and adjust all as appropriate for the mode of operation and to maintain a design offset CFM value between exhaust and supply, while maintaining space temperature setpoints. These sequences thus achieve the maximum permissible diversity of supply and exhaust airflows at any given instant. Generally, a minimum rate of 8 airchanges/hour (ACH) is used for laboratory occupied modes setpoint CFM, while the unoccupied mode permits turndown to a minimum of 4 ACH in all spaces.

New energy recovery laboratory exhaust fan systems (ERU-1 & -2, on roof, each consisting of twin constant volume high-plume dilution fans LEF-1 thru -4, plus glycol run-around loop energy recovery coils; total 140,000 CFM) were installed to serve the majority of lab exhausts; equipment size was limited by the structural limit of the roof. The pumped glycol run-around energy recovery loop is piped to two new central airhandling systems (AHU 1 & 2; total 235,000 CFM) installed in the 300 level of Rieveschl. These two 100% outside air AHU's are connected to a common supply air plenum which provides SA to all levels via new riser ducts installed within the project. The two AHU's consist of a total of nine identical VFD-driven plenum fans, energy recovery glycol coils, steam VIFB preheat coils, and CHW cooling coils. These AHUs' combined capacity is designed to serve the entire building.

Selected additional laboratory fume hood exhausts are served by two roof-mounted, VFD-driven, high-plume type LEF's (LEF-6 & -7; each 5,000 CFM) using the fan manufacturer's proprietary VAV hardware (variable discharge nozzle and controls) which maintains code-required minimum discharge velocity while operating the fans at reduced speed during off-peak periods of lesser fume hoods operation. All new lab exhaust hoods deemed less-frequently used, and not served by the previously described LEF's and energy recovery exhaust systems, are served by one new high-plume-dilution mixed flow constant volume LEF (LEF-5; 37,500 CFM). All constant volume LEF's (LEF-1 thru LEF-5) incorporate a modulating bypass air damper so that the laboratory exhaust air flow drawn from the building is variable volume, but the airflow through the fans is constant volume to maintain the required discharge velocity and plume height. All LEF's are operated to maintain a setpoint static pressure in the exhaust duct mains, so as to meet the instantaneous exhaust airflow demand.

The above-described new systems replaced eight existing 1960's vintage constant volume 100% OA dual-duct HVAC systems and about 52 constant volume lab exhaust and general exhaust air fans. The remaining two existing HVAC systems will be replaced when the 800 level is renovated, and the capacity to serve that area is built into the two new AHU's. All existing systems had pneumatic and electric controls and ran in the same modes 7 days/week, 24 hours/day. All existing HVAC units utilized steam preheat coils, chilled water precool and cold deck coils, and hot water hot deck coils.

UC Rieveschl Hall Renovations – HVAC Design Concepts: The HVAC/LE/GE concepts currently implemented involve new HVAC equipment being located at Level 300 and the LE/GE and energy recovery systems are located upon the roof. Fundamental HVAC, laboratory exhaust (LE), and General Exhaust (GE) systems improvements for the renovation of Levels 400, 500, 600, and 700 of Rieveschl Hall include the following:

- Eight existing 100% OA dual-duct HVAC units located in both the east and west mechanical rooms of Levels 400, 500, 600, and 700 were demolished, and the center areas of each floor are being renovated and served from two new central VAV HVAC systems. The east and west end areas of the floors will not be renovated, and will have their existing ductwork (dual-duct) connected to the new central system at strategic points since those areas are not being renovated.
- Two new 100% outside air custom airhandling units, AHU's 1 & 2 totaling 235,000 CFM, sized for Levels 400, 500, 600, 700, and 800, were placed on Level 300. The supply air (SA) from both units was connected to a common supply air plenum, from which new SA duct risers were extended to the east and west ends of each floor. Branch SA ductwork was routed from the east and west mechanical rooms of each floor to serve all new SA distribution ductwork systems in the renovated portions of the building, while also connecting to the existing dual-duct systems' ductwork at the unrenovated west and east ends of each floor. A hot water reheat coil was provided in the hot deck of each system to maintain the original dual-duct operating sequences.
- General exhausts and laboratory hood exhausts were separately ducted from lab hoods and the renovated areas to the roof, then combined and, to the greatest extent possible, connected to new roof-mounted laboratory exhaust energy recovery equipment (ERU's 1 & 2, totaling 140,000 CFM) to maximize energy recovery (thereby substantially decreasing the energy requirements of the facility), or to new variable volume laboratory exhaust fans, or new high-plume dilution exhaust fans.
- The new 500, 600, 700, and 800 Level HVAC and laboratory exhaust systems are variable volume type to minimize energy consumption. In addition, all HVAC and lab exhaust systems incorporate automatic occupied/unoccupied sequences of operation to closely match actual space conditioning demands at all times, while expending as little energy as possible.
- All functions of the new HVAC systems and laboratory fume hoods are controlled by new direct digital controls, connected to the building's new Siemens DDC controls network for overall control of sequences of operation, scheduling, monitoring, and reporting. Pressure-independent venturi air valves are installed in the supply air (with associated HW reheat coils), lab hood exhaust, and general exhaust ductwork of all spaces.
- New DDC laboratory control modules monitor lab fume hoods' operation/sash position and air valves, supply air valves, and general exhaust valves, and maintain space-specific exhaust/supply offset CFM values, while implementing occupied and unoccupied control modes for each space. During occupied mode, spaces are provided a minimum of 8 airchanges/hour (ACH), and during unoccupied mode the value is reset to minimum 4 ACH.
- Energy recovery run-around loop piping containing a glycol solution was installed from the roof-mounted energy recovery units to the new AHU's on Level 300, and all associated pumping, controls, and accessory devices were provided.
- The new AHU's on Level 300 and new HVAC systems were connected to the building's existing chilled water, steam and condensate, hot water for reheat, and electrical service systems as required.

In addition to the mechanical systems improvements, the renovated areas' (teaching and research laboratories, support spaces, offices) work included plumbing laboratory waste (LW/LV), domestic water systems (DCW/DHW), laboratory air (LA), laboratory natural gas (LG), laboratory water (RO), sanitary waste (San W/San V), laboratory vacuum (VAC) systems, wet sprinkler systems, new electrical power, fire alarm, lighting and controls system, telecommunications, and audiovisual systems.

The energy models for the University of Cincinnati Rieveschl Hall Renovations project were completed using the Trane Trace 700 program, 2012 version. The baseline case was modeled as the existing, original HVAC equipment. The proposed case was modeled to include all new equipment and operating sequences.

The proposed new work design incorporates all of the improvements in equipment and operating modes described herein. The combined effect of all systems improvements yields total energy cost savings for the building of approximately 24.8% versus the existing building model. The electrical energy cost savings alone represent a 32.2% reduction compared to existing conditions.

II. Proof of Payment

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application

Summary of Contracts for All Contractors Involved on all Pertinent Projects and Phases:

(Contractors are listed in same order as support documentation)

Contractor Name	Project(s)/Phases	Trade	Net Contract Amount Applicable to Rebate Application, Incl. Change Orders
1. TJ Dyer Company	600 & 700 Levels	Mech & Plumb	\$4,804,103
2. Mark Spaulding Construction Co.	600 & 700 Levels	Gen Const	\$617,568
3. SA Comunale Fire Protection Co.	600 & 700 Levels	Fire Prot	\$0
4. United Electric Co.	600 & 700 Levels	Elect	\$117,146
5. Queen City Mechanical Co.	400 & 500 Levels	Plumb	\$0
6. TJ Dyer Company	400 & 500 Levels	Mech	\$3,143,723
7. Schrudde & Zimmerman, Inc.	400 & 500 Levels	Gen Const	\$129,308
8. Dalmation Fire Protection Co.	400 & 500 Levels	Fire Prot	\$0
9. United Electric Co.	400 & 500 Levels	Elect	\$103,640
Grand Total			\$8,915,488

The above summary presents the net costs of the contracts for the work elements that were related to providing the equipment and systems involved in this rebate application. Immediately following this page are all of the worksheets that indicate the development of the results presented above for each contractor. Following the worksheets are the proof of payment documents for each contractor, as were originally submitted with the rebate application in December 2012.

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: TJ Dyer Co.; Project - 600 and 700 Levels Renovation; Mechanical and Plumbing Contracts

[Note: For this contractor items that were N/A will be subtracted from totals]

ORIGINAL VALUES		Page 2 of 11						
a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
16	220000	Plumb Fixtures		164585	164585	100%	164585	0
17	220000	Air Compressor		12055	12055	100%	12055	0
18	22/230000	300 Lvl-Demo/Coring	8125		8125	50%	4063	4063
19	22/230000	300 Lvl-Piping	49800		49800	35%	17430	32370
20	22/230000	300 Lvl-Piping		98500	98500	35%	34475	64025
21	22/230000	300 Lvl-Insulation	9800		9800	35%	3430	6370
22	22/230000	300 Lvl-Insulation		18600	18600	35%	6510	12090
					361465		242548	\$118,918
Original Sheet Totals			140275	1788199	1928474			
Total N/A Items to be Deducted					-242548			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$1,685,927			

ORIGINAL VALUES		Page 3 of 11						
a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
28	22/230000	500 Lvl-Demo/Coring	10950		10950	85%	9308	1643
29	22/230000	500 Lvl-Piping	48529		48529	90%	43676	4853
30	22/230000	500 Lvl-Piping		92400	92400	90%	83160	9240
31	22/230000	500 Lvl-Insulation	4780		4780	90%	4302	478
32	22/230000	500 Lvl-Insulation		3225	3225	90%	2903	323
33	22/230000	600 Lvl-Demo/Coring	10950		10950	75%	8213	2738
34	22/230000	600 Lvl-Piping	145100		145100	60%	87060	58040
35	22/230000	600 Lvl-Piping		288300	288300	60%	172980	115320
36	22/230000	600 Lvl-Insulation	17400		17400	10%	1740	15660
37	22/230000	600 Lvl-Insulation		38500	38500	10%	3850	34650
43	22/230000	700 Lvl-Demo/Coring	28670		28670	75%	21503	7168
44	22/230000	700 Lvl-Piping	149700		149700	60%	89820	59880
45	22/230000	700 Lvl-Piping		295600	295600	60%	177360	118240
46	22/230000	700 Lvl-Insulation	20300		20300	10%	2030	18270
					1154404		707903	\$446,501
Original Sheet Totals			708079	1450802	2158881			
Total N/A Items to be Deducted					-707903			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$1,450,978			

ORIGINAL VALUESPage **4** of **11**

a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
47	22/230000	700 Lvl-Insulation		40400	40400	10%	4040	36360
53	22/230000	Roof -Demo/Coring	17235		17235	100%	17235	0
					0		0	0
					0		0	0
					0		0	0
					0		0	0
					0		0	0
					57635		21275	\$36,360
Original Sheet Totals			500495	1142150	1642645			
Total N/A Items to be Deducted					-21275			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$1,621,370			

CHANGE ORDERSPage **8** of **11**

a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
MP-01	220000		2355	3377	5732	100%	5732	0
MP-05	220000		1200	1578	2778	100%	2778	0
MP-06	220000		2000	281	2281	100%	2281	0
MP-10	220000		10000	4957	14957	100%	14957	0
MP-12	220000		5000	5639	10639	100%	10639	0
MP-14	220000		10000	1986	11986	100%	11986	0
MP-15	220000		3000	606	3606	100%	3606	0
MP-16	220000		2000	838	2838	100%	2838	0
					54818		54818	\$0
Original Sheet Totals			58457.77	42188.29	100646.06			
Total N/A Items to be Deducted					-54818			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$45,828			

Original Base Bid Grand Total:

5,730,000

Revised Base Bid Grand Total after Deductions:**\$4,758,274** Amount applicable to Application

Original Change Orders Grand Total:

100646.06

Revised Change Orders Grand Total after Deductions:**\$45,828** Amount applicable to Application

Original Grand Total:

5,830,646

Revised Grand Total after Deductions:**\$4,804,103** Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: Mark Spaulding Construction Co.; Project - 600 and 700 Levels Renovation; General Construction Contract

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES

Page **2** of **18**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
14		Area well ftg	1960	1290	3250	100%	3250
16		Area well walls	16820	11570	28390	100%	28390
18		Ahu Stair fndtn	6276	5930	12206	100%	12206
22		Metal Fabrctn	0	119750	119750	100%	119750
					163596		163596
Original Sheet Totals			38056	584144	622200		
Total N/A Items to be Deducted					-458604		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$163,596		

ORIGINAL VALUES

Page **3** of **18**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
28		Waterproofing		5436	5436	100%	5436
30		Metal Roof Panels		9000	9000	100%	9000
32		Flash Roof Pentrtns		17955	17955	100%	17955
					32391		32391
Original Sheet Totals			25980	175458	201438		
Total N/A Items to be Deducted					-169047		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$32,391		

ORIGINAL VALUES

Page **4** of **18**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			233550	460627	694177		
Total N/A Items to be Deducted					-694177		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 5 of 18

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
Original Sheet Totals			0	119680	119680		
Total N/A Items to be Deducted					-119680		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 6 of 18

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
109		Area well excavate	7620	18890	26510	100%	26510
111		Area well shoring	6000	37000	43000	100%	43000
113		Area well backfill	6620	12530	19150	100%	19150
					88660		88660
Original Sheet Totals			20240	995365	1015605		
Total N/A Items to be Deducted					-926945		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$88,660		

ORIGINAL VALUES

Page 7 of 18

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
116		Stair Demo-Excv AHU	6430	4590	11020	100%	11020
118		Stair Backfill	1720	2160	3880	100%	3880
					14900		14900
Original Sheet Totals			8150	6750	14900		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$14,900		

CHANGE ORDERS

Page 14 of 18

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
G-01			2340	29976	32316	100%	32316
G-02				10528	10528	100%	10528
G-09				71215	71215	100%	71215
G-12				22688	22688	100%	22688
G-14				172318	172318	100%	172318
G-16				8223	8223	100%	8223
G-19				733.74	733.74	100%	733.74
					318021		318021
Original Sheet Totals			3180	372753.94	375933.94		
Total N/A Items to be Deducted					-57913		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$318,021		

Original Base Bid Grand Total:	2,668,000	
Revised Base Bid Grand Total after Deductions:	\$299,547	Amount applicable to Application
Original Change Orders Grand Total:	375933.94	
Revised Change Orders Grand Total after Deductions:	\$318,021	Amount applicable to Application
Original Grand Total:	3,043,934	
Revised Grand Total after Deductions:	\$617,568	Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: United Electric Co.; Project - 600 and 700 Levels Renovation; Electrical Contract

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES							
Page 2 of 8							
a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
14		Switchgear/Panels	24300	68000	92300	20%	18460
15		Panel Feeders	32200	43300	75500	20%	15100
16		Eqpt Feeders	24300	22500	46800	100%	46800
18		Branch Power C & W	99700	52400	152100	20%	30420
					366700		110780
Original Sheet Totals			282600	563280	845880		
Total N/A Items to be Deducted					-735100		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$110,780		

ORIGINAL VALUES							
Page 3 of 8							
a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			11500	41500	53000		
Total N/A Items to be Deducted					-53000		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES							
Page 4 of 8							
a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 5 of 8

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 6 of 8

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 7 of 8

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

CHANGE ORDERS

Page 6 of 8

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
E-06		Occupancy Sensors	633	951	1583.63	100%	1583.63
E-13		Conduit Rework-820	2082	2701	4782	100%	4782
					0		0
					0		0
					0		0
					0		0
					0		0
					6366		6366
Original Sheet Totals			6202.78	13537.6	19740.38		
Total N/A Items to be Deducted					-13374		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$6,366		

Original Base Bid Grand Total:	898,880	
Revised Base Bid Grand Total after Deductions:	\$110,780	Amount applicable to Application
Original Change Orders Grand Total:	19740.38	
Revised Change Orders Grand Total after Deductions:	\$6,366	Amount applicable to Application
Original Grand Total:	918,620	
Revised Grand Total after Deductions:	\$117,146	Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: SA Comunale; Project - 600 and 700 Levels Renovation; Fire Protection Contract

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUESPage **2** of **6**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
Original Sheet Totals			50366	69359	119725		
Total N/A Items to be Deducted					-119725		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

CHANGE ORDERS

Page 4 of 6

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
Original Sheet Totals			3223	4834.88	8057.88		
Total N/A Items to be Deducted					-8058		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Original Base Bid Grand Total:	119,725	
Revised Base Bid Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Change Orders Grand Total:	8057.88	
Revised Change Orders Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Grand Total:	127,783	
Revised Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: Queen City Mechanical; Project - 500 and 400 Levels Renovation; Plumbing Contract

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES

Page **2** of **13**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			65836	70578	136414		
Total N/A Items to be Deducted					-136414		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page **3** of **13**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			217680	126806	344486		
Total N/A Items to be Deducted					-344486		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page **4** of **13**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			132482	61026	193508		
Total N/A Items to be Deducted					-193508		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Page of 13

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Page 8 of 13

a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0		0	
					0		0	
					0		0	
					0		0	
Original Sheet Totals			43218.18	95469.82	138688			
Total N/A Items to be Deducted					-138688			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

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a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0		0	
					0		0	
					0		0	
Original Sheet Totals			30958.63	24627.69	55586.32			
Total N/A Items to be Deducted					-55586			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

Page **10** of **13**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Original Base Bid Grand Total:	674,408	
Revised Base Bid Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Change Orders Grand Total:	194274.32	
Revised Change Orders Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Grand Total:	868,682	
Revised Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: TJ Dyer Co.; Project - 500 and 400 Levels Renovation; Mechanical Contract

[Note: For this contractor items that were N/A will be subtracted from totals]

ORIGINAL VALUES						Page 2 of 11		
a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
					0		0	0
					0		0	0
					0		0	0
					0		0	0
					0		0	0
					0		0	0
					0		0	\$0
Original Sheet Totals			272350	522850	795200			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$795,200			

ORIGINAL VALUES			Page 3 of 11					
a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
					0		0	0
					0		0	0
					0		0	0
					0		0	\$0
Original Sheet Totals			491900	1008800	1500700			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$1,500,700			

ORIGINAL VALUES			Page	4	of	11		
a.	c.	d.	e.	f.	g.	(N/A to Applctn)		Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$	to Application
					0		0	0
					0		0	0
					0		0	0
					0		0	\$0
Original Sheet Totals			167800	0	167800			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$167,800			

CHANGE ORDERS

Page **8** of **11**

a.	c.	d.	e.	f.	g.	(N/A to Applctn)	Net \$ Applied
Item	Section	Description	Labor\$	Material\$	Total\$	Deduct %	Deduct \$ to Application
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0	100%	0
					0		\$0
Original Sheet Totals			112893	567129.6	680022.6		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$680,023		

Original Base Bid Grand Total:

2,463,700

Revised Base Bid Grand Total after Deductions:**\$2,463,700**

Amount applicable to Application

Original Change Orders Grand Total:

680023

Revised Change Orders Grand Total after Deductions:**\$680,023**

Amount applicable to Application

Original Grand Total:

3,143,723

Revised Grand Total after Deductions:**\$3,143,723**

Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: **Schrudde & Zimmerman Construction Co.; Project - 500 and 400 Levels Renovation; General Const Contract**

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES

Page **2** of **11**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
11	051200	Struct Steel	40000	68900	108900	100%	108900
15	077100	Roofing	15000	5408	20408	100%	20408
					0	100%	0
					0	100%	0
					129308		129308
Original Sheet Totals			418820	451086	869906		
Total N/A Items to be Deducted					-740598		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$129,308		

ORIGINAL VALUES

Page **3** of **11**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			37514	74369	111883		
Total N/A Items to be Deducted					-111883		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page **2** of **3** (400 Level Project)

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			168096	93073	261169		
Total N/A Items to be Deducted					-261169		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 5 of 11

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 6 of 11

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page 7 of 11

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

CHANGE ORDERS

Page 8 of 11

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
G-01					0	100%	0
G-02					0	100%	0
G-09					0	100%	0
G-12					0	100%	0
G-14					0	100%	0
G-16					0	100%	0
G-19					0	100%	0
					0		0
Original Sheet Totals			483298.2	338925.8	822224		
Total N/A Items to be Deducted					-822224		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Original Base Bid Grand Total:	1,242,958 (500 & 400 Level Projects)
Revised Base Bid Grand Total after Deductions:	<div><div>\$129,308</div>Amount applicable to Application</div>
Original Change Orders Grand Total:	822224
Revised Change Orders Grand Total after Deductions:	<div><div>\$0</div>Amount applicable to Application</div>
Original Grand Total:	2,065,182
Revised Grand Total after Deductions:	<div><div>\$129,308</div>Amount applicable to Application</div>

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: **Dalmation Fire Protection; Project - 500 and 400 Levels Renovation; Fire Protection Contract**

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES Page **2** of **5** **500 Level Project**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			59600	46600	106200		
Total N/A Items to be Deducted					-106200		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES Page **2** of **5** **400 Level Project**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0	100%	0
					0	100%	0
					0	100%	0
					0		0
Original Sheet Totals			2700	2188	4888		
Total N/A Items to be Deducted					-4888		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0		0	
					0		0	
Original Sheet Totals			0	0	0			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0	100%	0	
					0	100%	0	
					0	100%	0	
					0		0	
Original Sheet Totals			0	0	0			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

ORIGINAL VALUES

Page of

a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0	100%	0	
					0	100%	0	
					0		0	
Original Sheet Totals			0	0	0			
Total N/A Items to be Deducted					0			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

CHANGE ORDERS

Page 4 of 5

a.	c.	d.	e.	f.	g.	(Apply to Applctn)		
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$	
					0		0	
					0		0	
					0		0	
					0		0	
					0		0	
					0		0	
					0		0	
					0		0	
Original Sheet Totals			37445.88	12776.61	50222.49			
Total N/A Items to be Deducted					-50222			
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0			

Original Base Bid Grand Total:	111,088	
Revised Base Bid Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Change Orders Grand Total:	50222.49	
Revised Change Orders Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application
Original Grand Total:	161,310	
Revised Grand Total after Deductions:	<div><div></div><div>\$0</div></div>	Amount applicable to Application

UC Rieveschl Hall Project Construction Cost Breakdowns for Items Pertinent to Application:

Overview: Contract amounts are herein adjusted so as to only reflect costs associated with the building systems pertinent to the Rebate Application. Where contracts were associated with dual disciplines (i.e., 1 applicable/1 not), the work values were estimated based upon percentages applicable to the rebate application. Where most of a contractor's costs are applicable, only the items to be adjusted are presented herein; conversely, if most costs are not applicable, only the applicable items are presented, so as to streamline the amount of data presented.

Contractor: United Electric Co.; Project - 500 and 400 Levels Renovation; Electrical Contract

[Note: For this contractor only items that were applicable will be included in totals; subtract all items not listed]

ORIGINAL VALUES

Page **2** of **15**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
11		Demo 300 Lvl	5000	150	5150	100%	5150
					0		0
					0		0
					0		0
					5150		5150
Original Sheet Totals			107100	79645	186745		
Total N/A Items to be Deducted					-181595		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$5,150		

ORIGINAL VALUES

Page **3** of **15**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
Original Sheet Totals			60890	56475	117365		
Total N/A Items to be Deducted					-117365		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

ORIGINAL VALUES

Page **4** of **15**

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
47		300 Br Power Cond	3800	1400	5200	100%	5200
48		300 Br Power Wire	1500	500	2000	100%	2000
49		300 Br Power Devices	500	250	750	100%	750
56		Roof Br Power Cond	3500	1100	4600	100%	4600
57		Roof Br Power Wire	1080	700	1780	100%	1780
58		Rf Br Power Devices	350	500	850	100%	850
					15180		15180
Original Sheet Totals			89210	48900	138110		
Total N/A Items to be Deducted					-122930		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$15,180		

ORIGINAL VALUES

Page 5 of 15

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
70		300 FA Cond	600	100	700	100%	700
71		300 FA Wire	250	100	350	100%	350
72		300 FA Devices	100	1500	1600	100%	1600
88		Feeder Conduit	41080	20000	61080	50%	30540
89		Feeder Wire	11000	28000	39000	50%	19500
90		Feeder Eqpt	15240	46000	61240	50%	30620
					163970		83310
Original Sheet Totals			108530	271750	380280		
Total N/A Items to be Deducted					-296970		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$83,310		

ORIGINAL VALUES

Page 6 of 15

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			0	0	0		
Total N/A Items to be Deducted					0		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

CHANGE ORDERS

Page 10 of 15

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			28565.75	-5506.75	23059		
Total N/A Items to be Deducted					-23059		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

CHANGE ORDERS

Page 11 of 15

a.	c.	d.	e.	f.	g.	(Apply to Applctn)	
Item	Section	Description	Labor\$	Material\$	Total\$	Add %	Add \$
					0		0
					0		0
					0		0
					0		0
Original Sheet Totals			200800	144413	345213		
Total N/A Items to be Deducted					-345213		
Revised Sheet Total After Deduction of N/A Items or %'s:					\$0		

Original Base Bid Grand Total:	822,500	
Revised Base Bid Grand Total after Deductions:	\$103,640	Amount applicable to Application
Original Change Orders Grand Total:	368272	
Revised Change Orders Grand Total after Deductions:	\$0	Amount applicable to Application
Original Grand Total:	1,190,772	
Revised Grand Total after Deductions:	\$103,640	Amount applicable to Application

Contractor Payment Request

Division of Administration and Finance
Planning • Design • Construction
PO Box 210188 • Cincinnati, Ohio 45221-0188



Contractor Name and Address		Project Information		A/E Name and Address		A - Summary	
Thomas J. Dyer Company		UC Project No. 10000A		GRBN Architects		Request No. 11	
2240 Leder Road		Purchase Order # B12-450029BE34		532 East 8th Street		Sheet 1 of 11	
Cincinnati, Ohio 45212		Project Name & Location		Cincinnati, Ohio 45202			
Contr. Phone 513-321-8100		Riesaschi Hall 800 & 700 Level Reno.		CM Name and Address		For this period	
Contr. Fax 513-813-4101		Uptown Campus West		UC - Planning, Design & Construction		from 10/01/2012	
Contr. Tax ID 21-0521288		Type of Contract HVAC & Plumbing		51 Goodman Drive		to 10/31/2012	
Contr. E-mail tjdye@tdyerenterprises.com				Cincinnati, Ohio 45221			

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values last approved. All information in this Payment Request is true and accurate; all payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the period for which payment was made; and the Contractor, to the best of its knowledge, completed the Work in duly in accordance with the terms and conditions of the contract, including payment of all applicable Prevailing Wage rates.

Authorized signature

11/5/12
Date

Work Progress Certification

Each firm signing below certifies (we), based upon our on-site observation, the payment requested is appropriate and the firm is entitled to request for the Work provided to date:

Legal Contractor

Date

Architect/Engineer (A/E)

Date

Construction Manager

Date

University Approval

Authorized signature

Date

Partial Payment Details

Completed to date

Original Contract Amount

Change Order Amount

Stored Materials

Subtotal - Earned (A)

85.4% Percent Complete

Withheld Amount

Liens (B)

Retainage Amount

Liquidated Damages

Other

Subtotal - Withheld (B)

Previous Payments (C)

Total Requested in this Application (A - B - C)

Labor \$

Materials \$

Total \$

940,795.60

3,990,445.75

4,934,239.25

68,457.77

42,188.29

100,646.06

N/A

999,283.27

4,030,632.04

5,034,665.31

45,054.09

45,054.09

45,054.09

45,054.09

817,646.18

3,723,665.04

4,711,234.22

336,653.00

\$341,644.00

\$278,597.00

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210160 • Cincinnati, OH 45221-0160



Contractor Name: Thomas J. Dyer Company

UC Project No.: 10330A

B - Schedule of Values Summary

Project Name: Research Hall 500 & 700 Level Renov

Purchase Order #: 812-4300058534

Request No.: 11

Project Location: Upper Campus West

Sheet 2 of 11

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	Sub Item	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
1		00 01 00	Good		48,040.00	48,040.00	48,040.00		100.0%		48,040.00
2		00 12 00	General Contractors		58,500.00	58,500.00	58,500.00	8.0%	100.0%		58,500.00
3		01 21 10	Project Coordination		114,800.00	114,800.00	114,800.00		100.0%		114,800.00
4		01 7 110	Mobilization		14,550.00	14,550.00	14,550.00		100.0%		14,550.00
5		01 77 00	Cover-out Items		7,850.00	7,850.00	8,120.00	8.0%	80.0%		8,120.00
6		23 00 00	Cable - Roping		38,500.00	38,500.00	38,500.00		100.0%		38,500.00
7		23 00 00	AWJ 2		580,250.00	580,250.00	580,250.00		100.0%		580,250.00
8		23 00 00	ERW 2		178,480.00	178,480.00	178,480.00		100.0%		178,480.00
9		23 00 00	LEF 3, 4, 5, 6 and 7		298,788.00	298,788.00	298,788.00		100.0%		298,788.00
10		23 00 00	Valve Packages		38,188.00	38,188.00	38,188.00		100.0%		38,188.00
11		23 00 00	WV 1		18,950.00	18,950.00	18,950.00		100.0%		18,950.00
12		23 00 00	ORU 1		13,960.00	13,960.00	13,960.00		100.0%		13,960.00
13		23 00 00	Humidifier		19,925.00	19,925.00	19,925.00		100.0%		19,925.00
14		23 00 00	Cable		48,250.00	48,250.00	48,250.00		100.0%		48,250.00
15		23 00 00	VFD's		19,850.00	19,850.00	19,850.00		100.0%		19,850.00
16		23 00 00	Pneumatic Pictors		104,888.00	104,888.00	106,880.00		85.0%		106,880.00
17		23 00 00	Air Compressor		12,058.00	12,058.00	12,058.00		100.0%		12,058.00
18		2300 00 00	300 Level - General Conting	8,125.00		8,125.00	8,125.00		100.0%	8,125.00	
19		2300 00 00	300 Level - Piping	48,800.00		48,800.00	48,800.00		100.0%	48,800.00	
20		2300 00 00	300 Level - Piping		58,500.00	58,500.00	58,500.00		100.0%		58,500.00
21		2300 00 00	300 Level - Insulation	8,800.00		8,800.00	8,800.00		100.0%	8,800.00	
22		2300 00 00	300 Level - Insulation		18,600.00	18,600.00	18,600.00		100.0%		18,600.00
23		23 00 00	500 Level Sheet Metal	72,550.00		72,550.00	72,550.00		100.0%	72,550.00	
Total Misc Sheet				140,378.00	1,788,138.00	1,928,474.00	1,869,338.25			140,378.00	1,729,064.25

Contractor Payment Request

Division of Administration and Finance
Planning • Design • Construction
PO Box 210180 • Cincinnati, OH 45221-0180



Contractor Name: Thomas J. Deer Company
Project Name: Riverside Hall 600 & 700 Level Rnd
Project Location: Urban Campus West

UC Project No: 10002A
Purchase Order #: 612-453029634

B - Schedule of Values Summary

Request No. 71
Sheet 3 of 11

Item	U	S	L	Original Application			Current Period				
				E	F	G	H	I	J	K	L
Item	U	S	L	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
24		22 02 00	300 Level - Sheet Metal		55,027.00	55,027.00	55,027.00	100.0%			55,027.00
25		22 04 00	800 Level - Controls	14,850.00		14,850.00	14,850.00	100.0%		14,850.00	
26		22 06 00	300 Level - Controls		22,750.00	22,750.00	22,750.00	100.0%			22,750.00
27		22 08 00	300 Level - Air & Vapor Barriers	3,550.00		3,550.00	3,550.00	100.0%		3,550.00	
28		22 03 00 00	500 Level - Demol/Coring	10,950.00		10,950.00	10,950.00	100.0%		10,950.00	
29		22 03 00 00	500 Level - Paving	46,529.00		46,529.00	46,529.00	100.0%		46,529.00	
30		11 03 00 00	500 Level - Paving		92,400.00	92,400.00	92,400.00	100.0%			92,400.00
31		22 03 00 00	500 Level - Excavation	4,780.00		4,780.00	4,780.00	100.0%		4,780.00	
32		22 04 00 00	100 Level - Excavation		3,225.00	3,225.00	3,225.00	100.0%			3,225.00
33		22 04 00 00	500 Level - Demol/Coring	10,950.00		10,950.00	10,950.00	100.0%		10,950.00	
34		22 04 00 00	500 Level - Paving	145,100.00		145,100.00	145,100.00	100.0%		145,100.00	
35		22 03 00 00	400 Level - Paving		256,300.00	256,300.00	256,300.00	100.0%			256,300.00
36		22 03 00 00	400 Level - Excavation	17,400.00		17,400.00	17,400.00	100.0%		17,400.00	
37		22 03 00 00	600 Level - Excavation		36,500.00	36,500.00	36,500.00	100.0%			36,500.00
38		23 00 00	300 Level - Sheet Metal	195,000.00		195,000.00	195,000.00	100.0%		195,000.00	
39		23 00 00	500 Level - Sheet Metal		369,500.00	369,500.00	369,500.00	100.0%			369,500.00
40		23 00 00	500 Level - Controls	45,800.00		45,800.00	45,800.00	100.0%		45,800.00	
41		23 00 00	500 Level - Controls		365,500.00	365,500.00	365,500.00	100.0%			365,500.00
42		23 00 00	400 Level Air & Vapor Barriers	12,700.00		12,700.00	12,700.00	100.0%		12,700.00	
43		22 03 00 00	100 Level - Demol/Coring	27,236.50		27,236.50	27,236.50	10.0%	95.0%	27,236.50	
44		22 03 00 00	700 Level - Paving	148,700.00		148,700.00	22,485.00	10.0%	10.0%	22,485.00	
45		22 03 00 00	700 Level - Paving		295,300.00	295,300.00	221,700.00	45.0%	75.0%		221,700.00
46		22 03 00 00	700 Level - Excavation	26,300.00		26,300.00					
Total this Sheet				708,070.00	1,467,500.00	2,175,570.00	1,895,552.50			569,190.50	1,276,362.00

(Section B - Schedule of Values Summary: Page 2 of 2)

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210100 • Cincinnati, Ohio 45221-0100



Contractor Name: Thomas J. Dyer Company
Project Name: Riverside Hall 800 & 700 Level Reno
Project Location: Uptown Campus West

UG Project No: 10000A
Purchase Order #: 612-4500008634

B - Schedule of Values Summary

Request No: 11
Sheet 4 of 11

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	Sub Item	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
47		22/05.00.00	700 Level - Insulation		40,400.00	40,400.00					
48		23.00.00	700 Level - Sheet Metal	233,300.00		233,300.00	34,995.00	7.0%	15.0%	34,995.00	
49		20.00.00	700 Level - Sheet Metal		245,450.00	245,450.00	126,452.50	37.0%	45.0%		126,452.50
50		23.00.00	700 Level - Controls	48,700.00		48,700.00					
51		23.00.00	700 Level - Controls		396,200.00	396,200.00	339,265.00	8.2%	85.6%	2,485.00	336,770.00
52		28.00.00	700 Level - Air & Water Balance	11,400.00		11,400.00					
53		22/23.00.00	Roof Level - Demo/Cladding	17,235.00		17,235.00	17,235.00		100.0%	17,235.00	
54		29.00.00	Roof Level - Piping	48,650.00		48,650.00	48,650.00		100.0%	48,650.00	
55		29.00.00	Roof Level - Piping		93,700.00	93,700.00	93,700.00		100.0%		93,700.00
56		29.00.00	Roof Level - Insulation	47,500.00		47,500.00	47,500.00		100.0%	47,500.00	
57		29.00.00	Roof Level - Insulation		97,500.00	97,500.00	97,500.00		100.0%		97,500.00
58		20.00.00	Roof Level - Sheet Metal	74,500.00		74,500.00	74,500.00		100.0%	74,500.00	
59		23.00.00	Roof Level - Sheet Metal		196,700.00	196,700.00	196,700.00		100.0%		196,700.00
60		23.00.00	Roof Level - Controls	15,900.00		15,900.00	15,900.00		100.0%	15,900.00	
61		23.00.00	Roof Level - Controls		14,800.00	14,800.00	14,800.00		100.0%		14,800.00
62		23.00.00	Roof Level - Air & Water Balance	4,310.00		4,310.00	4,310.00		100.0%	2,155.00	2,155.00
63		23.00.00	Drywall		15,400.00	15,400.00	15,400.00		100.0%		15,400.00
64											
65											
66											
67											
68											
69											
Total this Sheet				500,495.00	1,142,150.00	1,642,645.00	1,138,897.50			241,420.00	\$87,477.50
Grand Total Final Sheet Only				\$1,340,649.00	\$4,381,161.00	\$5,730,000.00	\$4,934,239.25			\$940,796.50	\$5,992,441.75

Section B - Schedule of Values Summary, Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 216106 • Cincinnati, Ohio 45221-0106



Contractor Name: Thomas J. Dyer Company
Project Name: Riverside Hall 800 & 700 (new Perm)
Project Location: Uptown Campus West

UC Project No.: 10000A
Purchase Order #: 812-4500060634

C - Schedule of Values Details

Request No.: 11
Sheet 8 of 11

A Item ID	B Section	C Description	Previous Applications to Date			Current Period			
			D Previous Labor \$	E Previous Material \$	F Previous Total \$	G Labor this Period \$	H Material this Period \$	I Labor to Date \$	J Material to Date \$
1	00 01 00	Base		46,040.00	46,040.00				46,040.00
2	00 71 00	General Contractors		55,575.00	55,575.00		3,935.00		59,510.00
3	01 31 13	Project Coordination		114,600.00	114,600.00				114,600.00
4	01 7 113	Acquisition		14,580.00	14,580.00				14,580.00
5	01 77 00	Clean-out items		5,737.50	5,737.50		363.50		6,101.00
6	21 00 00	Cranes - Rigging		38,800.00	38,800.00				38,800.00
7	23 00 00	GRU 1		580,253.00	580,253.00				580,253.00
8	23 00 00	GRU 2		176,480.00	176,480.00				176,480.00
9	23 00 00	UTF 3, 4, 5, 6 and 7		298,766.00	298,766.00				298,766.00
10	25 00 00	Valve Packages		38,185.00	38,185.00				38,185.00
11	27 00 00	HR 1		16,960.00	16,960.00				16,960.00
12	23 00 00	CRU 1		13,960.00	13,960.00				13,960.00
13	20 00 00	Humidifiers		19,925.00	19,925.00				19,925.00
14	20 00 00	Coke		48,250.00	48,250.00				48,250.00
15	22 00 00	VFD's		19,850.00	19,850.00				19,850.00
16	23 00 00	Fluorine Fittings		106,980.25	106,980.25				106,980.25
17	22 00 00	Air Compressor		12,065.00	12,065.00				12,065.00
18	22/23 00 30	300 Level - XenoCoring	8,125.00		8,125.00			8,125.00	
19	22/23 00 30	300 Level - Piping	46,800.00		46,800.00			46,800.00	
20	22/23 00 30	300 Level - Piping		88,500.00	88,500.00				88,500.00
21	22/23 00 20	300 Level - Insulation	6,800.00		6,800.00			6,800.00	
22	22/23 00 20	300 Level - Insulation		18,800.00	18,800.00				18,800.00
23	23 00 00	300 Level Sheet Pile	72,500.00		72,500.00			72,500.00	
Total this Sheet			146,275.00	1,726,796.75	1,873,071.75		3,307.50	146,175.00	1,726,964.25

Section C - Schedule of Values Details Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Thomas J. Dyer Company

WJ Project No. 10030A

C - Schedule of Values Details

Project Name Kearney/Hol Nat 600 & 700 Level Renov.

Purchase Order # 312-450008994

Request No. 11

Project Location Uptown Campus West

Sheet 5 of 11

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	Code	Section	Description	Previous Labor \$	Previous Materials \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
24		23 00 00	300 Level - Sheet Metal		68,027.00	68,027.00				68,027.00
25		23 00 00	300 Level - Controls	14,850.00		14,850.00			14,850.00	
26		23 00 00	300 Level - Controls		22,760.00	22,760.00				22,760.00
27		23 00 00	300 Level - Air & Water Balance	3,550.00		3,550.00			3,550.00	
28		22/23 00 00	300 Level - Demo/Coning	10,950.00		10,950.00			10,950.00	
29		22/23 00 00	300 Level - Piping	48,529.00		48,529.00			48,529.00	
30		22/23 00 00	300 Level - Piping		92,400.00	92,400.00				92,400.00
31		22/23 00 00	300 Level - Insulation	4,780.00		4,780.00			4,780.00	
32		22/23 00 00	300 Level - Insulation		3,228.00	3,228.00				3,228.00
33		22/23 00 00	300 Level - Demo/Coning	10,950.00		10,950.00			10,950.00	
34		22/23 00 00	300 Level - Piping	145,100.00		145,100.00			145,100.00	
35		22/23 00 00	300 Level - Piping		288,300.00	288,300.00				288,300.00
36		22/23 00 00	300 Level - Insulation	17,400.00		17,400.00			17,400.00	
37		22/23 00 00	300 Level - Insulation		38,500.00	38,500.00				38,500.00
38		23 00 00	300 Level - Sheet Metal	195,000.00		195,000.00			195,000.00	
39		23 00 00	300 Level - Sheet Metal		269,500.00	269,500.00				269,500.00
40		23 00 00	300 Level - Controls	45,900.00		45,900.00			45,900.00	
41		23 00 00	300 Level - Controls		385,500.00	385,500.00				385,500.00
42		23 00 00	300 Level Air & Water Balance	12,700.00		12,700.00			12,700.00	
43		22/23 00 00	700 Level - Demo/Coning	24,369.50		24,369.50	2,857.00		27,226.50	
44		22/23 00 00	700 Level - Piping	7,465.00		7,465.00	14,570.00		22,455.00	
45		22/23 00 00	700 Level - Piping		80,680.00	80,680.00		123,020.00		221,100.00
46		22/23 00 00	700 Level - Insulation							
Total this Sheet:				541,263.50	1,343,882.00	1,785,145.50	17,837.00	123,020.00	669,100.50	1,376,902.00

Section C - Schedule of Values Details, Page 2 of 2

Contractor Payment Request

Division of Administration and Finance
Planning • Design • Construction
PO Box 210166 • Cincinnati, Ohio 45221-0166



Contractor Name Thomas J. Dyer Company

WQ Project No. 10000A

C - Schedule of Values Details

Project Name Harvard Hall 600 & 700 Level Reroof

Purchase Order # 812-450055034

Request No. 11

Project Location Uptown Campus West

Sheet 7 of 11

a.	b.	c.	Previous Applications to Date			Current Period			
			d.	e.	f.	g.	h.	i.	j.
Item	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
47	22/23.00.00	700 Level - Insulation							
48	23.00.00	700 Level - Sheet Metal	18,664.00		18,664.00	16,331.00		34,995.00	
49	23.00.00	700 Level - Sheet Metal		27,636.00	27,636.00		105,616.50		128,452.50
50	23.00.00	700 Level - Controls							
51	23.00.00	700 Level - Controls		336,770.00	336,770.00	2,485.00		2,485.00	336,770.00
52	23.00.00	700 Level - Air & Water Passes							
53	22/23.00.00	Roof Level - Demol/Carling	17,235.00		17,235.00			17,235.00	
54	23.00.00	Roof Level - Paving	46,650.00		46,650.00			46,650.00	
55	23.00.00	Roof Level - Paving		83,700.00	83,700.00				83,700.00
56	23.00.00	Roof Level - Insulation	47,500.00		47,500.00			47,500.00	
57	23.00.00	Roof Level - Insulation		87,900.00	87,900.00				87,900.00
58	23.00.00	Roof Level - Sheet Metal	74,500.00		74,500.00			74,500.00	
59	23.00.00	Roof Level - Sheet Metal		196,700.00	196,700.00				196,700.00
60	23.00.00	Roof Level - Controls	15,900.00		15,900.00			15,900.00	
61	23.00.00	Roof Level - Controls		14,800.00	14,800.00				14,800.00
62	23.00.00	Roof Level - Air & Water Passes	2,155.00	2,155.00	4,310.00			2,155.00	2,155.00
63	23.00.00	Gypsum		15,400.00	15,400.00				15,400.00
64									
65									
66									
67									
68									
69									
Total this Sheet			222,804.00	791,661.00	1,014,465.00	18,816.00	105,616.50	341,430.00	887,472.50
Grand Total Final Sheet Only			\$934,142.50	\$3,751,489.75	\$4,685,632.25	\$36,632.00	\$261,944.00	\$940,795.50	\$2,983,442.75

Section C - Schedule of Values Details, Page 3 of 3

Division of Administration and Finance
Planning + Design + Construction
PO Box 210166 • Cincinnati, Ohio 45221-0166



LIC Project No. 10000A

Purchase Order # 612-4500058034

D - Change Order Summary

Request No. 11
Street 8 off 11

a	b	c	d	Change Order Info			Current Period				
				e	f	g	h	i	j	k	l
CO No.	EDGE	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% In Chart	Completed to Date \$	Labor to Date \$	Material to Date \$
MP-01			03/12/2012	2,968.00	3,377.00	6,345.00		100.0%	5,732.00	2,366.00	3,377.00
MP-02			03/05/2012	768.63	201.00	969.63		100.0%	968.63	768.63	201.00
MP-03			03/03/2012	1,413.94	347.00	1,760.94		100.0%	1,760.94	1,413.94	347.00
MP-04			03/05/2012	500.00	1,454.36	1,954.36		100.0%	1,954.36	500.00	1,454.36
MP-05			03/03/2012	1,200.00	1,578.45	2,778.45		100.0%	2,778.45	1,200.00	1,578.45
MP-06			03/30/2012	2,000.00	280.70	2,280.70		100.0%	2,280.70	2,000.00	280.70
MP-07			03/30/2012	3,200.00	594.13	3,794.13		100.0%	3,794.13	3,200.00	594.13
MP-08			03/30/2012	5,000.00	2,259.21	7,259.21		100.0%	7,259.21	5,000.00	2,259.21
MP-09			03/30/2012	6,000.00	2,893.21	8,893.21		100.0%	8,893.21	6,000.00	2,893.21
MP-10			08/01/2012	10,000.00	4,957.33	14,957.33		100.0%	14,957.33	10,000.00	4,957.33
MP-11			05/29/2012	5,000.00	13,674.59	18,674.59		100.0%	18,674.59	5,000.00	13,674.59
MP-12			08/01/2012	6,000.00	5,839.31	11,839.31		100.0%	11,839.31	6,000.00	5,839.31
MP-13			08/01/2012	400.00	1,453.00	1,853.00		100.0%	1,853.00	400.00	1,453.00
MP-14			08/01/2012	10,000.00	1,386.00	11,386.00		100.0%	11,386.00	10,000.00	1,386.00
MP-15			08/01/2012	3,000.00	606.00	3,606.00		100.0%	3,606.00	3,000.00	606.00
MP-16			08/01/2012	2,000.00	638.00	2,638.00		100.0%	2,638.00	2,000.00	638.00
MP-17			08/01/2012	600.00	248.00	848.00		100.0%	848.00	600.00	248.00
Total this Sheet				\$8,457.77	\$42,185.29	\$100,646.06				\$8,457.77	\$42,185.29
Grand Total Final Sheet Only				\$58,457.77	\$42,185.29	\$100,646.06				\$58,457.77	\$42,185.29

Contractor Payment Request

Division of Administration and Finance

Planning + Design + Construction

PO Box 210186 - Cincinnati, Ohio 45221-0186



Contractor Name and Address

Mark Spaulding Construction Company
5785 Constitution Drive
Florence KY 41042

Contr. Phone 859-746-8403

Contr. Fax 859-746-0250

Contr. Tax ID 61-1294438

Contr. E-mail Robin@MarkSpaulding.com

Project Information

UC Project No. 10000A
Purchase Order # B12-4500059632

Project Name & Location

UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
318 College Ct, Hamilton Co, Cinti, OH

Type of Contract General Trades

A/E Name and Address

GBBN
332 East Eighth Street
Cincinnati, OH 45202

CM Name and Address

UC Dept Head Planning and
Design & Construction
600 Univ Hall - Peter Luken

A - Summary

Request No. #9
Sheet 1 of 18

For the period
from 08/01/2012
to 08/31/2012

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved, all information in this Payment Request is true and accurate, all payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the periods for which payment was made, and the Contractor has, to the best of its knowledge, completed the Work to date in accordance within the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Authorized signature

Mark E. Spaulding

Date

9/25/12

Work Progress Certification

Each firm signing below certifies that, based upon its on-site observations, the payment requested to date is a fair and reasonable request for the Work provided to date.

Architect/Engineer (A/E)

10.01.12

Date

Construction Manager

Date

University Approval

Authorized signature

Date

SAO-F140-01v1210

Partial Payment Details

Completed to date

Original Contract Amount
Change Order Amount

Stored Materials

Subtotal - Earned (A)
73.8% Percent Complete

Withheld Amounts

Lien(s)
Retainage Amount
Liquidated Damages
Other

Subtotal - Withheld (B)

Previous Payments (C)

Total Requested this
Application (A - B - C)

Labor \$

217,859.00

3,180.00

N/A

221,039.00

17,431.76

17,431.76

202,977.24

\$630.00

Materials \$

1,705,238.50

192,213.49

1,897,451.99

1,858,030.69

\$39,421.30

Total \$

1,923,097.50

195,393.49

2,118,490.99

17,431.76

17,431.76

2,061,007.93

\$40,051.30

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
Sheet 2 of 18

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
1		00 81 00	Bond		21,466.00	21,466.00	21,466.00		100.0%		21,466.00
2		00 62 16	Insurance		20,488.00	20,488.00	20,488.00		100.0%		20,488.00
3		00 72 00	General Conditions		171,150.00	171,150.00	128,363.00		75.0%		128,363.00
4		01 31 13	Project Coordination		135,000.00	135,000.00	101,250.00		75.0%		101,250.00
5		01 71 13	Mobilization		10,000.00	10,000.00	10,000.00		100.0%		10,000.00
6		01 77 00	Close-out Items		5,000.00	5,000.00					
7		01 21 00.01	Allowance: Sched. Consultant		30,000.00	30,000.00	22,500.00	8.3%	75.0%		22,500.00
8		01 21 00.02	Allowance: Project Identification								
9											
10		02 41 10	Selective Structure Demolition	13,000.00		13,000.00	12,350.00		95.0%	12,350.00	
11											
12			Sterilizer Renovation		17,500.00	17,500.00					
13											
14			Concrete - Area Well Footing	1,960.00	1,290.00	3,250.00	3,250.00		100.0%	1,960.00	1,290.00
15											
16			Concrete - Area Well Wall, SOG	16,820.00	11,570.00	23,390.00	23,390.00		100.0%	16,820.00	11,570.00
17											
18			Concrete - Stair Foundation	6,276.00	5,930.00	12,206.00	12,206.00		100.0%	6,276.00	5,930.00
19											
20		04 20 00	Unit Masonry		35,000.00	35,000.00	14,000.00		40.0%		14,000.00
21											
22		05 50 00	Metal Fabrications		119,750.00	119,750.00	119,750.00		100.0%		119,750.00
23											
Total this Sheet				38,066.00	584,144.00	622,200.00	494,013.00			37,406.00	456,607.00

Section B - Schedule of Values Summary, Page 1 of 6

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
Sheet 3 of 18

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
24		06 10 50	Rough Carpentry	4,000.00	7,000.00	11,000.00	7,700.00		70.0%	2,800.00	4,900.00
25											
26		06 40 00	Architectural Woodwork		36,300.00	36,300.00	25,410.00		70.0%		25,410.00
27											
28		07 10 00	Waterproofing		5,436.00	5,436.00	5,436.00		100.0%		5,436.00
29											
30		07 42 00	Metal Roof Panels		9,000.00	9,000.00					
31											
32			Flashing of Roof Penetrations		17,955.00	17,955.00	17,955.00		100.0%		17,955.00
33											
34		07 81 00	Applied Fireproofing		26,500.00	26,500.00	26,500.00		100.0%		26,500.00
35											
36		07 92 00	Joint Sealants		11,236.00	11,236.00	7,865.00		70.0%		7,865.00
37											
38		08 11 00	Hollow Metal Doors & Frames	21,980.00	30,121.00	52,101.00	31,261.00		60.0%	13,188.00	18,073.00
39											
40		08 14 00	FRP Flush Doors & Frames		30,910.00	30,910.00	18,546.00		60.0%		18,546.00
41											
42		08 31 00	Access Doors & Frames		1,000.00	1,000.00	600.00		60.0%		600.00
43											
44		08 32 00	Sliding Glass Doors								
45			(Included in Line Item #44)								
46											
Total this Sheet				25,980.00	175,458.00	201,438.00	141,273.00			15,988.00	125,285.00

Section B - Schedule of Values Summary, Page 2 of 6

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
Sheet 4 of 18

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
47		08 41 00	Aluminum Entrances		58,950.00	58,950.00	5,895.00	8.0%	10.0%		5,895.00
48											
49		08 71 00	Door Hardware		47,417.00	47,417.00	28,450.00		60.0%		28,450.00
50											
51		08 80 00	Glazing								
52			(Included in Line item #44)								
53											
54		08 90 00	Louvers & Vents		10,295.00	10,295.00	10,295.00	5.0%	100.0%		10,295.00
55											
56		09 22 00	Non Structural Metal Framing	72,000.00	47,000.00	119,000.00	71,400.00		60.0%	43,200.00	28,200.00
57											
58		09 25 00	Plaster								
59			(Included in Line Item #56)								
60											
61		09 29 00	Gypsum Board - Board	89,000.00	36,000.00	125,000.00	75,000.00		60.0%	53,400.00	21,600.00
62											
63		09 29 00	Gypsum Board - Finish	12,500.00	54,620.00	67,120.00	40,272.00		60.0%	7,500.00	32,772.00
64											
65		09 30 00	Tiling	21,050.00	23,950.00	45,000.00	22,500.00		50.0%	10,525.00	11,975.00
66											
67		09 51 00	Acoustical Ceilings	39,000.00	62,000.00	101,000.00	55,550.00		55.0%	21,450.00	34,100.00
68											
69		09 65 00	Resilient Flooring		120,395.00	120,395.00	63,397.50		52.7%		63,397.50
Total this Sheet				233,550.00	460,627.00	694,177.00	372,759.50			136,075.00	236,684.50

Section B - Schedule of Values Summary, Page 3 of 6

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
Sheet 5 of 18

a. Item	b. EDGE	c. Section	d. Description	Original Application			Current Period				
				e. Original Labor \$	f. Original Material \$	g. Original Total \$	h. Completed to Date \$	i. % this Period	j. % to Date	k. Labor to Date \$	l. Material to Date \$
70		09 67 23	Resinous Flooring		37,400.00	37,400.00	22,440.00	25.0%	60.0%		22,440.00
71											
72		09 69 00	Tile Carpeting								
73			(Included in Line Item #69)								
74											
75		09 72 00	Wall Coverings								
76			(Included in Line Item #70)								
77											
78		09 91 00	Painting		47,000.00	47,000.00	23,500.00		50.0%		23,500.00
79											
80		09 96 00	High Performance Coatings								
81			(Included in Line Item #70)								
82											
83		10 11 00	Visual Display Surfaces		13,095.00	13,095.00	6,548.00		50.0%		6,548.00
84											
85		10 14 00	Signage		12,362.00	12,362.00	6,181.00		50.0%		6,181.00
86											
87		10 21 20	Lab Curtain		2,488.00	2,488.00					
88											
89		10 26 00	Wall Protection		6,235.00	6,235.00	3,118.00		50.0%		3,118.00
90											
91		10 28 00	Toilet & Bath Accessories		1,100.00	1,100.00					
92											
Total this Sheet					119,680.00	119,680.00	61,787.00				61,787.00

Section B - Schedule of Values Summary, Page 4 of 6

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
Sheet 6 of 18

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
93		10 44 00	Fire Protection Specialties		2,150.00	2,150.00	1,935.00		90.0%		1,935.00
94											
95		11 52 00	Projection Screen Installation								
96			(Included in Line Item #68)								
97											
98		11 53 00	Laboratory Equipment		2,000.00	2,000.00					
99											
100		11 53 13	Laboratory Fume Hoods								
101			(Included in Line Item #94)								
102											
103		12 24 00	Window Treatments		4,525.00	4,525.00					
104											
105		12 35 53	Laborary Casework		852,500.00	852,500.00	682,000.00		80.0%		682,000.00
106											
107		13 21 00	Controlled Environment rooms		65,770.00	65,770.00	65,770.00		100.0%		65,770.00
108											
109		31 20 00	Area Well Excavation	7,620.00	18,890.00	26,510.00	26,510.00		100.0%	7,620.00	18,890.00
110											
111			Area Well Shoring	6,000.00	37,000.00	43,000.00	43,000.00		100.0%	6,000.00	37,000.00
112											
113			Area Well Backfill	6,620.00	12,530.00	19,150.00	19,150.00		100.0%	6,620.00	12,530.00
114											
115											
Total this Sheet				20,240.00	995,365.00	1,015,605.00	838,365.00			20,240.00	818,125.00

Section B - Schedule of Values Summary, Page 5 of 6

Contractor Payment Request

Division of Administration and Finance
 Planning + Design + Construction
 PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Mark Spaulding Construction Company
 Project Name UC Rieveschl 600 & 700 Level Renov
Phase 3 & 4 - Uptown Campus West
 Project Location 318 College Ct, Hamilton Co, Cinti, OH

UC Project No. 10000A
 Purchase Order # B12-4500059632

B - Schedule of Values Summary

Request No. #9
 Sheet 7 of 18

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
116			Stair Demolition & Excavation	6,430.00	4,590.00	11,020.00	11,020.00		100.0%	6,430.00	4,590.00
117											
118			Stair Backfilling	1,720.00	2,160.00	3,880.00	3,880.00		100.0%	1,720.00	2,160.00
119											
120											
121											
122											
123											
124											
125											
126											
127											
128											
129											
130											
131											
132											
133											
134											
135											
136											
137											
138											
Total this Sheet				8,150.00	6,750.00	14,900.00	14,900.00			8,150.00	6,750.00
Grand Total Final Sheet Only				\$325,976.00	\$2,342,024.00	\$2,668,000.00	\$1,923,097.50			\$217,859.00	\$1,705,238.50

**Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 - Cincinnati, Ohio 45221-0186**



D - Change Order Summary

Request No. #9
Sheet 14 of 18

[illegible]

Contractor Payment Request

Division of Administration and Finance

Planning + Design + Construction

PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name and Address

S.A. Comunale Co., Inc.
4755 Interstate Dr.
Cincinnati, OH 45245

Contr. Phone (513) 874-4265

Contr. Fax (513) 874-3886

Contr. Tax ID 34-1122758

Contr. E-mail

Project Information

UC Project No. 10000A
Purchase Order # B12-4500059700

Project Name & Location

UC Rieveschl Hall 600 & 700 PH 3 & 4
318 College Dr.
Cincinnati, OH 45221

Type of Contract Fire Protection

A/E Name and Address

GBBN Architects, Inc.
332 E 8th Street
Cincinnati, OH 45202

CM Name and Address

UC Dept Head Planning and
Design & Construction
600 Univ Hall - Peter Luker

A - Summary

Request No. 5
Sheet 1 of 6

For the period
from 07/01/2012
to 07/31/2012

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved; all information in this Payment Request is true and accurate; all payments received to date have been used by the Contractor to discharge in full the obligations incurred and provided during the periods for which payment was made; and the Contractor has, to the best of its knowledge, completed the Work to date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Authorized signature

8/10/12
Date

Partial Payment Details

Completed to date

	Labor \$	Materials \$	Total \$
Original Contract Amount	27,612.00	40,580.00	68,192.00
Change Order Amount	3,223.00	4,834.88	8,057.88

Stored Materials

	N/A		
Subtotal - Earned (A)	30,835.00	45,414.88	76,249.88
58.7% Percent Complete			

Withheld Amounts

Loan(s)			
Retainage Amount	2,208.96		2,208.96
Liquidated Damages			
Other			

Subtotal - Withheld (B)	2,208.96		2,208.96
-------------------------	----------	--	----------

Previous Payments (C)	25,403.04	40,580.00	65,983.04
-----------------------	-----------	-----------	-----------

Total Requested this Application (A - B - C)	\$3,223.00	\$4,834.88	\$8,057.88
--	------------	------------	------------

Work Progress Certification

Each firm signing below certifies that, based upon its on-site observations, the payment requested to date is a fair and reasonable request for the Work provided to date.

Architect/Engineer (A/E/C)

8/10/12
Date

Construction Manager

Date

University Approval

Authorized signature

Date

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name S.A. Comunale Co., Inc.
Project Name UC Rieveschl Hall 600 & 700 PH 3 & 4
318 College Dr
Project Location Cincinnati, OH 45221

UC Project No: 10000A
Purchase Order # B12-4500059700

B - Schedule of Values Summary

Request No. 5
Sheet 2 of 6

a.	b.	Original Application				Current Period				
		c.	d.	e.	f.	g.	h.	i.	j.	k.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$
1		00 61 00	Bond		1,800.00	1,800.00	1,800.00		100.0%	
2		00 62 16	Insurance							
3		00 72 00	General Conditions							
4		01 31 13	Project Coordination							
5		01 7 113	Mobilization							
6		01 77 00	Clos-out Items							
7		01 21 00.01	Allowance: Sched. Consultant							
8		01 21 00.02	Allowance: Project Identification							
9			Engineering Dwg. Coordination	12,000.00		12,000.00	9,000.00		75.0%	9,000.00
10			Level 300	1,558.00	2,337.00	3,895.00	3,500.00		89.9%	1,163.00
11			Level 600 North	7,337.00	10,716.00	18,053.00	18,053.00		100.0%	7,337.00
12			Level 600 South	9,056.00	13,208.00	22,264.00	22,264.00		100.0%	9,056.00
13			Level 700 North	8,715.00	14,863.00	23,578.00	1,838.00		6.3%	1,638.00
14			Level 700 South	10,740.00	18,054.00	28,794.00	3,076.00		10.7%	576.00
15	A		Edge Participation 7% Level 600		8,381.00	8,381.00	8,381.00		100.0%	
16			Test & Inspect	960.00		960.00	480.00		50.0%	480.00
17										
18										
19										
20										
21										
22										
23										
Total this Sheet				50,386.00	69,359.00	119,725.00	68,192.00			27,612.00
Grand Total Final Sheet Only				\$50,386.00	\$69,359.00	\$119,725.00	\$68,192.00			\$27,612.00

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name S.A. Conine Co., Inc.
Project Name UC Rieveschli Hall 600 & 700 PH 3 & 4
318 College Dr
Project Location Cincinnati, OH 45221

UC Project No. 100006
Purchase Order # B12-4500059700

C - Schedule of Values Details

Request No. 5
Sheet 3 of 6

a. Item	b. EDGE	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
1		00 61 00	Bond		1,800.00	1,800.00				1,800.00
2		00 62 18	Insurance							
3		00 72 00	General Conditions							
4		01 31 13	Project Coordination							
5		01 7 113	Mobilization							
6		01 77 00	Close-out Items							
7		01 21 00.01	Allowance: Sched. Consultant							
8		01 21 00.02	Allowance: Project Identification							
9			Engineering Dwg. Coordination	9,000.00		9,000.00			9,000.00	
10			Level 600	1,163.00	2,337.00	3,500.00			1,163.00	2,337.00
11			Level 600 North	7,337.00	10,716.00	18,053.00			7,337.00	10,716.00
12			Level 600 South	9,056.00	13,208.00	22,264.00			9,056.00	13,208.00
13			Level 700 North		1,638.00	1,638.00				1,638.00
14			Level 700 South	576.00	2,500.00	3,076.00			576.00	2,500.00
15	A		Edge Participation 7% Level 600		8,381.00	8,381.00				8,381.00
16			Test & Inspect	480.00		480.00			480.00	
17										
18										
19										
20										
21										
22										
23										
Total this Sheet				27,612.00	40,580.00	68,192.00			27,612.00	40,580.00
Grand Total Final Sheet Only				\$27,612.00	\$40,580.00	\$68,192.00			\$27,612.00	\$40,580.00

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



UC Project No.	10000A
Purchase Order #	B12-4500059700

D - Change Order Summary

Request No. 5
Sheet 4 of 6

[illegible]

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name and Address	Project Information	A/E Name and Address	A - Summary
UNITED ELECTRIC CO., INC.	UC Project No. 10006A	GBBN Architects Inc.	Request No. EIGHT
1309 ETHAN AVENUE	Purchase Order # B12-4500058635	332 E 8th Street	Sheet 1 of 8
CINCINNATI OHIO 45205	Project Name & Location	Cincinnati Ohio 45203	
Contr. Phone 513-542-6002	Rieveschl 600/700 Level Repair Ph 3/4	CM Name and Address	For the period
Contr. Fax 513-542-2213	Uptown Campus, West	Fate Luker/Kurt Ponting	from 08/01/2012
Contr. Tax ID 61-0528410	Hamilton County, Ohio		to 09/30/2012
Contr. E-mail tamarray@unitedelec.com	Type of Contract Electrical		

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved, all information in this Payment Request is true and accurate, all payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the periods for which payment was made, and the Contractor has, to the best of its knowledge, completed the Work to date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Thomas Murray 10-11-12
Authorized signature Date

Partial Payment Details

	Labor \$	Materials \$	Total \$
Completed to date			
Original Contract Amount	201,245.00	528,829.00	730,074.00
Change Order Amount	2,372.31	9,707.13	12,079.44
Stored Materials	N/A		
Subtotal - Earned (A)	203,617.31	538,536.13	742,153.44
80.8% Percent Complete			
Withheld Amounts			
Lien(s)			
Retainage Amount	12,085.60		12,085.60
Liquidated Damages			
Other			
Subtotal - Withheld (B)	12,085.60		12,085.60
Previous Payments (C)	142,940.40	360,414.00	503,354.40
Total Requested this Application (A - B - C)	\$48,572.31	\$178,122.13	\$226,694.44

Work Progress Certification

Each firm signing below certifies that, based upon its remote operations, the payment requested to date is a fair and reasonable price for the Work provided to date.

Lead Contractor *Ben DeLong* 10.15.12
Architect/Engineer (A/E) _____ Date _____
Construction Manager _____ Date _____

University Approval

Authorized signature _____ Date _____

Contractor Payment Request

Division of Administration and Finance
Planning - Design - Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: UNITED ELECTRIC CO., INC.

UTS Project No: 10000A

B - Schedule of Values

Project Name: RIVERSIDE GOLF COURSE LEVEE RENOV PH 3A

Summary

Upland Campus, Wm

Bureau Order #: E-13-4600000000

Request #: 0187

Project Location: Hamilton County, Ohio

Sheet: 1 of 4

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	Code	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed in Date \$	W hrs Period	% in Date	Labor to Date \$	Material to Date \$
1	01 61 00	Bond			13,000.00	13,000.00	13,000.00		100.0%		13,000.00
2	01 62 10	Insurance			6,000.00	6,000.00	6,000.00		100.0%		6,000.00
3	01 72 00	General Contractors		10,500.00	16,500.00	16,500.00	16,500.00	60.0%	80.0%		16,500.00
4	01 81 10	Project Construction		12,500.00	2,500.00	15,000.00	11,250.00	10.0%	90.0%		13,250.00
5	01 13 10	Maintenance		18,000.00	66,000.00	84,000.00	33,400.00	30.0%	90.0%		32,400.00
6	01 17 00	Construction		2,000.00	2,000.00						
7	01 21 00 01	Aluminum Siding Installation									
8	01 21 00 02	Aluminum Siding Installation									
9		Aluminum Siding									
10											
11		Demolition		8,500.00	500.00	9,000.00	8,500.00		65.0%	5,525.00	325.00
12		Light Fixtures		25,500.00	188,300.00	213,800.00	173,500.00	45.0%	100.0%	25,500.00	188,300.00
13		Lighting Branch Conduit/Wire		38,500.00	21,800.00	60,300.00	44,700.00	34.4%	74.4%	33,100.00	21,000.00
14		Backlog/Points		24,300.00	89,000.00	113,300.00	85,840.00	31.2%	71.4%	22,540.00	43,300.00
15		Panel Feeders		32,200.00	43,300.00	75,500.00	60,310.00	20.9%	79.4%	17,010.00	43,300.00
16		Equipment Feeders		24,700.00	22,500.00	47,200.00	35,010.00	3.6%	74.6%	17,010.00	18,000.00
17		Busbar Supports		12,700.00	25,400.00	38,100.00	38,100.00	50.0%	100.0%	12,700.00	25,400.00
18		Branch Power Conduit / Wire		99,700.00	52,400.00	152,100.00	81,280.00	10.0%	60.0%	58,820.00	31,400.00
19		Telecom - Rough-In		4,400.00	3,000.00	7,400.00	4,440.00	10.0%	60.0%	2,940.00	1,800.00
20		Telecom - Cabling Equipment		2,000.00	15,000.00	17,000.00	10,500.00	10.0%	60.0%	1,800.00	6,800.00
21		Security - Peripherals		5,500.00	2,500.00	8,000.00	5,464.00		30.0%	4,400.00	2,000.00
22		Security - Cabling/Equipment		4,000.00	22,000.00	26,000.00	15,560.00	10.0%	60.0%	2,400.00	13,200.00
23											
Total this Sheet				282,500.00	653,200.00	935,700.00	581,224.00			154,565.00	401,225.00

Sheet B - Schedule of Values Summary Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name UNITED ELECTRIC CO. INC.
Project Name Blowout 8037780 Local Repair Ph 54
CV/Gen. Electric, West
Project Location Hamilton County, Ohio

UC Project No. 19006A
Purchase Order # 612-4500659905

B - Schedule of Values Summary

Payment No. 01/01
Sheet 1 of 1

a. Item	b. CODE	c. Section	d. Description	Original Application			Current Period				
				e. Original Labor \$	f. Original Material \$	g. Original Total \$	h. Completed to Date \$	i. % this Period	j. % to Date	k. Labor to Date \$	l. Material to Date \$
24											
25			Fire Alarm - Roughing	3,500.00	2,500.00	6,000.00	7,250.00	66.3%		4,750.00	2,500.00
26			Fire Alarm - Equipment	2,000.00	29,000.00	31,000.00	41,000.00	24%	100.0%	2,000.00	29,000.00
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
Total this Sheet				11,500.00	41,500.00	53,000.00	48,250.00			6,750.00	41,500.00
Grand Total First Sheet Only				\$284,100.00	\$604,720.00	\$888,820.00	\$730,074.00			\$201,245.00	\$528,829.00

Section B - Schedule of Values Summary Page 2 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210185 • Cincinnati, Ohio 45221-0185



Contractor Name: UNITED ELECTRIC CO., INC.
Project Name: RIVERSIDE GYM/IN LOUNGE RENOV PH 304
Location: Campus, West
Project Location: Hamilton County, Ohio

U2 Project No: 0000A
Purchase Order #: 012-450065635

B - Schedule of Values Summary

Request No: EIGHT
Sheet 8 of 8

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	U2	Section	Description	Original Labor \$	Original Material \$	Original Cost \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
70											
71											
72											
73											
74											
75											
76											
77											
78											
79											
80											
81											
82											
83											
84											
85											
86											
87											
88											
89											
90											
91											
92											
Total this Sheet				\$294,100.00	\$604,750.00	\$898,850.00	\$730,074.00			\$201,246.00	\$528,835.00

Section B - Schedule of Values Summary, Page 4 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: UNITED ELECTRIC CO., INC.
Project Name: Reeveschl 600700 Level Renov PH 3/4
Project Location: Uptown Campus, West
Hamilton County, Ohio

HC Project No: 10006A
Purchase Order #: B13-4500059635

C - Schedule of Values Details

Request No: EIGHT
Sheet: 4 of 9

a	b	c	d	Previous Applications to Date			Current Period			
				e	f	g	h	i	j	k
Item	EDGE	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor Inis Period \$	Material Inis Period \$	Labor to Date \$	Material to Date \$
1		00 81 00	Bond		13,000.00	13,000.00				13,000.00
2		00 82 10	Insurance		6,000.00	6,000.00				6,000.00
3		00 77 00	General Conditions		12,950.00	12,950.00		3,700.00		16,650.00
4		01 31 13	Project Coordination		10,000.00	10,000.00		1,250.00		11,250.00
5		01 7 113	Mobilization		25,200.00	25,200.00		7,200.00		32,400.00
6		01 77 00	Close-out Items							
7		01 21 00.01	Allowance: Sched. Consultant							
8		01 21 00.02	Allowance: Project Identification							
9			Allowance: General							
10										
11			Demolition	6,175.00	325.00	6,500.00			6,175.00	325.00
12			Light Fixtures	14,025.00	108,900.00	122,925.00	11,476.00	89,100.00	25,500.00	198,000.00
13			Lighting Branch Conduit / Wire	19,250.00	10,800.00	30,050.00	3,850.00	10,800.00	23,100.00	21,600.00
14			Switchgear/Panels	12,150.00	34,000.00	46,150.00	10,390.00	9,300.00	22,540.00	43,300.00
15			Panel Feeders	16,100.00	21,850.00	37,950.00	910.00	21,850.00	17,010.00	43,300.00
16			Equipment Feeders	15,795.00	14,625.00	30,420.00	1,215.00	3,375.00	17,010.00	18,000.00
17			Surface Raceway	6,350.00	12,700.00	19,050.00	6,350.00	12,700.00	12,700.00	25,400.00
18			Branch Power Conduit / Wire	49,850.00	26,200.00	76,050.00	9,970.00	5,240.00	59,820.00	31,440.00
19			Telecom - Rough Ins	2,200.00	1,600.00	3,700.00	640.00	300.00	2,640.00	1,600.00
20			Telecom - Cabling/Equipment	1,000.00	8,000.00	9,000.00	200.00	1,600.00	1,200.00	9,600.00
21			Security - Rough Ins	4,400.00	2,064.00	6,464.00			4,400.00	2,064.00
22			Security - Cabling/Equipment	2,000.00	11,000.00	13,000.00	400.00	2,200.00	2,400.00	13,200.00
23										
Total this Sheet				149,295.00	316,914.00	466,209.00	45,200.00	168,415.00	194,495.00	467,329.00

Section C - Schedule of Values Details - page 4 of 5

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210188 • Cincinnati, Ohio 45221-0188



Contractor Name UNITED ELECTRIC CO., INC.
Project Name Rivaschl 600/700 Level Renov Ph 3/4
Project Location Uptown Campus, West
Hamilton County, Ohio

UC Project No. 10000A
Purchase Order # 812-1500058603

C - Schedule of Values Details

Request No. EIGHT
Sheet 5 of 8

			Previous Applications to Date			Current Period				
a	b	c	d	e	f	g	h	i	j	k
Item	Code	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
24										
25			Fire Alarm - Rough Ins	4,750.00	2,500.00	7,250.00			4,750.00	2,500.00
26			Fire Alarm - Equipment	1,000.00	39,000.00	40,000.00	1,000.00		2,000.00	39,000.00
27										
28										
29										
30										
31										
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42										
43										
44										
45										
46										
Total this Sheet				5,750.00	41,500.00	47,250.00	1,000.00		6,750.00	41,500.00
Grand Total Final Sheet Only				\$155,045.00	\$360,414.00	\$515,459.00	\$46,200.00	\$168,415.00	\$201,345.00	\$628,829.00

Section C - Schedule of Values Details Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name UNITED ELECTRIC CO., INC.
Project Name Rieveschl 600/700 Level Renov Ph 3/4
Project Location Uptown Campus, West
Hamilton County, Ohio

UC Project No. 10000A
Purchase Order # B12-4500058635

C - Schedule of Values Details

Request No. EIGHT
Sheet 6 of 9

a	b	c	d	Previous Applications to Date			Current Period			
				e	f	g	h	i	j	k
Item	Code	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
47										
48										
49										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										
65										
66										
67										
68										
69										
Total this Sheet										

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name UNITED ELECTRIC CO., INC.
Project Name Revision: 600/700 Level Renov Pk 3A
Project Location Uptown Campus, West
Hamilton County, Ohio

UC Project No. 10000A
Purchase Order # B12-4500058635

C - Schedule of Values Details

Request No. EIGHT
Sheet 7 of 8

e.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	EDGE	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										
81										
82										
83										
84										
85										
86										
87										
88										
89										
90										
91										
92	A		EDGE							
Total this Sheet				\$155,045.00	\$360,414.00	\$515,459.00	\$46,200.00	\$168,415.00	\$201,245.00	\$528,829.00

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



UC Project No	100076
Purchase Order #	B12-4500059635

Request No. EIGHT
Sheet 8 of 8

a	b	c	d.	e.	f.	g.	h.	i.	j.	k.	l.
CO No.	EDGE	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
E-01			08/20/2012	702.35	1,054.00	1,756.35	100.0%	100.0%	1,756.35	702.35	1,054.00
E-02			08/20/2012	646.05	975.00	1,620.05	100.0%	100.0%	1,620.05	646.05	975.00
E-03			08/20/2012	1,213.29		1,213.29	100.0%	100.0%	1,213.29	1,213.29	
E-04			08/20/2012	-10,101.00	-4,329.48	-14,430.48	100.0%	100.0%	-14,430.48	-10,101.00	-4,329.48
512-A/V			08/23/2012	3,830.47	3,830.47	7,660.94					
E-06			09/04/2012	632.63	951.00	1,583.63	100.0%	100.0%	1,583.63	632.63	951.00
E-07			09/04/2012	759.77	1,200.00	1,959.77	100.0%	100.0%	1,959.77	759.77	1,200.00
E-09			09/04/2012	1,770.74	2,656.11	4,426.85	100.0%	100.0%	4,426.85	1,770.74	2,656.11
E-08			09/04/2012	2,838.34	4,500.00	7,338.34	100.0%	100.0%	7,338.34	2,838.34	4,500.00
E-12			09/04/2012	1,829.20		1,829.20	100.0%	100.0%	1,829.20	1,829.20	
E-15			09/04/2012	2,081.94	2,700.50	4,782.44	100.0%	100.0%	4,782.44	2,081.94	2,700.50
Total this Sheet				\$6,202.76	\$13,537.60	\$19,740.36				2,372.31	\$9,707.13
Grand Total Final Sheet Only				\$6,202.76	\$13,537.60	\$19,740.36				\$2,372.31	\$9,707.13

Division of Administration and Finance
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UC Project No.	10600A
Purchase Order #	B12-4500059656

E - Change Order Details

Request No. _____ DGT
Sheet 7 of 8

Previous Applications to Date							Current Period			
a	b	c	d	e	f	g	h	i	j	k
CO No.	Section	Date Approved	Previous CO Labor \$	Previous CO Material \$	Previous CO Total \$	CO Labor this Period \$	CO Material this Period \$	CO Labor to Date \$	CO Material to Date \$	
E-01		08/20/2012				702.36	1,054.00	702.36	1,054.00	
E-02		08/20/2012				645.05	975.00	645.05	975.00	
E-03		08/20/2012				1,213.29		1,213.29		
E-04		08/20/2012				-10,101.00	-4,329.48	-10,101.00	-4,329.48	
12-A/		08/23/2012								
E-06		08/04/2012				632.83	951.00	632.83	951.00	
E-07		09/04/2012				759.77	1,200.00	759.77	1,200.00	
E-08		09/04/2012				1,770.74	2,656.11	1,770.74	2,656.11	
E-09		09/04/2012				2,638.34	4,500.00	2,638.34	4,500.00	
E-12		09/04/2012				1,829.20		1,829.20		
E-13		09/04/2012				2,081.94	2,700.50	2,081.94	2,700.50	

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Sheet 8 of 8

[illegible]

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210188 • Cincinnati, Ohio 45221-0188



Contractor Name UNITED ELECTRIC CO., INC
Project Name Reyesch 600/700 Level Renov Pn 3/4
Project Location Uptown Campus, West
Hamilton County, Ohio

UC Project No. 10000A
Purchase Order # 812-4500059635

G - Subcontractors

Request No. EIGHT
Sheet 8 of 8

List all Subcontractors		Utilized This Pay Period		Payrolls Attached		Apprent. Agree. Submitted		Pay. Sched. Submitted	
		Yes	No	Yes	No	Yes	No	Yes	No
1		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210188 • Cincinnati, Ohio 45221-0188



Contractor Name UNITED ELECTRIC CO., INC UC Project No. 10000A **H - EDGE**
Project Name Rieveschl 800/700 Level Renov Ph 3
Uptown Campus, West Purchase Order # B12-4500059635 Request No. EIGHT
Project Location Hamilton County, Ohio Sheet 8 of 8

a	b	c	d	e	f	g	h	i		
								Status		
	Name	Tax ID	Award Date	Projected Start Date	Projected End Date	Actual Start Date	Actual End Date	Active	Complete	Void
A	Bra-Han	27-2019673							X	
B										
C										
D										
E										
F										
G										
H										
I										
J										
K										
L										
M										
N										
O										
P										
Q										
R										
S										
T										

Contractor Payment Request

Division of Administration and Finance

Planning - Design + Construction

PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name and Address

Queen City Mechanicals, Inc.
1950 Waycross Rd.
Cincinnati, OH 45240

Contr. Phone 513-353-1430

Contr. Fax 513-353-1460

Contr. Tax ID 31-1367100

Contr. E-mail

Project Information

UC Project No. D8083A / 09133A
UC P.O. No. B10-4500042397

Project Name & Location

Rievasson Hall Renovation

Type of Contract: Plumbing

Associate Name and Address

URS Corporation
277 West Nationwide Blvd.
Columbus, OH 43215

CM Name and Address

A - Summary

Request No. 20

Sheet 1 of 13

For the period

from 08/01/2012

to 08/31/2012

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved, all information in this Payment Request is true and accurate, all payments applied to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the periods for which payment was made and the Contractor has, to the best of its knowledge, completed this Work to date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Authorized signature

Date

Work Progress Certification

Each firm signing below certifies that, based upon its on-site observations, the payment requested to date is a fair and reasonable request for the Work provided to date.

Lead Contractor

Date

Associate

Date

Construction Manager

Date

Partial Payment Details

Completed to date

Original Contract Amount 415,998.00
Change Order Amount 74,176.81

Stored Materials

N/A

Subtotal - Earned (A)
100.0% Percent Complete

480,174.81

378,507.51

858,682.32

Withheld Amounts

Lien(s)
Retainage Amount 14,347.25
Liquidated Damages
Other -8,335.55

14,347.25

14,347.25

-8,335.55

-8,335.55

Subtotal - Withheld (B)

6,011.70

6,011.70

Previous Payments (C)

474,316.33

385,664.97

860,981.30

Total Requested this
Application (A - B - C)

\$9,846.78

\$9,842.54

\$19,689.32

University Approval

Authorized signature

Date

Authorized signature

Date

Authorized signature

Date

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Queen City Mechanicals, Inc.

UC Project No.: 08080A / 09133A

B - Schedule of Values Summary

Project Name: Rivaschi Hall Renovation

UC P.O. No.: B10-4500042397

Request No.: 20

Project Location:

Sheet 2 of 13

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	Code	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
1			Band		14,360.00	14,360.00	14,360.00		100.0%		14,360.00
2			Coordination	7,700.00		7,700.00	7,700.00		100.0%	7,700.00	
4			Mobilization	1,000.00		1,000.00	1,000.00		100.0%	1,000.00	
4			General Conditions	2,405.00	2,405.00	4,810.00	4,810.00		100.0%	2,405.00	2,405.00
5			Cleanup	2,405.00	2,405.00	4,810.00	4,810.00		100.0%	2,405.00	2,405.00
7			PHASE 1								
8		500	Demolition	860.00		860.00	860.00		100.0%	860.00	
9		400	Demolition	3,950.00		3,950.00	3,950.00		100.0%	3,950.00	
10		500	Demolition	2,400.00		2,400.00	2,400.00		100.0%	2,400.00	
11	b.	300	Reverse Demolish Pump		7,600.00	7,600.00	7,600.00		100.0%		7,600.00
12		300	Reverse Demolish Pump		1,250.00	1,250.00	1,250.00		100.0%		1,250.00
13	b.	300	Reverse Demolish Piping		6,700.00	6,700.00	6,700.00		100.0%		6,700.00
14		300	Reverse Demolish Piping	3,500.00		3,500.00	3,500.00		100.0%	3,500.00	
15	b.	300	Vacuum Pump		11,274.00	11,274.00	11,274.00		100.0%		11,274.00
16		200	Vacuum Pump		1,250.00	1,250.00	1,250.00		100.0%		1,250.00
17		300	Vacuum Piping	2,300.00	4,300.00	6,600.00	6,600.00		100.0%	2,300.00	4,300.00
18		300	Mech. Piping & Equipment	4,060.00	2,740.00	6,800.00	6,800.00		100.0%	4,060.00	2,740.00
19	a.	300	Plumbing Insulation Overhead	732.00	488.00	1,220.00	1,220.00		100.0%	732.00	488.00
20		400	Rough-in Above Ceiling	28,100.00	10,660.00	38,760.00	38,760.00		100.0%	28,100.00	10,660.00
21	a.	400	Plumbing Insulation Above Ceiling	1,830.00	1,220.00	3,050.00	3,050.00		100.0%	1,830.00	1,220.00
22	a.	500	Rough-in Wall & Above Ceiling	3,130.00	2,950.00	6,080.00	6,080.00		100.0%	3,130.00	2,950.00
23	a.	500	Plumb Ins Wall & Above Ceiling	1,464.00	976.00	2,440.00	2,440.00		100.0%	1,464.00	976.00
Total this Sheet				65,836.00	70,578.00	136,414.00	136,414.00			65,836.00	70,578.00

Section B - Schedule of Values Summary Page 1 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Queen City Mechanicals, Inc.
Project Name Rieveschl Hall Renovation

UC Project No. DB083A / 09193A

UC P.O. No. B10-4500042397

B - Schedule of Values Summary

Request No. 20
Sheet 3 of 13

Project Location _____

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	U D W	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
24		500	Rough-in Casework	9,650.00	5,080.00	15,730.00	15,730.00		100.0%	9,650.00	5,080.00
25	a	500	Plumbing Insulation Casework	1,484.00	976.00	2,440.00	2,440.00		100.0%	1,484.00	976.00
26	b	400/500	Lat Waste Pipe & Fittings		16,100.00	16,100.00	16,100.00		100.0%		16,100.00
27											
28			PHASE 2								
29		400	Demolition	18,520.00		18,520.00	18,520.00		100.0%	18,520.00	
30		500	Demolition		4,780.00	4,780.00	4,780.00		100.0%		4,780.00
31		400	Rough-in Above Ceiling	104,336.00	55,800.00	160,136.00	160,136.00		100.0%	104,336.00	55,800.00
32	a	400	Plumb Ins Above Ceiling	4,575.00	3,050.00	7,625.00	7,625.00		100.0%	4,575.00	3,050.00
33		500	Rough-in Wall & Above Ceiling	41,400.00	18,700.00	60,100.00	60,100.00		100.0%	41,400.00	18,700.00
34	a	500	Plumb Ins Wall & Above Ceiling	6,405.00	4,270.00	10,675.00	10,675.00		100.0%	6,405.00	4,270.00
35		500	Rough-in Casework	29,500.00	15,820.00	45,320.00	45,320.00		100.0%	29,500.00	15,820.00
36	a	500	Plumbing Insulation Casework	1,830.00	1,220.00	3,050.00	3,050.00		100.0%	1,830.00	1,220.00
37					10.00	10.00	10.00		100.0%		10.00
38											
39											
40											
41											
42											
43											
44											
45											
46											
Total this Sheet				217,680.00	126,806.00	344,486.00	344,486.00			217,680.00	126,806.00

Section B - Schedule of Values Summary, Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Queen City Mechanicals, Inc.

UC Project No.: 08DE3A / 05133A

B - Schedule of Values

Project Name: Riewertsch Hall Renovation

Summary

UC P.O. No.: B10-4560042387

Request No.: 20

Project Location:

Sheet 8 of 19

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	Code	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
47			NSF Grant - PR-16								
48		400	Coordination	1,620.00		1,620.00	1,620.00		100.0%	1,620.00	
49		300	Demolition	1,000.00		1,000.00	1,000.00		100.0%	1,000.00	
50		400	Demolition	3,200.00		3,200.00	3,200.00		100.0%	3,200.00	
51	b	300	Rough-in Above Ceiling		9,000.00	9,000.00	9,000.00		100.0%		9,000.00
52		300	Rough-in Above Ceiling	13,000.00		13,000.00	13,000.00		100.0%	13,000.00	
53	a	300	Plumb Ins Above Ceiling								
54		400	Rough-in Wall & Above Ceiling	79,662.00	33,000.00	112,662.00	112,662.00		100.0%	79,662.00	33,000.00
55	a	400	Plumb Ins Wall & Above Ceiling	2,000.00	1,300.00	3,300.00	3,300.00		100.0%	2,000.00	1,300.00
56	b	400	Rough-in Casework		9,000.00	9,000.00	9,000.00		100.0%		9,000.00
57		400	Rough-in Casework	19,000.00		19,000.00	19,000.00		100.0%	19,000.00	
58	a	400	Plumbing Insulation Casework	500.00	410.00	910.00	910.00		100.0%	500.00	410.00
59	b	500	Rough-in Wall & Above Ceiling		2,016.00	2,016.00	2,016.00		100.0%		2,016.00
60		500	Rough-in Wall & Above Ceiling	4,300.00		4,300.00	4,300.00		100.0%	4,300.00	
61	b	400	Fixtures & equipment		4,800.00	4,800.00	4,800.00		100.0%		4,800.00
62		400	Fixtures & equipment	2,100.00		2,100.00	2,100.00		100.0%	2,100.00	
63		400	Equipment connections	6,100.00	1,500.00	7,600.00	7,600.00		100.0%	6,100.00	1,500.00
64											
65											
66											
67											
68											
69											
Total this Sheet				132,482.00	61,026.00	193,508.00	193,508.00			132,482.00	61,026.00
Grand Total Final Sheet Only				\$415,998.00	\$258,410.00	\$674,408.00	\$674,408.00			\$415,998.00	\$258,410.00

Section B - Schedule of Values Summary Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Queen City Mechanicals, Inc.
Project Name Rieveschl Hall Renovation
Project Location _____

UC Project No. 08063A / 09133A
UC P.O. No. B10-4500042397

C - Schedule of Values Details

Request No. 20
Sheet 5 of 13

a. Item	b. EDGE	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
1			Bond		14,360.00	14,360.00				14,360.00
2			Coordination	7,700.00		7,700.00			7,700.00	
3			Mobilization	1,000.00		1,000.00			1,000.00	
4			General Conditions	2,405.00	2,405.00	4,810.00			2,405.00	2,405.00
5			Closedout	2,405.00	2,405.00	4,810.00			2,405.00	2,405.00
6										
7			PHASE 1							
8		300	Demolition	860.00		860.00			860.00	
9		400	Demolition	3,950.00		3,950.00			3,950.00	
10		500	Demolition	2,400.00		2,400.00			2,400.00	
11	b.	300	Reverse Osmosis Pump		7,600.00	7,600.00				7,600.00
12		300	Reverse Osmosis Pump		1,250.00	1,250.00				1,250.00
13	b.	300	Reverse Osmosis Piping		6,700.00	6,700.00				6,700.00
14		300	Reverse Osmosis Piping	3,500.00		3,500.00			3,500.00	
15	b.	300	Vacuum Pump		11,274.00	11,274.00				11,274.00
16		300	Vacuum Pump		1,250.00	1,250.00				1,250.00
17		300	Vacuum Piping	2,300.00	4,300.00	6,600.00			2,300.00	4,300.00
18		300	Misc. Piping & Equipment	4,060.00	2,740.00	6,800.00			4,060.00	2,740.00
19	a	300	Plumbing Insulation Overhead	732.00	468.00	1,220.00			732.00	468.00
20		400	Rough-in Above Ceiling	28,100.00	10,660.00	38,760.00			28,100.00	10,660.00
21	a	400	Plumbing Insulation Above Ceiling	1,830.00	1,220.00	3,050.00			1,830.00	1,220.00
22	a	500	Rough-in Wall & Above Ceiling	3,130.00	2,950.00	6,080.00			3,130.00	2,950.00
23	a	500	Plumbing Wall & Above Ceiling	1,464.00	975.00	2,440.00			1,464.00	975.00
Total this Sheet				55,836.00	70,578.00	126,414.00			55,836.00	70,578.00

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Queen City Mechanicals, Inc.
Project Name: Rieveschl Hall Renovation
Project Location: _____

UC Project No.: 08083A / 09133A
UC P.O. No.: B10-4500042397

C - Schedule of Values Details
Request No.: 20
Sheet 5 of 13

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	Code	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
24		500	Rough-in Casework	9,850.00	6,080.00	15,730.00			9,850.00	6,080.00
25	a	500	Plumbing Insulation Casework	1,454.00	976.00	2,440.00			1,454.00	976.00
26	b	400/500	Lab Waste Pipe & Fittings		16,100.00	16,100.00				16,100.00
27										
28			PHASE 2							
29		400	Demolition	18,520.00		18,520.00			18,520.00	
30		500	Demolition		4,780.00	4,780.00				4,780.00
31		400	Rough-in Above Ceiling	104,336.00	55,800.00	160,136.00			104,336.00	55,800.00
32	a	400	Plumb Ins. Above Ceiling	4,575.00	3,050.00	7,625.00			4,575.00	3,050.00
33		500	Rough-in Wall & Above Ceiling	41,400.00	18,700.00	60,100.00			41,400.00	18,700.00
34	a	500	Plumb Ins. Wall & Above Ceiling	6,405.00	4,270.00	10,675.00			6,405.00	4,270.00
35		600	Rough-in Casework	29,500.00	15,820.00	45,320.00			29,500.00	15,820.00
36	a	500	Plumbing Insulation Casework	1,830.00	1,220.00	3,050.00			1,830.00	1,220.00
37					10.00	10.00				10.00
38										
39										
40										
41										
42										
43										
44										
45										
46										
Total this Sheet:				217,680.00	126,806.00	344,486.00			217,680.00	126,806.00

Section C - Schedule of Values Details Page 2 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Queen City Mechanical, Inc.
Project Name: Rieveschl Hall Renovation
Project Location: _____

UC Project No.: 08083A / 09133A

UC F.O. No.: B10-4500042397

C - Schedule of Values Details

Request No.: 20
Sheet 7 of 13

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	UO	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
47			NSF Grant - PR-16							
48		400	Coordination	1,620.00		1,620.00			1,620.00	
49		300	Demolition	1,000.00		1,000.00			1,000.00	
50		400	Demolition	3,200.00		3,200.00			3,200.00	
51	b.	300	Rough-in Above Ceiling		9,000.00	9,000.00				9,000.00
52		300	Rough-in Above Ceiling	13,000.00		13,000.00			13,000.00	
53	a.	300	Plumb Ins Above Ceiling							
54		400	Rough-in Wall & Above Ceiling	79,662.00	33,000.00	112,662.00			79,662.00	33,000.00
55	a.	400	Plumb Ins Wall & Above Ceiling	2,000.00	1,300.00	3,300.00			2,000.00	1,300.00
56	b.	400	Rough-in Casework		9,000.00	9,000.00				9,000.00
57		400	Rough-in Casework	19,000.00		19,000.00			19,000.00	
58	a.	400	Plumbing Insulation Casework	500.00	410.00	910.00			500.00	410.00
59	b.	500	Rough-in Wall & Above Ceiling		2,016.00	2,016.00				2,016.00
60		600	Rough-in Wall & Above Ceiling	4,300.00		4,300.00			4,300.00	
61	a.	400	Fixtures & equipment		4,800.00	4,800.00				4,800.00
62		400	Fixtures & equipment	2,100.00		2,100.00			2,100.00	
63		400	Equipment connections	6,100.00	1,500.00	7,600.00			6,100.00	1,500.00
64										
65										
66										
67										
68										
69										
Total this Sheet				132,482.00	61,026.00	193,508.00			132,482.00	61,026.00
Grand Total Final Sheet Only				\$415,998.00	\$258,410.00	\$674,408.00			\$415,998.00	\$258,410.00

Section C - Schedule of Values Details, Page 3 of 5

Contractor Payment Request

Division of Administration and Finance

Planning - Design - Construction

PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Queen City Mechanical, Inc.

UC Project No. 06083A / 09133A

D - Change Order Summary

Project Name Rieveschl Hall Renovation

UC P.O. No. E10-4500042397

Request No. 20

Project Location

Sheet 8 of 18

a.	b.	c.	d.	Change Order Info			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
CO No	EDGE	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
P-001			12/15/2009		27,915.00	27,915.00		100.0%	27,915.00		27,915.00
P-002			12/15/2009	5,582.60	26,221.40	31,804.00		100.0%	31,804.00	5,582.60	26,221.40
P-003			03/02/2010	1,080.00	934.00	2,014.00		100.0%	2,014.00	1,080.00	934.00
P-004			03/02/2010	596.00	1,369.00	1,965.00		100.0%	1,965.00	596.00	1,369.00
P-005			03/02/2010	254.00		254.00		100.0%	254.00	254.00	
P-006			03/02/2010	1,118.00		1,118.00		100.0%	1,118.00	1,118.00	
P-007			03/02/2010	474.00	492.00	966.00		100.0%	966.00	474.00	492.00
P-008			05/17/2010	1,096.00		1,096.00		100.0%	1,096.00	1,096.00	
P-009			05/17/2010	7,375.00	5,417.00	12,792.00		100.0%	12,792.00	7,375.00	5,417.00
P-010			05/17/2010	2,360.00	352.00	2,712.00		100.0%	2,712.00	2,360.00	352.00
P-011			05/25/2010	1,297.00	725.00	2,022.00		100.0%	2,022.00	1,297.00	725.00
P-012			06/29/2010	1,275.60	708.40	1,984.00		100.0%	1,984.00	1,275.60	708.40
P-013			06/29/2010	124.29	9.71	134.00		100.0%	134.00	124.29	9.71
P-014			06/29/2010	707.17	775.83	1,483.00		100.0%	1,483.00	707.17	775.83
P-015			06/29/2010	3,663.20	3,671.80	7,335.00		100.0%	7,335.00	3,663.20	3,671.80
P-016			06/29/2010	10,768.00	12,584.00	23,352.00		100.0%	23,352.00	10,768.00	12,584.00
P-017			10/15/2010	2,298.73	3,426.27	5,725.00		100.0%	5,725.00	2,298.73	3,426.27
P-018			10/15/2010	424.55	-234.45	-59.00		100.0%	-59.00	424.55	-234.45
P-019			10/19/2010	218.00		218.00		100.0%	218.00	218.00	
P-020			10/19/2010	2,763.14	2,494.86	5,258.00		100.0%	5,258.00	2,763.14	2,494.86
P-021			11/22/2010	400.00	8,137.00	8,537.00		100.0%	8,537.00	400.00	8,137.00
P-022			11/22/2010	192.00	471.00	663.00		100.0%	663.00	192.00	471.00
Total this Sheet				43,218.18	95,469.62	138,688.00				43,218.18	95,469.62

Division of Administration and Finance
Planning • Design • Construction
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UC Project No.	06083A / 09133A
UC P.O. No.	810-4500042397

Request No. 20
Sheet 9 of 13

a.	b.	c.	d.	Change Order Info			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
CO No.	EDGE	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Charge Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
P-023			11/23/2010	2,102.86	3,215.14	5,318.00		100.0%	5,318.00	2,102.86	3,215.14
P-024			11/23/2010	1,963.00	1,859.00	3,822.00		100.0%	3,822.00	1,963.00	1,859.00
P-025			11/24/2010		430.00	430.00		100.0%	430.00		430.00
P-026			11/24/2010	855.50	253.50	1,109.00		100.0%	1,109.00	855.50	253.50
P-027			12/14/2010								
P-028 R2			12/22/2010	4,230.95	619.05	4,850.00		100.0%	4,850.00	4,230.95	619.05
P-029			12/17/2010	1,483.15	198.85	1,682.00		100.0%	1,682.00	1,483.15	198.85
P-030			12/14/2010	1,547.65	889.35	2,437.00		100.0%	2,437.00	1,547.65	889.35
P-031			02/22/2011								
P-032			02/22/2011	2,564.00	1,569.00	4,123.00		100.0%	4,123.00	2,564.00	1,569.00
P-033			09/29/2011								
P-034			09/29/2011	6,374.74	5,751.26	12,126.00		100.0%	12,126.00	6,374.74	5,751.26
P-35			07/17/2012	9,846.78	9,842.54	19,689.32	100.0%	100.0%	19,689.32	9,846.78	9,842.54
Total this Sheet				30,958.63	24,627.69	55,586.32				30,958.63	24,627.69

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



UC Project No. 08083A / 09133A

UC P.O. No. B10-4500042397

D - Change Order Summary

Request No. _____ 20
 Sheet 10 of 13

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Section D - Change Order Summary Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186

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Cincinnati

NOV

6
A - Summary

Contractor Name and Address	Project Information	A/E Name and Address	Request No. 21
The Thomas J. Dyer Co.	UC Project No. 08083A	URS Corporation	Sheet 1 of 11
5240 Lester Rd.	Purchase Order # B10-4500042412	277 West Nationwide Blvd.	
Cincinnati OH 45213	Project Name & Location	Columbus, Ohio 43215	
Contr. Phone 513-321-8100	Rieveschl Hall 500 Level Renovation	CM Name and Address	For the period
Contr. Fax 513-542-4101			from 10/01/2012
Contr. Fax (t) 31-0521258	Uptown Campus West		to 10/31/2012
Contr. E-mail cdempus@tjdco.com	Type of Contract		

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved. All information in this Payment Request is true and accurate. All payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the periods in which payment was made, and the Contractor has, to the best of its knowledge, completed the Work in date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rate.

Authorized Signature

11/2/12
Date

Partial Payment Details

Completed to date

	Labor \$	Materials \$	Total \$
Original Contract Amount	832,080.00	1,531,650.00	2,463,730.00
Change Order Amount	112,893.80	587,129.80	680,023.40
Stored Materials	N/A		
Subtotal - Earned (A)	1,044,943.80	2,098,779.80	3,143,723.40
100.0% Percent Complete			

Withheld Amounts

Lien(s)			
Retainage Amount	100.00		100.00
Liquidated Damages			
Other			
Subtotal - Withhold (B)	100.00		100.00

Last Contractor Date

Architect/Engineer (A/E)

Date

Construction Manager

Date

Previous Payments (C) 1,044,943.80 2,083,062.20 3,127,908.00

Total Requested this Application (A - B - C) \$15,717.40 \$15,717.40

University Approval

Authorized Signature

Date

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: The Thomas J. Dyer Co.
Project Name: Rievesch Hall 500 Level Renovation
Project Location: Uptown Campus West

UC Project No: 00088A
Purchase Order #: B10-4500042412

B - Schedule of Values Summary

Request No: 21
Sheet: 2 of 11

Item	U/C	C	Description	Original Application			Current Period				
				e Original Labor \$	f Original Material \$	g Original Total \$	h Completed to Date \$	i % this Period	j % to Date	k Labor to Date \$	l Material to Date \$
1		00 61 00	Bond		\$ 30,365	30,365.00	30,365.00		100.0%		30,365.00
2		00 62 10	Insurance								
3		00 72 00	General Conditions	\$ 1,050	\$ 1,035	2,085.00	2,085.00		100.0%	1,050.00	1,035.00
4		01 21 13	Project Coordination	\$ -	\$ 17,000	17,000.00	17,000.00		100.0%		17,000.00
5		01 7 113	Mobilization	\$ 7,000	\$ 7,000	14,000.00	14,000.00		100.0%	7,000.00	7,000.00
6		01 77 00	Close-out Items	\$ 3,000	\$ 2,500	5,500.00	5,500.00		100.0%	3,000.00	2,500.00
7		23 0514	VFD's	\$ 2,000		2,000.00	2,000.00		100.0%	2,000.00	
8	c	23 0514	VFD's		\$ 25,500	25,500.00	25,500.00		100.0%		25,500.00
9		23 0546	Vibration Control	\$ 2,500	\$ 29,000	31,500.00	31,500.00		100.0%	2,500.00	29,000.00
10	b	23 0580	Testing, Adjusting, Balancing (Sub)	\$	\$ 22,300	22,300.00	22,300.00		100.0%		22,300.00
11		23 0700	HVAC Insulation (Sub)	\$	\$ 126,000	126,000.00	126,000.00		100.0%		126,000.00
12		23 0801	Controls (Sub)		\$ 109,000	109,000.00	109,000.00		100.0%		109,000.00
13	d	23 0901	Controls - Valve Assemblies (Sub)		\$ 31,400	31,400.00	31,400.00		100.0%		31,400.00
14		23 2112	PVF - Hydraulic Piping	\$ 219,000		219,000.00	219,000.00		100.0%	219,000.00	
15	e	23 2113	PVF - Hydraulic Piping		\$ 61,000	61,000.00	61,000.00		100.0%		61,000.00
16	d	23 2113	Pipe Demo (Sub)		\$ 7,000	7,000.00	7,000.00		100.0%		7,000.00
17		23 2114	Hydraulic Specialties	\$ 5,000		5,000.00	5,000.00		100.0%	5,000.00	
18	f	23 2114	Hydraulic Specialties		\$ 13,250	13,250.00	13,250.00		100.0%		13,250.00
19		23 2123	Pumps	\$ 1,500	\$ 4,500	6,000.00	6,000.00		100.0%	1,500.00	4,500.00
20		23 2213	PVF - Steam & Cond. Piping	\$ 24,000		24,000.00	24,000.00		100.0%	24,000.00	
21	g	23 2213	PVF - Steam & Cond. Piping		\$ 9,000	9,000.00	9,000.00		100.0%		9,000.00
22		23 2214	PVF - Steam & Cond. Specialties	\$ 7,000	\$ 8,000	15,000.00	15,000.00		100.0%	7,000.00	8,000.00
23		23 2224	Processor Type Unit Heaters	\$ 300	\$ 1,000	1,300.00	1,300.00		100.0%	300.00	1,000.00
Total this Sheet				272,350.00	522,850.00	795,200.00	795,200.00			272,350.00	522,850.00

Section B - Schedule of Values Summary, Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name: The Thomas J. Dyer Co.
Project Name: Rieveschl Hall 500 Level Renovation

UC Project No.: 08063A

B - Schedule of Values Summary

Purchase Order #: B10-4500042412

Request No.: 21

Project Location: Uptown Campus West

Sheet 3 of 11

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	Code	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
24		23 2717	Energy Recovery Unit	3,500		3,500.00	3,500.00		100.0%	3,500.00	
25	a	23 2719	Energy Recovery Unit		\$ 131,500	131,500.00	131,500.00		100.0%		131,500.00
26		23 8217	Hydronic Relief Coils	1,000		1,000.00	1,000.00		100.0%	1,000.00	
27		23 8219	Hydronic Relief Coils		\$ 23,000	23,000.00	23,000.00		100.0%		23,000.00
28		25 0001	HVAC Air Valve Control System	\$ 2,000	\$ 425,000	427,000.00	427,000.00		100.0%	2,000.00	425,000.00
29		23 3100	SM Submittals	\$ 3,900	\$ -	3,900.00	3,900.00		100.0%	3,900.00	
30		23 3100	SM Drafting	\$ 61,000	\$ -	61,000.00	61,000.00		100.0%	61,000.00	
31		23 3100	SM Mobilization	\$ 2,800	\$ -	2,800.00	2,800.00		100.0%	2,800.00	
32		23 3100	SM Shop Fabrication	\$ 177,500	\$ -	177,500.00	177,500.00		100.0%	177,500.00	
33	a	23 3100	SM Ductwork Demolition (Sub-Sub)	\$ -	\$ 52,000	52,000.00	52,000.00		100.0%		52,000.00
34		23 3100	SM Duct Material M101(Sub)	\$ -	\$ 11,300	11,300.00	11,300.00		100.0%		11,300.00
35		23 3100	SM Duct Material M103(Sub)	\$ -	\$ 11,300	11,300.00	11,300.00		100.0%		11,300.00
36		23 3100	SM Duct Material M104(Sub)	\$ -	\$ 18,900	18,900.00	18,900.00		100.0%		18,900.00
37		23 3100	SM Duct Material M105(Sub)	\$ -	\$ 113,200	113,200.00	113,200.00		100.0%		113,200.00
38		23 3100	SM Duct Material M107(Sub)	\$ -	\$ 113,200	113,200.00	113,200.00		100.0%		113,200.00
39		23 3100	SM Duct Material M111(Sub)	\$ -	\$ 37,700	37,700.00	37,700.00		100.0%		37,700.00
40		23 3100	SM Duct Material M112(Sub)	\$ -	\$ 37,700	37,700.00	37,700.00		100.0%		37,700.00
41		23 3100	SM Duct Material M401(Sub)	\$ -	\$ 34,000	34,000.00	34,000.00		100.0%		34,000.00
42		23 3100	SM Field Labor M101(Sub)	\$ 10,100	\$ -	10,100.00	10,100.00		100.0%	10,100.00	
43		23 3100	SM Field Labor M102(Sub)	\$ 10,100	\$ -	10,100.00	10,100.00		100.0%	10,100.00	
44		23 3100	SM Field Labor M103(Sub)	\$ 17,000	\$ -	17,000.00	17,000.00		100.0%	17,000.00	
45		23 3100	SM Field Labor M105(Sub)	\$ 101,500	\$ -	101,500.00	101,500.00		100.0%	101,500.00	
46		23 3100	SM Field Labor M107(Sub)	\$ 101,500	\$ -	101,500.00	101,500.00		100.0%	101,500.00	
Total this Sheet				491,900.00	1,008,800.00	1,500,700.00	1,500,700.00			491,900.00	1,008,800.00

Section B - Schedule of Values Summary Page 3 of 3

Contractor Payment Request

Division of Administration and Finance

Planning + Design + Construction

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Contractor Name: The Thomas J. Dyer Co.

UC Project No: 08085A

B - Schedule of Values Summary

Project Name: Reeves Hall 500 Level Renovation

Purchase Order #: B10-4500042412

Request No: 21

Project Location: Uptown Campus West

Sheet 4 of 11

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	Code	Striking	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
47		23 3100	SM Field Labor M111(Sub)	\$ 33,900	\$ -	33,900.00	33,900.00		100.0%	33,900.00	
48		23 3100	SM Field Labor M112(Sub)	\$ 33,900	\$ -	33,900.00	33,900.00		100.0%	33,900.00	
49		23 3100	SM Field Labor M411(Sub)	\$ 30,500	\$ -	30,500.00	30,500.00		100.0%	30,500.00	
50		23 3100	Sheet Metal Equipment (Sub)	\$ 68,000	\$ -	68,000.00	68,000.00		100.0%	68,000.00	
51		23 3100	Sheet Metal Punch List (Sub)	\$ 1,500	\$ -	1,500.00	1,500.00		100.0%	1,500.00	
52											
53											
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62											
63											
64											
65											
66											
67											
68											
69											
Total this Sheet				167,800.00		167,800.00	167,800.00			167,800.00	
Grand Total Final Sheet Only				\$932,050.00	\$1,531,850.00	\$2,463,700.00	\$2,463,700.00			\$932,050.00	\$1,531,850.00

Section B - Schedule of Values Summary, Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
P.O. Box 210168 • Cincinnati, Ohio 45221-0168



Contractor Name: The Thomas J. Dyer Co.
Project Name: Rioveschi Hall 800 Level Renovation
Project Location: Uptown Campus West

JC Project No.: 08082A
Purchase Order #: B10-4500042412

C - Schedule of Values Details

Request No: 21
Steel: 5 of 11

a. Item	b. Unit	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
1		00 61 00	Bond		30,365.00	30,365.00				30,365.00
2		00 62 00	Insurance							
3		00 72 00	General Conditions	1,050.00	1,035.00	2,085.00			1,050.00	1,035.00
4		01 31 05	Project Coordination		17,000.00	17,000.00				17,000.00
5		01 1 113	Mobilization	7,000.00	7,000.00	14,000.00			7,000.00	7,000.00
6		01 77 00	Close-out Items	5,000.00	2,500.00	5,500.00			5,000.00	2,500.00
7		23 0514	VFD's	2,000.00		2,000.00			2,000.00	
8	c	23 0514	VFD's		25,500.00	25,500.00				25,500.00
9		23 0648	Vibration Control	2,500.00	29,000.00	31,500.00			2,500.00	29,000.00
10	d	23 0590	Testing, Adjusting, Balancing (Sub)		22,300.00	22,300.00				22,300.00
11		23 0700	HVAC Insulation (Sub)		126,000.00	126,000.00				126,000.00
12		23 0901	Controls (Sub)		109,000.00	109,000.00				109,000.00
13	d	23 0901	Controls - Valve Assemblies (Sub)		31,400.00	31,400.00				31,400.00
14		23 2113	PVF - Hydronic Piping	219,000.00		219,000.00			219,000.00	
15	e	23 2113	PVF - Hydronic Piping		81,000.00	81,000.00				81,000.00
16	d	23 2113	Pipe Demo (Sub)		7,000.00	7,000.00				7,000.00
17		23 2114	Hydronic Specialties	5,000.00		5,000.00			5,000.00	
18	f	23 2114	Hydronic Specialties		13,250.00	13,250.00				13,250.00
19		23 2123	Pumps	1,500.00	4,500.00	5,000.00			1,500.00	4,500.00
20		23 2213	PVF - Steam & Cond. Piping	24,000.00		24,000.00			24,000.00	
21	g	23 2213	PVF - Steam & Cond. Piping		9,000.00	9,000.00				9,000.00
22		23 2214	PVF - Steam & Cond. Specialties	7,000.00	8,000.00	13,000.00			7,000.00	8,000.00
23		23 2224	Propeller-Type Unit Heaters	300.00	1,000.00	1,300.00			300.00	1,000.00
Total this Sheet				272,350.00	522,850.00	795,200.00			272,350.00	522,850.00

Section C - Schedule of Values Details Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name: The Thomas J. Dyer Co.
Project Name: Rieveschl Hall 500 Level Renovation
Project Location: Uptown Campus West

UC Project No: 00083A
Purchase Order #: B10-4500042412

C - Schedule of Values Details

Request No: 21
Sheet: 6 of 11

a	b	c	d	Previous Applications to Date			Current Period			
				e	f	g	h	i	j	k
Item	UC	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor This Period \$	Material This Period \$	Labor to Date \$	Material to Date \$
24		23 3717	Energy Recovery Unit	3,500.00		3,500.00			3,500.00	
25	h	23 3717	Energy Recovery Unit		131,500.00	131,500.00				131,500.00
26		23 8217	Hydronic Radiant Coils	1,000.00		1,000.00			1,000.00	
27		23 8217	Hydronic Radiant Coils		23,000.00	23,000.00				23,000.00
28		25 0001	UBAG Air Valve Control System	2,000.00	425,000.00	427,000.00			2,000.00	425,000.00
29		23 3100	SM Submittals	3,900.00		3,900.00			3,900.00	
30		23 3100	SM Drafting	61,000.00		61,000.00			61,000.00	
31		23 3100	SM Mobilization	2,800.00		2,800.00			2,800.00	
32		23 3100	SM Shop Fabrication	177,500.00		177,500.00			177,500.00	
33	a	23 3100	SM Ductwork Demobilization (Sub-Sub)		52,000.00	52,000.00				52,000.00
34		23 3100	SM Duct Material M101(Sub)		11,300.00	11,300.00				11,300.00
35		23 3100	SM Duct Material M102(Sub)		11,300.00	11,300.00				11,300.00
36		23 3100	SM Duct Material M103(Sub)		18,900.00	18,900.00				18,900.00
37		23 3100	SM Duct Material M105(Sub)		113,200.00	113,200.00				113,200.00
38		23 3100	SM Duct Material M107(Sub)		113,200.00	113,200.00				113,200.00
39		23 3100	SM Duct Material M111(Sub)		37,700.00	37,700.00				37,700.00
40		23 3100	SM Duct Material M112(Sub)		37,700.00	37,700.00				37,700.00
41		23 3100	SM Duct Material M401(Sub)		34,000.00	34,000.00				34,000.00
42		23 3100	SM Field Labor M101(Sub)	10,100.00		10,100.00			10,100.00	
43		23 3100	SM Field Labor M102(Sub)	10,100.00		10,100.00			10,100.00	
44		23 3100	SM Field Labor M103(Sub)	17,000.00		17,000.00			17,000.00	
45		23 3100	SM Field Labor M105(Sub)	101,200.00		101,200.00			101,200.00	
46		23 3100	SM Field Labor M107(Sub)	101,500.00		101,500.00			101,500.00	
Total This Sheet				491,900.00	1,008,800.00	1,500,700.00			491,900.00	1,008,800.00

Section C - Schedule of Values Details, Page 2 of 3

Contractor Payment Request

Division of Administration and Finance

Planting + Design + Construction

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Contractor Name The Thomas J. Dyer Co.
Project Name Rieveschl Hall 500 Level Renovation

UC Project No. 000834

C - Schedule of Values Details

Purchase Order # B10-4500042412

Request No. 21

Project Location Uptown Campus West

Sheet 7 of 11

a. Item	b. UC Code	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
47		23 3100	SM Field Labor M111(Sub)	33,900.00		33,900.00			33,900.00	
48		23 3100	SM Field Labor M112(Sub)	33,900.00		33,900.00			33,900.00	
49		23 3100	SM Field Labor M401(Sub)	30,500.00		30,500.00			30,500.00	
50		23 3100	Steel Metal Equipment (Sub)	66,000.00		66,000.00			66,000.00	
51		22 3100	Steel Metal Punch List (Sub)	1,500.00		1,500.00			1,500.00	
52										
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										
65										
66										
67										
68										
69										
Total this Sheet				167,800.00		167,800.00			167,800.00	
Grand Total Final Sheet Only				\$932,060.00	\$1,631,650.00	\$2,463,700.00			\$932,060.00	\$1,631,650.00

Appendix C - Schedule of Values Details, Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name The Thomas J. Dyer Co.
Project Name Groveschl Hall 500 Level Renovation
Project Location Uptown Campus West

UD Project No. 00003A
Purchase Order # 610 4600042412

D - Change Order Summary

Request No. 21
Sheet 8 of 11

a.	b.	c.	d.	Change Order Info			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
CO No.	DATE	Section	Title Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
M-2			08/11/2010	9,551.00	2,660.00	12,211.00		100.0%	12,211.00	9,551.00	2,660.00
M-3			08/11/2010	3,628.00	1,755.00	5,383.00		100.0%	5,383.00	3,628.00	1,755.00
M-4			08/26/2010	10,636.00	4,200.00	14,836.00		100.0%	14,836.00	10,636.00	4,200.00
M-5			10/01/2010	24,463.00	21,257.00	45,720.00		100.0%	45,720.00	24,463.00	21,257.00
M-6			10/07/2010	1,072.00	788.00	1,860.00		100.0%	1,860.00	1,072.00	788.00
M-7			10/07/2010	24,273.00	42,446.00	66,719.00		100.0%	66,719.00	24,273.00	42,446.00
M-10			03/17/2011	715.00	585.00	1,300.00		100.0%	1,300.00	715.00	585.00
M-11			03/17/2011	1,067.00	350.00	1,417.00		100.0%	1,417.00	1,067.00	350.00
M-12			04/27/2011	39,041.20	20,516.00	59,559.20		100.0%	59,559.20	39,042.00	20,516.00
M-1			03/17/2011	-1,553.20	-21,821.80	-23,375.00		100.0%	-23,375.00	-1,553.20	-21,821.80
M-13			04/02/2011		7,990.00	7,990.00		100.0%	7,990.00		7,990.00
M-14			04/09/2011		33,910.00	33,910.00		100.0%	33,910.00		33,910.00
M-15					1,201.00	1,201.00		100.0%	1,201.00		1,201.00
M-16			10/21/2011		194,708.00	194,708.00		100.0%	194,708.00		194,708.00
M-17			10/20/2011		256,846.00	256,846.00		100.0%	256,846.00		256,846.00
M-18			02/14/2012		2,565.00	2,565.00	100.0%	100.0%	2,565.00		2,565.00
M-19			10/11/2012		7,542.00	7,542.00	100.0%	100.0%	7,542.00		7,542.00
M-20			10/15/2012		5,610.40	5,610.40	100.0%	100.0%	5,610.40		5,610.40
Total this Sheet				\$112,893.00	\$567,129.60	\$680,022.60			112,893.80	\$567,129.60	
Grand Total Final Sheet Only				\$112,893.00	\$567,129.60	\$680,022.60			\$112,893.80	\$567,129.60	

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name and Address

Schrudde & Zimmerman, Inc.
1671 Park Road, Suite #11
Ft. Wright KY 41011
Contr. Phone 859-331-3160
Contr. Fax 859-331-8261
Contr. Tax ID 61-0649277
Contr. E-mail pbc@schrudde-zimmerman.com

Project Information

UC Project No. 08083A
Purchase Order # B10-4500042403
Project Name & Location
Rieveschl Hall Renovation of 500
Level Teaching Labs
Cincinnati, Ohio
Type of Contract General Conditions

A/E Name and Address

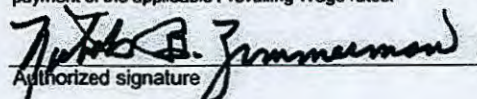
URS Corporation
277 West Nationwide Blvd.
Columbus, Ohio 43215
CM Name and Address
Kurt Ponting
Mail Location 210181
Cincinnati, Ohio 45221-01811

A - Summary

Request No. 11
Sheet 1 of 11
For the period
from 04/01/2012
to 07/31/2012


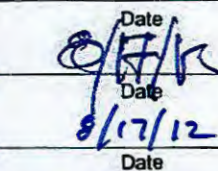

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved, all information in this Payment Request is true and accurate, all payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the periods for which payment was made, and the Contractor has, to the best of its knowledge, completed the Work to date in accordance within the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.


Authorized signature Date 8-1-12

Work Progress Certification

Each firm signing below certifies that, based upon its on-site observations, the payment requested to date is a fair and reasonable request for the Work provided to date.

Head Contractor  Date 8/17/12
Architect/Engineer (A/E)  Date 8/17/12
Construction Manager  Date

University Approval

Authorized signature _____ Date _____

Partial Payment Details

Completed to date

Original Contract Amount
Change Order Amount

Stored Materials

Subtotal - Earned (A)
97.2% Percent Complete

Withheld Amounts

Lien(s)
Retainage Amount
Liquidated Damages
Other

Subtotal - Withheld (B)

Previous Payments (C)

Total Requested this
Application (A - B - C)

Labor \$

446,034.00
566,486.90

N/A

1,012,520.90

26,937.52

26,937.52

812,774.68

\$172,808.70

Materials \$

523,955.00
368,855.86

892,810.86

810,206.04

\$82,604.82

Total \$

969,989.00
935,342.76

1,905,331.76

26,937.52

26,937.52

1,622,980.72

\$255,413.52

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A
Purchase Order # B10-4500042403

B - Schedule of Values Summary

Request No. 11
Sheet 2 of 11

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
1		00 61 00	Bond		13,176.00	13,176.00	13,176.00		100.0%		13,176.00
2		00 62 16	Insurance		11,000.00	11,000.00	11,000.00		100.0%		11,000.00
3		00 72 00	General Conditions	10,000.00	10,200.00	20,200.00	20,200.00		100.0%	10,000.00	10,200.00
4		01 31 13	Project Coordination	8,000.00	2,000.00	10,000.00	10,000.00		100.0%	8,000.00	2,000.00
5		01 7 113	Mobilization	1,000.00	1,000.00	2,000.00	2,000.00		100.0%	1,000.00	1,000.00
6		01 77 00	Close-out Items	16,800.00	4,000.00	20,800.00	10,000.00		48.1%	7,000.00	3,000.00
7		01 21 00.01	Sched. Consultant	15,000.00	5,000.00	20,000.00	20,000.00		100.0%	15,000.00	5,000.00
8		01 21 00.02	Project Identification	500.00	500.00	1,000.00					
9		020000	Abatement	29,494.00	9,831.00	39,325.00	39,325.00		100.0%	29,494.00	9,831.00
10		044000	Masonry	8,808.00	2,936.00	11,744.00	11,744.00		100.0%	8,808.00	2,936.00
11	B	051200	Structural Steel	40,000.00	68,900.00	108,900.00	108,900.00		100.0%	40,000.00	68,900.00
12		061053	Carpentry & Demolition	121,500.00	60,000.00	181,500.00	181,500.00		100.0%	121,500.00	60,000.00
13		064230	Millwork		32,603.00	32,603.00	32,603.00		100.0%		32,603.00
14		074216	Metal Wall Panels	1,840.00	3,000.00	4,840.00	4,840.00		100.0%	1,840.00	3,000.00
15		077100	Roofing	15,000.00	5,408.00	20,408.00	20,408.00		100.0%	15,000.00	5,408.00
16		078100	Fireproofing	9,120.00	3,857.00	12,977.00	12,977.00		100.0%	9,120.00	3,857.00
17		079200	Caulking	750.00	823.00	1,573.00	1,573.00		100.0%	750.00	823.00
18	B	080000	Doors & Hardware		48,640.00	48,640.00	48,640.00		100.0%		48,640.00
19		081216	Glazing	2,200.00	3,124.00	5,324.00	5,324.00		100.0%	2,200.00	3,124.00
20		090000	Wash & Seal	7,500.00	1,888.00	9,388.00	9,388.00		100.0%	7,500.00	1,888.00
21		092900	Drywall	82,000.00	20,566.00	102,566.00	102,566.00		100.0%	82,000.00	20,566.00
22		093000	Ceramic Tile	3,097.00	4,000.00	7,097.00	7,097.00		100.0%	3,097.00	4,000.00
23		095113	Acoustic Ceiling	46,211.00	138,634.00	184,845.00	184,845.00		100.0%	46,211.00	138,634.00
Total this Sheet				418,820.00	451,086.00	869,906.00	858,106.00			408,520.00	449,586.00

Section B - Schedule of Values Summary, Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A
Purchase Order # B10-4500042403

B - Schedule of Values Summary

Request No. 11
Sheet 3 of 11

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
24		096813	Carpet & Resilient	12,000.00	34,540.00	46,540.00	46,540.00		100.0%	12,000.00	34,540.00
25	A	099123	Painting	14,442.00	6,612.00	21,054.00	21,054.00		100.0%	14,442.00	6,612.00
26		101100	Miscellaneous Items	11,072.00	33,217.00	44,289.00	44,289.00		100.0%	11,072.00	33,217.00
27											
28											
29											
30											
31											
32											
33											
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35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
Total this Sheet				37,514.00	74,369.00	111,883.00	111,883.00			37,514.00	74,369.00
Grand Total Final Sheet Only				\$456,334.00	\$525,455.00	\$981,789.00	\$969,989.00			\$446,034.00	\$523,955.00

Section B - Schedule of Values Summary, Page 2 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A

Purchase Order # B10-4500042403

C - Schedule of Values Details

Request No. 11

Sheet 4 of 11

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	MO	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
1		00 61 00	Bond		13,176.00	13,176.00				13,176.00
2		00 62 16	Insurance		11,000.00	11,000.00				11,000.00
3		00 72 00	General Conditions	10,000.00	10,200.00	20,200.00			10,000.00	10,200.00
4		01 31 13	Project Coordination	8,000.00	2,000.00	10,000.00			8,000.00	2,000.00
5		01 7 113	Mobilization	1,000.00	1,000.00	2,000.00			1,000.00	1,000.00
6		01 77 00	Close-out Items	7,000.00	3,000.00	10,000.00			7,000.00	3,000.00
7		01 21 00.01	Sched. Consultant	15,000.00	5,000.00	20,000.00			15,000.00	5,000.00
8		01 21 00.02	Project Identification							
9		020000	Abatement	29,494.00	9,831.00	39,325.00			29,494.00	9,831.00
10		044000	Masonry	8,808.00	2,936.00	11,744.00			8,808.00	2,936.00
11	B	051200	Structural Steel	40,000.00	68,900.00	108,900.00			40,000.00	68,900.00
12		061053	Carpentry & Demolition	121,500.00	60,000.00	181,500.00			121,500.00	60,000.00
13		064230	Millwork		32,603.00	32,603.00				32,603.00
14		074216	Metal Wall Panels	1,840.00	3,000.00	4,840.00			1,840.00	3,000.00
15		077100	Roofing	15,000.00	5,408.00	20,408.00			15,000.00	5,408.00
16		078100	Fireproofing	9,120.00	3,857.00	12,977.00			9,120.00	3,857.00
17		079200	Caulking	750.00	823.00	1,573.00			750.00	823.00
18	B	080000	Doors & Hardware		48,640.00	48,640.00				48,640.00
19		081216	Glazing	2,200.00	3,124.00	5,324.00			2,200.00	3,124.00
20		090000	Wash & Seal	7,500.00	1,888.00	9,388.00			7,500.00	1,888.00
21		092900	Drywall	82,000.00	20,566.00	102,566.00			82,000.00	20,566.00
22		093000	Ceramic Tile	3,097.00	4,000.00	7,097.00			3,097.00	4,000.00
23		095113	Acoustic Ceiling	46,211.00	138,634.00	184,845.00			46,211.00	138,634.00
Total this Sheet				408,520.00	449,586.00	858,106.00			408,520.00	449,586.00

Section C - Schedule of Values Details, Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A
Purchase Order # B10-4500042403

C - Schedule of Values Details

Request No. 11
Sheet 5 of 11

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	EDCE	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
24		096813	Carpet & Resilient	12,000.00	34,540.00	46,540.00			12,000.00	34,540.00
25	A	099123	Painting	14,442.00	6,612.00	21,054.00			14,442.00	6,612.00
26		101100	Miscellaneous Items	11,072.00	33,217.00	44,289.00			11,072.00	33,217.00
27										
28										
29										
30										
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40										
41										
42										
43										
44										
45										
46										
Total this Sheet				37,514.00	74,369.00	111,883.00			37,514.00	74,369.00
Grand Total Final Sheet Only				\$446,034.00	\$523,955.00	\$969,989.00			\$446,034.00	\$523,955.00

Section C - Schedule of Values Details, Page 2 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A
Purchase Order # B10-4500042403

D - Change Order Summary

Request No. 11
Sheet 6 of 11

a.	b.	c.	d.	Change Order Info			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
CO No.	EDUE	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
G001			01/04/2010	424.00	400.00	824.00		100.0%	824.00	424.00	400.00
G002			01/20/2010	-2,723.00	-2,723.00	-5,446.00		100.0%	-5,446.00	-2,723.00	-2,723.00
G003			01/20/2010	40,280.00	60,112.00	100,392.00		100.0%	100,392.00	40,280.00	60,112.00
G004			12/21/2009	28,700.00	14,071.00	42,771.00		100.0%	42,771.00	28,700.00	14,071.00
G-005			07/07/2010	38,869.00	6,000.00	44,869.00		100.0%	44,869.00	38,869.00	6,000.00
G-006			12/07/2010	1,527.00	7,000.00	8,527.00		100.0%	8,527.00	1,527.00	7,000.00
G-007			12/07/2010	800.00	2,652.00	3,452.00		100.0%	3,452.00	800.00	2,652.00
G-008			12/07/2010	950.00	1,671.00	2,621.00		100.0%	2,621.00	950.00	1,671.00
G-009			12/14/2010								
G-010			03/17/2011	1,563.00	1,375.00	2,938.00		100.0%	2,938.00	1,563.00	1,375.00
G-011			03/17/2011								
G-012			03/17/2011	10,643.00	6,817.00	17,460.00		100.0%	17,460.00	10,643.00	6,817.00
G-013			03/17/2011	11,921.00	4,225.00	16,146.00		100.0%	16,146.00	11,921.00	4,225.00
G-014			05/20/2011	13,106.00	21,777.00	34,883.00		100.0%	34,883.00	13,106.00	21,777.00
G-015			05/20/2011	18,452.00	19,687.00	38,139.00		100.0%	38,139.00	18,452.00	19,687.00
G-016			06/07/2011	14,706.00	13,119.00	27,825.00		100.0%	27,825.00	14,706.00	13,119.00
G-017			09/09/2011	5,286.20	14,609.80	19,896.00		100.0%	19,896.00	5,286.20	14,609.80
G-018			09/09/2011	23,586.00	7,825.00	31,411.00		100.0%	31,411.00	23,586.00	7,825.00
G-019			09/21/2011	66,398.00	28,456.00	94,854.00		100.0%	94,854.00	66,398.00	28,456.00
CO 20R			01/25/2012	168,096.00	93,073.00	261,169.00	44.0%	90.7%	236,963.00	153,038.00	83,925.00
G-21R			02/24/2012	28,000.00	34,037.00	62,037.00	88.6%	90.0%	55,833.00	25,200.00	30,633.00
G-022			12/13/2011	5,714.00	2,449.00	8,163.00		100.0%	8,163.00	5,714.00	2,449.00
G-023			Janauary 30	7,000.00	2,293.00	9,293.00		100.0%	9,293.00	7,000.00	2,293.00
Total this Sheet				483,298.20	338,925.80	822,224.00				465,440.20	326,373.80

Section D - Change Order Summary, Page 1 of 2

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500
Level Teaching Labs
Project Location Cincinnati, Ohio

UC Project No. 08083A
Purchase Order # B10-4500042403

E - Change Order Details

Request No. 11
Sheet 8 of 11

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
CO No.	EDGE	Section	Date Approved	Previous CO Labor \$	Previous CO Material \$	Previous CO Total \$	CO Labor this Period \$	CO Material this Period \$	CO Labor to Date \$	CO Material to Date \$
G001			01/04/2010	424.00	400.00	824.00			424.00	400.00
G002			01/20/2010	-2,723.00	-2,723.00	-5,446.00			-2,723.00	-2,723.00
G003			01/20/2010	40,280.00	60,112.00	100,392.00			40,280.00	60,112.00
G004			12/21/2009	28,700.00	14,071.00	42,771.00			28,700.00	14,071.00
G-005			07/07/2010	38,869.00	6,000.00	44,869.00			38,869.00	6,000.00
G-006			12/07/2010	1,527.00	7,000.00	8,527.00			1,527.00	7,000.00
G-007			12/07/2010	800.00	2,652.00	3,452.00			800.00	2,652.00
G-008			12/07/2010	950.00	1,671.00	2,621.00			950.00	1,671.00
G-009			12/14/2010							
G-010			03/17/2011	1,563.00	1,375.00	2,938.00			1,563.00	1,375.00
G-011			03/17/2011							
G-012			03/17/2011	10,643.00	6,817.00	17,460.00			10,643.00	6,817.00
G-013			03/17/2011	11,921.00	4,225.00	16,146.00			11,921.00	4,225.00
G-014			05/20/2011	13,106.00	21,777.00	34,883.00			13,106.00	21,777.00
G-015			05/20/2011	18,452.00	19,687.00	38,139.00			18,452.00	19,687.00
G-016			06/07/2011	14,706.00	13,119.00	27,825.00			14,706.00	13,119.00
G-017			09/09/2011	5,286.20	14,609.80	19,896.00			5,286.20	14,609.80
G-018			09/09/2011	23,586.00	7,825.00	31,411.00			23,586.00	7,825.00
G-019			09/21/2011	66,398.00	28,456.00	94,854.00			66,398.00	28,456.00
CO 20F			01/25/2012	67,938.00	54,091.00	122,029.00	85,100.00	29,834.00	153,038.00	83,925.00
G-21R			02/24/2012	430.00	430.00	860.00	24,770.00	30,203.00	25,200.00	30,633.00
G-022			12/13/2011	5,714.00	2,449.00	8,163.00			5,714.00	2,449.00
G-023			Janaury 30	7,000.00	2,293.00	9,293.00			7,000.00	2,293.00
Total this Sheet				355,570.20	266,336.80	621,907.00	109,870.00	60,037.00	465,440.20	326,373.80

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name	<u>Schrudde & Zimmerman, Inc.</u>	UC Project No.	<u>08083A</u>	<u>H - EDGE</u>
Project Name	<u>Rieveschl Hall Renovation of 500</u>			
	<u>Level Teaching Labs</u>	Purchase Order #	<u>B10-4500042403</u>	Request No. <u>11</u>
Project Location	<u>Cincinnati, Ohio</u>			Sheet <u>11</u> of <u>11</u>

Reference	a	b	c	d	e	f	g	h	i		
									Status		
		Name	Tax ID	Award Date	Projected Start Date	Projected End Date	Actual Start Date	Actual End Date	Active	Complete	Void
A		Rona Construction	830412665	08/21/2009	12/28/2009	01/14/2010	12/16/2009				X
B		Able Building Systems	200096923	08/21/2009	03/01/2010	04/01/2010				X	
C		Able Building Systems	200096923	01/27/2012	02/03/2012		02/03/2012		X		
D											
E											
F											
G											
H											
I											
J											
K											
L											
M											
N											
O											
P											
Q											
R											
S											
T											

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500 Level
Teaching Lab CO-20R Schedule Value
Project Location Cincinnati, Ohio

UC Project No. 09133A
Purchase Order # B10-4500042403

B - Schedule of Values Summary

Request No. 2
Sheet 2 of 3

a.	b.	c.	d.	Original Application			Current Period				
				e.	f.	g.	h.	i.	j.	k.	l.
Item	EDGE	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Labor to Date \$	Material to Date \$
1		00 61 00	Bond		3,612.00	3,612.00	3,250.00	6.9%	90.0%		3,250.00
2		00 62 16	Insurance		3,006.00	3,006.00	2,705.00	23.5%	90.0%		2,705.00
3		00 72 00	General Conditions	9,672.00	5,211.00	14,883.00	13,394.00	49.0%	90.0%	8,705.00	4,689.00
4		01 31 13	Project Coordination	4,000.00		4,000.00	3,600.00	52.5%	90.0%	3,600.00	
5		01 7 113	Mobilization	500.00	500.00	1,000.00	1,000.00		100.0%	500.00	500.00
6		01 77 00	Close-out Items	2,500.00	2,000.00	4,500.00					
7		01 21 00.01	Allowance: Sched. Consultant								
8		01 21 00.02	Allowance: Project Identification								
9			Drywall	25,193.00	8,781.00	33,974.00	30,577.00	48.1%	90.0%	22,674.00	7,903.00
10			Carpentry & Demolition	64,891.00	6,425.00	71,316.00	64,135.00	63.1%	89.9%	58,402.00	5,733.00
11	X		Doors & Frames		29,566.00	29,566.00	26,609.00	35.2%	90.0%		26,609.00
12			Demolition Concrete	6,182.00	4,000.00	10,182.00	10,182.00		100.0%	6,182.00	4,000.00
13			Steel Lintels	682.00	500.00	1,182.00	1,064.00	47.0%	90.0%	614.00	450.00
14			FEX	284.00	500.00	784.00	784.00	100.0%	100.0%	284.00	500.00
15			Corridor Ceilings	546.00	175.00	721.00	648.00	89.9%	89.9%	491.00	157.00
16			Flooring	3,172.00	3,000.00	6,172.00	5,555.00	90.0%	90.0%	2,855.00	2,700.00
17			Painting	12,275.00	4,610.00	16,885.00	15,196.00	90.0%	90.0%	11,047.00	4,149.00
18			Abatement	33,052.00	15,117.00	48,169.00	48,169.00		100.0%	33,052.00	15,117.00
19			Acoustic Ceiling	5,147.00	6,070.00	11,217.00	10,095.00	90.0%	90.0%	4,632.00	5,463.00
20											
21											
22											
23											
Total this Sheet				168,096.00	93,073.00	261,169.00	236,963.00			153,038.00	83,925.00
Grand Total Final Sheet Only				\$168,096.00	\$93,073.00	\$261,169.00	\$236,963.00			\$153,038.00	\$83,925.00

Section B - Schedule of Values Summary, Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name Schrudde & Zimmerman, Inc.
Project Name Rieveschl Hall Renovation of 500 Level
Teaching Lab CO-20R Schedule Value
Project Location Cincinnati, Ohio

UC Project No. 09133A
Purchase Order # B10-4500042403

C - Schedule of Values Details

Request No. 2
Sheet 3 of 3

a.	b.	c.	d.	Previous Applications to Date			Current Period			
				e.	f.	g.	h.	i.	j.	k.
Item	MO	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
1		00 61 00	Bond		3,000.00	3,000.00		250.00		3,250.00
2		00 62 16	Insurance		2,000.00	2,000.00		705.00		2,705.00
3		00 72 00	General Conditions	6,100.00		6,100.00	2,605.00	4,689.00	8,705.00	4,689.00
4		01 31 13	Project Coordination	1,500.00		1,500.00	2,100.00		3,600.00	
5		01 7 113	Mobilization	500.00	500.00	1,000.00			500.00	500.00
6		01 77 00	Close-out Items							
7		01 21 00.01	Allowance: Sched. Consultant							
8		01 21 00.02	Allowance: Project Identification							
9			Drywall	7,125.00	7,125.00	14,250.00	15,549.00	778.00	22,674.00	7,903.00
10			Carpentry & Demolition	13,377.00	5,733.00	19,110.00	45,025.00		58,402.00	5,733.00
11	X		Doors & Frames		16,210.00	16,210.00		10,399.00		26,609.00
12			Demolition Concrete	6,182.00	4,000.00	10,182.00			6,182.00	4,000.00
13			Steel Lintels	102.00	406.00	508.00	512.00	44.00	614.00	450.00
14			FEX				284.00	500.00	284.00	500.00
15			Corridor Ceilings				491.00	157.00	491.00	157.00
16			Flooring				2,855.00	2,700.00	2,855.00	2,700.00
17			Painting				11,047.00	4,149.00	11,047.00	4,149.00
18			Abatement	33,052.00	15,117.00	48,169.00			33,052.00	15,117.00
19			Acoustic Ceiling				4,632.00	5,463.00	4,632.00	5,463.00
20										
21										
22										
23										
Total this Sheet				67,938.00	54,091.00	122,029.00	85,100.00	29,834.00	153,038.00	83,925.00
Grand Total Final Sheet Only				\$67,938.00	\$54,091.00	\$122,029.00	\$85,100.00	\$29,834.00	\$153,038.00	\$83,925.00

Section C - Schedule of Values Details, Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning / Design / Construction
P.O. Box 510126 • Cincinnati, Ohio 45221-0186



Contractor Name and Address	Project Information	Associate Name and Address	A - Summary
Dalmatian Fire, Inc. 4700 Duke Drive, Suite 100 Mason, OH 45040	UD Project No. 08083A UC P.O. No. B10-4500042581 Project Name & Location University of Cincinnati Rieveschl Hall Renovation of 500 Level Teaching Labs	URS Corporation 277 W. Nationwide Blvd. Columbus, Ohio 43215 CM Name and Address University of Cincinnati Mr. Kurt Ponting	Request No. 15 Sheet 1 of 5 For the period from 09/01/2012 to 09/30/2012
Contr. Phone 513-388-4500 Contr. Fax 513-388-2880 Contr. Tax ID 35-1765162 Contr. E-mail missyo@dalmatianfire.net	Type of Contract Fire Protection		

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have not changed from the values first approved. All information in this Payment Request is true and accurate. All payments received to date have been used by the Contractor to discharge, in full, the obligations incurred and provided during the period for which payment was made, and the Contractor has, to the best of its knowledge, completed the Work to date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Authorized signature

9/18/12
Date

Work Progress Certification

Each time signing below certifies that, based upon its private observations, the payment requested is true, full and accurate request for the Work provided to date.

Lead Contractor

Date

Associate

Date

Construction Manager

Date

Partial Payment Details

Completed to date

Original Contract Amount
Change Order Amount

Stored Materials

Subtotal - Earned (A)
100.0% Percent Complete

Withheld Amounts

Lien(s)
Retainage Amount
Liquidated Damages
Other

Subtotal - Withheld (B)

Previous Payments (C)

Total Requested this
Application (A - B - C)

Labor \$

Materials \$

Total \$

59,800.00

46,600.00

106,200.00

37,446.88

12,776.61

50,222.49

N/A

97,045.88

59,376.61

156,422.49

95,839.69

59,376.61

154,716.20

\$1,706.19

\$1,706.19

University Approval

Authorized signature

Date

Authorized signature

Date

Authorized signature

Date

SDC-F140-03v0208, AUM 5284

Section A - Summary, Sheet 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning & Design + Construction
PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Delmasco Fire, Inc.
Project Name: University of Cincinnati
Rieveschl Hall Renovation of S00
Project Location: Level Teaching Labs

UC Project No: 00005A
UC P.O. No: 010-4500042361

B - Schedule of Values Summary

Request No: 15
Sheet: 2 of 5

a	b	c	d	Original Application			Current Period				
				e	f	g	h	i	j	k	l
Item	UC Item	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% this Period	% to Date	Label to Date \$	Material to Date \$
1		00 01 00	Base		1,300.00	1,300.00	1,300.00		100.0%		1,300.00
2		00 02 10	Insurance		600.00	600.00	600.00		100.0%		600.00
3		00 72 00	General Conditions		1,000.00	1,000.00	1,000.00		100.0%		1,000.00
4		01 01 00	Project Coordination	3,000.00		3,000.00	3,000.00		100.0%	3,000.00	
5		01 11 10	Modification	500.00		500.00	500.00		100.0%	500.00	
6		01 77 00	Disposal Work		1,000.00	1,000.00	1,000.00		100.0%		1,000.00
7		01 21 00 01	Allowance: Struct. Consultant								
8		01 21 00 02	Allowance: Project Identification								
9			Design Drawings	4,800.00		4,800.00	4,800.00		100.0%	4,800.00	
10	01		R. Kelly, Inc. Fabricated Pipe		15,000.00	15,000.00	15,000.00		100.0%		15,000.00
11			300 Level	3,000.00	1,500.00	4,500.00	4,500.00		100.0%	3,000.00	1,500.00
12			400 Level	1,500.00	600.00	2,100.00	2,100.00		100.0%	1,500.00	600.00
13			500 Level Area A Rough In	12,600.00	7,200.00	19,800.00	19,800.00		100.0%	12,600.00	7,200.00
14			500 Level Area A Finish	1,400.00	800.00	2,200.00	2,200.00		100.0%	1,400.00	800.00
15			500 Level Area B Rough In	26,010.00	13,500.00	39,510.00	39,510.00		100.0%	26,010.00	13,500.00
16			500 Level Area B Finish	2,850.00	1,500.00	4,350.00	4,350.00		100.0%	2,850.00	1,500.00
17			Alternate CP-01 Room 512	3,900.00	2,600.00	6,500.00	6,500.00		100.0%	3,900.00	2,600.00
18											
19											
20											
21											
22											
23											
Total this Sheet				59,600.00	46,600.00	106,200.00	106,200.00			59,600.00	46,600.00
Grand Total Final Sheet Only				\$59,600.00	\$46,600.00	\$106,200.00	\$106,200.00			\$59,600.00	\$46,600.00

Section B - Schedule of Values Summary, Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning - Design - Construction
PO Box 230188 • Cincinnati, Ohio 45221-0188



Contractor Name: Dalmatian Fire, Inc.
Project Name: University of Cincinnati
Revesch Hall Renovation - FP-05
Project Location: PR 16 NSF Grant

UC Project No: C9135A
UC P.O. No: B10-4500042351

B - Schedule of Values Summary

Request No: 14
Sheet: 2 of 5

Item	GE	Section	Description	Original Application			Current Period				
				e Original Labor \$	f Original Material \$	g Original Total \$	h Completed to Date \$	i % this Period	j % to Date	k Labor to Date \$	l Material to Date \$
1		00 61 00	Bowl		50.00	50.00	50.00	100.0%			50.00
2		00 62 10	Insurance		100.00	100.00	100.00	100.0%			100.00
3		00 72 00	General Conditions		100.00	100.00	100.00	100.0%			100.00
4		01 01 10	Project Coordination	200.00		200.00	200.00	100.0%		200.00	
5		01 7 113	Mobilization	100.00		100.00	100.00	100.0%		100.00	
6		01 73 00	Close-out items		100.00	100.00	100.00	100.0%			100.00
7		01 21 00 01	Allowance: School Consultant								
8		01 21 00 02	Allowance: Project Identification								
9			Design Drawings	500.00		500.00	500.00	100.0%		500.00	
10	A		M-PACT Corp		735.00	735.00	735.00	100.0%			735.00
11			Level 400 Additional Spaces	1,900.00	1,103.00	3,003.00	3,003.00	100.0%		1,900.00	1,103.00
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
Total this Sheet				2,700.00	2,188.00	4,888.00	4,888.00			2,700.00	2,188.00
Grand Total Final Sheet Only				\$2,700.00	\$2,188.00	\$4,888.00	\$4,888.00			\$2,700.00	\$2,188.00

Section B - Schedule of Values Summary Page 1 of 4

Contractor Payment Request

Division of Administration and Finance

Planning - Design - Construction

PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name: Delmarco Fire, Inc.

UC Project No: 00003A

C - Schedule of Values

Project Name: University of Cincinnati

Details

Revesch Hall Renovation of 500

UC P.O. No: B10-4500042381

Request No: 15

Project Location: Level Teaching Labs

Sheet 3 of 5

a	b	c	d	Previous Applications to Date			Current Period			
				e	f	g	h	i	j	k
Item	UC ID	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
1	00 01 00		Bond		1,300.00	1,300.00				1,300.00
2	00 02 10		Insurance		600.00	600.00				600.00
3	00 72 00		General Conditions		1,000.00	1,000.00				1,000.00
4	01 31 10		Project Coordination	3,000.00		3,000.00			3,000.00	
5	01 7 110		Mobilization	500.00		500.00			500.00	
6	01 77 00		Close-out Items		1,000.00	1,000.00				1,000.00
7	01 21 00 01		Allowance: Sched. Consultant							
8	01 21 00 02		Allowance: Project Identification							
9			Design Drawings	4,800.00		4,800.00			4,800.00	
10	C		R. Kelly, Inc. Fabricated Pipe		15,000.00	15,000.00				15,000.00
11			300 Level	3,000.00	1,500.00	4,500.00			3,000.00	1,500.00
12			400 Level	1,500.00	800.00	2,300.00			1,500.00	800.00
13			500 Level Area A Rough In	12,600.00	7,200.00	19,800.00			12,600.00	7,200.00
14			500 Level Area A Finish	1,400.00	800.00	2,200.00			1,400.00	800.00
15			500 Level Area E Rough In	26,010.00	13,500.00	39,510.00			26,010.00	13,500.00
16			500 Level Area E Finish	2,690.00	1,500.00	4,390.00			2,690.00	1,500.00
17			Alternate FP-01 Room 512	3,800.00	2,600.00	6,500.00			3,800.00	2,600.00
18										
19										
20										
21										
22										
23										
Total this Sheet				59,600.00	46,600.00	106,200.00			59,600.00	46,600.00
Grand Total Final Sheet Only				\$59,600.00	\$46,600.00	\$106,200.00			\$59,600.00	\$46,600.00

Section C - Schedule of Values Details, Page 1 of 1

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210186 • Cincinnati, OH 45221-0186



Contractor Name:	Dalmatian Fire, Inc.	UC Project No.	06083A	D - Change Order Summary
Project Name:	University of Cincinnati	UC P.O. No.	B10-4500042381	
Project Location:	Level Teaching Labs	Request No.	15	Sheet 4 of 5

a	b	c	d	Change Order Info		g	h	i	Current Period		
				e	f				j	k	l
CO No	Code	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to Date \$	Labor to Date \$	Material to Date \$
1		PR-012	08/24/2010	11,344.00	3,114.00	14,458.00		100.0%	14,458.00	11,344.00	3,114.00
2		PR-07	12/08/2010	870.00	400.00	1,070.00		100.0%	1,070.00	870.00	400.00
3		PR-01	12/08/2010	-1,936.00	-6,264.00	-8,200.00		100.0%	-8,200.00	-1,936.00	-6,264.00
5		PR-16	09/20/2011	2,700.00	2,188.00	4,888.00		100.0%	4,888.00	2,700.00	2,188.00
8		PR-17	09/20/2011	15,571.00	8,606.00	24,177.00		100.0%	24,177.00	15,571.00	8,606.00
9		PR-17	04/16/2012	2,921.00	1,786.10	4,707.10		100.0%	4,707.10	2,921.00	1,786.10
9			04/16/2012	2,702.35	986.34	3,688.69		100.0%	3,688.69	2,702.35	986.34
9			09/18/2012	3,473.53	1,000.00	4,473.53		100.0%	4,473.53	3,473.53	1,000.00
10			09/18/2012		960.17	960.17		100.0%	960.17		960.17
Total this Sheet				37,445.88	12,776.61	50,222.49			37,445.88	12,776.61	50,222.49
					\$12,776.61						\$12,776.61

Section D - Change Order Summary, Page 1 of 3

Contractor Payment Request

Division of Administration and Finance

Planning + Design + Construction

PO Box 210186 • Cincinnati, Ohio 45221-0186



Contractor Name and Address	Project Information	NE Name and Address	A - Summary
UNITED ELECTRIC CO., INC. 1309 ETHAN AVENUE CINCINNATI OH 45219-4636	UC Project No. 08063A Purchase Order # B10-4500042417 Project Name & Location Riverside Hall Uptown Campus, West Hamilton County, Ohio	URS 277 W. Nationwide Blvd Columbus Ohio 43215 C.M. Name and Address	Request No. 17 Sheet 1 of 18 For the period from 07/01/2012 to 10/31/2012
Cont. Phone: 513-542-0002 Cont. Fax: 513-542-2213 Cont. Tax ID: 31-0526410 Cont. Email: tommlarney@unitedelec.com	Type of Contract: Electrical		

Contractor Certification

Contractor certifies the Original Application values in this Payment Request have been calculated from the values that approved. All information in this Payment Request is true and accurate, all payments received to date have been used by the Contractor to discharge in full the obligations incurred and fulfilled during the periods for which payment was made, and the Contractor has, to the best of its knowledge, completed the Work to date in accordance with the terms and conditions of the contract, including payment of the applicable Prevailing Wage rates.

Thomas B. Miller 10/10/12
Authorized Signature Date

Work Progress Certification

Contractor signing below certifies that, based upon its own calculations, the payment requested to date is a fair and reasonable request for the Work provided to date.

Lead Contractor: 0910
Architect/Engineer (A/E): 0916
Construction Manager: 0916

Partial Payment Details

Completed to date:

	Labor \$	Materials \$	Total \$
Original Contract Amount	355,730.00	485,770.00	822,500.00
Change Order Amount	229,365.75	135,805.25	365,272.00
Stored Materials:	N/A		
Subtotal - Earned (A)	585,096.75	621,575.25	1,190,772.00
100.0% Percent Complete			

Withheld Amount:

Lien(s)			
Retainage Amount	10,024.00		10,024.00
Liquidated Damages			
Other			
Subtotal - Withheld (B)	10,024.00		10,024.00

Previous Payments (C)	559,031.75	691,355.00	1,159,387.35
Total Requested this Application (A - B - C)	\$10,040.00	\$5,320.65	\$15,360.65

University Approval

Authorized Signature: _____ Date: _____

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210188 - Cincinnati, Ohio 45221-0188



Contractor Name: UNITED-ELECTRIC CO., INC.

US Project No.: 000000

B - Schedule of Values Summary

Project Name: Riverfront Mall

Project Location: Uptown Cincinnati, West

Purchase Order #: 010-4500042917

Request No.: 17

Project Location: Hamilton County, Ohio

Sheet: 2 of 15

Item	Code	C.	D.	Original Application			Current Period				
				Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% Comp Period	% In Cont	Value In Date \$	Material to Date \$
1		00 81 00	Rebar		12,000.00	12,000.00	12,000.00	100.0%			12,000.00
2		00 05 10	Induction								
3		00 72 00	Casework Conditions	35,000.00	35,000.00	70,000.00	70,000.00	100.0%		33,000.00	35,000.00
4		01 01 10	Project Coordination	10,000.00	10,000.00	20,000.00	20,000.00	100.0%		10,000.00	10,000.00
5		01 1 112	Modification	5,500.00	5,500.00	11,000.00	11,000.00	100.0%		5,500.00	5,500.00
6		01 77 00	Construction Items	2,500.00	1,500.00	4,000.00	4,000.00	100.0%		2,000.00	1,500.00
7		01 21 00 01	Minor Work Sched. Consultant								
8		01 21 00 02	Minor Work Project Identification								
9			Minor Work General								
10			Electrical Temporary	4,500.00	4,500.00	9,000.00	9,000.00	100.0%		4,500.00	4,500.00
11			CONCRETE (JOB) LEVEL	5,000.00	100.00	5,100.00	5,150.00	100.0%		5,050.00	100.00
12			CONCRETE MAKE-OUT LEVEL	20,200.00	5,000.00	25,200.00	25,200.00	100.0%		20,200.00	5,000.00
13			CONCRETE (NOW ROOF	2,000.00	100.00	2,100.00	2,000.00	95.2%		2,000.00	100.00
14			300 linear lighting conduit	800.00	100.00	900.00	800.00	100.0%		800.00	100.00
15			300 linear lighting wire	150.00	25.00	175.00	175.00	100.0%		150.00	25.00
16			300 linear lighting fixtures	400.00	200.00	600.00	600.00	100.0%		400.00	200.00
17			300 linear lighting fixtures	30.00	20.00	50.00	70.00	100.0%		50.00	20.00
18			Field Supervision	25,000.00	5,500.00	30,500.00	25,500.00	100.0%		20,000.00	5,500.00
19											
20											
21											
22											
23											
Total this Sheet				107,700.00	79,840.00	187,540.00	180,740.00			107,000.00	79,840.00

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name: UNITED ELECTRIC CO., INC.

UC Project No: 00030A

B - Schedule of Values Summary

Project Name: Winwood Hall

Uptown Campus, West

Invoice Cycle #: 0104500043417

Request No: 11

Project Location: Hamilton County, Ohio

Sheet: 3 of 15

A Item	B Code	C Section	D Description	Original Application			Current Period				
				E Original Labor \$	F Original Material \$	G Original Total \$	H Completed to Date \$	I % to Date	J Labor to Date \$	K Material to Date \$	L Total to Date \$
23			400 level lighting conduit	6,800.00	1,500.00	8,300.00	6,800.00	100.0%	6,800.00	1,500.00	8,300.00
26			400 level lighting wire	1,100.00	200.00	1,300.00	1,300.00	100.0%	1,100.00	200.00	1,300.00
28			400 level lighting fixtures	5,000.00	2,500.00	7,500.00	7,500.00	100.0%	5,000.00	2,500.00	7,500.00
27			400 level lighting devices	700.00	1,500.00	2,200.00	2,200.00	100.0%	700.00	1,500.00	2,200.00
29			500 level lighting conduit	20,000.00	4,700.00	24,700.00	24,700.00	100.0%	20,000.00	4,700.00	24,700.00
29			500 level lighting wire	4,340.00	1,400.00	5,740.00	5,740.00	100.0%	4,340.00	1,400.00	5,740.00
30			500 level lighting fixtures	10,000.00	65,000.00	75,000.00	75,000.00	100.0%	10,000.00	65,000.00	75,000.00
31			500 level lighting devices	2,000.00	7,400.00	9,400.00	9,400.00	100.0%	2,000.00	7,400.00	9,400.00
32			roof lighting conduit	150.00	100.00	250.00	250.00	100.0%	150.00	100.00	250.00
33			roof lighting wire	100.00	75.00	175.00	175.00	100.0%	100.00	75.00	175.00
34			roof lighting fixtures	100.00	1,000.00	1,100.00	1,100.00	100.0%	100.00	1,000.00	1,100.00
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
Total (this sheet)				50,890.00	86,475.00	137,365.00	137,365.00		50,890.00	86,475.00	137,365.00

Section B - Schedule of Values Summary (Page 3 of 4)

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
PO Box 210188 • Cincinnati, Ohio 45221-0188



Contractor Name: UNITED ELECTRIC CO., INC.
Project Name: Hiramfield Park
Project Location: Uptown Cincinnati, Winton
Hamilton County, Ohio

US Project No.: 00001A
Purchase Order #: B10450040417

B - Schedule of Values Summary

Request No.: 17
Sheet: 4 of 19

A		B	C	Original Application			Current Period				
Item	Code	Section	Description	Original Labor \$	Original Material \$	Original Total \$	Completed to Date \$	% Pkts. Mvmt	% to Date	Balance to Date \$	Material to Date \$
47			500 branch power conduit	3,800.00	1,400.00	5,200.00	5,200.00	100.0%	100.0%	3,800.00	1,400.00
48			300 branch power wire	1,500.00	500.00	2,000.00	2,000.00	100.0%	100.0%	1,500.00	500.00
49			300 branch power conduit	500.00	250.00	750.00	750.00	100.0%	100.0%	500.00	250.00
50			400 branch power conduit	4,000.00	1,300.00	5,300.00	5,300.00	100.0%	100.0%	4,000.00	1,300.00
51			400 branch power wire	400.00	300.00	700.00	700.00	100.0%	100.0%	400.00	300.00
52			600 branch power conduit	100.00	00.00	100.00	100.00	100.0%	100.0%	100.00	00.00
53			600 branch power conduit	22,000.00	27,800.00	49,800.00	49,800.00	100.0%	100.0%	22,000.00	27,800.00
54			500 branch power wire	12,000.00	4,800.00	17,000.00	17,000.00	100.0%	100.0%	12,000.00	4,800.00
55			500 branch power conduit	8,100.00	11,800.00	19,900.00	19,900.00	100.0%	100.0%	8,100.00	11,800.00
56			roof branch power conduit	3,300.00	1,100.00	4,000.00	4,000.00	100.0%	100.0%	3,300.00	1,100.00
57			roof branch power wire	1,100.00	700.00	1,800.00	1,800.00	100.0%	100.0%	1,100.00	700.00
58			roof branch power conduit	350.00	300.00	650.00	650.00	100.0%	100.0%	350.00	300.00
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											
Total Bids Sheet				85,210.00	40,600.00	125,810.00	125,810.00			85,210.00	40,600.00

Section B - Schedule of Values Summary Page 1 of 4

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Steel 11 d 12

A	B	C	D	Original Application			Current Period				
				E	F	G	H	I	J	K	L
Row	Section	Usage/Item	Original Labor \$	Original Material \$	Original Total \$	Completed In Date \$	% This Period	% In Date	Current Labor \$	Current Material \$	
70		300 lbs alarm control	400.00	100.00	500.00	700.00		100.0%	500.00	100.00	
71		300 lbs alarm siren	250.00	100.00	350.00	350.00		100.0%	250.00	100.00	
72		300 lbs alarm siren/day	100.00	2,500.00	1,600.00	1,600.00		100.0%	100.00	1,500.00	
73		400 lbs alarm control	400.00	100.00	500.00	500.00		100.0%	400.00	100.00	
74		400 lbs alarm siren	100.00	100.00	200.00	200.00		100.0%	100.00	100.00	
75		400 lbs alarm siren/day	250.00	2,500.00	2,750.00	2,750.00		100.0%	250.00	2,500.00	
76		500 lbs alarm control	7,000.00	1,400.00	8,400.00	8,400.00		100.0%	7,000.00	1,400.00	
77		500 lbs alarm siren	2,470.00	1,200.00	3,670.00	3,670.00		100.0%	2,470.00	1,200.00	
78		500 lbs alarm siren/day	1,400.00	20,000.00	21,400.00	21,400.00		100.0%	1,400.00	20,000.00	
79											
80											
81											
82		600 lbs alarm control	1,500.00	750.00	2,250.00	2,250.00		100.0%	1,500.00	750.00	
83		600 lbs alarm siren	850.00	500.00	1,350.00	1,350.00		100.0%	850.00	500.00	
84		600 lbs alarm siren/day	500.00	400.00	900.00	900.00		100.0%	500.00	400.00	
85		700 lbs alarm control	6,000.00	2,100.00	8,100.00	8,100.00		100.0%	6,000.00	2,100.00	
86		700 lbs alarm siren	5,000.00	3,500.00	8,500.00	8,500.00		100.0%	5,000.00	3,500.00	
87		700 lbs alarm siren/day	3,200.00	4,500.00	7,700.00	7,700.00		100.0%	3,200.00	4,500.00	
88		Feeder Control	41,000.00	20,000.00	61,000.00	61,000.00		100.0%	41,000.00	20,000.00	
89		Feeder Wire	11,000.00	20,000.00	30,000.00	30,000.00		100.0%	11,000.00	20,000.00	
90		Feeder equipment	15,240.00	45,000.00	60,240.00	60,240.00		100.0%	15,240.00	45,000.00	
91		Shunt Unit	6,500.00	10,000.00	16,500.00	16,500.00		100.0%	6,500.00	10,000.00	
92	A	800 LB. PAPER/ALUMINUM CASE		124,000.00	124,000.00	124,000.00		100.0%		124,000.00	
Total This Sheet			108,200.00	271,700.00	369,900.00	369,900.00			108,200.00	271,700.00	
Grand Total Final Sheet Only			\$355,730.00	\$488,770.00	\$844,500.00	\$844,500.00			\$355,730.00	\$488,770.00	

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Contractor Payment Request

Division of Administration and Finance
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Contractor Name UNITED ELECTRIC CO., INC.
Project Name Rieveschl Hall
Uptown Campus, West
Project Location Hamilton County, Ohio

OC Project No. 06053A
Purchase Order # B10-4500042417

C - Schedule of Values Details

Request No. 17
Sheet 5 of 15

a. Item	b. UDC	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
1		00 61 00	Bond		12,000.00	12,000.00				12,000.00
2		00 62 10	Insurance							
3		01 02 00	General Conditions	35,000.00	35,000.00	70,000.00			35,000.00	35,000.00
4		01 34 13	Project Coordination	10,000.00	10,000.00	20,000.00			10,000.00	10,000.00
5		01 7 1 13	Mobilization	5,500.00	5,500.00	11,000.00			5,500.00	5,500.00
6		01 77 00	Clear-out Items	2,500.00	1,500.00	4,000.00			2,500.00	1,500.00
7		01 21 00 01	Allowance: Sched. Consultant							
8		01 21 00 02	Allowance: Project Identification							
9			Allowance: General							
10			Electric Temporary	4,500.00	4,500.00	9,000.00			4,500.00	4,500.00
11			DEMOLITION 300 LEVEL	5,000.00	150.00	5,150.00			5,000.00	150.00
12			DEMOLITION 500 LEVEL	20,200.00	5,000.00	25,200.00			20,200.00	5,000.00
13			DEMOLITION ROOF	3,040.00	100.00	3,140.00	-40.00		2,999.20	100.00
14			300 level lighting conduit	800.00	100.00	900.00			800.00	100.00
15			300 level lighting wire	150.00	25.00	175.00			150.00	25.00
16			300 level lighting fixtures	400.00	250.00	650.00			400.00	250.00
17			300 level lighting devices	50.00	20.00	70.00			50.00	20.00
18			Field Supervision	20,000.00	5,500.00	25,500.00			20,000.00	5,500.00
19										
20										
21										
22										
23										
Total this Sheet:				107,140.00	79,645.00	186,795.00	-40.00		107,099.20	79,645.00

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name: UNITED ELECTRIC CO., INC.

UC Project No.: 00000A

C - Schedule of Values Details

Project Name: Reeveschl Hall

Uptown Campus, West

Purchase Order # B10-4500042417

Request No.: 17

Project Location: Hamilton County, Ohio

Sheet 7 of 15

a. Item	b. EDGE	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
24			400 level lighting conduit	8,800.00	1,500.00	8,300.00			8,800.00	1,500.00
25			400 level lighting wire	1,100.00	200.00	1,300.00			1,100.00	200.00
26			400 level lighting fixtures	6,000.00	2,500.00	7,500.00			6,000.00	2,500.00
27			400 level lighting devices	700.00	1,500.00	2,200.00			700.00	1,500.00
28			500 level lighting conduit	20,000.00	4,700.00	24,700.00			20,000.00	4,700.00
29			500 level lighting wire	4,940.00	1,400.00	6,340.00			4,940.00	1,400.00
30			500 level lighting fixtures	10,000.00	48,000.00	58,000.00			10,000.00	48,000.00
31			500 level lighting devices	2,000.00	7,400.00	9,400.00			2,000.00	7,400.00
32			roof lighting conduit	150.00	100.00	250.00			150.00	100.00
33			roof lighting wire	100.00	75.00	175.00			100.00	75.00
34			roof lighting fixtures	100.00	1,100.00	1,200.00			100.00	1,100.00
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										
45										
46										
Total this Sheet				50,150.00	66,475.00	117,385.00			50,150.00	66,475.00

Section C - Schedule of Values Details, Page 2 of 4

Contractor Payment Request

Division of Administration and Finance
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Contractor Name: UNITED ELECTRIC CO., INC.

UC Project No.: U8083A

C - Schedule of Values Details

Project Name: Rieveschl Hall

Uptown Campus, West

Purchase Order #: 310-4500042417

Request No.: 17

Project Location: Hamilton County, Ohio

Sheet: 8 of 15

a	b	c	d	Previous Applications to Date			Current Period			
				e	f	g	h	i	j	k
Item	EDGE	Section	Description	Previous Labor \$	Previous Material \$	Previous Total \$	Labor this Period \$	Material this Period \$	Labor to Date \$	Material to Date \$
47			300 branch power conduit	3,800.00	1,400.00	5,200.00			3,800.00	1,400.00
48			300 branch power wire	1,500.00	500.00	2,000.00			1,500.00	500.00
49			300 branch power devices	500.00	250.00	750.00			500.00	250.00
50			400 branch power conduit	4,000.00	1,300.00	5,300.00			4,000.00	1,300.00
51			400 branch power wire	400.00	300.00	700.00			400.00	300.00
52			400 branch power devices	100.00	50.00	150.00			100.00	50.00
53			400 branch power conduit	55,000.00	27,000.00	82,000.00			55,000.00	27,000.00
54			500 branch power wire	13,000.00	4,800.00	17,800.00			13,000.00	4,800.00
55			500 branch power devices	5,000.00	11,000.00	17,000.00			5,000.00	11,000.00
56			roof branch power conduit	3,500.00	1,100.00	4,600.00			3,500.00	1,100.00
57			roof branch power wire	1,050.00	700.00	1,750.00			1,050.00	700.00
58			roof branch power devices	350.00	500.00	850.00			350.00	500.00
59										
60										
61										
62										
63										
64										
65										
66										
67										
68										
69										
Total (this Sheet)				89,210.00	48,900.00	138,110.00			89,210.00	48,900.00

Section C - Schedule of Values Details, Page 3 of 3

Contractor Payment Request

Division of Administration and Finance
Planning + Design + Construction
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Contractor Name: UNITED ELECTRIC CO., INC.
Project Name: Rieveschl Hall
Project Location: Uptown Campus, West
Hamilton County, Ohio

UC Project No: 01003A
Purchase Order #: 810-4600042417

C - Schedule of Values Details

Request No. 17
Sheet 8 of 15

Item	b. EDGE	c. Section	d. Description	Previous Applications to Date			Current Period			
				e. Previous Labor \$	f. Previous Material \$	g. Previous Total \$	h. Labor this Period \$	i. Material this Period \$	j. Labor to Date \$	k. Material to Date \$
70			300 fire alarm conduit	600.00	100.00	700.00			600.00	100.00
71			300 fire alarm wire	250.00	100.00	350.00			250.00	100.00
72			300 fire alarm devices	100.00	1,500.00	1,600.00			100.00	1,500.00
73			400 fire alarm conduit	400.00	100.00	500.00			400.00	100.00
74			400 fire alarm wire	100.00	100.00	200.00			100.00	100.00
75			400 fire alarm devices	260.00	2,500.00	2,760.00			260.00	2,500.00
76			500 fire alarm conduit	7,000.00	1,400.00	8,400.00			7,000.00	1,400.00
77			500 fire alarm wire	2,470.00	1,200.00	3,670.00			2,470.00	1,200.00
78			500 fire alarm devices	1,400.00	20,000.00	21,400.00			1,400.00	20,000.00
80										
81										
82			400 level systems conduit	1,500.00	750.00	2,250.00			1,500.00	750.00
83			400 level systems cabling	350.00	500.00	1,450.00			350.00	500.00
84			400 level systems devices	500.00	400.00	900.00			500.00	400.00
85			500 level systems conduit	8,000.00	2,100.00	10,100.00			8,000.00	2,100.00
86			500 level systems cabling	8,000.00	8,500.00	16,500.00			8,000.00	8,500.00
87			500 level systems devices	3,200.00	4,500.00	7,700.00			3,200.00	4,500.00
88			Feeder Conduit	41,060.80	20,000.00	61,060.80			41,060.80	20,000.00
89			Feeder Wire	11,000.00	28,000.00	39,000.00			11,000.00	28,000.00
90			Feeder equipment	15,240.00	46,000.00	61,240.00			15,240.00	46,000.00
91			Bus Duct	6,500.00	10,000.00	16,500.00			6,500.00	10,000.00
92	A		EDGE PARTICIPATION-Gear		124,000.00	124,000.00				124,000.00
Total this Sheet				108,530.80	271,750.00	380,280.80			108,530.80	271,750.00
Grand Total Final Sheet Only				\$355,770.80	\$486,770.00	\$822,540.80	\$-40.80		\$355,730.00	\$486,770.00

Section C - Schedule of Values Details Page 4 of 4

Contractor Payment Request

Division of Administration and Finance
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Contractor Name UNITED ELECTRIC CO., INC.
Project Name (Riverside) Hall
Uptown Campus, West
Project Location Hamilton County, Ohio

UD Project No. 00083A
Purchase Order # 610-4500042417

D - Change Order Summary
Request No. 17
Sheet 10 of 10

			Change Order Info				Current Period				
a	b	c	d	e	f	g	h	i	j	k	l
CO No.	CO ID	Section	Date Approved	Change Order Labor \$	Change Order Material \$	Change Order Total \$	% this Period	% to Date	Completed to: Date \$	Labor to: Date \$	Material to: Date \$
E-001			12.22.2009	8,200.75	618.25	8,819.00		100.0%	8,819.00	8,200.75	618.25
E-002			7.6.2010	275.50	275.50	551.00		100.0%	551.00	275.50	275.50
E-003			7.7.2010	-24,680.00	-24,680.00	-49,360.00		100.0%	-49,360.00	-24,680.00	-24,680.00
E-004			7.7.2010	1,521.50	1,521.50	3,043.00		100.0%	3,043.00	1,521.50	1,521.50
E-005			7.7.2010	1,238.00	1,238.00	2,476.00		100.0%	2,476.00	1,238.00	1,238.00
E-006			7.7.2010	228.00	228.00	456.00		100.0%	456.00	228.00	228.00
E-007			7.7.2010	821.00	821.00	1,642.00		100.0%	1,642.00	821.00	821.00
E-008			7.7.2010	602.00	602.00	1,204.00		100.0%	1,204.00	602.00	602.00
E009R1			7.7.2010	12,399.50	12,399.50	24,799.00		100.0%	24,799.00	12,399.50	12,399.50
E010			7.7.2010	1,188.00	1,188.00	2,376.00		100.0%	2,376.00	1,188.00	1,188.00
E011			7.12.2010	-1,789.50	-1,789.50	-3,579.00		100.0%	-3,579.00	-1,789.50	-1,789.50
E012			12.10.2010	6,582.00	51.00	6,633.00		100.0%	6,633.00	6,582.00	51.00
E-013			12.10.2010	798.00	121.00	917.00		100.0%	917.00	798.00	121.00
E-014			12.10.2010	339.00	13.00	352.00		100.0%	352.00	339.00	13.00
E-015			12.12.2010	2,815.00	197.00	3,012.00		100.0%	3,012.00	2,815.00	197.00
E-016			12.13.2010	4,146.00	340.00	4,486.00		100.0%	4,486.00	4,146.00	340.00
E-017			12.12.2010	1,043.00	133.00	1,176.00		100.0%	1,176.00	1,043.00	133.00
E-018			12.14.2010	3,976.00		3,976.00		100.0%	3,976.00	3,976.00	
E-019			12.13.2010	267.00	103.00	370.00		100.0%	370.00	267.00	103.00
E-020			12.13.2010	985.00	122.00	1,107.00		100.0%	1,107.00	985.00	122.00
E-021			12.13.2010	2,304.00	116.00	2,420.00		100.0%	2,420.00	2,304.00	116.00
E-022			12.13.2010	2,623.00	819.00	3,442.00		100.0%	3,442.00	2,623.00	819.00
E-023			12.13.2010	5,084.00	255.00	5,339.00		100.0%	5,339.00	5,084.00	255.00
Total this Sheet:				28,565.75	-5,506.75	23,059.00				28,565.75	-5,506.75

Division of Administration and Finance
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UC Project No.	08083A
Purchase Order #	510-4500042417

Request No. 17
Sheet 11 of 15

[illegible]

III. Support Calculations - Energy Modeling Data

Energy Modeling

Location	Rieveschl Hall Building, Cincinnati	
Building owner	University of Cincinnati	
Program user	AVL	
Company	F&H	
Comments		
By	FOSDICK & HILMER	
Dataset name	K:\UNI01 University of Cincinnati\250700 UC Rieveschl Hall 600 & 700 Level Renovation\Design Info\Trane Trace Files\ENERGY MODEL 4.TRC	
Calculation time	10:23 AM on 12/19/2012	
TRACE® 700 version	6.2.9	
Location	Cincinnati, Ohio	
Latitude	39.0	deg
Longitude	85.0	deg
Time Zone	5	
Elevation	761	ft
Barometric pressure	29.1	in. Hg
Air density	0.0738	lb/cu ft
Air specific heat	0.2444	Btu/lb·°F
Density-specific heat product	1.0829	Btu/h·cfm·°F
Latent heat factor	4,766.9	Btu·min/h·cu ft
Enthalpy factor	4.4302	lb·min/hr·cu ft
Summer design dry bulb	93	°F
Summer design wet bulb	75	°F
Winter design dry bulb	-10	°F
Summer clearness number	0.97	
Winter clearness number	0.97	
Summer ground reflectance	0.20	
Winter ground reflectance	0.20	
Carbon Dioxide Level	400	ppm
Design simulation period	January - December	
Cooling load methodology	CLTD-CLF (ASHRAE TFM)	
Heating load methodology	UATD	



Load / Airflow Summary

By FOSDICK & HILMER

System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA	
														Cig	Htg
Alternative 1		PROPOSED - NEW EQPT													
		400 East Research Labs1 D-Duct	Rm Peak	2,650	24.0	275,434	416,245	7,047	15.96	0	0	-230,666	7,047	100.0	100.0
		400 East Research Labs2 D-Duct	Rm Peak	1,850	24.0	211,157	320,682	5,412	15.96	0	0	-177,134	5,412	100.0	100.0
		400 West Research Labs1 D-Duct	Rm Peak	3,450	40.0	144,634	218,899	3,359	6.15	0	0	-109,959	3,359	100.0	100.0
		400 West Research Labs2 D-Duct	Rm Peak	2,300	40.0	98,614	149,457	2,240	6.15	0	0	-73,306	2,240	100.0	100.0
System 1	Dual Duct Level 400	Sys Peak		10,250	128.0	729,838	1,105,283	18,058				-591,066	18,058	100.0	100.0
System 1	Dual Duct Level 400	Sys Block		10,250	128.0	729,864	1,105,310	18,058				-591,066	18,058	100.0	100.0
		500 East Research Labs2 D-Duct	Rm Peak	3,000	24.0	165,439	279,218	6,975	12.68	0	0	-64,591	6,975	100.0	100.0
System 1	Dual Duct Level 500	Sys Peak		3,000	24.0	165,439	279,218	6,975				-64,591	6,975	100.0	100.0
System 1	Dual Duct Level 500	Sys Block		3,000	24.0	271,128	383,564	6,975				-64,591	6,975	100.0	100.0
		600 West Research Labs1 D-Duct	Rm Peak	3,000	50.0	141,258	203,539	3,806	6.92	0	0	-64,054	3,806	100.0	100.0
		600 West Research Labs2 D-Duct	Rm Peak	3,000	50.0	140,753	202,850	3,793	6.90	0	0	-63,828	3,793	100.0	100.0
System 1	Dual Duct Level 600	Sys Peak		6,000	100.0	282,011	406,389	7,599				-127,882	7,599	100.0	100.0
System 1	Dual Duct Level 600	Sys Block		6,000	100.0	276,824	398,626	7,599				-127,882	7,599	100.0	100.0
		700 East Research Labs1 D-Duct	Rm Peak	3,000	24.0	166,881	221,652	6,273	11.40	0	0	-63,247	6,273	100.0	100.0
		700 East Research Labs2 D-Duct	Rm Peak	3,000	24.0	168,331	222,852	6,240	11.35	0	0	-62,922	6,240	100.0	100.0
		700 West Research Labs1 D-Duct	Rm Peak	3,000	50.0	179,777	247,626	7,440	13.53	0	0	-75,020	7,440	100.0	100.0
		700 West Research Labs2 D-Duct	Rm Peak	3,000	50.0	178,553	246,190	7,413	13.48	0	0	-74,743	7,413	100.0	100.0
System 1	Dual Duct Level 700	Sys Peak		12,000	148.0	693,542	938,320	27,366				-275,933	27,366	100.0	100.0
System 1	Dual Duct Level 700	Sys Block		12,000	148.0	0	0	27,366				-275,933	27,366	100.0	100.0
		800 Corridors	Rm Peak	5,640	0.0	79,811	113,674	1,750	1.69	0	0	-76,232	1,750	100.0	100.0
		800 East Research Labs1	Rm Peak	3,000	24.0	267,947	404,853	6,765	12.30	0	0	-294,689	6,765	100.0	100.0
		800 East Research Labs2	Rm Peak	3,000	24.0	267,817	404,722	6,765	12.30	0	0	-294,689	6,765	100.0	100.0
		800 Labs Support Rooms	Rm Peak	7,800	32.0	568,694	856,172	14,443	10.10	0	0	-629,150	14,443	100.0	100.0
		800 North Labs	Rm Peak	3,528	24.0	382,149	579,642	9,896	15.30	0	0	-431,080	9,896	100.0	100.0
		800 North Offices	Rm Peak	1,080	8.0	47,875	69,600	1,040	5.25	0	0	-45,303	1,040	100.0	100.0
		800 South Labs	Rm Peak	3,528	24.0	382,305	579,798	9,896	15.30	0	0	-431,080	9,896	100.0	100.0
		800 South Offices	Rm Peak	1,080	8.0	72,957	106,485	1,650	8.33	0	0	-71,875	1,650	100.0	100.0
		800 West Classroom 1	Rm Peak	3,000	58.0	148,042	225,627	3,410	6.20	0	0	-148,543	3,410	100.0	100.0
		800 West Classroom 2	Rm Peak	3,000	58.0	147,701	225,286	3,410	6.20	0	0	-148,543	3,410	100.0	100.0
System 1	Dual Duct Level 800	Sys Peak		34,656	260.0	2,365,298	3,565,860	59,025				-2,571,185	59,025	100.0	100.0
System 1	Dual Duct Level 800	Sys Block		34,656	260.0	2,365,325	3,565,887	59,025				-2,571,185	59,025	100.0	100.0
		400 Central Core Offices	Rm Peak	3,400	42.0	92,778	158,913	1,760	3.11	528	30	-28,883	0	100.0	100.0
		400 Corridors	Rm Peak	3,860	0.0	41,974	67,069	765	1.19	230	30	-28,514	0	100.0	100.0
		400 Prep Labs Cental Core	Rm Peak	1,250	4.0	14,118	31,930	1,708	8.20	513	30	-16,978	0	100.0	100.0
		400 Prep Labs North-East	Rm Peak	1,500	4.0	19,761	43,951	2,200	8.80	660	30	-29,672	0	100.0	100.0

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			Floor Area	People	Coil Cooling Sensible	Coil Cooling Total	Space Design Max SA	Air Changes	VAV Minimum SA	VAV Minimum %	Main Coil Heating Sensible	Heating Fan Max SA	Percent OA				
System	Zone	Room **	ft²	#	Btu/h	Btu/h	cfm	ach/hr	cfm		Btu/h	cfm	Clg	Htg			
		400 Research Labs North			Rm Peak	7,600	24.0	94,710	215,204	11,634	8.35	3,490	30	-141,792	0	100.0	100.0
		400 Research Labs South			Rm Peak	7,600	24.0	97,306	219,948	11,634	8.35	3,490	30	-141,260	0	100.0	100.0
System 2	VAV Level 400	Sys Peak	25,210	98.0	464,749	841,115	29,702				-387,099	0	100.0	100.0			
System 2	VAV Level 400	Sys Block	25,210	98.0	537,145	913,511	11,260				-387,099	0	100.0	100.0			
		500 Central Core Offices			Rm Peak	4,100	35.0	106,351	185,229	2,200	3.22	660	30	-15,574	0	100.0	100.0
		500 Corridors			Rm Peak	4,538	0.0	48,200	77,325	930	1.23	279	30	-12,720	0	100.0	100.0
		500 East Research Labs1			Rm Peak	2,500	24.0	44,263	100,211	5,096	12.23	1,529	30	-41,415	0	100.0	100.0
		500 Prep Labs Cental Core			Rm Peak	1,400	4.0	29,688	64,994	3,500	15.00	1,050	30	-23,209	0	100.0	100.0
		500 Prep Labs North			Rm Peak	800	4.0	16,927	37,530	2,000	15.00	600	30	-14,427	0	100.0	100.0
		500 Research Labs North			Rm Peak	6,500	24.0	142,477	323,680	17,875	15.00	5,363	30	-139,933	0	100.0	100.0
		500 Research Labs South			Rm Peak	6,552	24.0	143,761	326,366	18,018	15.00	5,405	30	-142,161	0	100.0	100.0
		500 West Research Labs1			Rm Peak	3,000	40.0	55,572	119,145	4,315	8.63	1,295	30	-40,387	0	100.0	100.0
		500 West Research Labs2			Rm Peak	3,000	40.0	55,262	118,629	4,315	8.63	1,295	30	-40,387	0	100.0	100.0
System 2	VAV Level 500	Sys Peak	32,390	195.0	722,475	1,433,082	58,249				-470,212	0	100.0	100.0			
System 2	VAV Level 500	Sys Block	32,390	195.0	834,349	1,535,273	20,255				-470,211	0	100.0	100.0			
		600 Central Core Offices			Rm Peak	2,100	35.0	56,579	101,805	1,175	3.05	353	30	-8,787	0	100.0	100.0
		600 Centrtral Core Open Labs			Rm Peak	3,000	24.0	55,574	126,524	6,655	12.10	1,997	30	-44,943	0	100.0	100.0
		600 Corridors			Rm Peak	6,616	0.0	81,497	133,549	1,600	1.32	480	30	-44,052	0	100.0	100.0
		600 Research Labs North			Rm Peak	6,760	35.0	128,569	288,513	15,492	12.50	4,648	30	-127,380	0	100.0	100.0
		600 Research Labs South			Rm Peak	4,270	24.0	84,939	191,025	10,255	13.10	3,077	30	-80,184	0	100.0	100.0
System 2	VAV Level 600	Sys Peak	22,746	118.0	524,608	958,866	35,177				-305,346	0	100.0	100.0			
System 2	VAV Level 600	Sys Block	22,746	118.0	604,543	1,029,674	12,253				-305,346	0	100.0	100.0			
		700 Central Core Offices			Rm Peak	1,800	35.0	45,797	80,057	870	2.64	261	30	-6,460	0	100.0	100.0
		700 Centrtral Core Open Labs			Rm Peak	4,500	50.0	79,387	191,151	10,560	12.80	3,168	30	-70,724	0	100.0	100.0
		700 Corridors			Rm Peak	7,070	0.0	84,193	133,386	1,570	1.21	471	30	-30,979	0	100.0	100.0
		700 Labs Support Equipment Rooms			Rm Peak	945	4.0	15,173	34,975	2,000	12.70	600	30	-13,438	0	100.0	100.0
		700 North Offices			Rm Peak	2,340	29.0	62,959	106,202	1,195	3.06	359	30	-20,692	0	100.0	100.0
		700 Research Labs North			Rm Peak	1,990	24.0	34,708	84,261	4,633	12.70	1,390	30	-33,537	0	100.0	100.0
		700 Research Labs South			Rm Peak	2,400	24.0	41,937	100,463	5,588	12.70	1,676	30	-39,932	0	100.0	100.0
		700 South Offices			Rm Peak	2,340	29.0	69,191	118,544	1,390	3.56	417	30	-21,962	0	100.0	100.0
System 2	VAV Level 700	Sys Peak	23,385	195.0	515,427	931,122	27,807				-237,724	0	100.0	100.0			
System 2	VAV Level 700	Sys Block	23,385	195.0	585,299	1,000,994	12,662				-237,724	0	100.0	100.0			
		600 East Side Corridor			Rm Peak	1,640	0.0	23,436	38,088	375	1.25	113	30	-26,951	0	100.0	100.0
		600 North-East Labs Support			Rm Peak	5,000	30.0	56,097	129,656	5,033	6.04	1,510	30	-70,292	0	100.0	100.0
System 3	VAV Level 600	Sys Peak	6,640	30.0	103,497	191,708	5,408				-97,243	0	100.0	100.0			
System 3	VAV Level 600	Sys Block	6,640	30.0	120,009	209,867	2,126				-97,243	0	100.0	100.0			

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System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA Clg Htg
Alternative 2			BASELINE - EXIST EQPT											
		400 East Research Labs1 D-Duct	Rm Peak	2,650	24.0	275,434	416,245	7,047	15.96	0	0	-230,666	7,047	100.0 100.0
		400 East Research Labs2 D-Duct	Rm Peak	1,850	24.0	211,157	320,682	5,412	15.96	0	0	-177,134	5,412	100.0 100.0
		400 West Research Labs1 D-Duct	Rm Peak	3,450	40.0	144,634	218,899	3,359	6.15	0	0	-109,959	3,359	100.0 100.0
		400 West Research Labs2 D-Duct	Rm Peak	2,300	40.0	98,614	149,457	2,240	6.15	0	0	-73,306	2,240	100.0 100.0
System 1	Dual Duct Level 400		Sys Peak	10,250	128.0	729,838	1,105,283	18,058				-591,066	18,058	100.0 100.0
System 1	Dual Duct Level 400		Sys Block	10,250	128.0	729,864	1,105,310	18,058				-591,066	18,058	100.0 100.0
		500 East Research Labs2 D-Duct	Rm Peak	3,000	24.0	165,439	279,218	6,975	12.68	0	0	-64,591	6,975	100.0 100.0
System 1	Dual Duct Level 500		Sys Peak	3,000	24.0	165,439	279,218	6,975				-64,591	6,975	100.0 100.0
System 1	Dual Duct Level 500		Sys Block	3,000	24.0	271,128	383,564	6,975				-64,591	6,975	100.0 100.0
		600 West Research Labs1 D-Duct	Rm Peak	3,000	50.0	141,258	203,539	3,806	6.92	0	0	-64,054	3,806	100.0 100.0
		600 West Research Labs2 D-Duct	Rm Peak	3,000	50.0	140,753	202,850	3,793	6.90	0	0	-63,828	3,793	100.0 100.0
System 1	Dual Duct Level 600		Sys Peak	6,000	100.0	282,011	406,389	7,599				-127,882	7,599	100.0 100.0
System 1	Dual Duct Level 600		Sys Block	6,000	100.0	276,824	398,626	7,599				-127,882	7,599	100.0 100.0
		700 East Research Labs1 D-Duct	Rm Peak	3,000	24.0	166,881	221,652	6,273	11.40	0	0	-63,247	6,273	100.0 100.0
		700 East Research Labs2 D-Duct	Rm Peak	3,000	24.0	168,331	222,852	6,240	11.35	0	0	-62,922	6,240	100.0 100.0
		700 West Research Labs1 D-Duct	Rm Peak	3,000	50.0	179,777	247,626	7,440	13.53	0	0	-75,020	7,440	100.0 100.0
		700 West Research Labs2 D-Duct	Rm Peak	3,000	50.0	178,553	246,190	7,413	13.48	0	0	-74,743	7,413	100.0 100.0
System 1	Dual Duct Level 700		Sys Peak	12,000	148.0	693,542	938,320	27,366				-275,933	27,366	100.0 100.0
System 1	Dual Duct Level 700		Sys Block	12,000	148.0	0	0	27,366				-275,933	27,366	100.0 100.0
		800 Corridors	Rm Peak	5,640	0.0	79,811	113,674	1,750	1.69	0	0	-76,232	1,750	100.0 100.0
		800 East Research Labs1	Rm Peak	3,000	24.0	267,947	404,853	6,765	12.30	0	0	-294,689	6,765	100.0 100.0
		800 East Research Labs2	Rm Peak	3,000	24.0	267,817	404,722	6,765	12.30	0	0	-294,689	6,765	100.0 100.0
		800 Labs Support Rooms	Rm Peak	7,800	32.0	568,694	856,172	14,443	10.10	0	0	-629,150	14,443	100.0 100.0
		800 North Labs	Rm Peak	3,528	24.0	382,149	579,642	9,896	15.30	0	0	-431,080	9,896	100.0 100.0
		800 North Offices	Rm Peak	1,080	8.0	47,875	69,600	1,040	5.25	0	0	-45,303	1,040	100.0 100.0
		800 South Labs	Rm Peak	3,528	24.0	382,305	579,798	9,896	15.30	0	0	-431,080	9,896	100.0 100.0
		800 South Offices	Rm Peak	1,080	8.0	72,957	106,485	1,650	8.33	0	0	-71,875	1,650	100.0 100.0
		800 West Classroom 1	Rm Peak	3,000	58.0	148,042	225,627	3,410	6.20	0	0	-148,543	3,410	100.0 100.0
		800 West Classroom 2	Rm Peak	3,000	58.0	147,701	225,286	3,410	6.20	0	0	-148,543	3,410	100.0 100.0
System 1	Dual Duct Level 800		Sys Peak	34,656	260.0	2,365,298	3,565,860	59,025				-2,571,185	59,025	100.0 100.0
System 1	Dual Duct Level 800		Sys Block	34,656	260.0	2,365,325	3,565,887	59,025				-2,571,185	59,025	100.0 100.0
		400 Central Core Offices	Rm Peak	3,400	42.0	86,924	131,540	1,760	3.11	0	0	-91,809	1,760	100.0 100.0
		400 Corridors	Rm Peak	3,860	0.0	38,564	54,306	765	1.19	0	0	-39,906	765	100.0 100.0
		400 Prep Labs Cental Core	Rm Peak	1,250	4.0	68,159	104,313	1,708	8.20	0	0	-89,114	1,708	100.0 100.0
		400 Prep Labs North-East	Rm Peak	1,500	4.0	88,669	134,939	2,200	8.80	0	0	-114,762	2,200	100.0 100.0
		400 Research Labs North	Rm Peak	7,600	24.0	464,216	709,621	11,634	8.35	0	0	-606,897	11,634	100.0 100.0
		400 Research Labs South	Rm Peak	7,600	24.0	467,019	712,424	11,634	8.35	0	0	-606,897	11,634	100.0 100.0
System 2	DD Level 400		Sys Peak	25,210	98.0	1,213,551	1,847,142	29,702				-1,549,385	29,702	100.0 100.0
System 2	DD Level 400		Sys Block	25,210	98.0	1,213,565	1,847,156	29,702				-1,549,386	29,702	100.0 100.0
		500 Central Core Offices	Rm Peak	4,100	35.0	107,048	160,991	2,200	3.22	0	0	-61,040	2,200	100.0 100.0

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System	Zone	Room **		Floor Area ft²	People #	Coil	Coil	Space	Air Changes ach/hr	VAV	VAV Minimum %	Main Coil	Heating	Percent	
						Cooling Sensible Btu/h	Cooling Total Btu/h	Design Max SA cfm		Minimum SA cfm		Heating Sensible Btu/h	Fan Max SA cfm	OA	
														Clg	Htg
	500	Corridors	Rm Peak	4,538	0.0	49,162	69,006	930	1.23	0	0	-25,803	930	100.0	100.0
	500	East Research Labs1	Rm Peak	2,500	24.0	203,114	317,847	5,096	12.23	0	0	-141,385	5,096	100.0	100.0
	500	Prep Labs Cental Core	Rm Peak	1,400	4.0	135,709	211,391	3,500	15.00	0	0	-97,109	3,500	100.0	100.0
	500	Prep Labs North	Rm Peak	800	4.0	77,687	121,362	2,000	15.00	0	0	-55,491	2,000	100.0	100.0
	500	Research Labs North	Rm Peak	6,500	24.0	666,911	1,054,321	17,875	15.00	0	0	-495,947	17,875	100.0	100.0
	500	Research Labs South	Rm Peak	6,552	24.0	674,840	1,065,301	18,018	15.00	0	0	-499,915	18,018	100.0	100.0
	500	West Research Labs1	Rm Peak	3,000	40.0	179,917	279,989	4,315	8.63	0	0	-119,721	4,315	100.0	100.0
	500	West Research Labs2	Rm Peak	3,000	40.0	179,780	279,852	4,315	8.63	0	0	-119,721	4,315	100.0	100.0
System 2 DD Level 500			Sys Peak	32,390	195.0	2,274,168	3,560,061	58,249				-1,616,132	58,249	100.0	100.0
System 2 DD Level 500			Sys Block	32,390	195.0	2,274,143	3,560,036	58,249				-1,616,132	58,249	100.0	100.0
	600	Central Core Offices	Rm Peak	2,100	35.0	55,338	84,533	1,175	3.05	0	0	-49,847	1,175	100.0	100.0
	600	Centrtal Core Open Labs	Rm Peak	3,000	24.0	259,162	390,869	6,655	12.10	0	0	-282,328	6,655	100.0	100.0
	600	Corridors	Rm Peak	6,616	0.0	77,332	107,554	1,600	1.32	0	0	-67,877	1,600	100.0	100.0
	600	Research Labs North	Rm Peak	6,760	35.0	602,833	904,206	15,492	12.50	0	0	-657,209	15,492	100.0	100.0
	600	Research Labs South	Rm Peak	4,270	24.0	399,318	599,027	10,255	13.10	0	0	-435,057	10,255	100.0	100.0
System 2 DD Level 600			Sys Peak	22,746	118.0	1,393,983	2,086,189	35,177				-1,492,318	35,177	100.0	100.0
System 2 DD Level 600			Sys Block	22,746	118.0	1,393,989	2,086,196	35,177				-1,492,318	35,177	100.0	100.0
	700	Central Core Offices	Rm Peak	1,800	35.0	42,951	69,369	870	2.64	0	0	-30,122	870	100.0	100.0
	700	Centrtal Core Open Labs	Rm Peak	4,500	50.0	411,593	659,787	10,560	12.80	0	0	-365,616	10,560	100.0	100.0
	700	Corridors	Rm Peak	7,070	0.0	78,222	113,264	1,570	1.21	0	0	-54,358	1,570	100.0	100.0
	700	Labs Support Equipment Rooms	Rm Peak	945	4.0	77,671	123,315	2,000	12.70	0	0	-69,254	2,000	100.0	100.0
	700	North Offices	Rm Peak	2,340	29.0	58,823	91,295	1,195	3.06	0	0	-41,374	1,195	100.0	100.0
	700	Research Labs North	Rm Peak	1,990	24.0	180,586	290,001	4,633	12.70	0	0	-160,420	4,633	100.0	100.0
	700	Research Labs South	Rm Peak	2,400	24.0	217,390	348,112	5,588	12.70	0	0	-193,472	5,588	100.0	100.0
	700	South Offices	Rm Peak	2,340	29.0	66,451	103,275	1,390	3.56	0	0	-48,126	1,390	100.0	100.0
System 2 DD Level 700			Sys Peak	23,385	195.0	1,133,687	1,798,417	27,807				-962,740	27,807	100.0	100.0
System 2 DD Level 700			Sys Block	23,385	195.0	1,133,700	1,798,430	27,807				-962,740	27,807	100.0	100.0
	600	East Side Corridor	Rm Peak	1,640	0.0	7,172	12,774	375	1.25	0	0	-28,634	375	100.0	100.0
	600	North-East Labs Support	Rm Peak	5,000	30.0	187,271	269,957	5,033	6.04	0	0	-384,330	5,033	100.0	100.0
System 3 Dual Duct Level 600			Sys Peak	6,640	30.0	194,443	282,731	5,408				-412,963	5,408	100.0	100.0
System 3 Dual Duct Level 600			Sys Block	6,640	30.0	198,338	286,626	5,408				-412,963	5,408	100.0	100.0

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ENGINEERING CHECKS

By FOSDICK & HILMER

System	Zone	Room	Type	Floor Area	COOLING					HEATING		
				ft²	% OA	cfm/ft²	cfm/ton	ft²/ton	Btu/hr-ft²	% OA	cfm/ft²	Btu/hr-ft²
Alternative 1	PROPOSED - NEW EQPT											
		400 East Research Labs1 D-Duct	Zone	2,650	100.00	2.66	203.2	76.4	157.07	100.00	2.66	-260.52
		400 East Research Labs2 D-Duct	Zone	1,850	100.00	2.93	202.5	69.2	173.34	100.00	2.93	-286.57
		400 West Research Labs1 D-Duct	Zone	3,450	100.00	0.97	184.2	189.1	63.45	100.00	0.97	-95.39
		400 West Research Labs2 D-Duct	Zone	2,300	100.00	0.97	179.8	184.7	64.98	100.00	0.97	-95.39
System 1		Dual Duct Level 400	System - Double Duct	10,250	100.00	1.76	196.1	111.3	107.84	100.00	1.76	-172.59
		500 East Research Labs2 D-Duct	Zone	3,000	100.00	2.32	299.8	128.9	93.07	100.00	2.32	-205.90
System 1		Dual Duct Level 500	System - Double Duct	3,000	100.00	2.32	218.2	93.9	127.85	100.00	2.32	-205.90
		600 West Research Labs1 D-Duct	Zone	3,000	100.00	1.27	224.4	176.9	67.85	100.00	1.27	-114.82
		600 West Research Labs2 D-Duct	Zone	3,000	100.00	1.26	224.4	177.5	67.62	100.00	1.26	-114.42
System 1		Dual Duct Level 600	System - Double Duct	6,000	100.00	1.27	228.8	180.6	66.44	100.00	1.27	-114.62
		700 East Research Labs1 D-Duct	Zone	3,000	100.00	2.09	339.6	162.4	73.88	100.00	2.09	-185.75
		700 East Research Labs2 D-Duct	Zone	3,000	100.00	2.08	336.0	161.5	74.28	100.00	2.08	-184.79
		700 West Research Labs1 D-Duct	Zone	3,000	100.00	2.48	360.5	145.4	82.54	100.00	2.48	-220.32
		700 West Research Labs2 D-Duct	Zone	3,000	100.00	2.47	361.3	146.2	82.06	100.00	2.47	-219.51
System 1		Dual Duct Level 700	System - Double Duct	12,000	100.00	2.28	0.0	0.0	0.00	100.00	2.28	-202.59
		800 Corridors	Zone	5,640	100.00	0.31	184.7	595.4	20.15	100.00	0.31	-33.76
		800 East Research Labs1	Zone	3,000	100.00	2.26	200.5	88.9	134.95	100.00	2.26	-245.33
		800 East Research Labs2	Zone	3,000	100.00	2.26	200.6	88.9	134.91	100.00	2.26	-245.33
		800 Labs Support Rooms	Zone	7,800	100.00	1.85	202.4	109.3	109.77	100.00	1.85	-201.45
		800 North Labs	Zone	3,528	100.00	2.81	204.9	73.0	164.30	100.00	2.81	-305.17
		800 North Offices	Zone	1,080	100.00	0.96	179.3	186.2	64.44	100.00	0.96	-104.76
		800 South Labs	Zone	3,528	100.00	2.81	204.8	73.0	164.34	100.00	2.81	-305.17
		800 South Offices	Zone	1,080	100.00	1.53	185.9	121.7	98.60	100.00	1.53	-166.21
		800 West Classroom 1	Zone	3,000	100.00	1.14	181.4	159.6	75.21	100.00	1.14	-123.66
		800 West Classroom 2	Zone	3,000	100.00	1.14	181.6	159.8	75.10	100.00	1.14	-123.66
System 1		Dual Duct Level 800	System - Double Duct	34,656	100.00	1.70	198.6	116.6	102.89	100.00	1.70	-185.30
		400 Central Core Offices	Zone	3,400	100.00	0.52	132.9	256.7	46.74	100.00	0.16	-42.11
		400 Corridors	Zone	3,860	100.00	0.20	136.9	690.6	17.38	100.00	0.06	-20.26
		400 Prep Labs Cental Core	Zone	1,250	100.00	1.37	642.0	469.8	25.54	100.00	0.41	-102.33
		400 Prep Labs North-East	Zone	1,500	100.00	1.47	600.7	409.5	29.30	100.00	0.44	-115.02
		400 Research Labs North	Zone	7,600	100.00	1.53	648.7	423.8	28.32	100.00	0.46	-118.06
		400 Research Labs South	Zone	7,600	100.00	1.53	634.8	414.6	28.94	100.00	0.46	-117.99
System 2		VAV Level 400	System - Variable Volume Reheat (30% Min Flow Default)	25,210	100.00	0.45	147.9	331.2	36.24	100.00	0.35	-44.36
		500 Central Core Offices	Zone	4,100	100.00	0.54	142.5	265.6	45.18	100.00	0.16	-38.64
		500 Corridors	Zone	4,538	100.00	0.20	144.3	704.3	17.04	100.00	0.06	-16.11
		500 East Research Labs1	Zone	2,500	100.00	2.04	610.2	299.4	40.08	100.00	0.61	-148.93
		500 Prep Labs Cental Core	Zone	1,400	100.00	2.50	646.2	258.5	46.42	100.00	0.75	-178.92
		500 Prep Labs North	Zone	800	100.00	2.50	639.5	255.8	46.91	100.00	0.75	-180.38

System	Zone	Room	Type	Floor Area ft²	COOLING					HEATING		
					% OA	cfm/ft²	cfm/ton	ft²/ton	Btu/hr·ft²	% OA	cfm/ft²	Btu/hr·ft²
		500 Research Labs North	Zone	6,500	100.00	2.75	662.7	241.0	49.80	100.00	0.83	-200.11
		500 Research Labs South	Zone	6,552	100.00	2.75	662.5	240.9	49.81	100.00	0.83	-200.27
		500 West Research Labs1	Zone	3,000	100.00	1.44	434.6	302.2	39.72	100.00	0.43	-106.86
		500 West Research Labs2	Zone	3,000	100.00	1.44	436.5	303.5	39.54	100.00	0.43	-106.86
System 2 VAV Level 500		System - Variable Volume Reheat (30% Min Flow Default)		32,390	100.00	0.63	158.3	253.2	47.40	100.00	0.54	-55.12
		600 Central Core Offices	Zone	2,100	100.00	0.56	138.5	247.5	48.48	100.00	0.17	-40.52
		600 Centrtral Core Open Labs	Zone	3,000	100.00	2.22	631.2	284.5	42.17	100.00	0.67	-159.03
		600 Corridors	Zone	6,616	100.00	0.24	143.8	594.5	20.19	100.00	0.07	-22.36
		600 Research Labs North	Zone	6,760	100.00	2.29	644.3	281.2	42.68	100.00	0.69	-167.66
		600 Research Labs South	Zone	4,270	100.00	2.40	644.2	268.2	44.74	100.00	0.72	-174.74
System 2 VAV Level 600		System - Variable Volume Reheat (30% Min Flow Default)		22,746	100.00	0.54	142.8	265.1	45.27	100.00	0.46	-48.40
		700 Central Core Offices	Zone	1,800	100.00	0.48	130.4	269.8	44.48	100.00	0.15	-34.98
		700 Centrtral Core Open Labs	Zone	4,500	100.00	2.35	662.9	282.5	42.48	100.00	0.70	-168.10
		700 Corridors	Zone	7,070	100.00	0.22	141.2	636.0	18.87	100.00	0.07	-18.80
		700 Labs Support Equipment Rooms	Zone	945	100.00	2.12	686.3	324.2	37.01	100.00	0.64	-151.67
		700 North Offices	Zone	2,340	100.00	0.51	135.0	264.4	45.39	100.00	0.15	-42.01
		700 Research Labs North	Zone	1,990	100.00	2.33	659.9	283.4	42.34	100.00	0.70	-168.05
		700 Research Labs South	Zone	2,400	100.00	2.33	667.5	286.7	41.86	100.00	0.70	-167.83
		700 South Offices	Zone	2,340	100.00	0.59	140.7	236.9	50.66	100.00	0.18	-47.96
System 2 VAV Level 700		System - Variable Volume Reheat (30% Min Flow Default)		23,385	100.00	0.54	151.8	280.3	42.80	100.00	0.36	-45.33
		600 East Side Corridor	Zone	1,640	100.00	0.23	118.1	516.7	23.22	100.00	0.07	-29.79
		600 North-East Labs Support	Zone	5,000	100.00	1.01	465.8	462.8	25.93	100.00	0.30	-72.86
System 3 VAV Level 600		System - Variable Volume Reheat (30% Min Flow Default)		6,640	100.00	0.32	121.6	379.7	31.61	100.00	0.24	-33.35

System	Zone	Room	Type	Floor Area ft²	COOLING					HEATING		
					% OA	cfm/ft²	cfm/ton	ft²/ton	Btu/hr-ft²	% OA	cfm/ft²	Btu/hr-ft²
Alternative 2		BASELINE - EXIST EQPT										
		400 East Research Labs1 D-Duct	Zone	2,650	100.00	2.66	203.2	76.4	157.07	100.00	2.66	-260.52
		400 East Research Labs2 D-Duct	Zone	1,850	100.00	2.93	202.5	69.2	173.34	100.00	2.93	-286.57
		400 West Research Labs1 D-Duct	Zone	3,450	100.00	0.97	184.2	189.1	63.45	100.00	0.97	-95.39
		400 West Research Labs2 D-Duct	Zone	2,300	100.00	0.97	179.8	184.7	64.98	100.00	0.97	-95.39
System 1		Dual Duct Level 400	System - Double Duct	10,250	100.00	1.76	196.1	111.3	107.84	100.00	1.76	-172.59
		500 East Research Labs2 D-Duct	Zone	3,000	100.00	2.32	299.8	128.9	93.07	100.00	2.32	-205.90
System 1		Dual Duct Level 500	System - Double Duct	3,000	100.00	2.32	218.2	93.9	127.85	100.00	2.32	-205.90
		600 West Research Labs1 D-Duct	Zone	3,000	100.00	1.27	224.4	176.9	67.85	100.00	1.27	-114.82
		600 West Research Labs2 D-Duct	Zone	3,000	100.00	1.26	224.4	177.5	67.62	100.00	1.26	-114.42
System 1		Dual Duct Level 600	System - Double Duct	6,000	100.00	1.27	228.8	180.6	66.44	100.00	1.27	-114.62
		700 East Research Labs1 D-Duct	Zone	3,000	100.00	2.09	339.6	162.4	73.88	100.00	2.09	-185.75
		700 East Research Labs2 D-Duct	Zone	3,000	100.00	2.08	336.0	161.5	74.28	100.00	2.08	-184.79
		700 West Research Labs1 D-Duct	Zone	3,000	100.00	2.48	360.5	145.4	82.54	100.00	2.48	-220.32
		700 West Research Labs2 D-Duct	Zone	3,000	100.00	2.47	361.3	146.2	82.06	100.00	2.47	-219.51
System 1		Dual Duct Level 700	System - Double Duct	12,000	100.00	2.28	0.0	0.0	0.00	100.00	2.28	-202.59
		800 Corridors	Zone	5,640	100.00	0.31	184.7	595.4	20.15	100.00	0.31	-33.76
		800 East Research Labs1	Zone	3,000	100.00	2.26	200.5	88.9	134.95	100.00	2.26	-245.33
		800 East Research Labs2	Zone	3,000	100.00	2.26	200.6	88.9	134.91	100.00	2.26	-245.33
		800 Labs Support Rooms	Zone	7,800	100.00	1.85	202.4	109.3	109.77	100.00	1.85	-201.45
		800 North Labs	Zone	3,528	100.00	2.81	204.9	73.0	164.30	100.00	2.81	-305.17
		800 North Offices	Zone	1,080	100.00	0.96	179.3	186.2	64.44	100.00	0.96	-104.76
		800 South Labs	Zone	3,528	100.00	2.81	204.8	73.0	164.34	100.00	2.81	-305.17
		800 South Offices	Zone	1,080	100.00	1.53	185.9	121.7	98.60	100.00	1.53	-166.21
		800 West Classroom 1	Zone	3,000	100.00	1.14	181.4	159.6	75.21	100.00	1.14	-123.66
		800 West Classroom 2	Zone	3,000	100.00	1.14	181.6	159.8	75.10	100.00	1.14	-123.66
System 1		Dual Duct Level 800	System - Double Duct	34,656	100.00	1.70	198.6	116.6	102.89	100.00	1.70	-185.30
		400 Central Core Offices	Zone	3,400	100.00	0.52	160.6	310.2	38.69	100.00	0.52	-60.77
		400 Corridors	Zone	3,860	100.00	0.20	169.0	852.9	14.07	100.00	0.20	-23.27
		400 Prep Labs Cental Core	Zone	1,250	100.00	1.37	196.5	143.8	83.45	100.00	1.37	-160.44
		400 Prep Labs North-East	Zone	1,500	100.00	1.47	195.6	133.4	89.96	100.00	1.47	-172.18
		400 Research Labs North	Zone	7,600	100.00	1.53	196.7	128.5	93.37	100.00	1.53	-179.72
		400 Research Labs South	Zone	7,600	100.00	1.53	196.0	128.0	93.74	100.00	1.53	-179.72
System 2		DD Level 400	System - Double Duct	25,210	100.00	1.18	193.0	163.8	73.27	100.00	1.18	-138.32
		500 Central Core Offices	Zone	4,100	100.00	0.54	164.0	305.6	39.27	100.00	0.54	-49.89
		500 Corridors	Zone	4,538	100.00	0.20	161.7	789.2	15.21	100.00	0.20	-19.05
		500 East Research Labs1	Zone	2,500	100.00	2.04	192.4	94.4	127.14	100.00	2.04	-189.52
		500 Prep Labs Cental Core	Zone	1,400	100.00	2.50	198.7	79.5	150.99	100.00	2.50	-232.45
		500 Prep Labs North	Zone	800	100.00	2.50	197.8	79.1	151.70	100.00	2.50	-232.45
		500 Research Labs North	Zone	6,500	100.00	2.75	203.4	74.0	162.20	100.00	2.75	-255.69
		500 Research Labs South	Zone	6,552	100.00	2.75	203.0	73.8	162.59	100.00	2.75	-255.69
		500 West Research Labs1	Zone	3,000	100.00	1.44	184.9	128.6	93.33	100.00	1.44	-133.73
		500 West Research Labs2	Zone	3,000	100.00	1.44	185.0	128.6	93.28	100.00	1.44	-133.73
System 2		DD Level 500	System - Double Duct	32,390	100.00	1.80	196.3	109.2	109.91	100.00	1.80	-167.21
		600 Central Core Offices	Zone	2,100	100.00	0.56	166.8	298.1	40.25	100.00	0.56	-60.24
		600 Centrtral Core Open Labs	Zone	3,000	100.00	2.22	204.3	92.1	130.29	100.00	2.22	-238.82

System	Zone	Room	Type	Floor Area ft²	COOLING					HEATING		
					% OA	cfm/ft²	cfm/ton	ft²/ton	Btu/hr·ft²	% OA	cfm/ft²	Btu/hr·ft²
		600 Corridors	Zone	6,616	100.00	0.24	178.5	738.2	16.26	100.00	0.24	-26.04
		600 Research Labs North	Zone	6,760	100.00	2.29	205.6	89.7	133.76	100.00	2.29	-246.71
		600 Research Labs South	Zone	4,270	100.00	2.40	205.4	85.5	140.29	100.00	2.40	-258.56
System 2	DD Level 600		System - Double Duct	22,746	100.00	1.55	202.3	130.8	91.72	100.00	1.55	-166.49
		700 Central Core Offices	Zone	1,800	100.00	0.48	150.5	311.4	38.54	100.00	0.48	-48.26
		700 Centrtral Core Open Labs	Zone	4,500	100.00	2.35	192.1	81.8	146.62	100.00	2.35	-234.33
		700 Corridors	Zone	7,070	100.00	0.22	166.3	749.0	16.02	100.00	0.22	-22.17
		700 Labs Support Equipment Rooms	Zone	945	100.00	2.12	194.6	92.0	130.49	100.00	2.12	-211.36
		700 North Offices	Zone	2,340	100.00	0.51	157.1	307.6	39.01	100.00	0.51	-50.99
		700 Research Labs North	Zone	1,990	100.00	2.33	191.7	82.3	145.73	100.00	2.33	-232.50
		700 Research Labs South	Zone	2,400	100.00	2.33	192.6	82.7	145.05	100.00	2.33	-232.50
		700 South Offices	Zone	2,340	100.00	0.59	161.5	271.9	44.13	100.00	0.59	-59.32
System 2	DD Level 700		System - Double Duct	23,385	100.00	1.19	185.5	156.0	76.91	100.00	1.19	-118.74
		600 East Side Corridor	Zone	1,640	100.00	0.23	352.3	1,540.7	7.79	100.00	0.23	-34.31
		600 North-East Labs Support	Zone	5,000	100.00	1.01	223.7	222.3	53.99	100.00	1.01	-151.04
System 3	Dual Duct Level 600		System - Double Duct	6,640	100.00	0.81	226.4	278.0	43.17	100.00	0.81	-122.21

SYSTEM SUMMARY

DESIGN AIRFLOW QUANTITIES

By FOSDICK & HILMER

System Description	System Type	MAIN SYSTEM					Auxiliary System	Room
		Outside Airflow cfm	Cooling Airflow cfm	Heating Airflow cfm	Return Airflow cfm	Exhaust Airflow cfm	Supply Airflow cfm	Exhaust Airflow cfm
Alternative 1	PROPOSED - NEW EQPT							
System 1 Dual Duct Level 800	Double Duct	59,025	59,025	59,025	59,025	59,025	0	59,025
System 1 Dual Duct Level 700	Double Duct	27,366	27,366	27,366	27,366	27,366	0	22,220
System 2 VAV Level 700	Variable Volume Reheat (30% Min Flow Default)	12,662	12,662	8,342	12,662	12,662	0	27,807
System 1 Dual Duct Level 600	Double Duct	7,599	7,599	7,599	7,599	7,599	0	6,710
System 3 VAV Level 600	Variable Volume Reheat (30% Min Flow Default)	2,126	2,126	1,623	2,126	2,126	0	5,408
System 2 VAV Level 600	Variable Volume Reheat (30% Min Flow Default)	12,253	12,253	10,553	12,253	12,253	0	35,177
System 2 VAV Level 500	Variable Volume Reheat (30% Min Flow Default)	20,255	20,255	17,475	20,255	20,255	0	22,356
System 1 Dual Duct Level 500	Double Duct	6,975	6,975	6,975	6,975	6,975	0	5,500
System 1 Dual Duct Level 400	Double Duct	18,058	18,058	18,058	18,058	18,058	0	18,058
System 2 VAV Level 400	Variable Volume Reheat (30% Min Flow Default)	11,260	11,260	8,911	11,260	11,260	0	29,702
Totals		177,579	177,579	165,926	177,579	177,579	0	231,963
Alternative 2	BASELINE - EXIST EQPT							
System 1 Dual Duct Level 800	Double Duct	59,025	59,025	59,025	59,025	59,025	0	59,025
System 1 Dual Duct Level 700	Double Duct	27,366	27,366	27,366	27,366	27,366	0	22,220
System 2 DD Level 700	Double Duct	27,807	27,807	27,807	27,807	27,807	0	27,807
System 1 Dual Duct Level 600	Double Duct	7,599	7,599	7,599	7,599	7,599	0	6,710
System 3 Dual Duct Level 600	Double Duct	5,408	5,408	5,408	5,408	5,408	0	5,408
System 2 DD Level 600	Double Duct	35,177	35,177	35,177	35,177	35,177	0	35,177
System 2 DD Level 500	Double Duct	58,249	58,249	58,249	58,249	58,249	0	22,356
System 1 Dual Duct Level 500	Double Duct	6,975	6,975	6,975	6,975	6,975	0	5,500
System 1 Dual Duct Level 400	Double Duct	18,058	18,058	18,058	18,058	18,058	0	18,058
System 2 DD Level 400	Double Duct	29,702	29,702	29,702	29,702	29,702	0	29,702
Totals		275,366	275,366	275,366	275,366	275,366	0	231,963

Note: Airflows on this report are not additive because they are each taken at the time of their respective peaks. To view the balanced system design airflows, see the appropriate Checksums report (Airflows section).

MONTHLY UTILITY COSTS

By FOSDICK & HILMER

Utility	Jan	Feb	Mar	Apr	----- May	Monthly Utility Costs June	July	----- Aug	Sept	Oct	Nov	Dec	Total
Alternative 1 PROPOSED - NEW EQPT													
Electric													
On-Pk Cons. (\$)	29,717	26,862	30,444	28,762	30,301	29,722	29,735	30,882	28,950	30,231	29,058	29,393	354,057
On-Pk Demand (\$)	8,037	8,056	8,122	8,189	8,219	8,281	8,284	8,284	8,284	8,191	8,146	8,037	98,130
Total (\$):	37,753	34,917	38,566	36,951	38,521	38,003	38,020	39,166	37,234	38,422	37,204	37,429	452,186
Hot Water from UC Central Utility Plant													
On-Pk Cons. (\$)	41,147	35,308	36,360	22,336	17,623	16,295	15,790	16,690	16,969	21,526	29,289	41,453	310,787
Chilled Water from UC Central Utility Plant													
On-Pk Cons. (\$)	14,011	12,058	12,682	15,015	30,623	38,747	37,576	40,151	24,021	17,173	13,456	14,136	269,649
Monthly Total (\$):	92,911	82,283	87,608	74,303	86,766	93,045	91,386	96,008	78,225	77,121	79,949	93,019	1,032,622

Building Area = 176,277 ft²

Utility Cost Per Area = 5.86 \$/ft²

MONTHLY UTILITY COSTS

By FOSDICK & HILMER

Utility	Jan	Feb	Mar	Apr	----- May	Monthly Utility Costs June	July	----- Aug	Sept	Oct	Nov	Dec	Total
Alternative 2 BASELINE - EXIST EQPT													
Electric													
On-Pk Cons. (\$)	45,926	41,492	46,591	44,337	46,258	45,002	45,594	46,591	44,337	46,258	44,670	45,594	542,651
On-Pk Demand (\$)	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	10,415	124,986
Total (\$):	56,342	51,908	57,006	54,753	56,674	55,418	56,009	57,006	54,753	56,674	55,085	56,009	667,637
Hot Water from UC Central Utility Plant													
On-Pk Cons. (\$)	66,658	55,528	55,312	26,254	13,757	11,282	10,504	11,736	14,477	21,932	40,110	66,135	393,686
Chilled Water from UC Central Utility Plant													
On-Pk Cons. (\$)	16,863	13,884	13,304	13,671	35,471	49,426	47,096	51,963	25,015	14,924	13,413	17,064	312,095
Monthly Total (\$):	139,862	121,320	125,622	94,678	105,902	116,126	113,609	120,706	94,246	93,530	108,608	139,209	1,373,418

Building Area = 176,277 ft²

Utility Cost Per Area = 7.79 \$/ft²

MONTHLY ENERGY CONSUMPTION

By FOSDICK & HILMER

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 1													
Proposed		PROPOSED - NEW EQPT											
Electric													
On-Pk Cons. (kWh)	347,562	314,172	356,074	336,403	354,401	347,623	347,780	361,192	338,598	353,576	339,857	343,775	4,141,013
On-Pk Demand (kW)	804	806	812	819	822	828	828	828	828	819	815	804	828
Hot Water		from UC Central Utility Plant											
On-Pk Cons. (therms)	17,968	15,418	15,878	9,754	7,696	7,116	6,895	7,288	7,410	9,400	12,790	18,102	135,715
On-Pk Demand (therms/hr)	82	78	71	60	42	37	36	36	48	56	64	85	85
Chilled Water		from UC Central Utility Plant											
On-Pk Cons. (therms)	7,185	6,183	6,504	7,700	15,704	19,870	19,270	20,590	12,319	8,807	6,901	7,249	138,281
On-Pk Demand (therms/hr)	17	15	15	16	57	71	89	84	70	25	15	16	89
Energy Consumption				Environmental Impact Analysis									
Building	235,612 Btu/(ft2-year)			CO2 386,604,800 lbm/year									
Source	403,549 Btu/(ft2-year)			SO2 2,682,972 gm/year									
				NOX 670,428 gm/year									
Floor Area	176,277 ft2												

MONTHLY ENERGY CONSUMPTION

By FOSDICK & HILMER

----- Monthly Energy Consumption -----

Utility	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Alternative: 2													
	Baseline	BASELINE - EXIST EQPT											
Electric													
On-Pk Cons. (kWh)	537,147	485,290	544,923	518,565	541,035	526,341	533,259	544,923	518,565	541,035	522,453	533,259	6,346,795
On-Pk Demand (kW)	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042	1,042
Hot Water	from UC Central Utility Plant												
On-Pk Cons. (therms)	29,108	24,248	24,154	11,465	6,007	4,927	4,587	5,125	6,322	9,577	17,515	28,880	171,915
On-Pk Demand (therms/hr)	145	137	117	85	42	28	26	29	54	72	99	152	152
Chilled Water	from UC Central Utility Plant												
On-Pk Cons. (therms)	8,647	7,120	6,823	7,011	18,190	25,347	24,152	26,648	12,828	7,653	6,878	8,751	160,049
On-Pk Demand (therms/hr)	19	18	17	14	87	114	146	136	110	30	17	19	146
Energy Consumption				Environmental Impact Analysis									
Building	311,203	Btu/(ft2-year)		CO2	592,536,512 lbm/year								
Source	568,564	Btu/(ft2-year)		SO2	4,112,104 gm/year								
				NOX	1,027,542 gm/year								
Floor Area	176,277	ft2											

Energy Cost Budget / PRM Summary

By FOSDICK & HILMER

Project Name: Energy Modeling	Date: December 19, 2012
City: Rieveschl Hall Building, Cincinnati	Weather Data: Cincinnati, Ohio

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 Proposed			Alt-2 Baseline		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtu/h	Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtu/h
Lighting - Conditioned	Electricity	1,940.7	5	902	1,940.7	100	902
Space Heating	Hot Water	13,571.5	33	8,456	17,191.5	127	15,232
Space Cooling	Chilled Water	13,828.1	33	8,893	16,004.9	116	14,562
Fans - Conditioned	Electricity	10,883.2	26	1,406	18,419.3	169	2,127
Receptacles - Conditioned	Electricity	1,309.3	3	528	1,301.6	99	525
Total Building Consumption		41,532.9			54,858.0		

		* Alt-1 Proposed		Alt-2 Baseline	
		Energy 10^6 Btu/yr	Cost/yr \$/yr	Energy 10^6 Btu/yr	Cost/yr \$/yr
Electricity		14,133.3	452,186	21,661.6	667,637
Chilled Water		13,828.1	269,649	16,004.9	312,095
Hot Water		13,571.5	310,787	17,191.5	393,686
Total		41,533	1,032,622	54,858	1,373,418

Economic Summary

Project Information

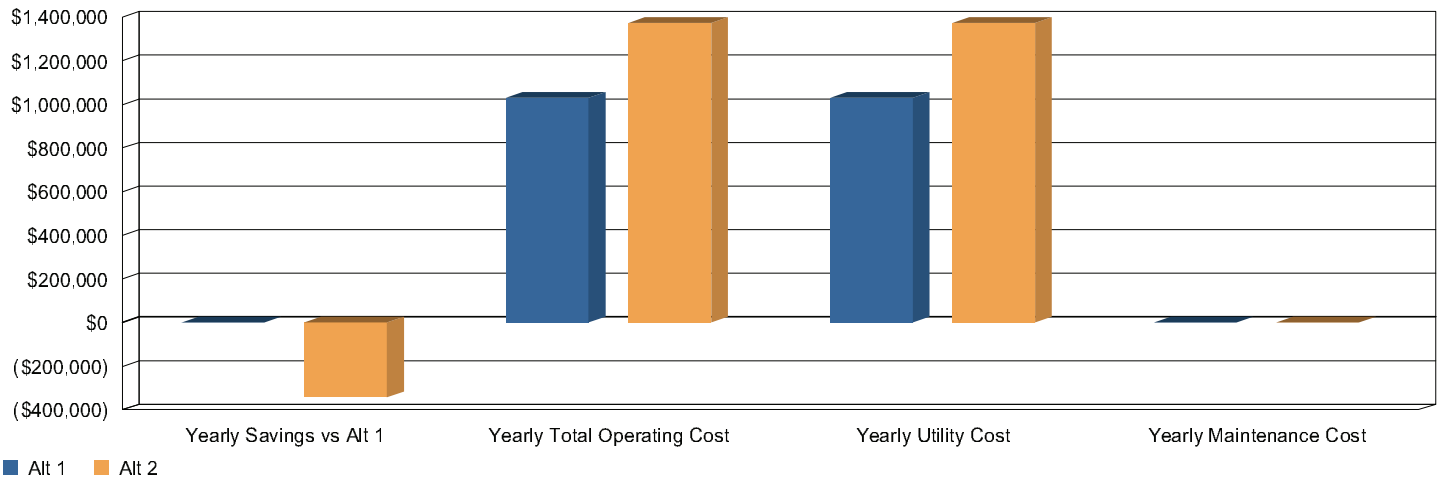
Location: Rieveschl Hall Building, Cincinnati
 Project Name: Energy Modeling
 User: AVL
 Company: F&H
 Comments:

Study Life: 20 years
 Cost of Capital: 10 %
 Alternative 1: Proposed
 Alternative 2: Baseline

Economic Comparison of Alternatives

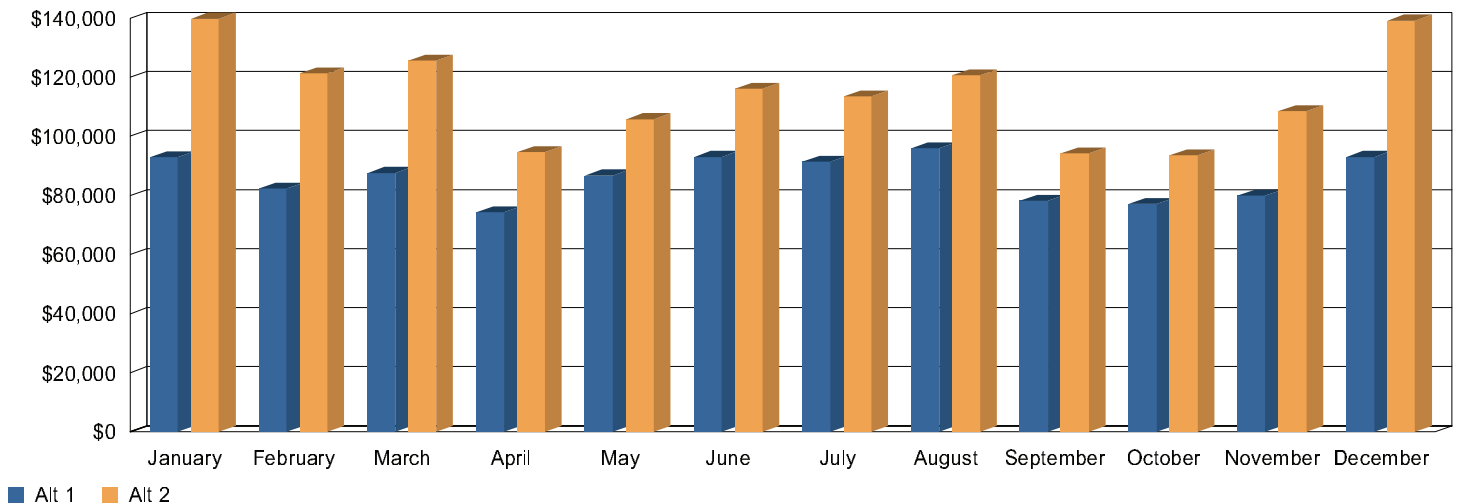
	Yearly Savings (\$)	First Cost Difference (\$)	Cumulative Cash Flow Difference (\$)	Simple Payback (yrs.)	Net Present Value (\$)	Life Cycle Payback (yrs.)	Internal Rate of Return (%)	Life Cycle Cost
Alt 1 vs Alt 2	340,796	0	6,815,913	No Payback	2,901,385	No Payback	1,000.0	2,901,385.00

Annual Operating Costs



	Yearly Savings vs Alt 1	Yearly Total Operating Cost (\$)	Yearly Utility Cost (\$)	Yearly Maintenance Cost (\$)	Plant kWh/ton-hr
Alt 1	0	1,032,622	1,032,622	0	3.516
Alt 2	-340,796	1,373,418	1,373,418	0	3.516

Monthly Utility Costs



IV. Manufacturer's Specifications/Equipment Characteristics

Project Name:	UC Rieveschl 600 & 700 Level Renovation Phase 3 & 4
Project Location:	Cincinnati, OH
Sales Office:	ElitAire
Mechanical Consulting Engineer:	Fosdick and Hilmer
Mechanical contractor:	Thomas J. Dyer Co.

Product:	CUSTOM AIR HANDLER
Customer Tag Number:	AHU-2
Ingenia Sales Order Number:	101103
Ingenia Job Number:	11767
Revision:	1
Submitted for:	Record
Presented by:	Carlo Martello
Date:	December 20, 2011

CERTIFIED PERFORMANCE DATA SHEET

JOB NUMBER: 11767

REVISION DATE: December 20, 2011

REVISION NO: 1

Section Name:	HEAT RECOVERY COIL SECTION
Section:	D
Floor Modules:	3,10,17

Section Characteristics			
WALL AND CEILING PANELS		FLOOR	
Internal liner material	20 ga. Galv. G90	Floor surface material	16 ga S.S. 304
Internal paint code	Not painted	Floor type	Triple Slope Floor
Internal hardware	Zinc	Floor drain	Catch Bassin with 1 1/2 " NPT Drain
Internal seal	grey silaprene	Drain connection side	Left
COIL RACK		Internal hardware	Zinc
Rack material	S.S. 304	Internal seal	grey silaprene
Rack surface paint code	Not painted	COIL REMOVABLE PANEL	
COIL BLANK		Coil removable panel option	Both sides
Blank material	S.S. 304		
Blank surface paint code	Not painted		

Coil Physical Characteristics			
Customer Tag:			
Coil Manufacturer	Aerofin	Coil weight - each (lbs)	1167.8
Coil model	W-9.0AS-46.5 X 124.0-6-1.5	Total coil weight (lbs)	7007
Coil Type	Water/Glycol		

Coil Accessories			
extended supply connection	By others	Mist eliminator manufacturer	
extended return connection	By others	Mist eliminator material	
extended connection material			

Notes:

1. Coil removal rail included

CERTIFIED PERFORMANCE DATA SHEET

JOB NUMBER: 11767

REVISION DATE: December 20, 2011

REVISION NO: 1

Section Name:	COOLING COIL SECTION
Section:	H
Floor Modules:	5,12,19

Section Characteristics			
WALL AND CEILING PANELS		FLOOR	
Internal liner material	20 ga. Galv. G90	Floor surface material	16 ga S.S. 304
Internal paint code	Not painted	Floor type	Triple Slope Floor
Internal hardware	Zinc	Floor drain	Catch Bassin with 1 1/2 " NPT Drain
Internal seal	grey silaprene	Drain connection side	Left
COIL RACK		Internal hardware	S.S.
Rack material	S.S. 304	Internal seal	grey silaprene
Rack surface paint code	Not painted	COIL REMOVABLE PANEL	
COIL BLANK		Coil removable panel option	Both sides
Blank material	S.S. 304		
Blank surface paint code	Not painted		

Coil Physical Characteristics			
Customer Tag:			
Coil Manufacturer	Aerofin	Coil weight - each (lbs)	1708
Coil model	W-12.0AW-46.5 X 124.0-8-2	Total coil weight (lbs)	10248
Coil Type	Water		

Coil Accessories			
extended supply connection	By others	Mist eliminator manufacturer	Aerofin
extended return connection	By others	Mist eliminator material	S.S. 304
extended connection material			

Notes:

1. Coil removal rail included

CERTIFIED PERFORMANCE DATA SHEET

JOB NUMBER: 11767

REVISION DATE: December 20, 2011

REVISION NO: 1

Section Name:	SUPPLY FAN SECTION
Section:	J
Floor Modules:	6,13,20

Section Characteristics			
WALL AND CEILING PANELS		FLOOR	
Internal liner material	20 ga. Galv. G90	Floor Type	2.00" Raised Collar Floor with Isolator Support
Internal finish	Solid	Floor surface material	0.090"(11 ga) Alum. Checker-plate
Internal paint code	Not painted	Floor drain	No Drain
Internal hardware	Zinc	Drain connection side	Not applicable
Internal seal	grey silaprene	Internal paint code	Not painted
Blower wall	Double	Internal hardware	Zinc
		Internal seal	grey silaprene

Fan Physical Characteristics			
Customer Tag:			
Fan Manufacturer	Twin City	Grease Lines	Extended to drive side
Fan model	EPQN	Grease Line Material	1/4" O.D. Nylon Tubing
Fan type	Plenum Fan	Belt guard	No Belt Guard
Fan size	330	Belt guard material	
Fan qty.	5	Belt guard paint code	
Fan weight - each (lbs)	723		

Motor Characteristics			
Motor manufacturer	Baldor	Shaft grounding ring	Yes
Motor model	EM4314T	Motor Thermal protection	No
Motor type	TEFC-Premium	Motor elect. Box 1	F1
Motor qty.	5	Motor elect. Box 2	
Motor horsepower	60	Motor removal rail	No
Motor Voltage	460	Motor weight - each (lbs)	814
Motor Phase	3	Grease Lines	Not required
Motor Hz	60	Grease Line Material	
Motor frame	364T		
Motor rpm	1800		
Motor efficiency	95		

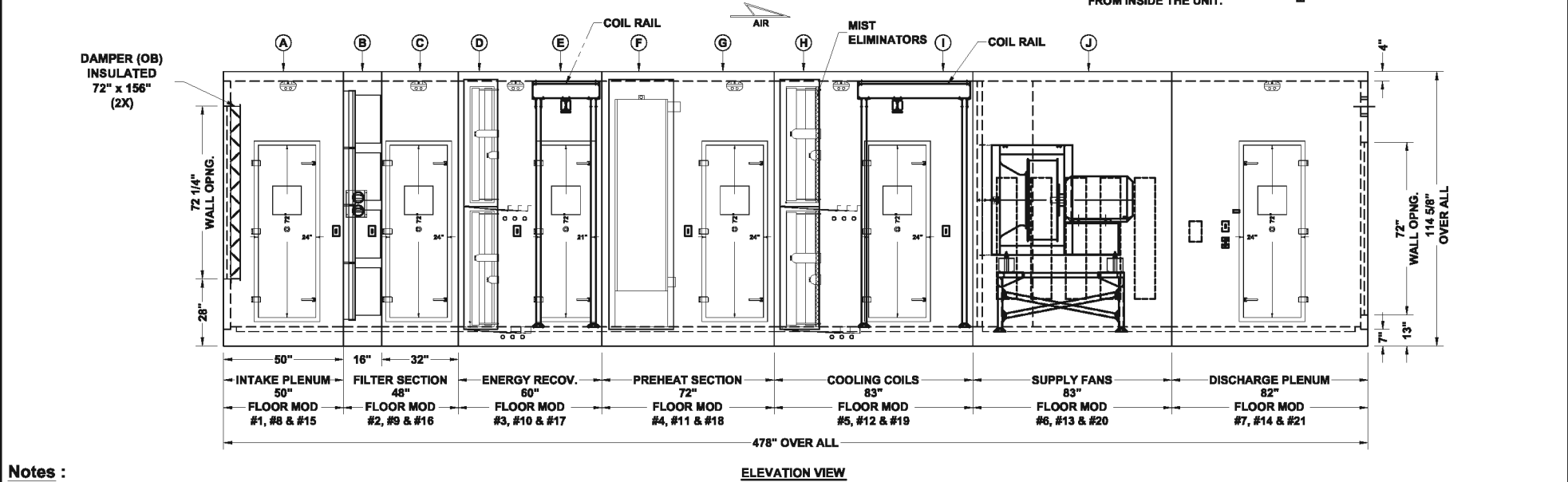
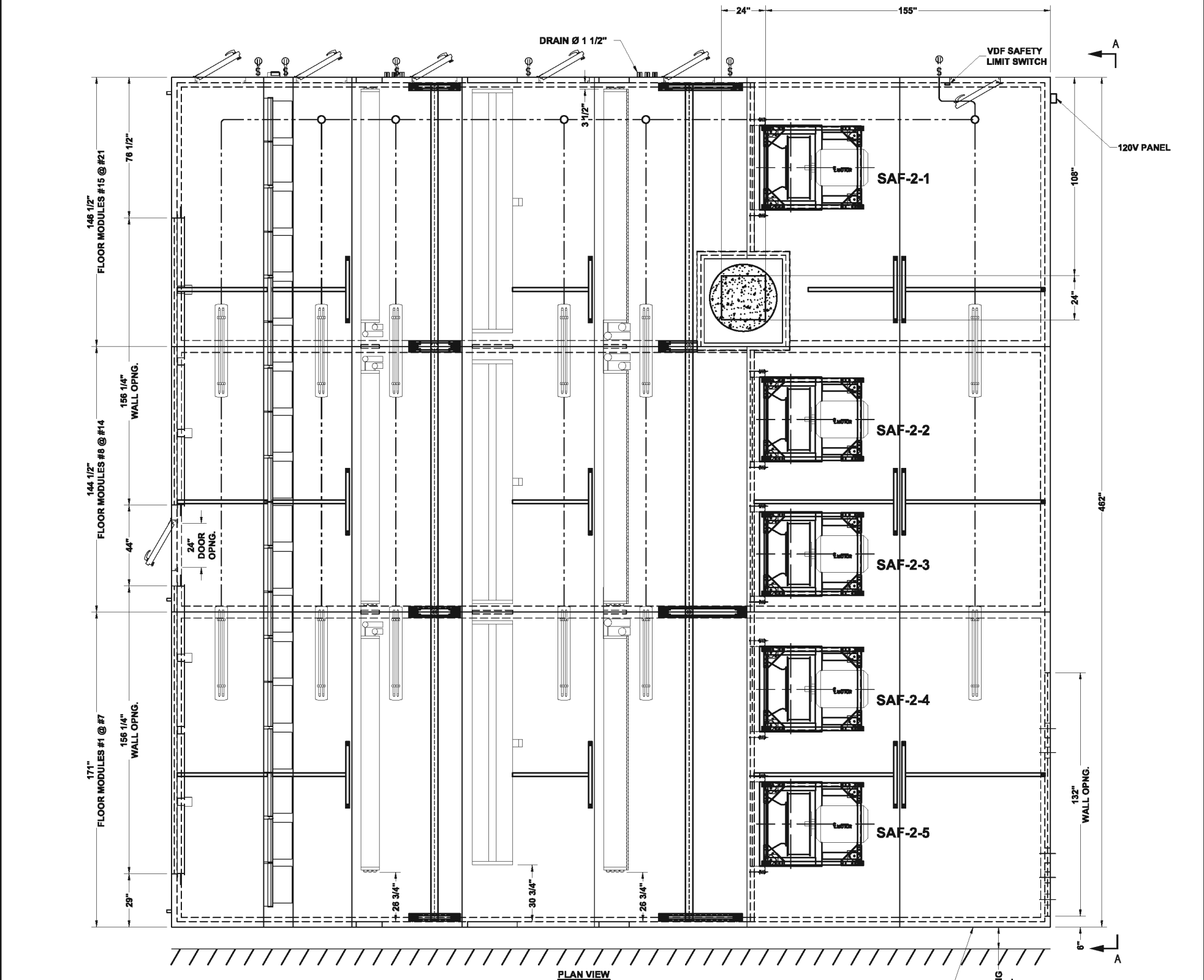
Fan Base Characteristics			
Fan base type	Isolators only	Base height (in)	
Base shape		Isolator model	AMSR-2D
Base Manufacturer		Fan Base Weight - each (lbs)	

Isolator Characteristics			
Isolator Manufacturer	Amber-Booth	Thrust restraints	Yes
Spring deflection	2"	Thrust restraint deflection	1"
Isolator model	AMSR-2D	Thrust restraint model	TRK
Isolator No.1	2D-500 DK. BROWN BLACK	Thrust restarint No. 1	1C-520 YELLOW-GREEN
Isolator No. 2	2D-500 DK. BROWN BLACK	Thrust restraint No. 2	1C-520 YELLOW-GREEN
Isolator No. 3	2D-500 DK. BROWN BLACK		
Isolator No. 4	2D-500 DK. BROWN BLACK		
Isolator No. 5			

Notes:

- VFD's provided and installed in the field by others; mounted on building wall
- Connections for walls (air in the back right side) only will be on this inside for this section only

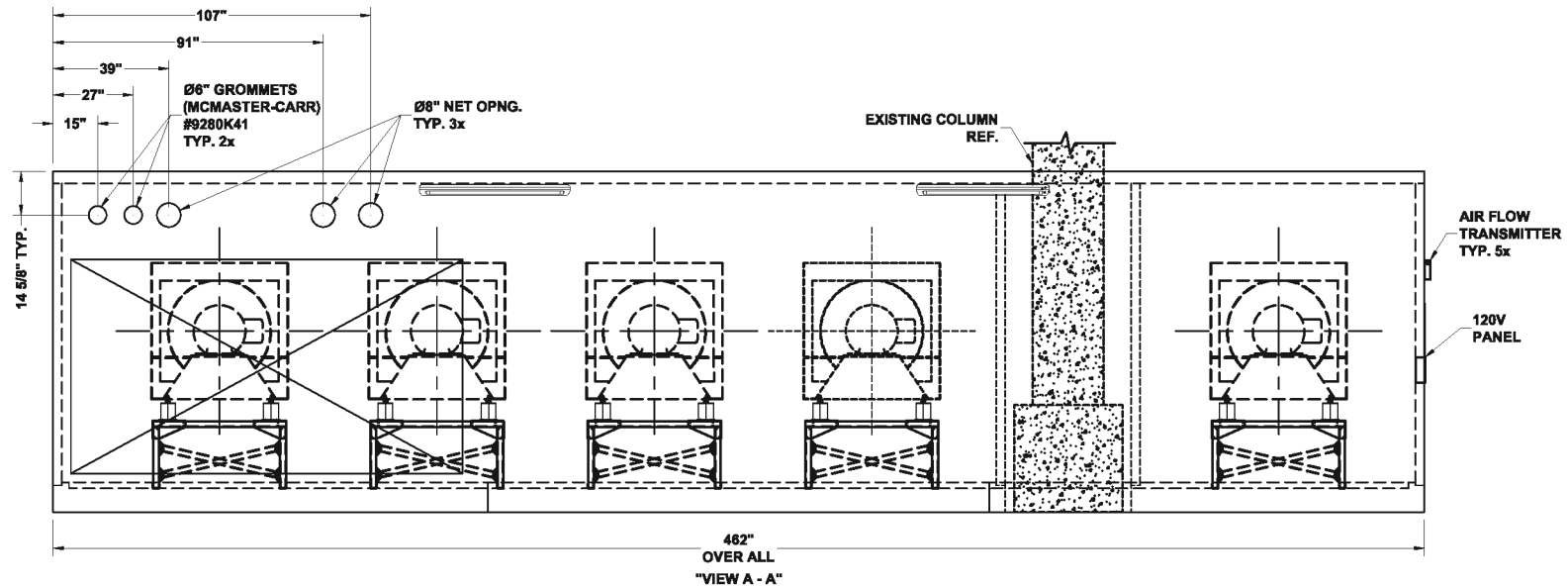
Description			
(A) FRESH AIR PLENUM SECTION (B) FILTER SECTION Pre-filter : TRI DIM ES40ME, MERV 7 Qty. / Dim. : 72x(24"x24"x4") Filter : TRI DIM Predator, MERV 14 Qty. / Dim. : 72x(24"x24"x12") Loading : FRONT Filter frame type : Standard : 2 3/4"	(D) HEAT RECOVERY COIL SECTION Brand : Aerofin Qty. : 6 Circuit : 1 1/2 Row : 6 Type : W Connections: Ø 3" Dims : 46.5" x 124" x 10"	(G) ACCES SECTION (H) COOLING COIL SECTION Brand : Aerofin Qty. : 6 Circuit : DOUBLE Row : 8 Type : W Connections: Ø 4" Dims : 46.5" x 124" x 12.5"	(J) SUPPLY FAN SECTION Brand : TWIN CITY Arr. : 04 Class : III Size : 330 % Width : 105% Discharge : HOR Rotation : CCW Base type : ISOLATORS Motor : 60 HP Enclosure : TEFC R.P.M. : 1,800 Frame : 364T Elec. box : F1 Position : DIRECT DRIVE Isolators : 2D Pulleys C/C : —
(C) ACCES SECTION	(E) ACCES SECTION (F) INTEGRAL FACE & BYPASS COIL SECTION Brand : LJ WING Qty. : 3 Circuit : N/A Row : 2 Type : STEAM Connections: Ø 4" Dims : 80" x 132 5/8" x 22"	(I) ACCES SECTION	



Notes :

- * - THIS UNIT WILL BE SHIPPED KNOCK DOWN WITH 21 FLOOR MODULES.
- * - THIS UNIT WILL BE INSTALLED ON A CONCRETE SLAB.
- * - COIL CONNECTION EXTENDED BY OTHERS.
- * - THE CABINET DESIGN PRESSURE IS 15" S.P.
- * - UNIT SUPPORTING SURFACE MUST BE LEVEL BEFORE INSTALLATION.
- * - VFD'S SHIPPED LOOSE, FIELD INSTALLED.
- * - FIELD OPENING DIMENSIONS : 70" WIDE x 83" HIGH

			Version : V57A		
			Openings and dimensions may vary from tender documents / Return of approved drawings constitutes acceptance of these variances		
			Project Name : UC Rieveschl		
			Project Location : Cincinnati, OH		
			Consulting Engineer : Fosdick and Hilmer		
			Sales Office name : Elitaire		
			CFM : 130,000		
			Model : CAH-3-NTM-PU-C-118X462-I		
			Unit Tag : AHU-2		
			Ingenia SO # : M.Beaulieu		
			Dwg No. : P280		
			Type : Indoor		
			Scale : 3/16"-1'		
			Date : 07/10/11		
			Sheet : 1 OF 3		
			Rev : 05		



Notes :

- * - THIS UNIT WILL BE SHIPPED KNOCK DOWN WITH 21 FLOOR MODULES.
- * - THIS UNIT WILL BE INSTALLED ON A CONCRETE SLAB.
- * - COIL CONNECTION EXTENDED BY OTHERS.
- * - THE CABINET DESIGN PRESSURE IS 15" S.P.
- * - UNIT SUPPORTING SURFACE MUST BE LEVEL BEFORE INSTALLATION.
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Version : V57A

Openings and dimensions may vary from tender documents / Return of approved drawings constitutes acceptance of these variances

Project Name : UC Rieveschl
 Project Location : Cincinnati, OH
 Consulting Engineer : Fosdick and Hilmer
 Sales Office name : Elitaire
 Model : CAH-3-NTM-PU-C-118X462-I
 CFM : 130,000
 Ingenia SO # :
 Ingenia Job # :
 Ingenia's Sales Project Manager: Carlo Martello
 Ingenia's Project Manager :
 Unit Tag : AHU-2
 Drawn by : M.Beaulieu
 Dwg No. : P280
 Type : Indoor
 Scale : 3/16" - 1'

#	Date	By	Revision
05	DEC. 14, 2011	MC	COLUMN LOCATION REVISED
04	DEC. 6, 2011	ME.L	FLOOR MODULES, SWITCHES, DRAINS
03	NOV. 21, 2011	MC	COIL SECTION "D" & "F" RELOCATED
02	NOV. 16, 2011	MC	ADD COIL RAIL & WIRING DIAGRAM
01	NOV. 10, 2011	MC	WALL OPNG. CHANGE POSITION, OVER ALL LENGTH REVISED

ingenia

18101 J.A. BOMBARDIER, MIRABEL, QUÉBEC, CANADA, J7J 2H8
www.ingeniatechnologies.com

Date : 07/10/11 Sheet : 2 OF 3 Rev : 05



Date: 19/12/2011
Job Name: 101130
System ID: 011767-CC

Model No.	Qty. In Face	FL INCH	Total Weight LBS.
W-12.0AW-46.5 X 124.0-8-2	6	124.00	10,248

		Totals:	6	10,248		
Coil Type:	W	Tube:	0.625 inch X 0.035 inch Copper Seamless Tubes , Belled			
TF:	31	Fin Material:	Aluminum Wave	Thickness:	0.0095	IN.
Row:	8	Csg Material:	1" Leg with Stainless Stl Casings, with Mounting Holes			
Fin:	12.00 / IN	Connection:	(1) 4" (Center) Threaded Non-Ferrous, Extended 5 inches,			
Circuit:	DBL	Hdr Material:	Standard Non-Ferrous with Brazed Joints			
		Misc:	- SprayGuard			

Dwg: CA-W-104-19

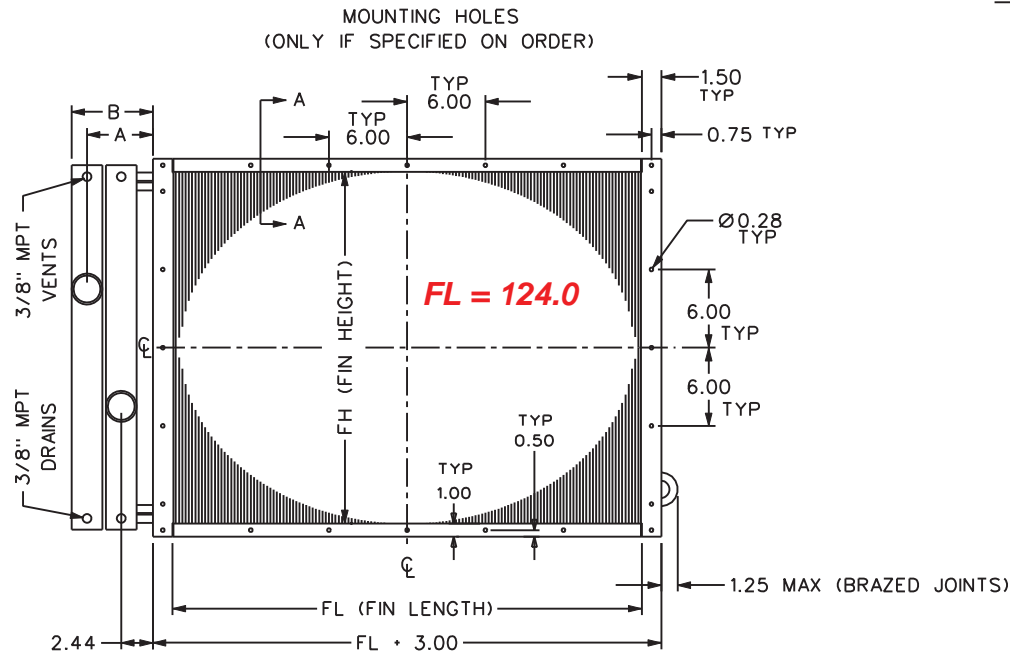
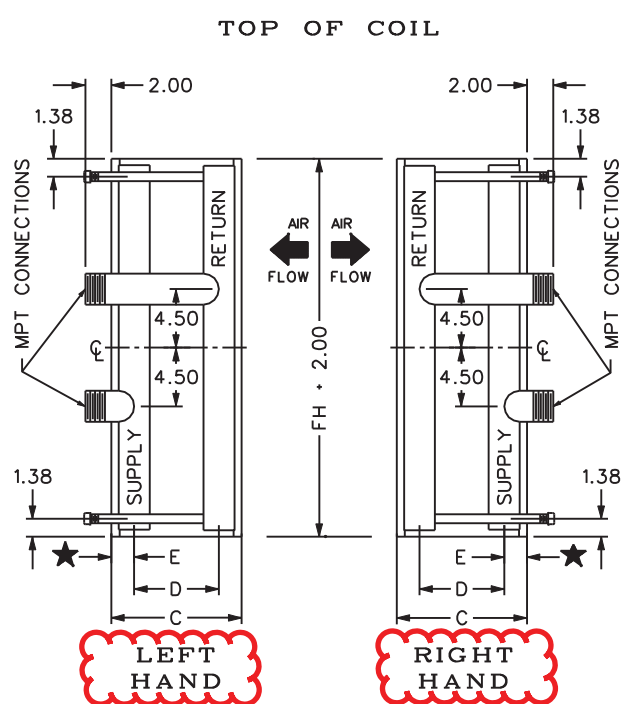
Performance V

Pressure:	29.92	IN HG	Elevation:	Sea Level		
Airflow:	130,000.0	SCFM	Water			
System Face Area:	240.3	FT²	Flow Rate:	1,491.85	GPM	
Standard Face Velocity:	541.1	FPM	Entering Temp:	44.0	°F	
Entering Dry Bulb Temp:	92.0	°F	Leaving Temp:	56.8	°F	
Entering Wet Bulb Temp:	73.0	°F	Tube Velocity:	4.7	FPS	
Leaving Dry Bulb Temp:	49.7	°F	Inside Surface Fouling:	0.0000	HR·FT²·°F/BTU	
Leaving Wet Bulb Temp:	49.7	°F				
Outside Surface Fouling:	0.0000	HR·FT²·°F/BTU				
Sensible Heat Load:	5,939.2	MBH				
Total Heat Load:	9,540.1	MBH				
Losses						
Air Friction:	1.59	IN H2O	Pressure Drop:	12.7	FT H2O	

Comments:

Notes & Warnings:

- 100 Oversized connection specified.
- 56 Rated in accordance with AHRI Standard 410.
- 54 Approach temperature < recommended unless ideal conditions exist.
- 13 Pressure drop shown is based on belled tube ends.



0.63
C
TYP
0.75 TYP
1.50 TYP
0.28 TYP
6.00 TYP
6.00 TYP
1.00 TYP
0.50 TYP
1.25 MAX (BRAZED JOINTS)

TABLE 1

TUBE FACE

FIN HGT	TF	FIN HGT	TF	FIN HGT	TF
12.0	8	31.5	21	51.0	34
13.5	9	33.0	22	52.5	35
15.0	10	34.5	23	54.0	36
16.5	11	36.0	24	55.5	37
18.0	12	37.5	25	57.0	38
19.5	13	39.0	26	58.5	39
21.0	14	40.5	27	60.0	40
22.5	15	42.0	28	61.5	41
24.0	16	43.5	29	63.0	42
25.5	17	45.0	30	64.5	43
27.0	18	46.5	31	66.0	44
28.5	19	48.0	32	67.5	45
30.0	20	49.5	33	69.0	46

TABLE 2

STANDARD SIZE CONN'S

FIN HEIGHT	CONN SIZES	MAX GPM	A	B	CONN SIZES	MAX GPM	A	B
12.0 THRU 43.5	2 1/2"	160	5.56	7.00	3"	250	6.10	7.84
45.0 THRU 69.0	3"	230	6.13	7.97	4"	475	7.19	9.44

TABLE 3

ROW	CONN SIZE	C	D	E
4	2 1/2" & 3"	8.50	3.90	2.30
4	4"	8.50	4.50	2.09
8	2 1/2", 3" & 4"	12.50	7.80	2.35
12	2 1/2", 3" & 4"	18.00	13.00	2.50

NOTES:

- HORIZONTAL & VERTICAL AIR FLOW.
- COIL "HAND" MUST BE SPECIFIED.
- BRAZED JOINTS ONLY.

SPECIAL CONN. NOTE:

- ★ 1. IF CONN. RADIUS (ACTUAL) EXCEEDS "E" DIM. - HEADER WILL PROTRUDE PAST COIL CASINGS.

TOLERANCE
1. CONNECTION & HEADER LOCATIONS - ± .250
2. CASING DIMENSIONS - ± .125
(ALL DIMENSIONS ARE IN INCHES)

ENERGY FLOW
by **AEROFIN**

TITLE: TYPE "W" COIL, DBL CIRC,
CTR CONN'S TURNED 90° DOWN STREAM,
1" SIDE CSG FLGS, 4 & 8 ROW - 12" THRU 69"
FIN HGT, 12 ROW - 12" THRU 54" FIN HGT

DWG.NO.

CA-W-104-27

A	CHECKED	5/17/03	LBN	
NO	REVISION	DATE	DR	ENG



Date: 19/12/2011
Job Name: 101130
System ID: 011767-HRC

Model No.	Qty. In Face	FL INCH	Total Weight LBS.
W-9.0AS-46.5 X 124.0-6-1.5	6	124.00	7,007

Totals:		6	7,007
Coil Type: W	Tube:	0.625 inch X 0.035 inch Copper Seamless Tubes , Belled	
TF: 31	Fin Material:	Aluminum Star	Thickness: 0.0095 IN.
Row: 6	Csg Material:	1" Leg with Stainless Stl Casings, with Mounting Holes	
Fin: 9.00 / IN	Connection:	(1) 3" (Center) Threaded Non-Ferrous, Extended 5 inches,	
Circuit: 1-1/2	Hdr Material:	Standard Non-Ferrous with Brazed Joints	

Dwg: CA-W-102-59

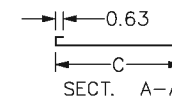
Performance V

Pressure:	29.92	IN HG	Elevation:	Sea Level
Airflow:	130,000.0	SCFM	30% Ethylene Glycol	
System Face Area:	240.3	FT ²	Flow Rate:	600.00 GPM
Standard Face Velocity:	541.1	FPM	Entering Temp:	40.7 °F
Entering Dry Bulb Temp:	0.0	°F	Leaving Temp:	29.0 °F
			Tube Velocity:	2.5 FPS
Leaving Dry Bulb Temp:	22.4	°F	Inside Surface Fouling:	0.0000 HR·FT ² ·°F/BTU
Outside Surface Fouling:	0.0000	HR·FT ² ·°F/BTU		
Sensible Heat Load:	3,137.8	MBH		
Total Heat Load:	3,137.8	MBH		
Losses				
Air Friction:	0.42	IN H2O	Pressure Drop:	5.9 FT H2O

Comments:

Notes & Warnings:

- 56 Rated in accordance with AHRI Standard 410.
- 13 Pressure drop shown is based on belled tube ends.



1. HORIZONTAL & VERTICAL AIR FLOW.
2. COIL "HAND" MUST BE SPECIFIED.
3. BRAZED JOINTS ONLY.

★ 1. IF CONN. RADIUS (ACTUAL) EXCEEDS
"E" DIM. — HEADER WILL PROTRUDE
PAST COIL CASINGS.

ROW	CONN SIZES	C	D	E
3	2 1/2", 3"	8.50	3.90	2.30
3	4"	8.50	4.50	2.00
6	2 1/2", 3", 4"	10.00	5.20	2.40
9	2 1/2", 3", 4"	15.00	9.10	2.95
12	2 1/2", 3", 4"	18.00	13.00	2.50

TOLERANCE
1. CONNECTION & HEADER LOCATIONS $\approx .250$
2. CASING DIMENSIONS $\approx .125$
(ALL DIMENSIONS ARE IN INCHES)

CA-W-102-24



Twin City Fan & Blower

A Twin City Fan Company

5959 Trenton Lane · Minneapolis, MN 55442-3238
Phone (763) 551-7600 · Fax (763) 551-7601 · www.tcf.com



Customer: INGENIA TECHNOLOGIES INC.
Job Name: UC Rievesch Hall
Job ID: 083011rr-1

August 30, 2011
Page 1

Fan Description	Fan Performance	Motor Data
Tag N/A	Total CFM 130,000	HP 60
Quantity 5	CFM/fan 26,000	RPM 1800
# fans per system 5	Operating SP (in.wg) 8.7	Voltage 460V
Type EPQN	Standard SP (in.wg) 8.7	Phase 3
Size 330	RPM 1754	Hz 60
Width SWSI	Tip Speed (fpm) 15,153	Enclosure TEFC
Arrangement 4	Oper. BHP/fan 50.02	Efficiency Prm.Eff.
Class III	Standard BHP/fan 50.02	Frame 364T
Rotation CCW	Tot. Oper. BHP 250.08	
Discharge HOR	Tot. Standard BHP 250.08	
Wheel diameter (in.) 33	Outlet area (sq. ft) 8.88	
Drive method 60 Hz direct drive	Outlet Velocity (fpm) 2,927	
Percentage width 105%	Temperature (°F) 70	
Percentage diameter 100%	Altitude (ft) 0	
	Density (lb/ft ³) 0.075	
	Max RPM for Class 2083	
	Static Efficiency 71.09	
	Total Efficiency 75.45	
	Fan Efficiency Grade FEG80	

Modifiers

5 fans operating in system, % width: 105%

Sound

Individual Sound Power Levels in dB re. 10-12Watts:

Octave Bands	1	2	3	4	5	6	7	8	LwA
Level at Inlet	92	93	100	103	90	89	84	78	101
Level at Outlet	96	95	101	106	98	96	91	84	105

Total Package Sound Power Levels in dB re. 10-12Watts:

Octave Bands	1	2	3	4	5	6	7	8	LwA
Level at Inlet	99	100	107	110	97	96	91	85	108
Level at Outlet	103	102	108	113	105	103	98	91	112

Individual fan estimated sound pressure level in dBA (re: 0.0002 microbar) based on a single* ducted installation:

Distance in ft	1	3	5
dBA at Inlet	101	91	87
dBA at Outlet	105	95	91

*To estimate dBA level for ducted inlet and ducted outlet (into and out of the room) type installation, deduct 20 from the LwA value shown.

Using a directivity factor of 1.

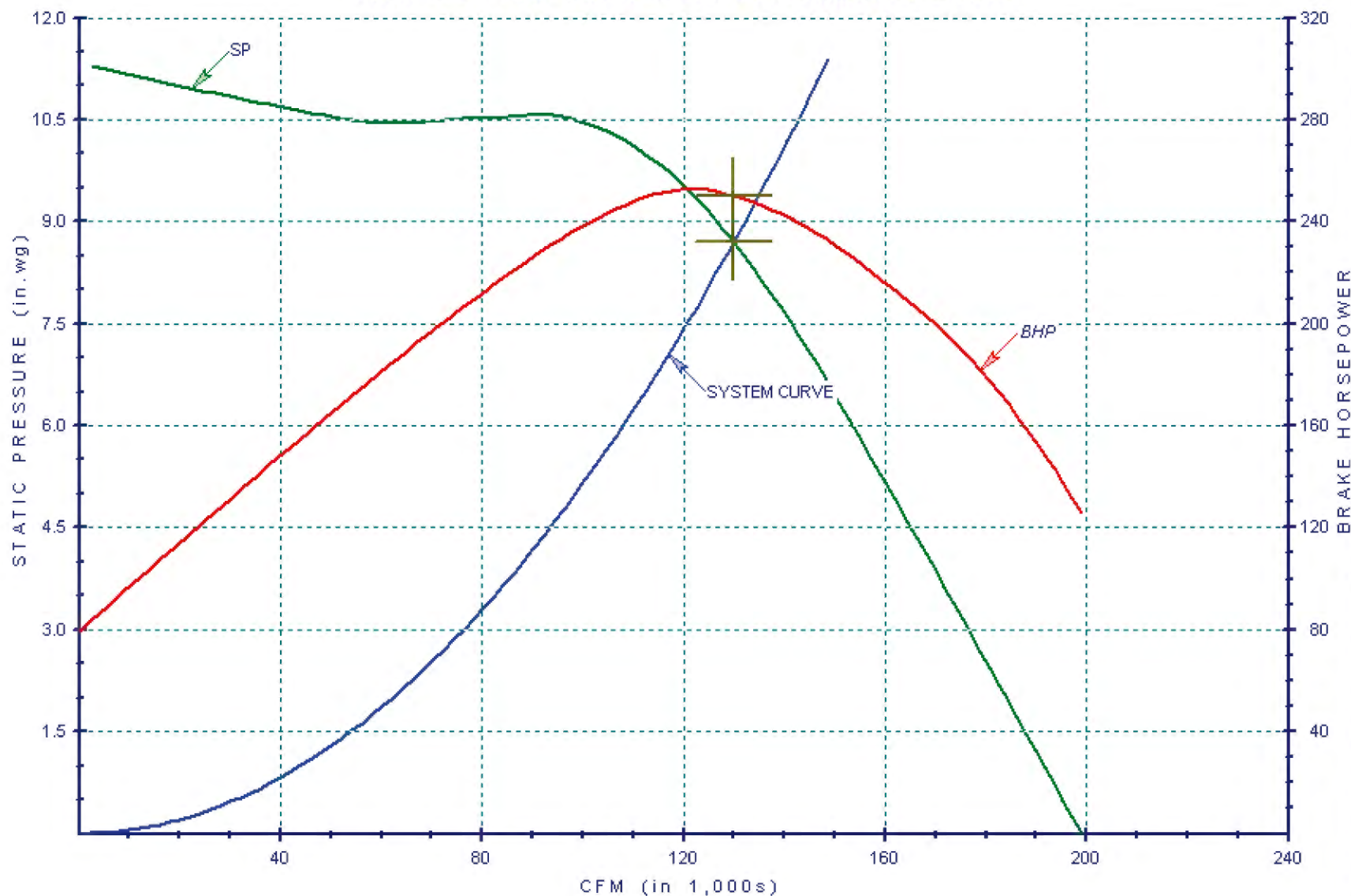
Estimated Sound Pressure based on free field, spherical (Q = 1) radiation at the stated distance.



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Customer: INGENIA TECHNOLOGIES INC.	Fan Tag: SF	Total CFM: . 130,000
Job ID: 211472	Model: 330 EPQN	SP: 8.7 in.wg
Represented By: Twin City Fan Companies, Ltd. (763) 551-7600		RPM: 1754
		BHP: ... 50.02 / fan
		Outlet Velocity: 2,927
		Density: 0.075
Corrected for: 5 fans operating in system % width: 105%		

TWIN CITY FAN AND BLOWER PERFORMANCE CURVE



Total Package	
Sound Power Level	
Octave	In/Out
1	99 / 103
2	100 / 102
3	107 / 108
4	110 / 113
5	97 / 105
6	96 / 103
7	91 / 98
8	85 / 91
in db re 10 ⁻¹² watts	


11/16/2011
Page: 1 of 2

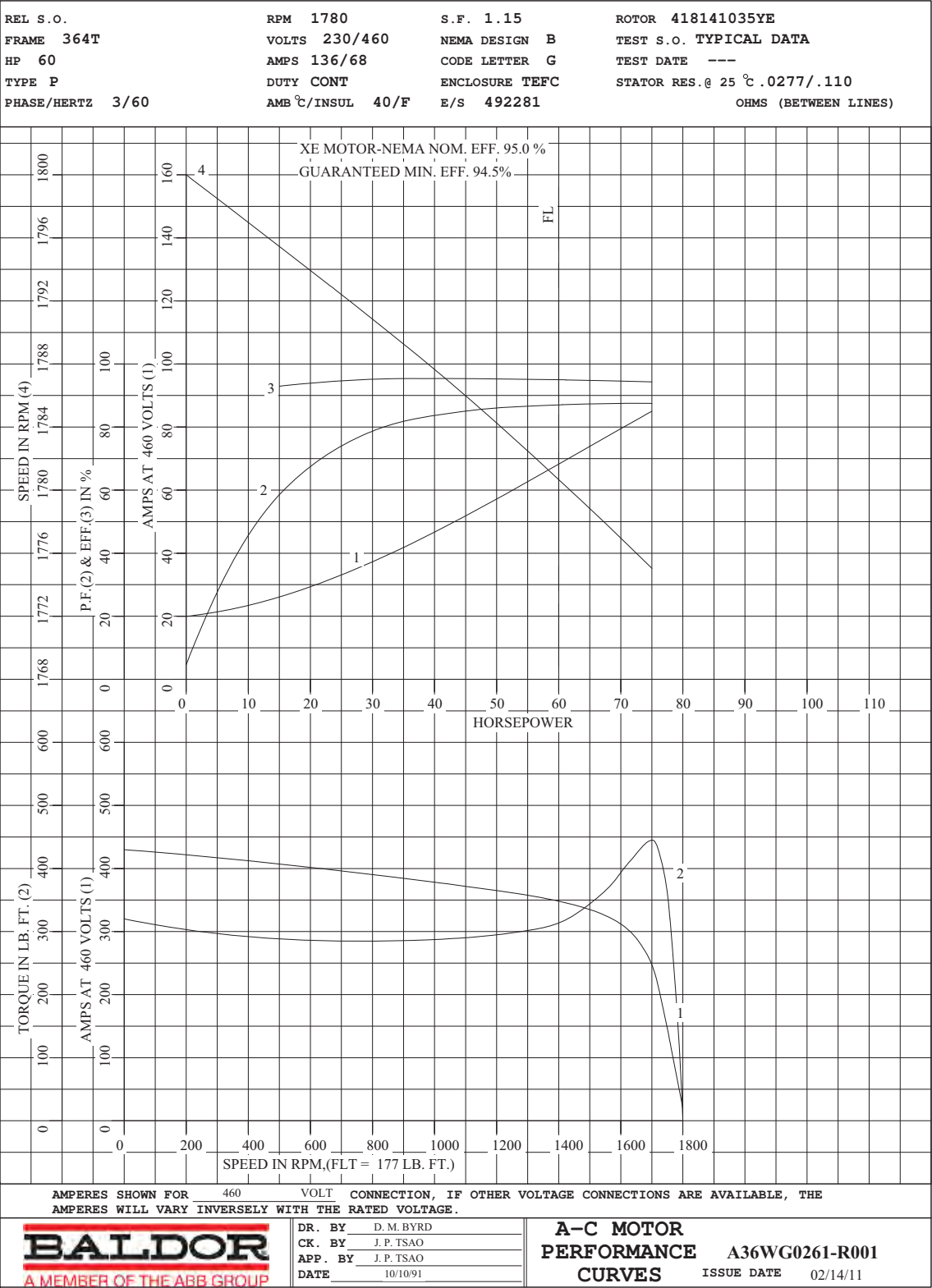
Part Detail

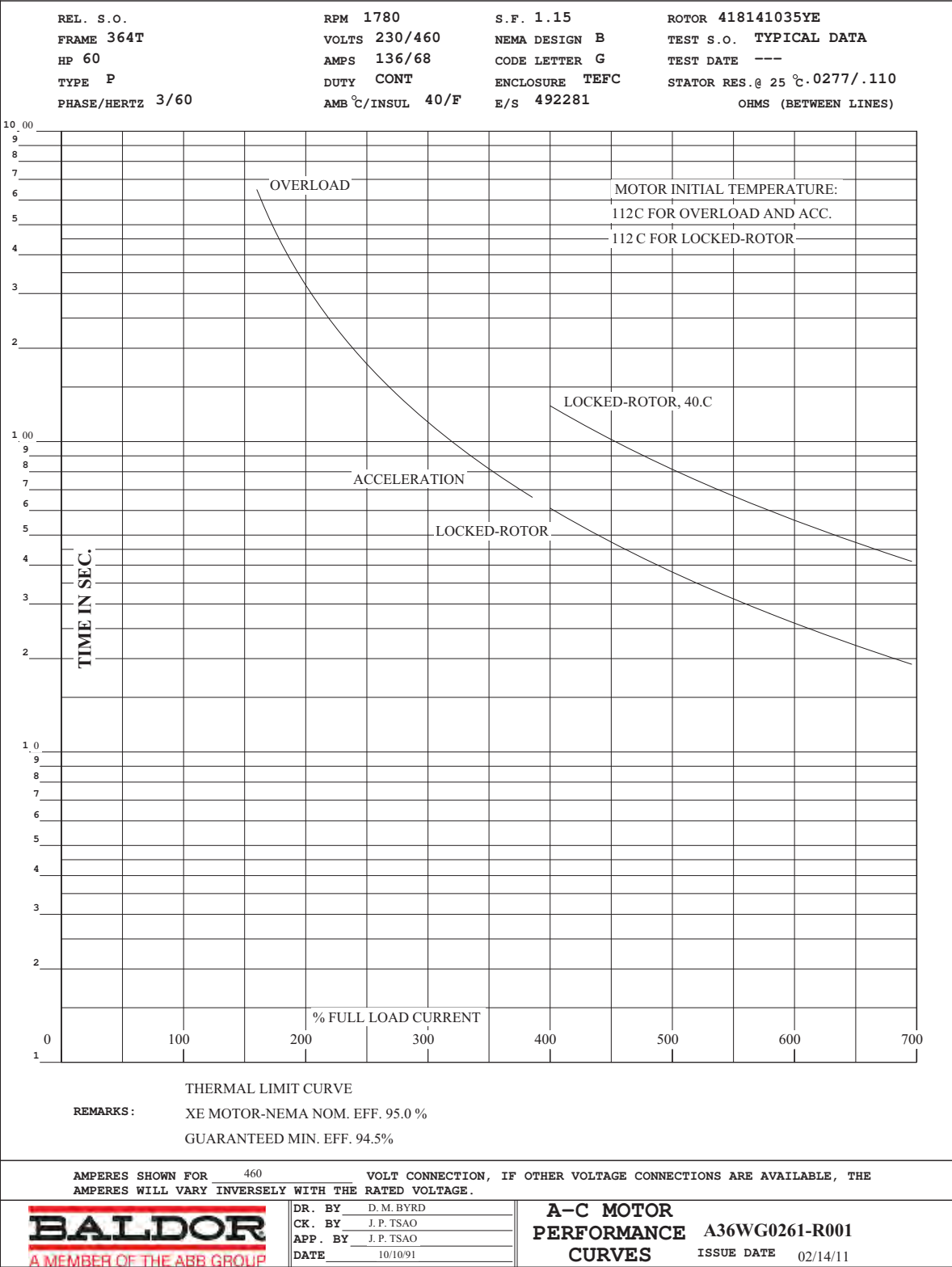
Revision:	B	Status:	PRD/A	Change #:		Proprietary:	No
Type:	AC	Prod. Type:	A36062M	Elec. Spec:	A36WG0261	CD Diagram:	
Enclosure:	TEFC	Mfg Plant:		Mech. Spec:		Layout:	
Frame:	364T	Mounting:	F1	Poles:	04	Created Date:	10-19-2010
Base:		Rotation:	R	Insulation:	F	Eff. Date:	08-16-2011
Leads:	3#4,6#6	Literature:		Elec. Diagram:		Replaced By:	

Nameplate NP2383L

CAT.NO.	EM4314T	SPEC NO.	P36G3425					
HP	60	AMPS	136/68	VOLTS	230/460	DESIGN	B	
FRAME	364T	RPM	1780	HZ	60	AMB	40 SF	1.15
DRIVE END BEARING	65BC03J30X	PHASE	3	DUTY	CONT	INSUL.CLASS	F	
OPP D.E. BEARING	65BC03J30X	TYPE	P	ENCL	TEFC	CODE	G	
SER.NO.		POWER FACTOR	87	NEMA-NOM-EFFICIENCY	95			
	SUIT FOR 208V @ 149 AMPS	MAX CORR KVAR	10.0	GUARANTEED EFFICIENCY	94.5			
		NEMA NOM/CSA QUOTED EFF						
		MOTOR WEIGHT						

REL. S.O.	FRAME	HP	TYPE	PHASE/ HERTZ	RPM	VOLTS
	364T	60	P	3/60	1780	230/460
AMPS	DUTY	AMB °C/ INSUL.	S.F.	NEMA DESIGN	CODE LETTER	ENCL.
136/68	CONT	40/F	1.15	B	G	TEFC
E/S	ROTOR	TEST S.O.	TEST DATE	STATOR RES.@25 °C OHMS (BETWEEN LINES)		
492281	418141035YE	---	---	.0277/.110		
PERFORMANCE						
LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY	
NO LOAD	0	20.1	1800	4.67	0	
1/4	15.0	25.8	1795	58.6	93.0	
2/4	30.0	37.5	1791	78.7	95.2	
3/4	45.0	51.9	1786	85.0	95.3	
4/4	60.0	68.0	1781	87.0	95.0	
5/4	75.0	85.1	1775	87.5	94.3	
SPEED TORQUE						
		RPM	TORQUE % FULL LOAD	TORQUE LB.-FT.	AMPERES	
LOCKED ROTOR		0	181	320	430	
PULL UP		720	161	285	395	
BREAKDOWN		1703	251	445	244	
FULL LOAD		1781	100	177	68.0	
AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE						
REMARKS: TYPICAL DATA XE MOTOR-NEMA NOM. EFF. 95.0 % GUARANTEED MIN. EFF. 94.5%						
 A MEMBER OF THE ABB GROUP		DR. BY D. M. BYRD CK. BY J. P. TSAO APP. BY J. P. TSAO DATE 10/10/91		A-C MOTOR PERFORMANCE A36WG0261-R001 DATA ISSUE DATE 02/14/11		





611740-001-SH1

611740-001-SH1

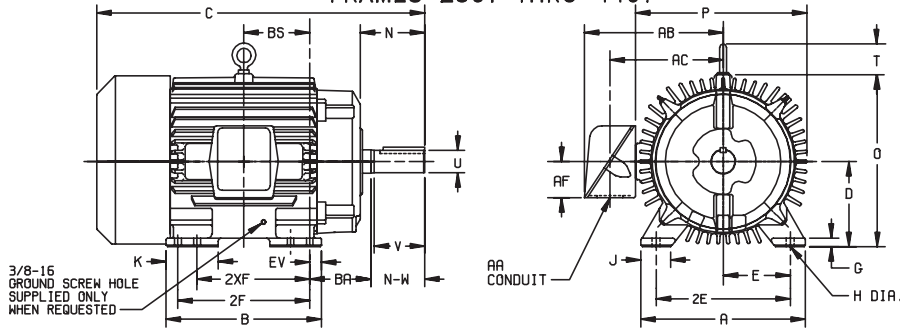
DUTY MASTER ALTERNATING CURRENT MOTORS

SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT

COOLING: FAN COOLED

FRAMES 250T THRU 440T



DIMENSIONS ARE IN INCHES; SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

FRAME	A	D(2)	E	G	H	J	K	O	P	T	STEEL TERMINAL BOX						BA	EV
											AA	AB	AC	AF	BA	EV		
254T-256T	12.50	6.25	5.00	.75	.56	2.50	---	13.25	13.25	2.44	1-1/4	10.75	8.75	2.50	4.25	1.00		
284T-286TS	13.75	7.00	5.50	.75	.56	2.50	---	14.75	14.88	2.44	1-1/2	12.75	10.00	3.19	4.75	1.00		
324T-326TS	15.50	8.00	6.25	.88	.69	2.75	4.50	16.69	17.00	2.44	2	15.19	11.44	4.25	5.25	1.38		
364T-365TS	17.00	9.00	7.00	.88	.69	2.75	3.88	18.50	19.50	2.94	3	18.06	14.00	5.38	5.88	1.38		
404T-405TS	19.00	10.00	8.00	1.12	.81	3.25	4.62	21.31	22.50	2.94	3	19.31	15.25	5.38	6.62	1.13		
444T-445TS	21.00	11.00	9.00	1.12	.81	3.25	5.25	23.38	25.25	3.25	3	23.38	18.12	6.50	7.50	1.25		

(1)

FRAME SIZE	C	BS	B	2F	(4) 2XF	N	SHAFT AND KEY					LGTH.	WEIGHT LBS. (5)
							N-W(6)	U(3)	V	SQ.			
254T	24.56	5.00	12.00	---	8.25	4.12	4.00	1.625	3.75	.375	2.88	305	
256T	24.56	5.00	12.00	10.00	---	4.12	4.00	1.625	3.75	.375	2.88	315	
284T	27.44	5.50	13.00	---	9.50	5.00	4.62	1.875	4.38	.500	3.25	435	
284TS	26.06	5.50	13.00	---	9.50	3.62	3.25	1.625	3.00	.375	1.88	435	
286T	27.44	5.50	13.00	11.00	---	5.00	4.62	1.875	4.38	.500	3.25	450	
286TS	26.06	5.50	13.00	11.00	---	3.62	3.25	1.625	3.00	.375	1.88	450	
324T	30.44	6.00	14.75	---	10.50	5.62	5.25	2.125	5.00	.500	3.88	540	
324TS	28.94	6.00	14.75	---	10.50	4.12	3.75	1.875	3.50	.500	2.00	540	
326T	30.44	6.00	14.75	12.00	---	5.62	5.25	2.125	5.00	.500	3.88	580	
326TS	28.94	6.00	14.75	12.00	---	4.12	3.75	1.875	3.50	.500	2.00	580	
364T	33.44	6.12	15.00	---	11.25	6.25	5.88	2.375	5.62	.625	4.25	800	
364TS	31.31	6.12	15.00	---	11.25	4.12	3.75	1.875	3.50	.500	2.00	794	
365T	33.44	6.12	15.00	12.25	---	6.25	5.88	2.375	5.62	.625	4.25	840	
365TS	31.31	6.12	15.00	12.25	---	4.12	3.75	1.875	3.50	.500	2.00	834	
404T	38.31	6.88	16.00	---	12.25	7.50	7.25	2.875	7.00	.750	5.62	1120	
404TS	35.31	6.88	16.00	---	12.25	4.50	4.25	2.125	4.00	.500	2.75	1111	
405T	38.31	6.88	16.00	13.75	---	7.50	7.25	2.875	7.00	.750	5.62	1160	
405TS	35.31	6.88	16.00	13.75	---	4.50	4.25	2.125	4.00	.500	2.75	1151	
444T	44.62	8.25	19.00	---	14.50	8.94	8.50	3.375	8.25	.875	6.88	1540	
444TS	40.88	8.25	19.00	---	14.50	5.19	4.75	2.375	4.50	.625	3.00	1524	
445T	44.62	8.25	19.00	16.50	---	8.94	8.50	3.375	8.25	.875	6.88	1730	
445TS	40.88	8.25	19.00	16.50	---	5.19	4.75	2.375	4.50	.625	3.00	1714	

(1)

(1)

(1) SPECIAL DIMENSIONS APPLYING TO THIS ORDER ON THIS LINE.

(2) "D" VARIES
250T - 320T +.00, -.03.
360T - 440T +.00, -.06.

(3) "U" VARIES
UP TO 1.625 DIA. +.0000, -.0005
1.625 AND LARGER +.000, -.001.

(4) ALL FRAMES HAVE EIGHT MOUNTING HOLES FOR DUAL MOUNTING.

(5) MOTOR WEIGHTS MAY VARY BY 15% DEPENDING UPON RATING.

(6) "N-W" VARIES +.00, -.25.

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2,W-1, W-4,W-5,W-7, OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF STD. SHAFT EXTENSION IS .002 T.I.R. UP TO AND INCLUDING 1.625 DIA. AND .003 T.I.R. 1.625 DIA. TO 5 INCH DIA.

FRAME- _____ TYPE- _____ CERTIFIED FOR- _____
ORDER- _____ ITEM- _____ HP- _____ RPM- _____ PH- _____ HZ _____ VOLTS _____
RELIANCE SALES ORDER- _____ APPROVED BY- _____ DATE _____

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: UPDATE TITLE SHEET 2

REV. LTR: B VERSION: 02

FILE: \RAG\00000\167

MTL: -

TDR: 000000498266

REVISED: 07:05:46 04/29/2009

BY: RAGEC

DIM SHEET 250T THRU 440T

SH 1 of 1

Baldor • Dodge • Reliance

Project Submittal for Rieveschl Hall Renovations

PO Number:

Specification:

Engineering Contact: Fosdick & Hilmer

Contractor: TJ Dyer

Architect:

End Customer (User): University of Cincinnati

Submitted By: WRP Associates, LLC

Revision:

Date: November 7, 2011



Submittal Schedule

This schedule includes the products supplied as part of this submittal.

Schedule			Motor Data ¹			Drive Data			
Item	Qty	Tag / Equipment ID	HP	FLA	Voltage	Product ID	HP	Output Amps	Voltage
1	5	SAF-2-1, 2-2. 2-3, 2-4, 2-5	60	77	460 VAC	ACH550-VCR-078A-4	60	77	480 VAC
Notes: 1. AC Motor Data is per National Electrical Code Table 430.250 for typical motors used in most applications and is provided as typical data only. DC motor data is per typical industry standards. Actual motor data may vary.									

Notes:

VFD's include dc link chokes

Submittal Schedule Details for SAF-2-1, 2-2. 2-3, 2-4, 2-5

Item	Tag / Equipment ID	Product ID
1	SAF-2-1, 2-2. 2-3, 2-4, 2-5	ACH550-VCR-078A-4

Item Description
Input Voltage: 480 VAC Rated Output Current: 77 AMPS Construction: Vertical E-clipse-Bypass, Circuit Breaker Enclosure: NEMA 1 UL Type 1 Nominal Horsepower: 60 Frame Size: R4 Input Disconnecting Means: Circuit Breaker Bypass: E-Clipse Bypass Input Impedance: 5% Short Circuit Current Rating: 100 kA Communication Protocols: , Siemens Buildings Technologies FLN (P1), BACnet Other Options:

Drive Input Fuse Ratings ¹	
(Note: Drive is UL approved without the need for input fuses. Fuse rating information provided for customer reference)	
Amps (600 V)	Bussmann Type
100	JJS-100

Wire Size Capacities of Power Terminals				
Circuit Breaker	Disconnect Switch	Terminal Block	Overload Relay	Ground Lug
#1 50 in-lbs	N/A N/A	#2/0 120 in-lbs	N/A N/A	#2 50 in-lbs

Dimensions and Weights				
Height in / mm	Width in / mm	Depth in / mm	Weight lbs / kg	Dimension Drawing
51.8 / 1316	8.4 / 214	12.1 / 307	92 / 42	3AUA0000016374 Sheet 1

Heat Dissipation & Airflow Requirements			
Power Losses		Airflow	
Watts	BTU/Hr	CFM	CM/Hr
1295	4420	165	280

Reference Drawings		
Power Wiring	Connection Diagram	Dimension Detail
00VCR024PW-A	VCVDR014CC-A	3AUA0000016374 Sheet 1



Quality...not compromises

University of Cincinnati Rieveschl Hall Lab Renovation Cincinnati, OH

Custom Air Handling Unit Submittal Package
AE Project Number: 3583
September 16, 2009

Project Summary pg. 1
Equipment Schedules pp. 2 - 9
Appendix pp. 10 - 17
Construction Details 358300-100

Drawing Schedule

Unit	AHU-1A, 1B	358301-01	358301-02				

Purchased By: TP Mechanical
Purchase Order #: A172169842
Consulting Engineer: URS

Air Enterprises Rep: EliteAire

- ☐ REVIEWED/APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE AND RESUBMIT

Air Enterprises Project Summary									
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[illegible]

AIRENTERPRISES
Quality...not compromises

[illegible]

- 1 INLET SCREEN
- 2 ACOUSTIC DIFFUSER
- 3 12 BLADE ALUMINUM WHEEL
- 4 PIEZOMETER RING

1 MOTOR REMOVAL RAIL PROVIDED BY AIR ENTERPRISES
2 SEISMIC ISOLATORS PROVIDED BY AIR ENTERPRISES

AIR ENTERPRISES
Quality...not compromises

[illegible]

OPTIONS:

- 1 PREMIUM EFFICIENCY
2 SHAFT GROUNDING KIT
3 SUITABLE FOR OPERATION WITH VFDs

AIR ENTERPRISES ASSEMBLY NOTES:

1

JOB NO. 3583
 USER: University of Cincinnati
 PURCHASER: TP Mechanical
 P.O. NO.: A172169842
 ENGINEER: URS
 DATE: 9/16/09



WATER COIL SCHEDULE

S.O. NO.	UNIT NO.	DESC.	QTY	MFG.	MODEL NO.	FH	FL	ROW	FPI	CONN. SIZE	HAND	CFM	MBH	EAT (F)		LAT (F)		APD (in wc)	FV FPM	EWT (F)	LWT (F)	GPM	WPD (ft)	OPTIONS
														DB	WB	DB	WB							
358301	AHU-1A, 1B	CWC	4	HEATCRAFT	5WM1110B	42	90	10	11	2"	RIGHT	52,500	3882	92.0	73.0	49.7	49.7	1.31	500	44	57.16	588	21.2	1,2,4,5
358301	AHU-1A, 1B	CWC	4	HEATCRAFT	5WM1110B	42	90	10	11	2'	LEFT	52,500	3882	92.0	73.0	49.7	49.7	1.31	500	44	57.16	588	21.2	1,2,4,5
358301	AHU-1A, 1B	ERC	4	HEATCRAFT	5WS1006B	42	78	6	10	2"	RIGHT	52,500	1366	0.0	-	24.0	-	0.71	577	35.96	25.97	300	11.5	1,2,3,5,6,7,8
												52,500	399.9	92.0	73.0	85.0	70.7	0.71	577	82.49	0	300	9.8	9
358301	AHU-1A, 1B	ERC	4	HEATCRAFT	5WS1006B	42	78	6	10	2"	LEFT	52,500	1305	0.0	-	24.0	-	0.71	577	35.96	26	300	11.5	1,2,3,5,6,7,8
												52,500	399.9	92.0	73.0	85.0	70.7	0.71	577	82.49	0	300	9.8	9

OPTIONS:

- | | |
|---|--|
| 1 .035" X 5/8" COPPER TUBES, .0095" ALUMINUM FINS | 7 PERFORMANCE BASED ON 30% ETHYLENE GLYCOL |
| 2 1½" STAINLESS STEEL CASING FLANGES | 8 WINTER PERFORMANCE |
| 3 TURNED TOP CASING FLANGE | 9 SUMMER PERFORMANCE |
| 4 TURNED TOP & BOTTOM CASING FLANGE | |
| 5 NON-FERROUS HEADERS, SAME END STEEL CONNECTIONS | |
| 6 MPT CONNECTIONS TURNED DOWNSTREAM | |

AIR ENTERPRISES ASSEMBLY NOTES:

- SLOPED 16GA 304 SS CONDENSATE DRAIN PANS
- 3" DEEP; 3 1/2" MIN. UPSTREAM EXTENSION; 12" MIN. DOWNSTREAM EXTENSION
- COOLING COIL SUPPORT GRID, VERTICAL SUPPORT ANGLES AND FLASHING MATERIAL TO BE STAINLESS STEEL
- ER COIL FLASHING AND VERTICAL SUPPORT ANGLES TO BE ALUMINUM
- ALL PIPING BY OTHERS



Twin City Fan & Blower

A Twin City Fan Company

5959 Trenton Lane · Minneapolis, MN 55442-3238
Phone (763) 551-7600 · Fax (763) 551-7601 · www.tcf.com



Customer: W/A
Job Name: University of Cincinnati
Job ID: 8396

May 07, 2009
Page: 1

Fan Description	Fan Performance	Motor Data
Tag Supply Fan	CFM 26,250	HP 60
Quantity 1	Operating SP (in.wg) 8.7	RPM 1800
Type EPQN	Standard SP (in.wg) 8.7	Voltage 230/460V
Size 330	RPM 1781	Phase 3
Width SWSI	Tip Speed (fpm) 15,387	Hz 60
Arrangement 4	Oper. BHP 49.08	Enclosure TEFC
Class III	Standard BHP 49.08	Efficiency Prm.Eff.
Rotation CW	Outlet area (sq. ft) N/A	Frame 364T
Discharge HOR	Outlet Velocity (fpm) N/A	
Wheel diameter (in.) 33	Temperature (°F) 70	
Drive method .. 60 Hz direct drive	Altitude (ft) 0	
Percentage width 100%	Density (lb/ft³) 0.075	
Percentage diameter 100%	Max RPM for Class 2083	
	Static Efficiency 73.13	
	Mechanical Efficiency 73.13	

Modifiers

Outlet Diffuser

Sound

Sound Power Levels in dB re. 10-12Watts:

Octave Bands	1	2	3	4	5	6	7	8	LwA
Level at Inlet	93	94	101	104	91	90	86	80	102
Level at Outlet	95	94	101	107	96	92	88	82	105

Definitions:

LwA The overall (single value) fan sound power level, 'A' weighted.

Accessories Included

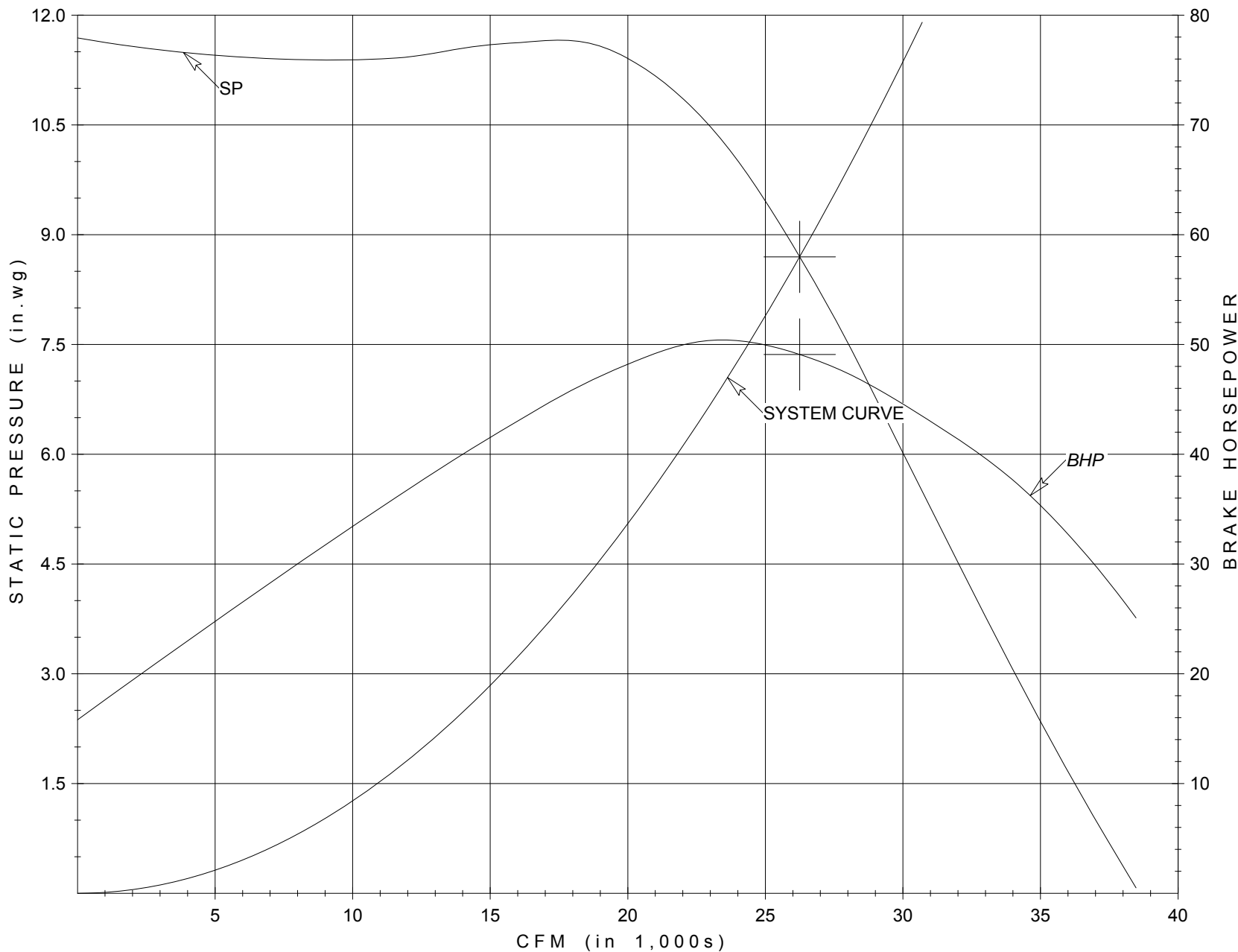
EPQN 330, Class III, Arrangement 4 Bare fan	Net 673 lb.
Diffusers - Outlet Acoustic	29 lb.
60 HP, 1800 RPM, 230/460V, 3Ph, 60Hz, TEFC, Prm.Eff., 364T	744 lb.
Mount TCF Motor	0 lb.
Total Weight	1,446 lb.



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Customer: W/A	Fan Tag: Supply Fan	CFM: _____ 26,250
Job ID: 8396	Model: 330 EPQN	SP: _____ 8.7 in.wg
Represented By: Twin City Fan Companies, Ltd. (763) 551-7600		RPM: _____ 1781

TWIN CITY FAN AND BLOWER PERFORMANCE CURVE



Corrected for:
Outlet Diffuser

Sound Power Level	
Octave	In/Out
1	93 / 95
2	94 / 94
3	101 / 101
4	104 / 107
5	91 / 96
6	90 / 92
7	86 / 88
8	80 / 82
in db re 10 ⁻¹² watts	

5/7/2009 11:34

Customer:	Date:	9/10/2009
Contact:	From:	
Telephone:	Company:	
Fax:	Return Tel:	
Job:	Return Fax:	
Quote #:		

GIVEN DATA**Construction**

Item:	3583 CC
Coils Per Bank:	4
Allow Opp. End:	No
Tube OD IN:	5/8
Coil Duty:	Cool-Standard
Fins Per Inch:	11
Rows:	10
Fin Surface:	B
Fin Height (IN):	42.00
Finned Length (IN):	90.00
Tubing Mat. (IN):	0.035 Copper
Fin Mat. (IN):	0.0095 Aluminum
Conn Qty/Size (IN):	1 / 2.00
Circuiting:	One & One Half
Face Area (SQ FT):	105.00

Air Side

Air Flow (Sft ³ /min)	52,500
Altitude FT:	.00
Ent. Air DB/WB °F:	92.00 / 73.00
Lvg. Air DB/WB °F:	50.00 / 49.00
Total / Sensible MBH:	.00 / .00
Max Air PD "H2O:	.00

Fluid Side

Fluid Type:	Water
Ent. Fluid :	44.00
Lvg. Fluid :	.00
Fluid Flow gal/min:	588.0
Max FPD FT H2O:	.00
TurboSpirals:	No

O U T P U T D A T A			O P T I O N S	
Model Number:		5WM1110B	Casing Material:	304L S/S
Air Velocity:	(Sft/min)	500.0	Casing Type:	Flanged
Total Capacity:	MBH	3,882	Hand:	Left
Sens. Capacity:	MBH	2,426	Connection Material:	Carbon Steel
Lvg. Air DB:	°F	49.74	Connection Type:	MPT
Lvg. Air WB:	°F	49.67	Vent/Drain:	.50 FPT on Face
Standard APD	"H2O	1.31	Label Kit:	No
Lvg. Fluid:	°F	57.16	Coating: None	
Fluid Flow:	gal/min	588.0	Mounting Holes:	No
Fluid PD:	FT H2O	21.24	Drain Headers:	No
Fluid Vel.:	ft/s	4.21	Boxed Headers:	No
Conn Size:	IN	(1) 2.000		
Weight (Dry):	lbm	1,100		
Weight (w/Fluid):	lbm	1,389		
Notes:		AGIL		

Notes:

- | | |
|--|---|
| A) ARI Certified And Rated In Accordance With ARI 410. | I) Header Pressure Drop Exceeds 30% of Total Fluid Pressure Drop. |
| G) Load below specification. Consult factory. | L) Coil rating valid for Heatcraft coils only. |

Customer:	Date:	9/10/2009
Contact:	From:	
Telephone:	Company:	
Fax:	Return Tel:	
Job:	Return Fax:	
Quote #:		

GIVEN DATA**Construction**

Item:	3583 AHU ERC Summer
Coils Per Bank:	4
Allow Opp. End:	No
Tube OD IN:	5/8
Coil Duty:	Cool-Standard
Fins Per Inch:	10
Rows:	6
Fin Surface:	B
Fin Height (IN):	42.00
Finned Length (IN):	78.00
Tubing Mat. (IN):	0.035 Copper
Fin Mat. (IN):	0.0095 Aluminum
Conn Qty/Size (IN):	1 / 2.00
Circuiting:	Single
Face Area (SQ FT):	91.00

Air Side

Air Flow (Sft ³ /min)	52,500
Altitude FT:	.00
Ent. Air DB/WB °F:	92.00 / 73.00
Lvg. Air DB/WB °F:	85.03 / .00
Total / Sensible MBH:	.00 / .00
Max Air PD "H2O:	.00

Fluid Side

Fluid Type:	Ethylene
Percent Glycol:	30
Ent. Fluid :	82.49
Lvg. Fluid :	.00
Fluid Flow gal/min:	300.0
Max FPD FT H2O:	.00
TurboSpirals:	No

O U T P U T D A T A			O P T I O N S	
Model Number:		5WS1006B	Casing Material:	304L S/S
Air Velocity:	(Sft/min)	576.9	Casing Type:	Flanged
Total Capacity:	MBH	399.9	Hand:	Right
Sens. Capacity:	MBH	399.9	Connection Material:	Carbon Steel
Lvg. Air DB:	°F	85.03	Connection Type:	MPT
Lvg. Air WB:	°F	70.74	Vent/Drain:	.50 FPT on Face
Standard APD	"H2O	.71	Label Kit:	No
Lvg. Fluid:	°F	85.38	Coating: None	
Fluid Flow:	gal/min	300.0	Mounting Holes:	No
Fluid PD:	FT H2O	9.80	Drain Headers:	No
Fluid Vel.:	ft/s	3.22	Boxed Headers:	No
Conn Size:	IN	(1) 2.000		
Weight (Dry):	lbm	575.5		
Weight (w/Fluid):	lbm	736.4		
Notes:		AGIL		

Notes:

- | | |
|--|---|
| A) ARI Certified And Rated In Accordance With ARI 410. | I) Header Pressure Drop Exceeds 30% of Total Fluid Pressure Drop. |
| G) Load below specification. Consult factory. | L) Coil rating valid for Heatcraft coils only. |

Customer:	Date:	9/10/2009
Contact:	From:	
Telephone:	Company:	
Fax:	Return Tel:	
Job:	Return Fax:	
Quote #:		

GIVEN DATA**Construction**

Item:	3583 AHU ERC Winter
Coils Per Bank:	4
Allow Opp. End:	No
Tube OD IN:	5/8
Coil Duty:	Heat-Return Bend
Fins Per Inch:	10
Rows:	6
Fin Surface:	B
Fin Height (IN):	42.00
Finned Length (IN):	78.00
Tubing Mat. (IN):	0.035 Copper
Fin Mat. (IN):	0.0095 Aluminum
Conn Qty/Size (IN):	1 / 2.00
Circuiting:	Single
Face Area (SQ FT):	91.00

Air Side

Air Flow (Sft ³ /min)	52,500
Altitude FT:	.00
Ent. Air DB °F:	.00
Lvg. Air DB °F:	20.00
Total Capacity MBH:	.00
Max Air PD "H2O:	.00

Fluid Side

Fluid Type:	Ethylene
Percent Glycol:	30
Ent. Fluid :	35.96
Lvg. Fluid :	.00
Fluid Flow gal/min:	300.0
Max FPD FT H2O:	.00
TurboSpirals:	No

O U T P U T D A T A			O P T I O N S	
Model Number:		5WS1006B	Casing Material:	304L S/S
Air Velocity:	(Sft/min)	576.9	Casing Type:	Inverted Flanges
Total Capacity:	MBH	1,366	Hand:	Right
Lvg. Air DB:	°F	24.00	Connection Material:	Carbon Steel
Standard APD	"H2O	.71	Connection Type:	MPT
Lvg. Fluid:	°F	25.97	Vent/Drain:	.50 FPT on Face
Fluid Flow:	gal/min	300.0	Label Kit:	No
Fluid PD:	FT H2O	11.47	Coating: None	
Fluid Vel.:	ft/s	3.22	Mounting Holes:	No
Conn Size:	IN	(1) 2.000	Drain Headers:	No
Weight (Dry):	lbm	575.5	Boxed Headers:	No
Weight (w/Fluid):	lbm	737.9		
Notes:		BCIL		

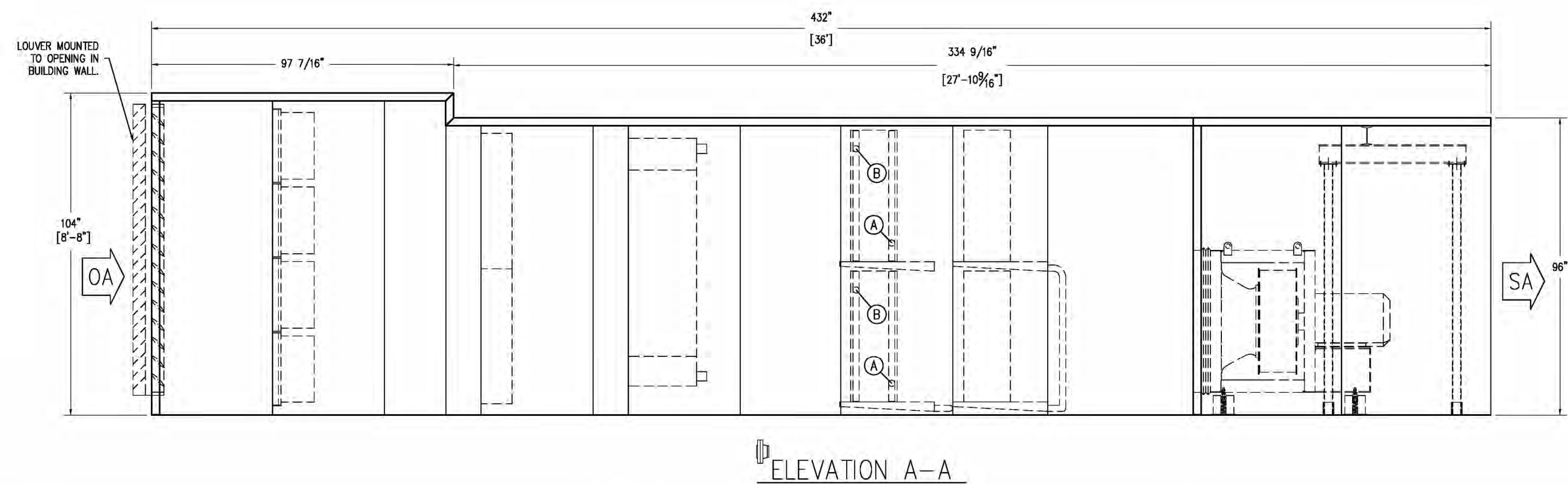
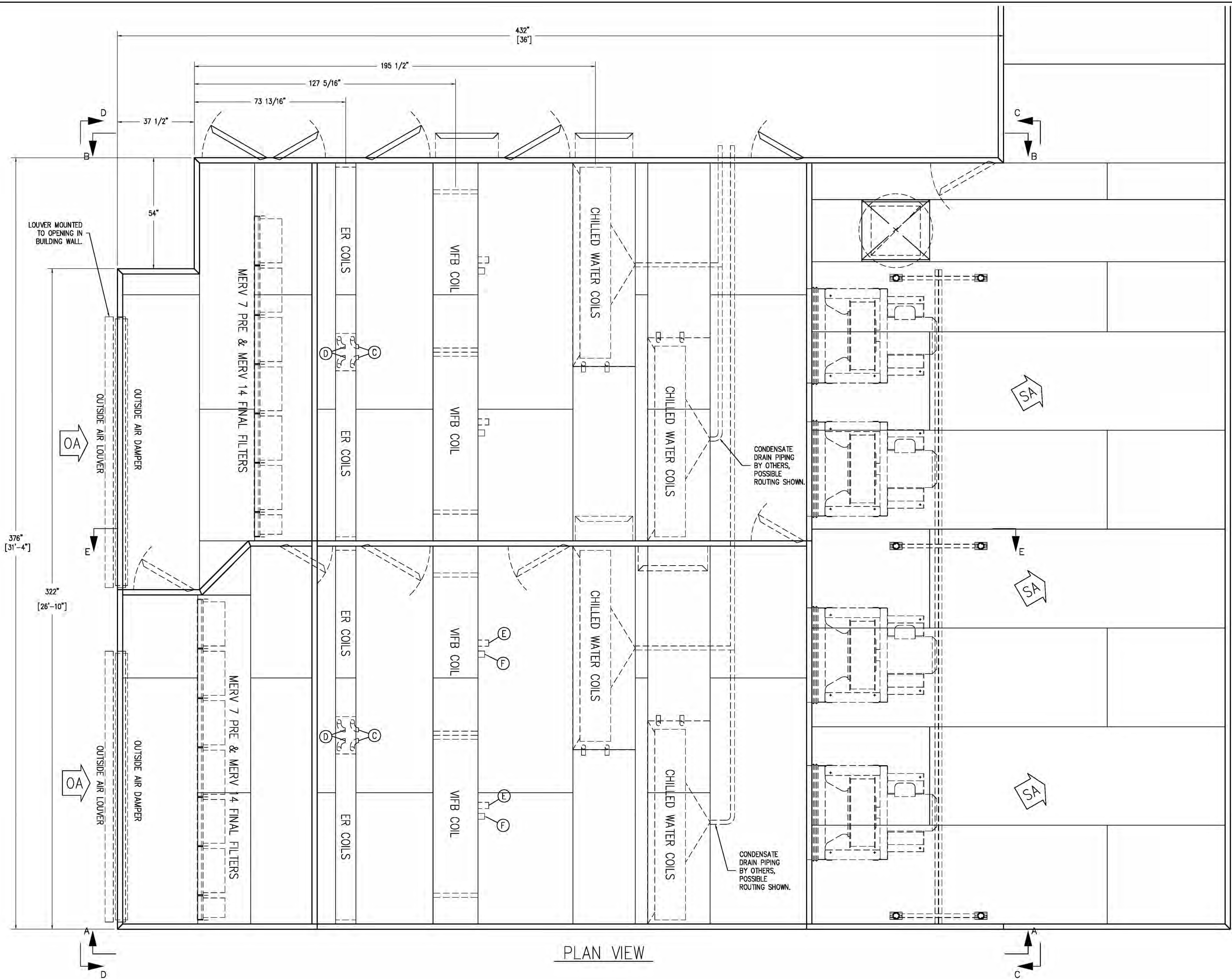
Notes:

B) Rated In Compliance With ARI 410.

C) Coil Not Within Certified ARI Directory.

I) Header Pressure Drop Exceeds 30% of Total Fluid Pressure Drop.

L) Coil rating valid for Heatcraft coils only.

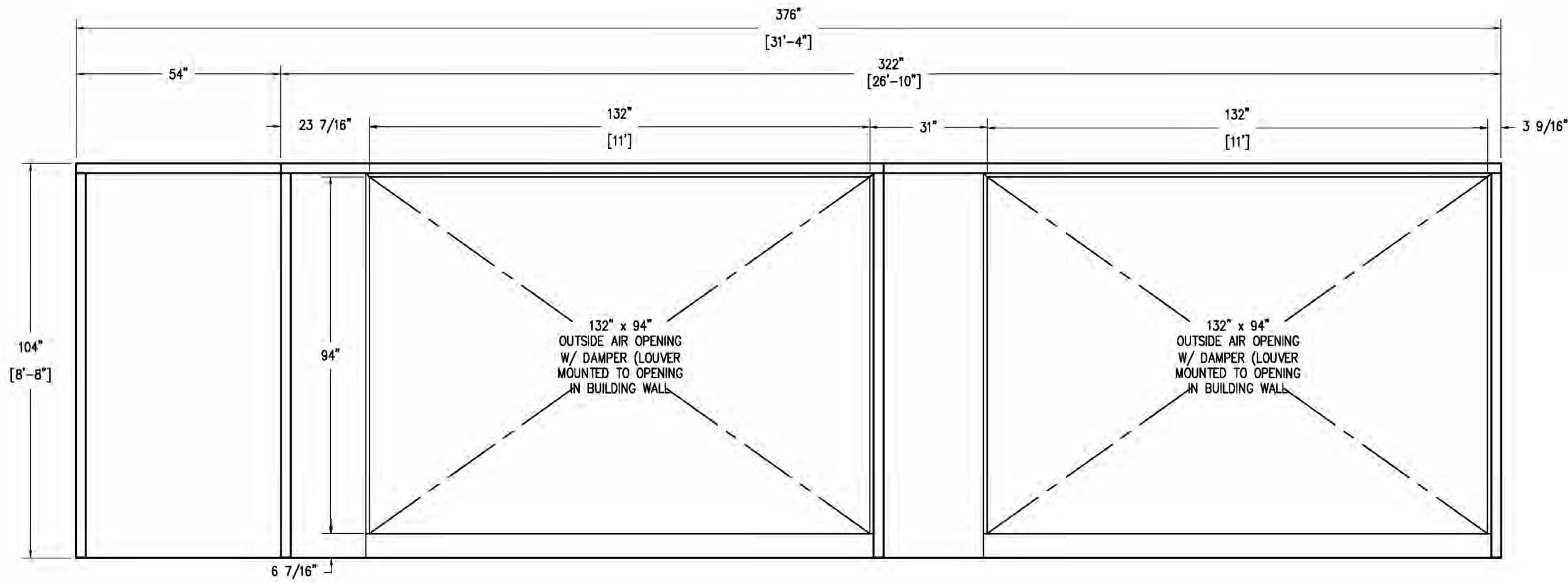


NOTES

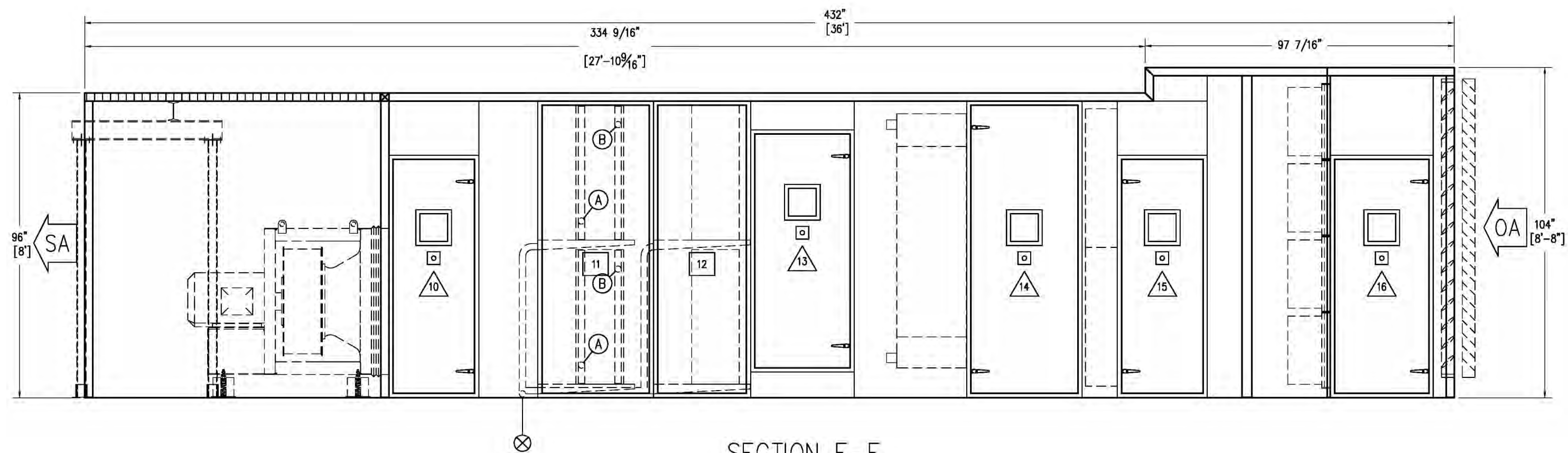
- (A) 2" MPT CHILLED WATER SUPPLY CONNECTION
- (B) 2" MPT CHILLED WATER RETURN CONNECTION
- (C) 2" MPT ETHYLENE GLYCOL/WATER SUPPLY CONNECTION
- (D) 2" MPT ETHYLENE GLYCOL/WATER RETURN CONNECTION
- (E) 3" MPT CONDENSATE RETURN CONNECTION
- (F) 3" MPT STEAM SUPPLY CONNECTION
- ⊗ 2" CONDENSATE DRAIN CONNECTION

REV. LETTER	DATE	REVISIONS	USER'S INITIALS

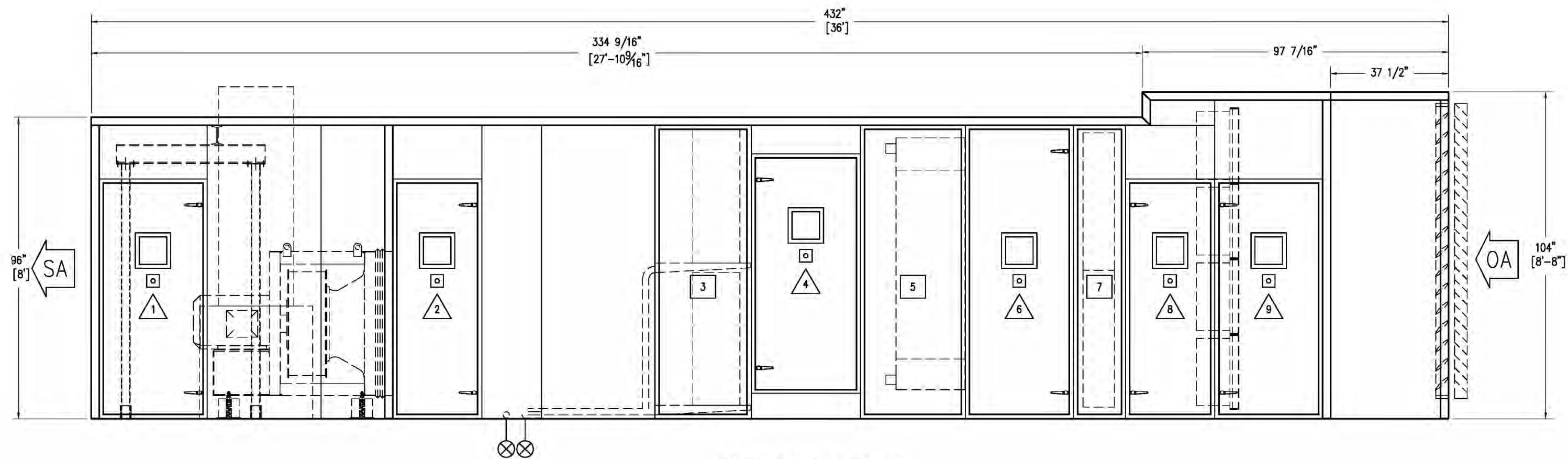
AIR ENTERPRISES <i>Quality without compromise</i> <small>735 Glaser Parkway Akron, Ohio 44306 www.airenterprises.com</small>		<small>SHOP ORDER NO.</small> 358301	<small>CUSTOMER UNIT NO.</small> AHU-1A, 1B
		<small>USER</small> UNIVERSITY OF CINCINNATI RIEVESCHL HALL LAB RENOVATION CINCINNATI, OH	<small>PURCH.</small> TP MECHANICAL CINCINNATI, OH P.O. # A172169842
<small>THIS DRAWING IS THE PROPERTY OF AIR ENTERPRISES, LLC AND MAY NOT BE COPIED WITHOUT THE EXPRESSED CONSENT OF AIR ENTERPRISES, LLC.</small>		<small>TITLE</small> 105,000 CFM INDOOR AIR HANDLING UNIT	<small>DRAWING NO.</small> 358301-01
<small>DRAWN BY</small> SJF	<small>DATE</small> 9/15/09	<small>SCALE</small> 3/8" = 1'	<small>REV.</small>



ELEVATION C-C



SECTION E-E



ELEVATION B-B

CLEAR OPENING SIZES
FOR DOORS & PLUG PANELS

- 30" x 72"
- 24" x 72"
- 26 1/4" x 89 1/16"
- 30 7/16" x 72"
- 29" x 89 1/16"
- 30" x 89 1/16"
- 12 1/4" x 89 1/16"
- 24" x 72"
- 30" x 72"
- 24" x 72"
- 32 1/8" x 89 1/16"
- 26 1/4" x 89 1/16"
- 28 5/16" x 72"
- 32" x 89 1/16"
- 24" x 72"
- 28" x 72"

NOTES

- (A) 2" MPT CHILLED WATER SUPPLY CONNECTION
- (B) 2" MPT CHILLED WATER RETURN CONNECTION

- ⊗ 2" CONDENSATE DRAIN CONNECTION

REV. LETTER	DATE	REVISIONS	USER'S INITIALS

AIR ENTERPRISES
Quality • First • Safest • Simplest

735 Glaser Parkway
Akron, Ohio 44306
www.airenterprises.com

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AND MAY NOT BE COPIED WITHOUT THE EXPRESSED
CONSENT OF AIR ENTERPRISES, LLC.

SHOP ORDER NO.	358301	CUSTOMER UNIT NO.	AHU-1A, 1B
USER	UNIVERSITY OF CINCINNATI RIEVESCHL HALL LAB RENOVATION CINCINNATI, OH		
PURCH.	TP MECHANICAL CINCINNATI, OH P.O. # A172169842		
TITLE	105,000 CFM INDOOR AIR HANDLING UNIT		
DRAWN BY	SJF	DATE	9/15/09
APPR. BY		SCALE	3/8" = 1' 0"
DRAWING NO.	358301-02		
REV.			

Submitted for Approval

Project: Rieveschl 500
Architect: URS
Engineer: URS
Const. Manager: University of Cincinnati
Project Number: 08083A

Contractor: The Thomas J. Dyer Company
Dyer Submittal #: Dyer#020
Spec. Section: 23 3401
Item: Laboratory Exhaust Fans (LEF-1, LEF-2)
2nd Revision

Thomas J. Dyer Company	
These submittals have been reviewed for conformance with project and design requirements.	
<input checked="" type="checkbox"/>	APPROVED
<input type="checkbox"/>	REVISE & RESUBMIT
<input type="checkbox"/>	MAKE CORRECTIONS NOTED
<input type="checkbox"/>	REJECTED
By:	<u>John R. Patton</u>
Date:	<u>March 12, 2010</u>

DATE REC'D:	JOB No:
<u>3/12/10</u>	<u>URS 1457423</u>
Review is only for conformance with the design concept of the Project and general compliance with the Contract Documents. Nothing herein authorizes additional cost. The Contractor is totally responsible for: <ul style="list-style-type: none">■ deviations from the Contract Documents■ conformance to field dimensions■ fabrication process information■ means, methods, techniques, sequences, and procedures of construction, and construction safety.■ coordination of the Work.	
CONFORM AS IS <input type="checkbox"/>	CONFORMS AS NOTED <input checked="" type="checkbox"/>
DOES NOT CONFORM <input type="checkbox"/>	REVISE AND RESUBMIT <input type="checkbox"/>
BY: <u>BSH</u>	DATE: <u>3/12/10</u>



5240 Lester Rd., Cincinnati, Ohio 45213
Phone: 513.321.8100 Fax: 513.842.4101 Service: 513.321.8101

KY HVAC #MO4521
KY Plumb #6396
OH HVAC #16126
OH Plumb #15810

CERTIFIED SUBMITTAL



High Plume Dilution
Laboratory Exhaust System

Project: UC Rieveschl Hall
Contractor: URS Corporation
Engineer: Contech Design, Inc.
System Tag(s): LEF-1 & LEF-2
Date: February 19, 2010



GREENHECK
Building Value in Air.

BELT DRIVE VEKTOR-CD 1X1 LABORATORY EXHAUST SYSTEM



PATENTS PENDING COPYRIGHT
GREENHECK FAN CORPORATION 2007

Job: UC RIEVESCHL HALL - LAB FANS

Contractor: URS CORPORATION

Date: 02/19/2010

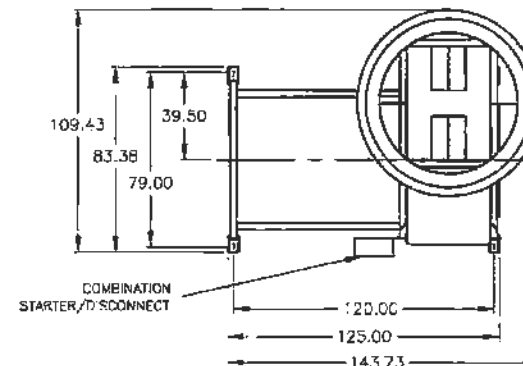
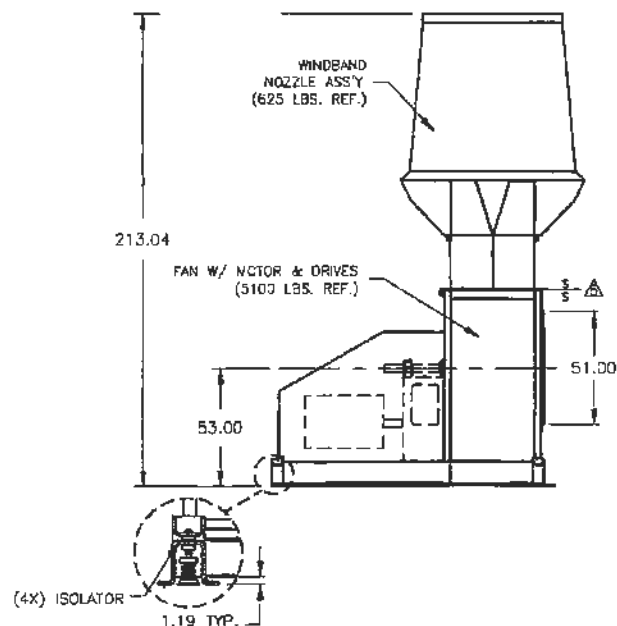
Engineer: CONTECH DESIGN, INC

Revision: 02

GFC SO#

Architect:

UNIT TAG:	Model	Primary Flow from Building (CFM)	MAX Bypass Air (CFM)	Flow thru Fan (CFM)	Windband Discharge Flow (CFM)	External SP (in. wg)	FRPM	Operating power (hp)	Motor Information				Effective Stack Height (ft) ^Δ
									HP	V/C/P	Enc	RPM	
LEF-1 LEF-2	VK-CD-4S	35000	0	35000	50050	5.00	901	43.91	60	460/60/3	TEFC	1,725	59.8



*(COORDINATE SIZE WITH ERU 3 STRUCTURAL
STEEL PLATFORMS.)*

* OPTIONAL STACK EXTENSIONS AVAILABLE TO MEET
NFPA-45 10FT MIN PHYSICAL HEIGHT GUIDELINE.

1. DIMENSIONS ARE IN INCHES. DIMENSIONS AND WEIGHTS ARE APPROXIMATE.
APPROXIMATE TOTAL WEIGHT FOR SYSTEM IS 5725 LBS.

2. AS A RESULT OF OUR COMMITMENT TO CONTINUOUS IMPROVEMENT, GREENHECK RESERVES
THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

^Δ CALCULATED PER ASHRAE APPLICATIONS HANDBOOK WITH A 10 MPH CROSS WIND.

**4. WEIGHTS OF SYSTEMS INCLUDE FAN, WINDBAND, AND PLENUM.
THE WEIGHTS ARE ESTIMATED AND DO NOT INCLUDE MOTOR, DRIVES, OR CURB.

^Δ S/S DENOTES SHIPPING SPLIT.

7. INLET DUCT(BY OTHERS) SHALL BE SIZED SO PRIMARY AIR ENTERS PLENUM AT 1500FPM OR LESS

8. DISCONNECTS WIRED AND MOUNTED PER SPECIFICATION, MAY NEED TO BE RELOCATED DUE TO CODE.

DRG NO. S7658
NAME: JAO



DESIGN CONDITION

Tag LEF-1

FAN HOUSING AND OUTLET: Heavy gauge steel housing with integral isolation base • Aluminum multi-stage discharge nozzle and air entraining windband • Fan housing, impeller and discharge nozzle coated with LabCoat to a minimum of 4 mils dry film thickness • Integral housing drain • Fan shaft seal • Fasteners in airstream are 316 stainless steel • Access door for wheel inspection and cleaning • Slip-fit inlet flange for flexible duct/plenum connection • Each section of fan to be equipped with lifting lugs

BEARINGS, SHAFT AND IMPELLER: Air Handling Quality bearings with an L-10 life of at least 200,000 hours • Bearings are fixed to the fan shaft using concentric mounting locking collars • Fan shaft is 316 stainless steel • Bearings have extended lube lines with Zerk fittings • Constant speed drives • Drive belts and sheaves sized for 200% of the motor horsepower with minimum of 2 belts.

PERFORMANCE (Elevation ft = 500)			Drive Loss (%) 3								
Blower Qty.	Model	Volume (CFM)	SP (in wg)	Nozzle OV (ft/min)	Windband OV (ft/min)	FRPM	Max Class FRPM	Operating Power (hp)	WB Exit Vol. (CFM)	Effective Plume Height (ft)	Dilution %
2	Vektor-CD-49-1-III-LV	35,000	5	3,017	2,262	901	1,328	43.91	50,050	59.8	143

CONSTRUCTION



AMCA
ACCREDITED
RATINGS

MOTOR SPECS

Size (hp)	RPM	VIC/P	Enclosure	Motor Frame...
80	1725	460/60/3	TEFC	364

SELECTED OPTIONS & ACCESSORIES

SELECTED OPTIONS & ACCESSORIES
 Bolted access door provides means for wheel inspection
 Coating, LabCoat, Entire Unit
 Integral Base, Restrained Isolator, w/ 2" Deflection
 Excelon flex connect - chemical resistance sleeve; connects fan w/plenum
 Drive Service Factor of 2.0 - Standard
 Class F Motor Insulation
 Mill-Chem Motor Duty
 UL/cUL-705 - "Power Ventilators"
 Switch - Nema-3R, non-fused, combination starter/disconnect
 Motor Service Factor of 1.15 or greater
 Premium Efficient Motor exceeds EPACT and NEMA 1210

↳ COORDINATE ELECTRICAL REQUIREMENTS WITH REVISED MOTOR SIZE.



Model	Volume (CFM)	SP (in wg)	FRPM	Max Class FRPM	Operating Power (hp)	WB Exit Vol. (CFM)	Air Stream Temp. (F)	Air Density (lb/ft ³)
Vektor-CD-49-1-III-LV	35,000	5	901	1,328	43.91	50,050	70	0.074

Inlet Sound Power by Octave Band								LwA	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
97	102	94	92	90	88	82	78	95	84	46

Outlet Sound Power by Octave Band								Lwa	dBA	Sones
62.5	125	250	500	1000	2000	4000	8000			
98	101	92	92	90	88	81	75	95	84	44

LwA - A weighted sound power level, based on ANSI S1.4.
dBA - A weighted sound pressure level, based on 11.5 dB
attenuation per octave band at 5.0 ft.
dBA levels are not licensed by AMCA International.





Vektor-CD-49-1-III-LV

Fan Performance Chart: Operating Conditions

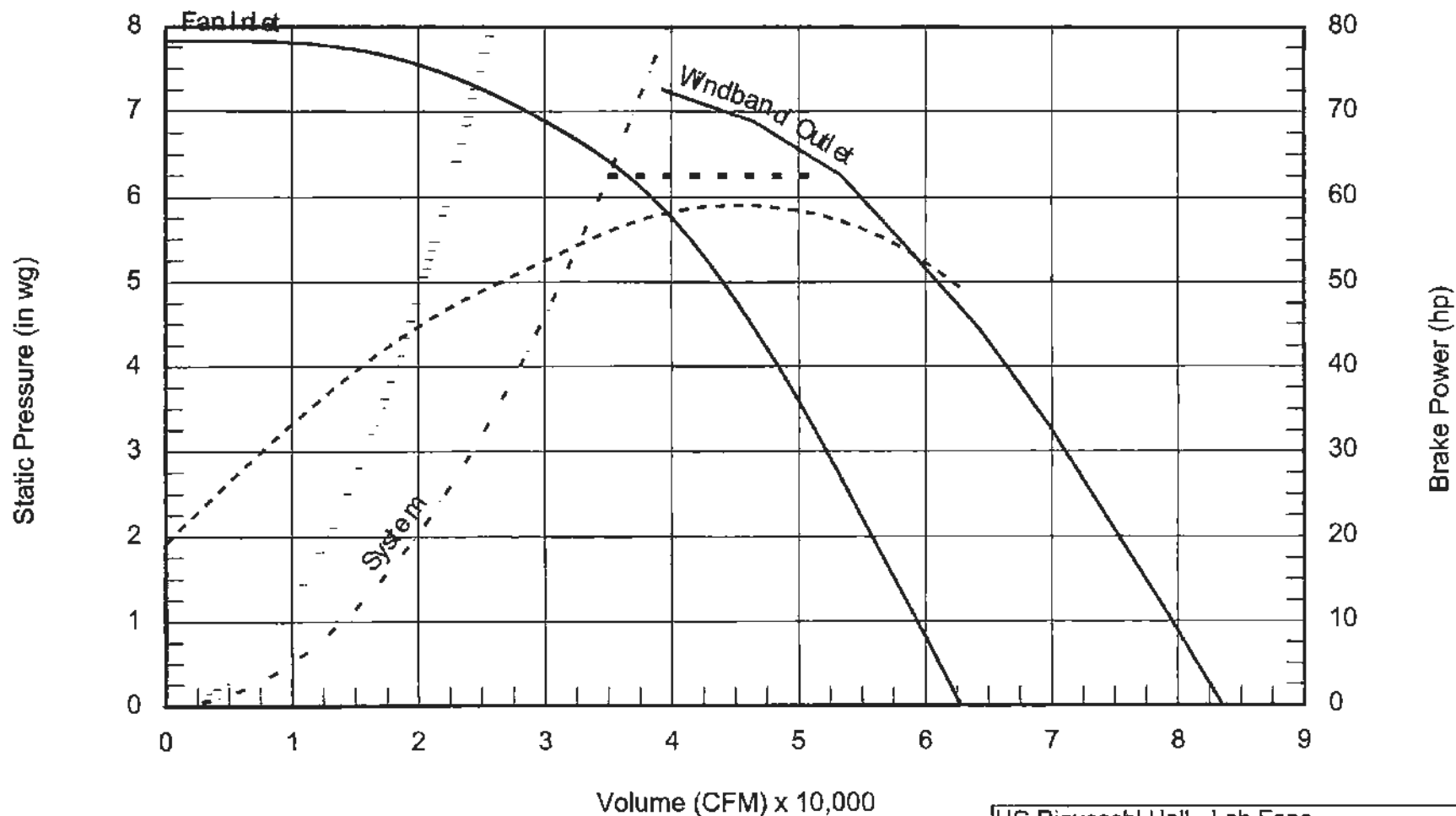
Volume (CFM): 35,000 Air Density (lb/ft³): 0.074
SP (in wg): 6.25 Elevation (ft): 500
Power (hp): 55.8 Air Stream Temp. (F): 70
FRPM: 966

Inlet Sound Data

62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
101	104	98	93	92	90	84	80	97	86	53

Outlet Sound Data

62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
101	103	96	93	91	90	83	77	97	86	50



UC Rieveschl Hall - Lab Fans
LEF-1 & LEF-2
Scheduled Airflow @ 1.25 x Scheduled Ps
35,000 cfm @ 6.25" Ps w.g.



Vektor-CD-49-1-III-LV

Fan Performance Chart: Operating Conditions

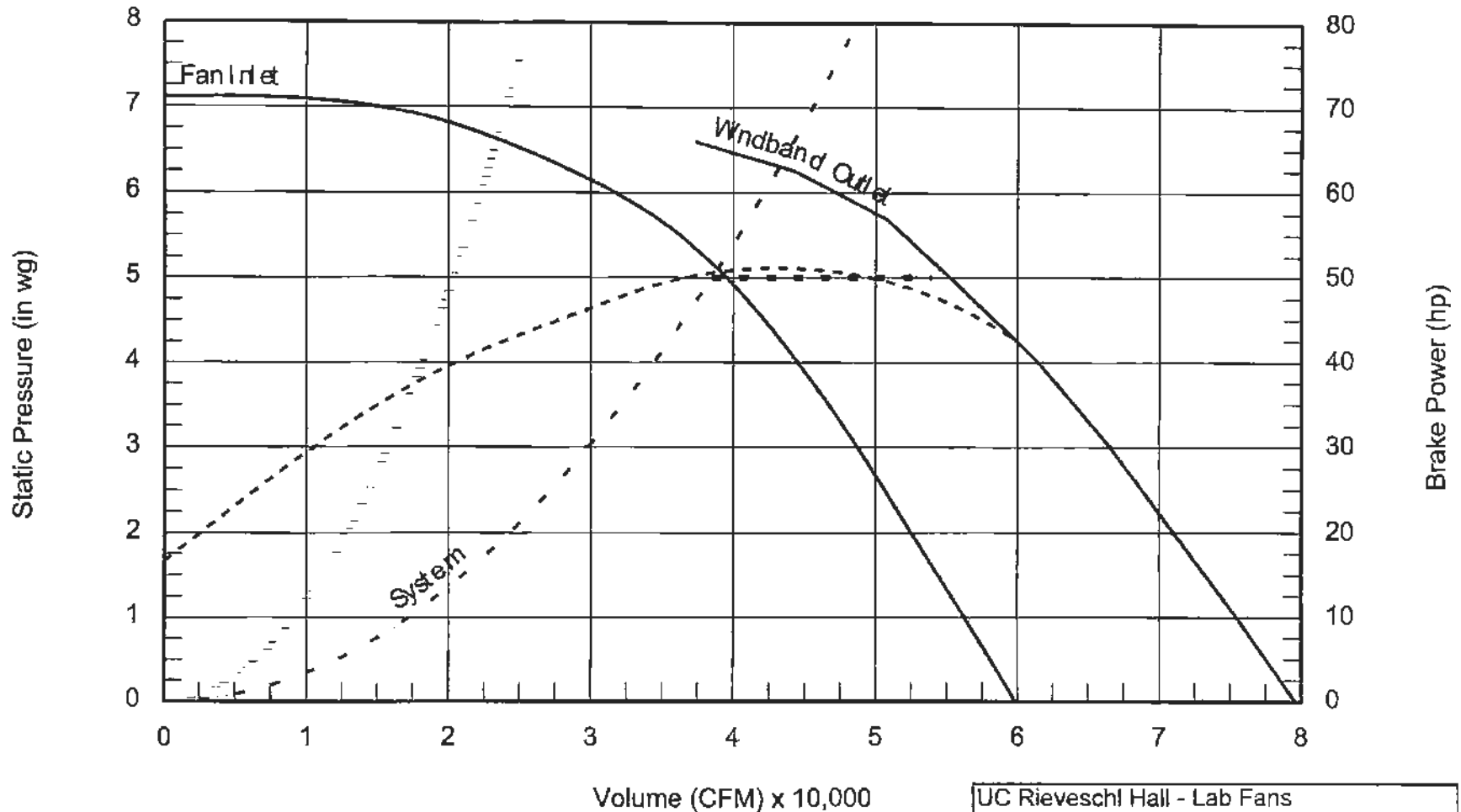
Volume (CFM):	38,500	Air Density (lb/ft ³):	0.074
SP (in wg):	5	Elevation (ft):	500
Power (hp):	50.49	Air Stream Temp. (F):	70
FRPM:	940		

Inlet Sound Data

62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
98	103	96	93	91	90	83	79	96	85	50

Outlet Sound Data

62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
99	102	94	93	91	89	82	76	86	65	47



UC Rieveschl Hall - Lab Fans
LEF-1 & LEF-2
110% Airflow @ Scheduled Static Pressure
38,500 cfm @ 5.0" Ps w.g.

Fan Motor Report



Motor Size: (hp)	60
Motor RPM:	1725
Windings:	1
Enclosure:	TEFC
Cycles:	60 Cycle
Phase:	3
Frame Size:	364T
Voltage: (V)	460
Ambient Temp: (°C)	40
Service Factor:	1.15
Motor Design	Nema
Motor Duty	Mill-Chem
Efficiency Factor:	95
Insulation Class:	F
CSA Approval:	True
Base Type:	RIG
Motor VFD Rated	C

NOTE: C = Compatible

L = Labeled

Submitted for Approval

Project: Rieveschl 500
Architect: URS
Engineer: ~~Contech Design~~ URS
Const. Manager: University of Cincinnati
Project Number: 08083A

Contractor: The Thomas J. Dyer Company
Dyer Submittal #: Dyer#019
Spec. Section: 23 3717
Item: Energy Recovery Unit (ERU-1)

Thomas J. Dyer Company	
These submittals have been reviewed for conformance with project and design requirements.	
<input checked="" type="checkbox"/>	APPROVED
<input type="checkbox"/>	REVISE & RESUBMIT
<input type="checkbox"/>	MAKE CORRECTIONS NOTED
<input type="checkbox"/>	REJECTED
By:	<u>John R. Patton</u>
Date:	<u>January 18, 2010</u>

DATE REC'D:	JOB No:
<u>1/20/10</u>	<u>URS 14576423</u>
Review is only for conformance with the design concept of the Project and general compliance with the Contract Documents. Nothing herein authorizes additional cost. The Contractor is totally responsible for: <ul style="list-style-type: none">• deviations from the Contract Documents• conformance to field dimensions• fabrication process information• means, methods, techniques, sequences, and procedures of construction, and construction safety.• coordination of the Work.	
CONFORM AS IS <input type="checkbox"/>	CONFORMS AS NOTED <input checked="" type="checkbox"/>
DOES NOT CONFORM <input type="checkbox"/>	REVISE AND RESUBMIT <input type="checkbox"/>
BY: <u>BJK</u>	DATE: <u>1/22/10</u>



5240 Lester Rd., Cincinnati, Ohio 45213
Phone: 513.321.8100 Fax: 513.842.4101 Service: 513.321.8101

KY HVAC #MO4521
KY Plumb #5396
OH HVAC #16128
OH Plumb #15810

SUBMITTAL COVER SHEET



Date: January 13, 2010

Job Name: University of Cincinnati - Rieveschl Hall Renovation

Customer: TJ Dyer

Customer PO/Job #: 519940-014

Engineer/Consultant: URS Corp.

Manufacturer: Climate Craft

Spec Section: 23 3717

Submitted By: James Chandler

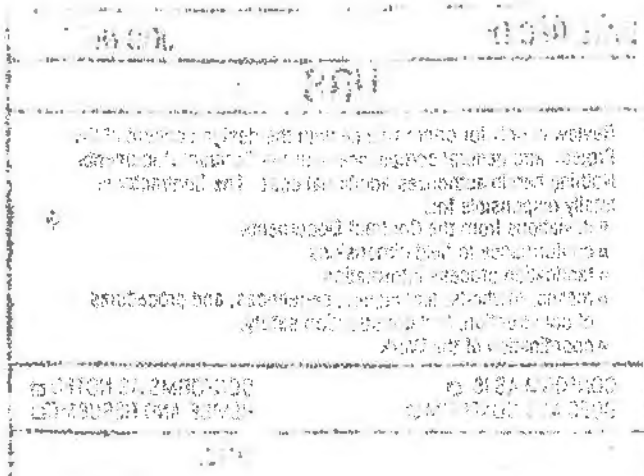
The attached set of submittals are provided for: X APPROVAL RECORD

Please provide (1) ONE set of approved submittals prior to release for record.

Please review the items listed below, and reply accordingly to any unresolved questions or discrepancies:

NOTE: 1. COORDINATE SIZE OF FAN CURBS WITH LABORATORY EXHAUST FANS.

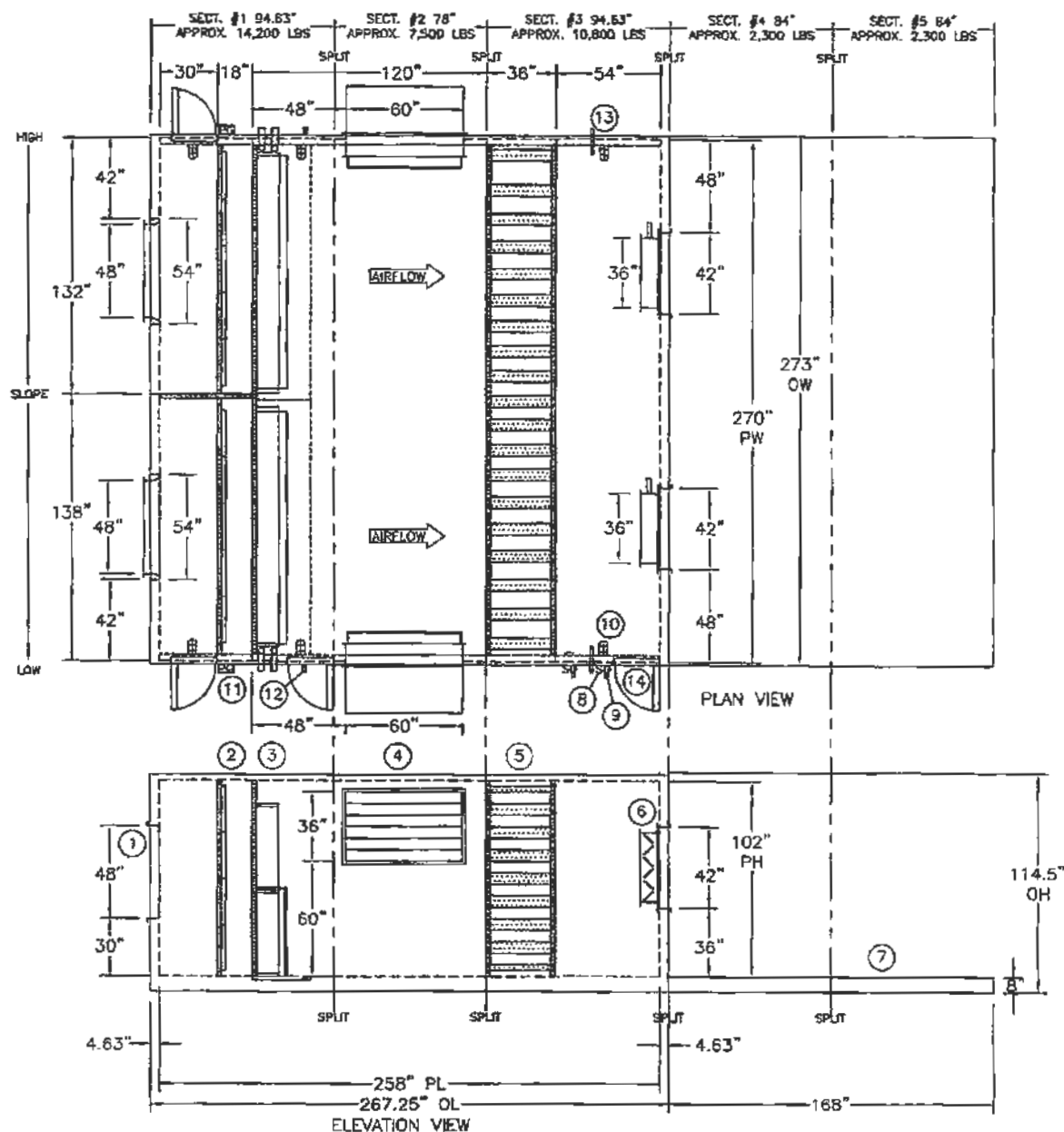
2. COORDINATE SIZE OF ERU WITH PLATFORM (STEEL SUPPORTS/CAT WALK).



ClimateCraft
518 North Indiana
OKLAHOMA CITY, OK 73106
PHONE (405) 415-9230 - FAX (405) 415-9231

JOB	UNIVERSITY OF CINCINNATI RIEVSCHL HALL RENOVATION
TAG	ERU-1
Sheet	2 OF 29
DATE	09/09/09
MODEL NO.	CAH102X270
SN	22891
REV	OR
BY	LK

1. INTAKE BELLMOUTH OPENING
(TYP OF 2)
2. FILTERS, 2" - 30%
3. ENERGY RECOVERY COIL
4. O.A. BY-PASS
DAMPER W/RAINHOOD
(TYP OF 2)
5. SOUND ATTENUATOR
96"H X 258"W X 36"D
6. 36"Ø DISCHARGE DAMPER
MOUNTED IN A 42" SLEEVE
7. EXTENDED BASE RAIL FOR
EXHAUST FANS
8. LIGHT SWITCH W/PILOT LIGHT
9. GFI OUTLET
10. SERVICE LIGHT (TYP OF 6)
11. PHOTOEHELIC GAUGE
(TYP OF 2)
12. 1 1/4" MPT DRAIN
(TYP OF 2)
13. 1 1/4" FLOOR DRAIN
(TYP OF 2)
14. ACCESS DOOR 66" X 24"
(TYP OF 4) - [P/G]




APPROXIMATE UNIT SHIPPING WEIGHT 37,100 LBS.

Unit Data Sheet	First Page	ETL Listed
------------------------	------------	------------

Cabinet	No Roof Curb Provided		Outdoor Unit
Exterior Panels and Roof:	16 gauge prepainted galvanized steel	Doors Accessories:	Used in section
Color/Finish:	ClimateCraft Sky Grey	Windows:	12 x 12 in all Windows
Roof Insulation:	3" fiberglass Insulation R12.5	Dual Latches:	All doors
Roof type:	Pitched framed roof	Test Ports:	All doors
Base:	8" x 2" x 1/4" wall tubular steel	Shipping Splits:	Cover and ship separately
Base Sub-floor liner:	20 gauge G90 galvanized steel		
Base Insulation:	6" fiberglass Insulation R24		
Section	All Sections		
Wall Insulation:	3" fiberglass Insulation R12.5		
Wall Liner:	20 gauge G90 galvanized steel		
Roof Liner:	16 gauge G90 galvanized steel		
Section	Air Tunnel	Extended Base	
Floor Material:	16 gauge G90 galvanized steel	16 gauge G90 galvanized steel	
Floor Construction:	Thermal Break/Screwed down	Thermal Break/Screwed down	
Section	Coil Section	All Other Sections	
Air Seal Material:	20 gauge type 304 stainless steel	20 gauge G90 galvanized steel	
Air Seal Type:	2" Dual Facing - Insulated	2" Single Facing	
Notes: Solid interior liners provided. Insulation in roof and wall panels will be wrapped in Mylar. Round Bellmouths provided for RA Openings			

Filters	PreFilters	PreFilters	
Rack Type:	Universal Holding Frame	Universal Holding Frame	
Rack Construction::	Galvanized Steel	Galvanized Steel	
Access:	Upstream access	Upstream access	
Size: High	4 QTY/SET 24x24= 20	4 QTY/SET 24x24= 20	
Wide	6 QTY/SET 12x24= 0	6 QTY/SET 12x24= 0	
Preilters: Type	2"-30%, Pleated filters	2"-30%, Pleated filters	
Class	2	2	
Main: Type			
Class			
Number of filter sets:	Preilters 1	Preilters 1	
Filter Gauge:	Photohelic	Photohelic	
Notes: Camfil-Farr Filters provided. No spare set of filters. (2) Photohelic 3005 Gauges provided with 0-6In w.c. range			

Dampers, Louvers, Rain Hoods	Electrical
Control Dampers: Not Provided	Unit Voltage: 460V, 3 phase, 60 hz
Actuators: Not Provided	Motor Wiring: No motor wiring provided
Smoke Dampers: Not Provided	Variable Frequency Drives: No drives provided
Actuators: Not Provided	Starter Panel: None provided
Multizone Dampers: Not Provided	Power Distribution Panel: None provided
Actuators: Not Provided	Lights: Vapor proof mini-fluorescents
Actuator Voltage: None	Lighting Power: Separate 116 Volt lighting power required
Rain Hoods: ClimateCraft Rain Hood on OA	Wiring Method - Lights EMT and Liquidtight Flexible Conduit
OA louver: Not Provided	Wiring Method - Power
EA louver: Not Provided	Wiring Method - Controls
All damper actuators are normally closed except the R.A. which is normally open. See the unit drawing for size and location of dampers, rainhoods and louvers.	
Notes: EA Dampers are Ruskin CDRS2 - round damper with extended Jackshaft for mounting of actuator in the field "By Others" OA Dampers are Ruskin CD80AF2 - rectangular damper with Internally mounted Jackshaft for mounting of actuator in the field "By Others"	
Notes: See the unit drawing for location of J-boxes, disconnect switches, control panels, drives and lights	

 519 N. Indiana Avenue Oklahoma City, OK 73105-1526 Ph: (405) 415-8230 Fax: (405) 415-8231	Job:	University of Cincinnati - Rieveschl Hall Renovation		Serial Number:	22891
	Tag:	ERU-1	Revision:	By:	Date:
			OR	LK	9/3/2009

Unit Data Sheet	Second Page	ETL Listed
-----------------	-------------	------------

Fan Options:			
Manufacturer Type Belt Guard Lube Lines Isolation Base Height Savers Thrust Restraints Inertia Base			

Notes: Exhaust Fans provided By Others in the field. To be mounted on extended base shipping with the unit.

The fan specifications, data, and optional equipment are indicated on the fan data sheets.

Coil Options:	Energy Recovery Coil		
Manufacturer Type Drain Pan Coil Vents Coil Drains	RAE 5/8" OD Chilled Water 30" Stainless Steel 1/2" NPT Cap on Header 1/2" NPT Cap on Header		

Notes: 1-1/4" MPT Drains provided
 Each coil can be individually removed without the removal of the other coils in the bank.
 All coils are removable from the downstream side of the airseal wall.
 No Coil removal rails provided by ClimateCraft.
 Panels can be individually removed for service without removing the roof or compromising the integrity of the cabinet wall.

The coil specifications, data, and optional features are indicated on the coil data sheets

Other Components	Sound Attenuator		
Manufacturer Type	Vinto Acoustics Rectangular Film Lined Silencer		


Notes: 36" Sound Attenuators provided and installed by ClimateCraft.

Special Instructions:

Each section bagged for shipping, except extended base pieces.

Testing Requirements:	Operational Testing	Leakage Testing	Sound Testing
	Standard Run Tests	Negative / Deflection	Not Required

Notes: Unit to be tested to -12 in w.c. not to exceed 0.6% leakage.
 Deflection not to exceed 1/200L at the midpoint of the panel at given test pressure

 ClimateCraft 515 N. Indiana Avenue Oklahoma City, OK 73101-1638 Ph: (405) 416-9235 Fax: (405) 415-9231	Job:	Serial Number:	
	University of Cincinnati - Rieveschl Hall Renovation Tag: ERU-1	Revision: OR By: LK	Date: 22891 9/3/2009

Description: 1 Exhaust Fan @ 35,000 CFM	Item Tag: SP-1
STATIC PRESSURE ANALYSIS	Version 5.3.28


UNIT AIR SUMMARY			
TOTAL STATIC PRESSURE DROP:	7.18	Entry Air Temp (*F):	70
Airflow (ACFM):	35000	Entry Wet Bulb(*F):	0
Airflow (SCFM):	35000	Atmospheric Pressure (psia):	14.696
Altitude:	0	Humidity Ratio (lbm/lbm):	0.000
Air Density (lbm/cu. ft.):	0.075	Standard Air Density (lbm/cu. ft.):	0.075

STATIC PRESSURE DETAILS				
No.	Component	Description	Face Velocity	SPD
1	Opening, Only	RA Opening	928	0.08
2	Filters, Pleated, 2 in., 30% eff.	Filters, 2in.	438	0.19
3	Dirty Filter Allowance	Dirty Filter Allowance	0	0.75
4	Coils, CW-1	Energy Recovery Coil	500	0.85
5	Sound Traps, 3 ft., Model HP	Sound Attenuators	417	0.06
6	Dampers, Galvanized	EA 36in. Round Damper	1173	0.25
7	External	Duct Loss - Given	0	5.00 2.5

Total Static Pressure Drop: ~~7.18~~

4.68

(5" INCLUDES ERU UNIT)

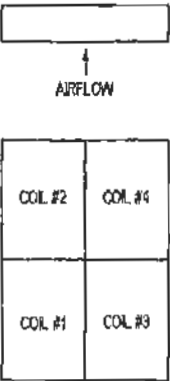
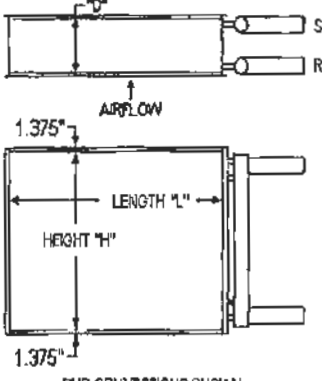
 <small> P.O. Box 1338 Oklahoma City, OK 73101-0338 Ph: (405) 415-9232 Fax: (405) 415-5231 </small>	JOB NAME:		Serial Number:	
	Rieveschl Hall Renovation		22891	
Unit Tag:	Sheet:	Revision:	Initials:	Date:
ERU-1	1 of 1	OR	LK	09/03/2009


Description: Energy Recovery Coil		Item Tag: CW-1	
CHILLED WATER COOLING COIL(S)		ARI certified output available upon request.	
		Version: 5.3.28	MFG: RAE

Operating Conditions	Air Conditions	Fluid Conditions
Airflow: 70,000 SCFM Elevation: 0 ft. ASL Air Pressure: 14.696 psia Air Density: 0.074 lb./cu.ft.	Entering Air (DB): 72.0 °F Entering Air (WB): 55.0 °F Leaving Air (DB): 38.3 °F Leaving Air (WB): 37.3 °F Face Velocity (Std.): 500.00 fpm Air Pressure Drop: 0.85 in. w.g.	Fluid: Ethylene Glycol % by weight: 30 Entering Temp: 30.7 °F Leaving Temp: 40.7 °F Flow Rate: 600.0 GPM Pressure Drop: 14.15 ft. Fluid Velocity: 4.4 fps

Total Coil Bank Ratings	Coil Data	
Total Capacity: 2,761,919 BTU/h Sensible Capacity: 2,586,730 BTU/h Sensible Heat Ratio: 0.94 Serpentine: 1 1/2	Face Area: 140.0 s.f. Finned Height: 84 in. Finned Length: 240 in. Rows: 6 FPI: 10 Dry Weight(each coil): 946 lbs Coating: None Cleanable Return Bends: No	Tubes: .035" Copper Fins: .010" Aluminum Fin Type: Waffle fin Casing: Stainless Steel Connections: Red Brass

Individual Coil Ratings										
Coil Tag	Model Number	Capacity BTU/h	Airflow SCFM	Flow Rate GPM	No. of Circuits	Dimensions			Connection	
						H(in)	L(in)	D(in)	Size	Style
CW-1-1	58W42x120-10-6-WNL	690,480	17,500	150.0	42	42	120	11.5	3.00	LHS
CW-1-2	58W42x120-10-6-WNL	690,480	17,500	150.0	42	42	120	11.5	3.00	LHS
CW-1-3	58W42x120-10-6-WNR	690,480	17,500	150.0	42	42	120	11.5	3.00	RHS
CW-1-4	58W42x120-10-6-WNR	690,480	17,500	150.0	42	42	120	11.5	3.00	RHS

Coil Bank	Coil Dimensional Drawing
	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>CONNECTION TYPES</p> <p>RHS = right hand straight RHD = right hand downstream RHU = right hand upstream LHS = left hand straight LHD = left hand downstream LHU = left hand upstream</p> </div> </div>

	JOB NAME: Rieveschl Hall Renovation		Serial Number: 22891	
	Unit Tag: ERU-1	Sheet: 1 of 1	Revision: OR	Initials: LK

Project Name:	UC Rieveschl 600 & 700 Level Renovation Phase 3 & 4
Project Location:	Cincinnati, OH
Sales Office:	ElitAire
Mechanical Consulting Engineer:	Fosdick and Hilmer Inc.
Mechanical contractor:	Thomas J. Dyer Co.

Product:	CUSTOM AIR HANDLER
Customer Tag Number:	ERU-2
Ingenia Sales Order Number:	101130
Ingenia Job Number:	11768
Revision:	1
Submitted for:	Record
Presented by:	Carlo Martello
Date:	December 20, 2011

OUTDOOR AIR HANDLING UNIT CERTIFIED PERFORMANCE DATA

CUSTOMER TAG NUMBER: ERU-2

REVISION NO: 1
REV. DATE: December 20, 2011

INGENIA JOB NUMBER:

INGENIA MODEL NUMBER: CAH-3-TB-PU -C 112.0 x 272.0 -O

General Characteristics			
Unit type	Outdoor	Unit configuration	Modular
Unit Model	Select (Thermal Break)	Heaviest module weight	14247 lbs

Unit Characteristics			
WALL AND CEILING PANELS		FLOOR	
Wall thickness	3	Floor Perimeter Height	7 inch (on a roof curb)
Panel Type	Thermal Break	Perimeter material	Galv. G90
Panel insulation type	HeatLok Soy Polyurethane	Floor Height	6
Panel insulation density	2.2 lbs/ft ³ [35 kg/m ³]	Floor Thickness	3
Insulation R-value	19.5	Floor insulation type	HeatLok Soy Polyurethane
External liner material	16 ga. Galv. G90	Floor insulation density	2.2 lbs/ft ³ [35 kg/m ³]
External panel paint code	"Gray"	Insulation R-value	19.5
External seal	Membrane	Floor underside liner material	Galv. G90
External hardware	Stainless Steel	Extended Base Rail Height	0 in [0 mm]

CABINET DESIGN PRESSURE	
Cabinet design pressure	15.0 in w.g. [3735 Pa]
Test pressure if any	0.0 in w.g. [0 Pa]

Notes:

##

1. Positioning left/right is determined by standing parallel to the air flow; air behind the head of the observer
2. Door hand is determined by fac 11768
right hand side when facing the door handle. A door is considered left handed when the hinge is located on the left hand side when facing the door handle.
3. Platform for exhaust fans is open with structure; grating by others
4. Exhaust fans shipped loose and installed in the field by others

CERTIFIED PERFORMANCE DATA SHEET

JOB NUMBER: 11768

REVISION DATE: December 20, 2011

REVISION NO: 1

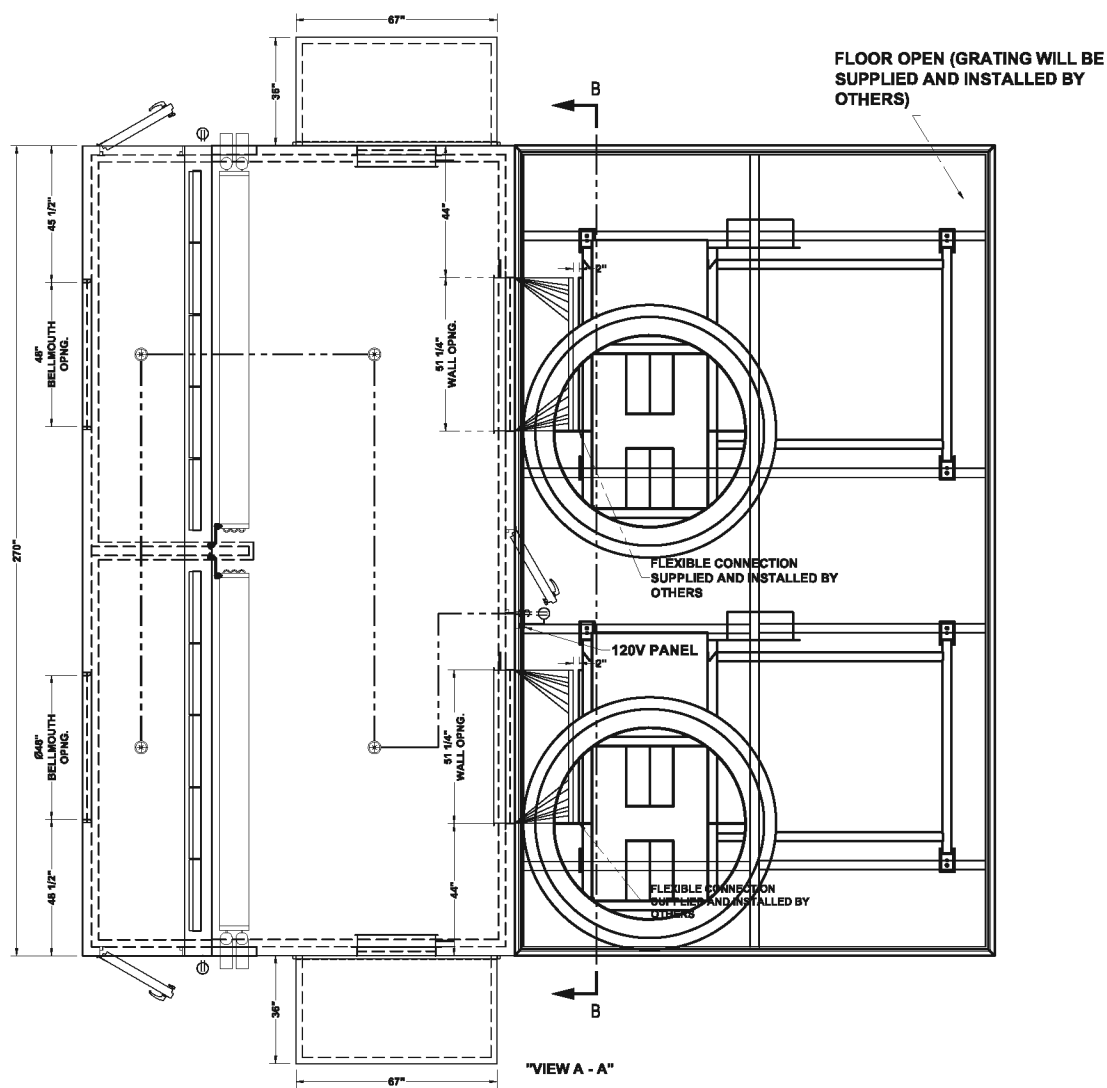
Section Name:	HEAT RECOVERY COIL SECTION
Section:	C
Module:	1

Section Characteristics			
WALL AND CEILING PANELS		FLOOR	
Internal liner material	20 ga S.S. 304	Floor surface material	16 ga S.S. 304
Internal paint code	Not painted	Floor type	Triple Slope Floor
Internal hardware	S.S.	Floor drain	Catch Bassin with 1 1/2 " NPT Drain
Internal seal	grey silaprene	Drain connection side	Both sides
COIL RACK		Internal hardware	S.S.
Rack material	S.S. 304	Internal seal	grey silaprene
Rack surface paint code	Not painted	COIL REMOVABLE PANEL	
COIL BLANK		Coil removable panel option	Both sides
Blank material	S.S. 304		
Blank surface paint code	Not painted		

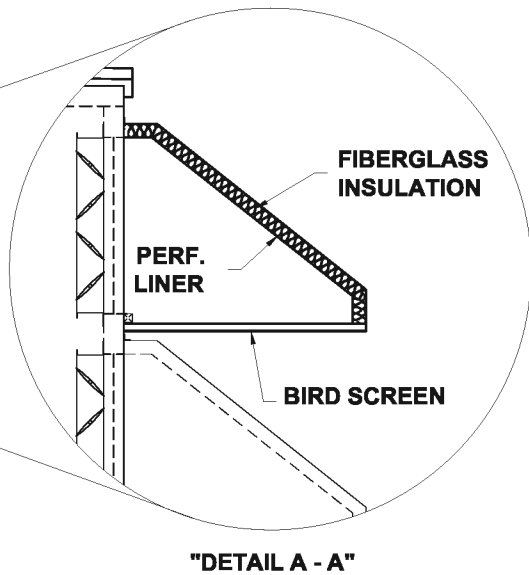
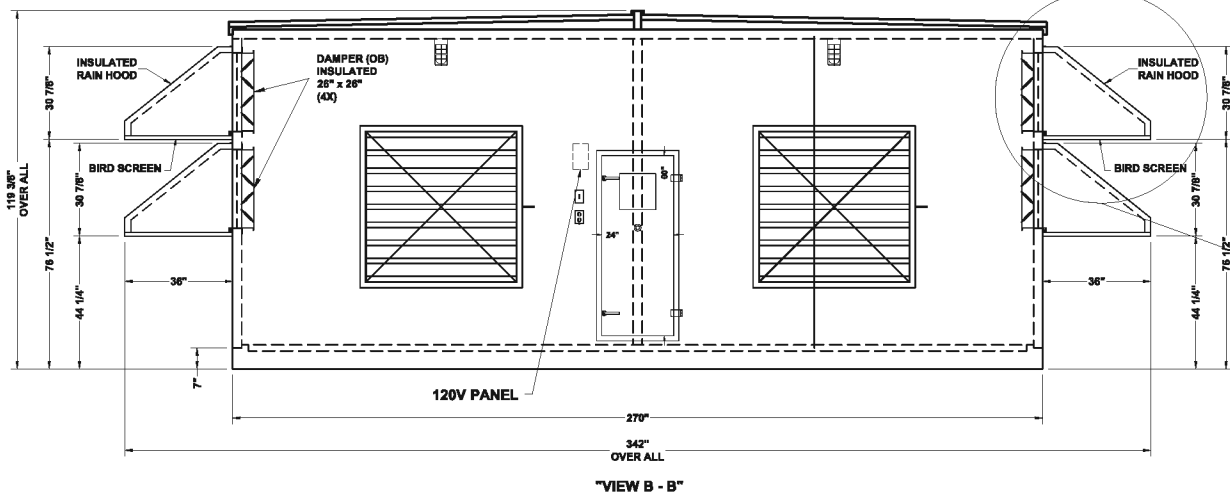
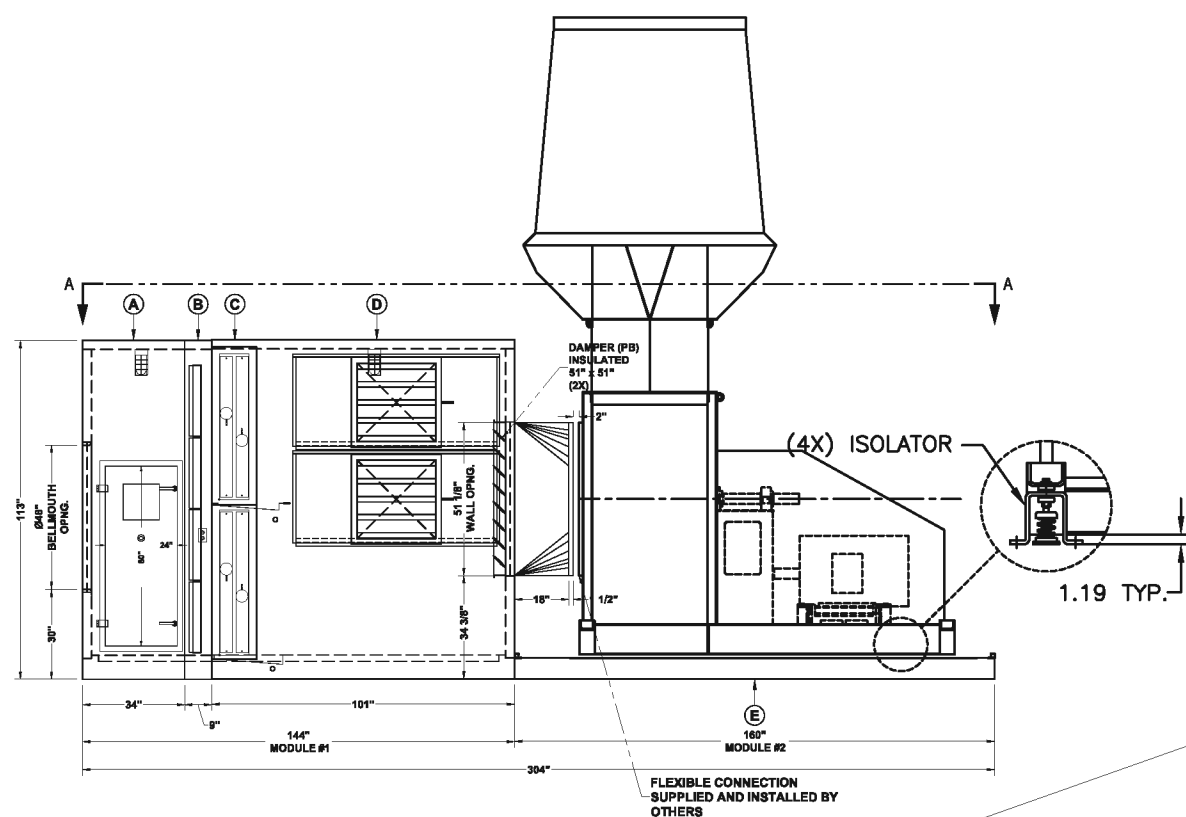
Coil Physical Characteristics			
Customer Tag:			
Coil Manufacturer	Aerofin	Coil weight - each (lbs)	1143.5
Coil model	W-10.0AW-46.5 X 116.0-6-1.5	Total coil weight (lbs)	4574
Coil Type	Water/Glycol		

Coil Accessories			
extended supply connection	By others	Mist eliminator manufacturer	
extended return connection	By others	Mist eliminator material	
extended connection material			

Notes:



Description	
(A) EXHAUST PLENUM SECTION	
(B) PRE-FILTER SECTION	
Pre-filter : TRI DIM ES40ME, MERV 7	
Qty. / Dim. : 40x(24"x24"x4")	
Filter :	
Qty. / Dim. :	
Loading : FRONT	
Filter frame type : Standard : 2 3/4"	
(C) HEAT RECOVERY COIL SECTION	
Brand : Aerofin	Qty. : 4
Circuit : 1 1/2"	Row : 6
Type : W	Connections: Ø 4"
Dims : 46.5" x 116" x 10"	
(D) BYPASS AIR PLENUM SECTION	
(E) SECTION	
Brand : GREENHECK	Arr. : N/A
Class : II	Size : 490
% Width : N/A	Discharge : --
Rotation : --	Base type : ISOLATORS
Motor : 60 HP	Enclosure : N/A
R.P.M. : 893	Frame : --
Elec. box : --	Position : --
Isolators : 2D	Pulleys C/C : --



Notes :

- * - THIS UNIT WILL BE SHIPPED IN 2 MODULE(S) WITH BLOWERS SHIPPED SEPARATELY .
- * - THIS UNIT WILL BE INSTALLED ON A STRUCTURAL STEEL FRAME
- * - THE HOODS WILL BE SHIPPED SEPARATELY.
- * - THE CABINET DESIGN PRESSURE IS 15" S.P.
- * - UNIT SUPPORTING SURFACE MUST BE LEVEL BEFORE INSTALLATION.

Version : V57

Openings and dimensions may vary from tender documents / Return of approved drawings constitutes acceptance of these variances

Project Name :	UC Rieveschl
Project Location :	Cincinnati, OH
Consulting Engineer	Fosdick and Hilmer
Sales Office name :	Elitaire
Model :	CAH-3-TB-PU-C-112.0X270.0-O
Ingenia SO # :	
Ingenia Job # :	
Ingenia's Sales Project Manager:	Carlo Martello
Ingenia's Project Manager :	

ingenia
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www.ingeniatechnologies.com

#	Date	By	Revision
03	DEC. 16, 2011	AP	ADDED OUTLET & HOOD DETAIL
02	NOV. 22, 2011	MG	ADDED EXHAUST FANS
01	NOV. 18, 2011	MC	ADD DAMPER, 120V PANEL & SAFETY SWITCH, VIEW B-B CHG. LOC.

Unit Tag :	ERU-2
Drawn by :	M.Beaulieu
Dwg No. :	P281
Type :	Outdoor
Scale :	3/16" - 1'

Date : 12/10/11 Sheet : 1 OF 2 Rev :03



Date: 12/12/2011
Job Name: UC Rieveschl Hall
System ID: HRC-E option 1
Quote No. 211472

Model No.	Qty. In Face	FL INCH	Total Weight LBS.
W-10.0AW-46.5 X 116.0-6-1.5	4	116.00	4,574

Totals:	4	4,574
----------------	---	-------

Coil Type: W **Tube:** 0.625 inch X 0.035 inch Copper Seamless Tubes , Belled
TF: 31 **Fin Material:** Aluminum Wave **Thickness:** 0.0095 IN.
Row: 6 **Csg Material:** 1" Leg with Stainless Stl Casings, with Mounting Holes
Fin: 10.00 / IN **Connection:** (1) 4" (Center) Threaded Non-Ferrous, Extended 5 inches,
Circuit: 1-1/2 **Hdr Material:** Standard Non-Ferrous with Brazed Joints

Misc: - Baked Phenolic Coating

Dwg: CA-W-102-59

Performance V

Pressure:	29.92	IN HG	Elevation:	Sea Level
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Airflow:	70,000.0	SCFM	30% Ethylene Glycol	
System Face Area:	149.8	FT ²	Flow Rate:	600.00 GPM
Standard Face Velocity:	467.2	FPM	Entering Temp:	30.7 °F
Entering Dry Bulb Temp:	72.0	°F	Leaving Temp:	40.9 °F
Entering Wet Bulb Temp:	55.0	°F	Tube Velocity:	3.7 FPS
Leaving Dry Bulb Temp:	38.6	°F	Inside Surface Fouling:	0.0000 HR·FT ² ·°F/BTU
Leaving Wet Bulb Temp:	38.4	°F		
Outside Surface Fouling:	0.0000	HR·FT ² ·°F/BTU		
Sensible Heat Load:	2,526.7	MBH		
Total Heat Load:	2,715.0	MBH		

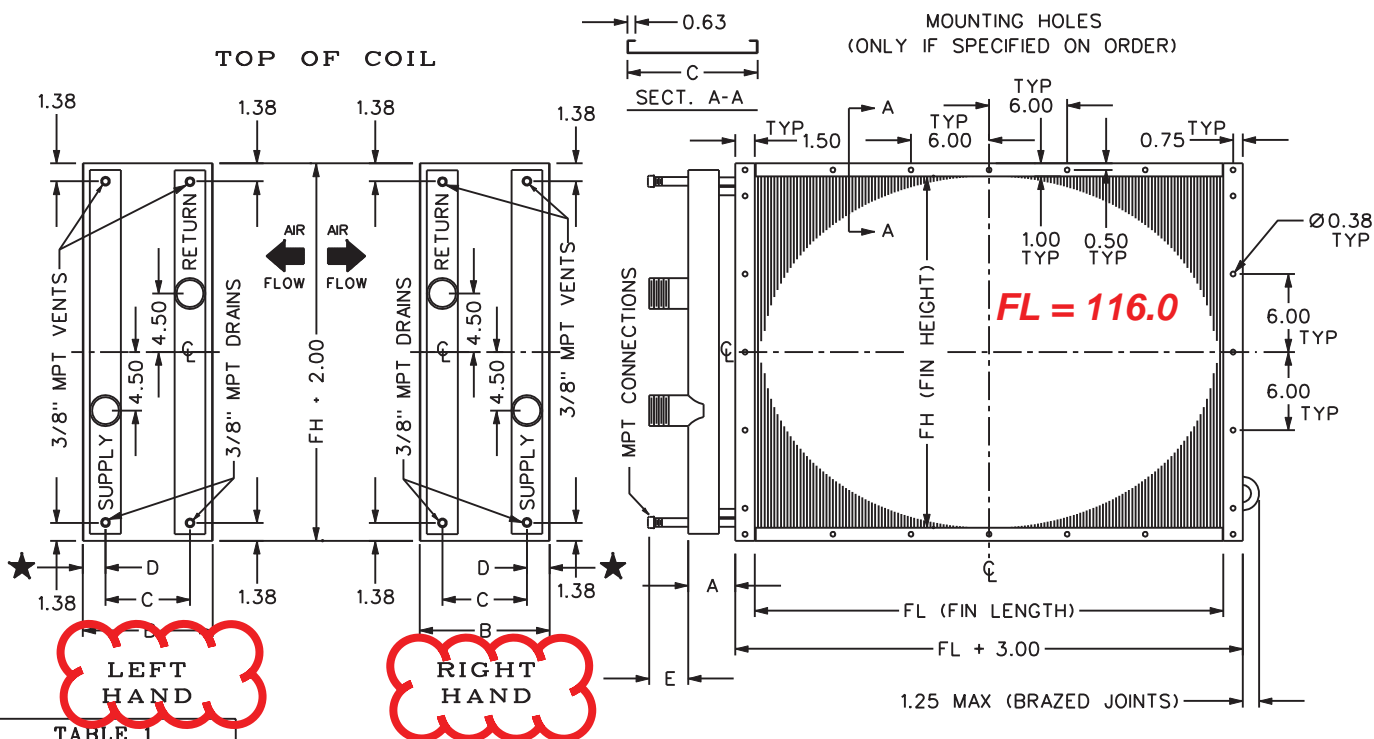
Losses

Air Friction: 0.74 IN H2O Pressure Drop: 9.7 FT H2O

Comments:

Notes & Warnings:

- 100 Oversized connection specified.
- 51 Outside the scope of AHRI standard 410.
- 13 Pressure drop shown is based on belled tube ends.



1. HORIZONTAL & VERTICAL AIR FLOW.
2. COIL "HAND" MUST BE SPECIFIED.
3. BRAZED JOINTS ONLY.
4. COILS FOR VERTICAL AIR FLOW ARE BUILT RIGHT HAND, PIPE FOR COUNTER FLOW.

★ 1. IF CONN. RADIUS (ACTUAL) EXCEEDS
"D" DIM. - HEADER WILL PROTRUDE
PAST COIL CASINGS.

TUBE FACE

FIN HGT	TF	FIN HGT	TF
12.0	8	34.5	23
13.5	9	36.0	24
15.0	10	37.5	25
16.5	11	39.0	26
18.0	12	40.5	27
19.5	13	42.0	28
21.0	14	43.5	29
22.5	15	45.0	30
24.0	16	46.5	31
25.5	17	48.0	32
27.0	18	49.5	33
28.5	19	51.0	34
30.0	20	52.5	35
31.5	21	54.0	36
33.0	22	—	—

TABLE 2							
FIN HT	STANDARD SIZE CONN'S			OVER SIZED CONN'S			
	CONN SIZES	MAX GPM	A	CONN SIZES	MAX GPM	A	
12.0 THRU 43.5	2-1/2"	160	3.75	3"	250	4.19	
45.0 THRU 54.0	3"	250	4.19	4"	475	4.69	

ROW	CONN SIZES	B	C	D
3	2 1/2", 3"	8.50	3.90	2.30
3	4"	8.50	4.50	2.00
6	2 1/2", 3", 4"	10.00	5.20	2.40
9	2 1/2", 3", 4"	15.00	9.10	2.95
12	2 1/2", 3", 4"	18.00	13.00	2.50

TABLE 4		
EXTENDED CONN'S		
E		
STD	3" EXT	5" EXT
3.00	6.00	8.00

TOLERANCE
1. CONNECTION & HEADER LOCATIONS * $\pm .250$
2. CASING DIMENSIONS * $\pm .125$
(ALL DIMENSIONS ARE IN INCHES)

SO* 026706

ENERGY FLOW
by **AEROFIN**

**TITLE: "W" PLATE FIN COIL, 1-1/2 CIRCUIT
1" SIDE CSG FLGS, CENTER CONNECTIONS
3, 6, 9 & 12 ROW, 12" THRU 54" FIN HGT
(1.50 INCREMENTS), 24" THRU 180" FIN LENGTH.**

\\PLATEFIN\\SUBDWGS\\W\\102\\20

DWG.NO.	CA-W-102-20
---------	-------------

A	CHECKED	06/28/02	SRF	
NO	REVISION	DATE	DR	ENG

CERTIFIED SUBMITTAL



High Plume Dilution
Laboratory Exhaust System

Project:	UC Rieveschl Hall
Contractor:	The Thomas J Dyer Company
Engineer:	Fosdick and Hilmer
System Tag(s):	LEF-3, LEF-4, LEF-5, LEF-6 & LEF-7
Date:	December 14, 2011



Engineering Data

Certified Construction Data

Drawings

LEF-3 & LEF-4

Belt Drive Vektor-CD Laboratory Exhaust System
Performance Data Summary
Adjusted Sound Data Estimates

LEF-5

Vektor-MD Laboratory Exhaust System
Performance Data Summary
Adjusted Sound Data Estimates

LEF-6 & LEF-7

Vektor-H Laboratory Exhaust System
Performance Data Summary
Adjusted Sound Data Estimates

Component Cut Sheets

Motors

Motor Data
Wiring Diagram

SAVVE Technology

LEF-6 & LEF-7
SAVVE Wiring
Vektor SAVVE Variable Frequency Drive
ABB E-Clipse Bypass
E-Clipse B1 Type 3R Dimension Drawing
SAVVE Nozzle System Hookup Diagram
Sequence of Operation
Nozzle Actuator GMB(X)24-SR
Vektor-HS Sure-Aire Detail

Combination Starter Disconnects

LEF-3, LEF-4 & LEF-5

Contents (cont.)



Dampers

LEF-5
Bypass – HCD-230-LE 30x30
Isolation – HCD-230-LE 66x64

LEF-6 & LEF-7
Bypass – VCD-23 14x14

Flexible Duct Connector

LEF-3 & LEF-4

Isolators

LEF-3 & LEF-4
FHS-2-1120 Orange/Brown
FHS-2-995 Orange
FHS-2-1975 Red/Green
FHS-2-1600 Red

Coating

LabCoat™

Vektor Exhaust Fan Warranty – 36 Months

BELT DRIVE VEKTOR—CD LABORATORY EXHAUST SYSTEM



PATENTS PENDING COPYRIGHT
GREENHECK FAN CORPORATION 2008

Job: UC RIEVESCHL HALL

Contractor: THE THOMAS J DYER COMPANY

Date: 11/11/2011

Engineer: FOSDICK and HILMER

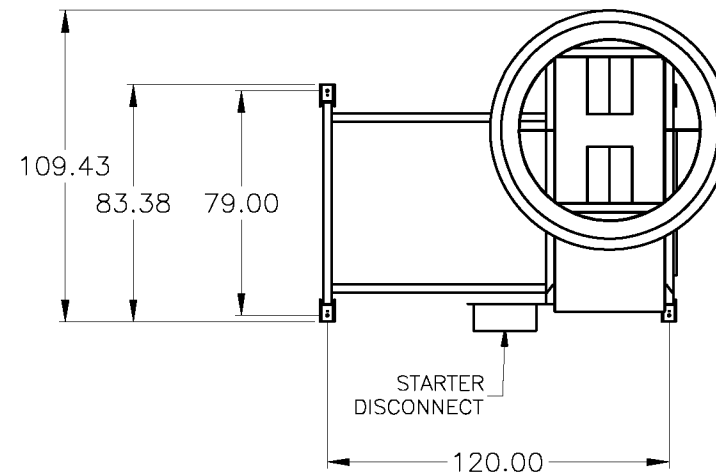
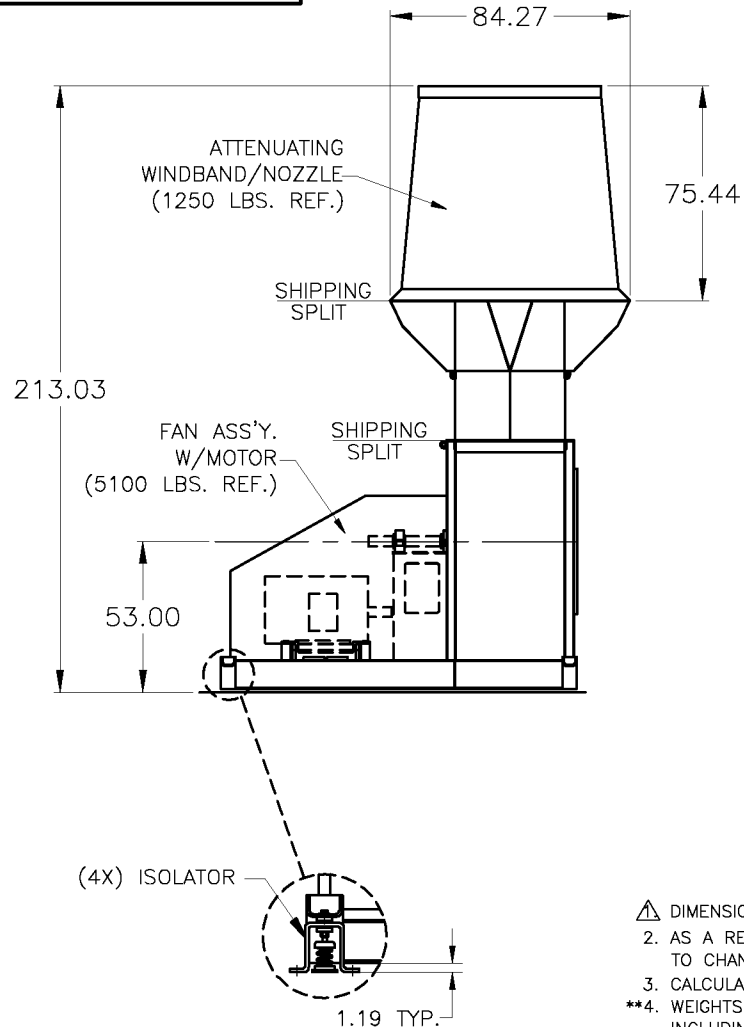
Revision: 02

GFC SO#

Architect: FOSDICK and HILMER

Project #: V1122

UNIT TAG:	Model	Primary Flow from Building (CFM)	MAX Bypass Air (CFM)	Flow thru Fan (CFM)	Windband Discharge Flow (CFM)	External SP (in. wg)	FRPM	Operating power (hp)	Motor Information				Effective Stack Height (ft) Δ
									HP	V/C/P	Encl:	RPM	
LEF-3 LEF-4	VK-CD-49	70000	NA	35000	49700	5	896	43.97	60	460/60/3	TEFC	1725	59.5



Δ DIMENSIONS ARE IN INCHES. DIMENSIONS AND WEIGHTS ARE APPROXIMATE.

2. AS A RESULT OF OUR COMMITMENT TO CONTINUOUS IMPROVEMENT, GREENHECK RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

3. CALCULATED PER ASHRAE APPLICATIONS HANDBOOK WITH A 10 MPH CROSS WIND.

**4. WEIGHTS OF SYSTEMS INCLUDE FAN, WINDBAND, AND DRIVES. THE APPROX. WEIGHT OF THIS SYSTEM, INCLUDING MOTOR IS 6350 LBS.

*** DISCONNECT WIRED AND MOUNTED PER SPECIFICATION, MAY NEED TO BE RELOCATED DUE TO CODE.

Vektor-CD Fume Exhaust System

DESIGN CONDITION

Number of Systems	Fans per System	Fan On Standby	Exhaust System Type	Total Exhaust Volume (CFM)	Min. Lab Exh. Volume (CFM)	Additional System BAP Air (CFM)	Wind Speed (MPH)
1	1	No	Variable Volume	35,000	N/A	0	10.0

FAN SELECTION CRITERIA

Volume (CFM)	External SP (in wg)	Internal SP (in wg)	Total SP (in wg)	Air Stream Temp. (F)	Elevation (ft)	Drive Loss (%)	Air Density (lb/ft ³)
35,000	5	0	5	70	0	3	0.075

FAN PERFORMANCE

Model	Fan RPM (RPM)	Max Class FRPM	Operating Power (hp)
Vektor-CD-49-1-III-LV	896	1,328	43.97

MOTOR SPECS

Motor Size (hp)	RPM	V/C/P	Enclosure
60	1725	460/60/3	TEFC

DISCHARGE PERFORMANCE

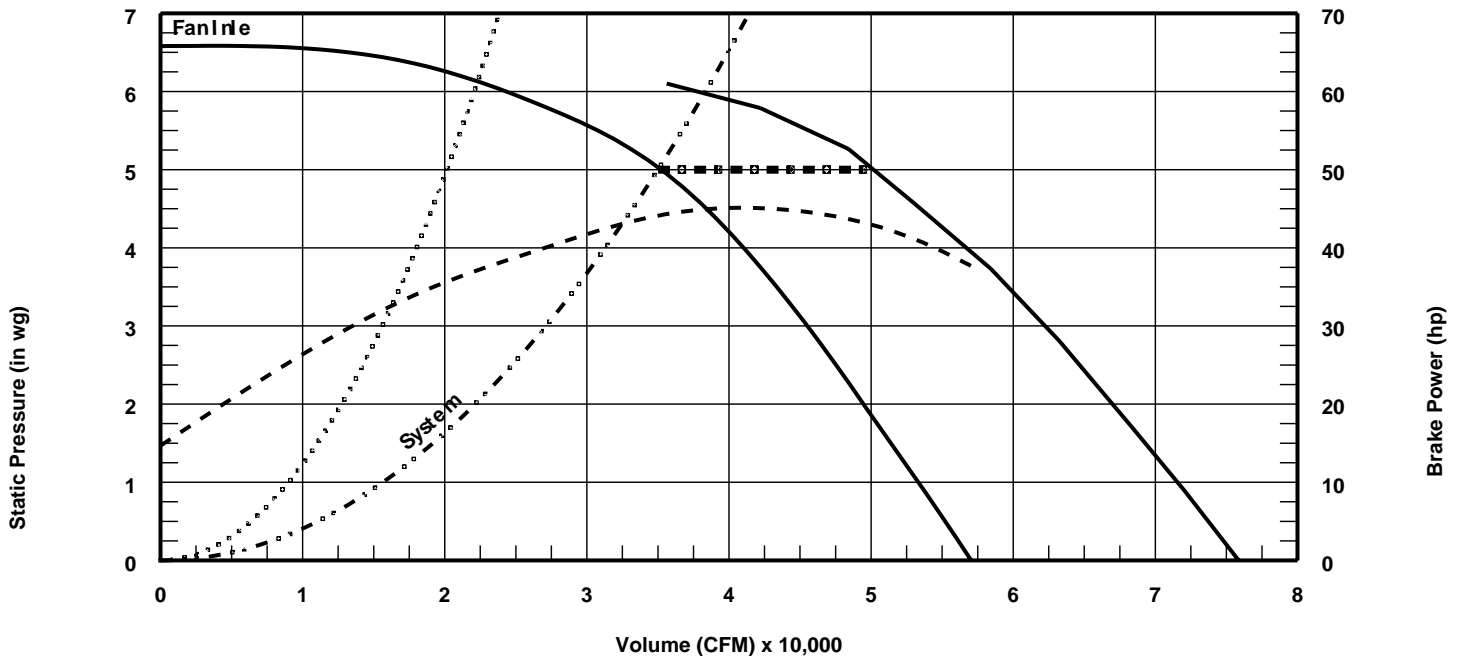
Nozzle OV (ft/min)	Windband OV (ft/min)	WB Exit Vol. (CFM)	Effective Plume Height (ft)	Dilution %
3,017	2,246	49,700	59.5	142

FAN CONSTRUCTION

Material Type	Drive Type	Arrangement	Class	Rotation
Spark C	Belt	1	III	CW

PLENUM CONFIGURATION

Bypass Air Plenum "BAP"	Fan Layout
No	Parallel



— RPM Curve
 - - - System Curve
 . . . Brake Power Curve
 . . . Do not select to the left of this surge curve

BELT DRIVE VEKTOR—CD LABORATORY EXHAUST SYSTEM



PATENTS PENDING COPYRIGHT
GREENHECK FAN CORPORATION 2008

Job: UC RIEVESCHL HALL

Contractor: THE THOMAS J DYER COMPANY

Date: 11/11/2011

Engineer: FOSDICK and HILMER

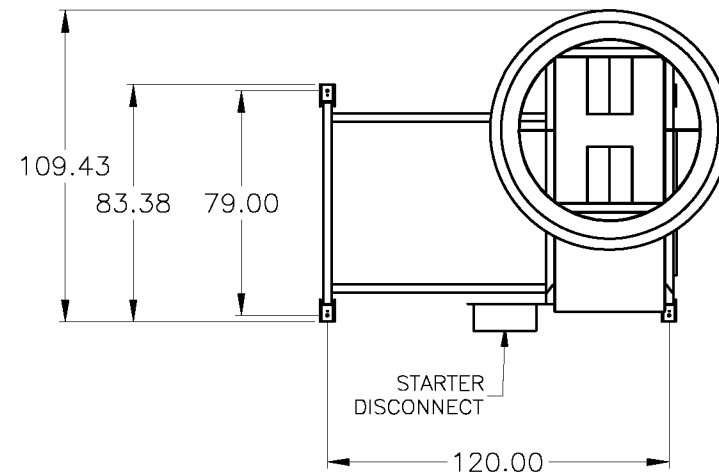
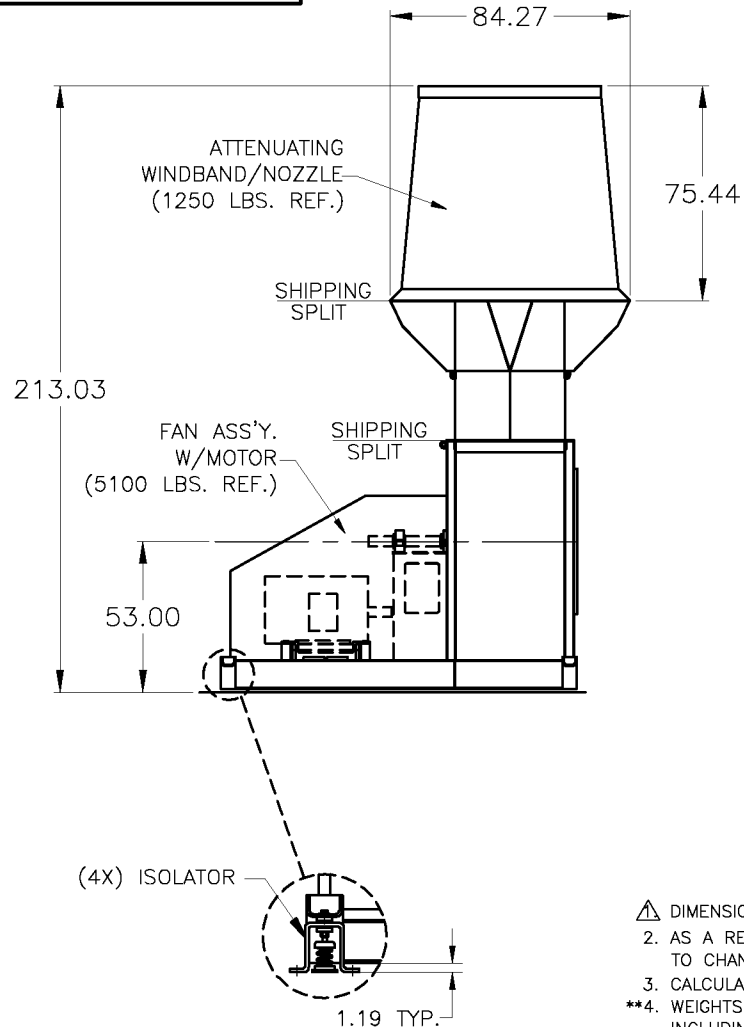
Revision: 02

GFC SO#

Architect: FOSDICK and HILMER

Project #: V1122

UNIT TAG:	Model	Primary Flow from Building (CFM)	MAX Bypass Air (CFM)	Flow thru Fan (CFM)	Windband Discharge Flow (CFM)	External SP (in. wg)	FRPM	Operating power (hp)	Motor Information				Effective Stack Height (ft) Δ
									HP	V/C/P	Encl:	RPM	
LEF-3 LEF-4	VK-CD-49	70000	NA	35000	49700	5	896	43.97	60	460/60/3	TEFC	1725	59.5



Δ DIMENSIONS ARE IN INCHES. DIMENSIONS AND WEIGHTS ARE APPROXIMATE.

2. AS A RESULT OF OUR COMMITMENT TO CONTINUOUS IMPROVEMENT, GREENHECK RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

3. CALCULATED PER ASHRAE APPLICATIONS HANDBOOK WITH A 10 MPH CROSS WIND.

**4. WEIGHTS OF SYSTEMS INCLUDE FAN, WINDBAND, AND DRIVES. THE APPROX. WEIGHT OF THIS SYSTEM, INCLUDING MOTOR IS 6350 LBS.

*** DISCONNECT WIRED AND MOUNTED PER SPECIFICATION, MAY NEED TO BE RELOCATED DUE TO CODE.

Vektor-CD Fume Exhaust System

DESIGN CONDITION

Number of Systems	Fans per System	Fan On Standby	Exhaust System Type	Total Exhaust Volume (CFM)	Min. Lab Exh. Volume (CFM)	Additional System BAP Air (CFM)	Wind Speed (MPH)
1	1	No	Variable Volume	35,000	N/A	0	10.0

FAN SELECTION CRITERIA

Volume (CFM)	External SP (in wg)	Internal SP (in wg)	Total SP (in wg)	Air Stream Temp. (F)	Elevation (ft)	Drive Loss (%)	Air Density (lb/ft ³)
35,000	5	0	5	70	0	3	0.075

FAN PERFORMANCE

Model	Fan RPM (RPM)	Max Class FRPM	Operating Power (hp)
Vektor-CD-49-1-III-LV	896	1,328	43.97

MOTOR SPECS

Motor Size (hp)	RPM	V/C/P	Enclosure
60	1725	460/60/3	TEFC

DISCHARGE PERFORMANCE

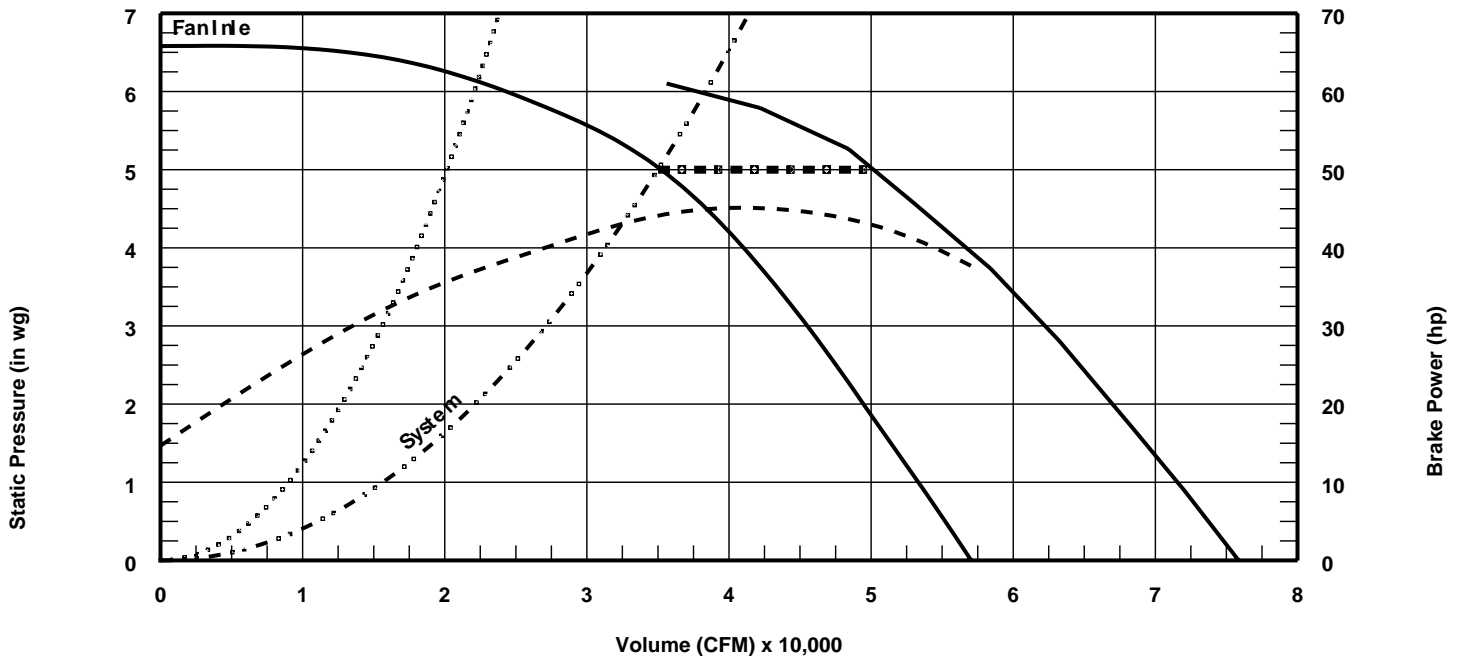
Nozzle OV (ft/min)	Windband OV (ft/min)	WB Exit Vol. (CFM)	Effective Plume Height (ft)	Dilution %
3,017	2,246	49,700	59.5	142

FAN CONSTRUCTION

Material Type	Drive Type	Arrangement	Class	Rotation
Spark C	Belt	1	III	CW

PLENUM CONFIGURATION

Bypass Air Plenum "BAP"	Fan Layout
No	Parallel



— RPM Curve
 - - - System Curve
 . . . Brake Power Curve
 . . . Do not select to the left of this surge curve

VEKTOR—MD
LABORATORY
EXHAUST SYSTEM

Job: UC RIEVESCHL HALL

Contractor: THE THOMAS J DYER COMPANY

Date: 12/05/2011

Motor Information

Mark: LEF—5

Engineer: FOSDICK and HILMER

Revision: 04

Model: VK—MD—40 1X1

Architect: FOSDICK and HILMER

Project #: V1122

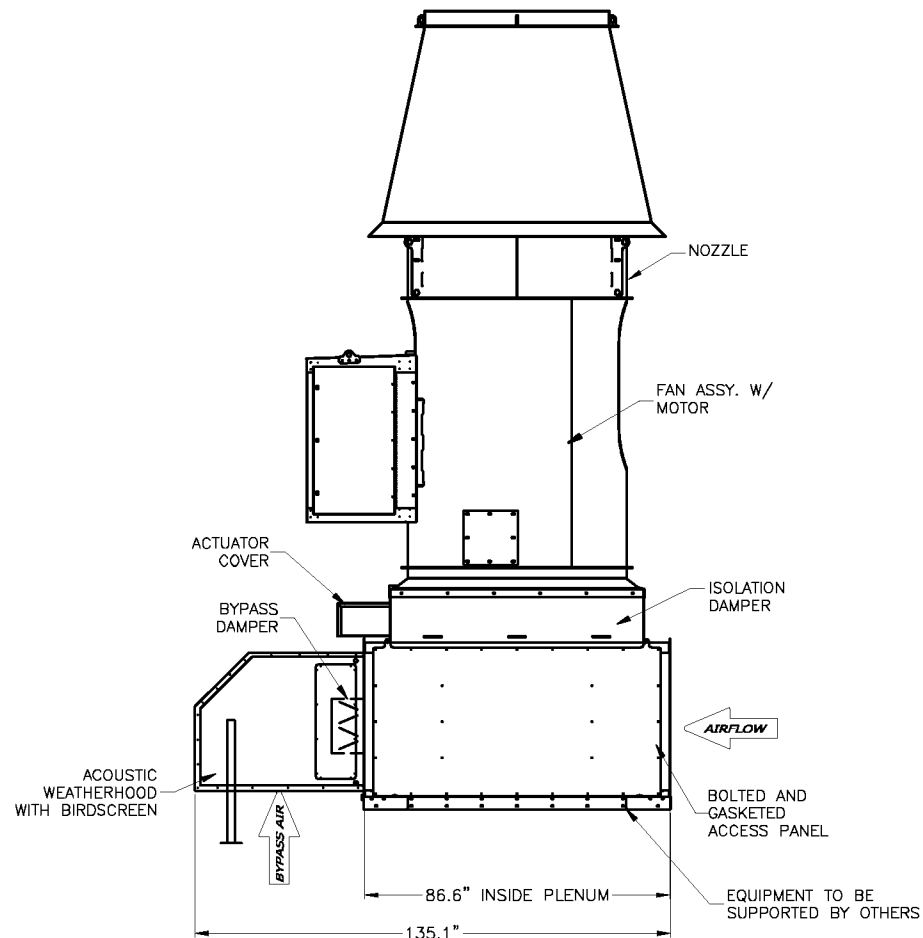
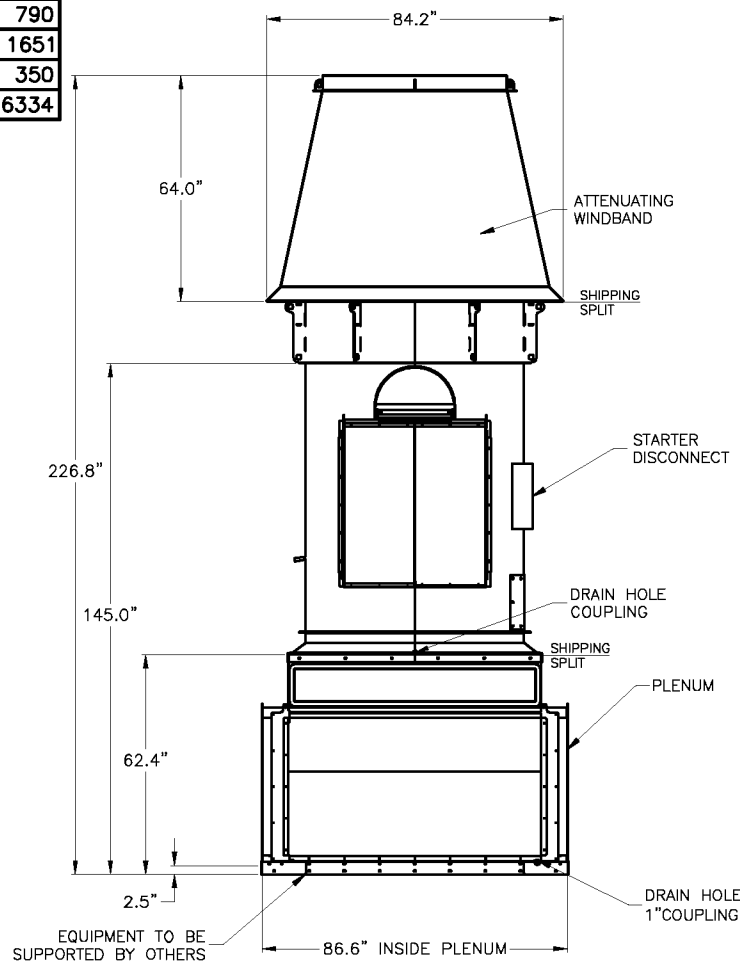
GFC SO:

HP	V/C/P	Encl:	RPM
60	460/60/3	TEFC	1725



Patents Pending

Weights:	LBS:
Fan Ass'y	3543
Windband	790
Plenum	1651
Weatherhood	350
Total Weight	6334



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Vektor-MD Fume Exhaust System

DESIGN CONDITION

Number of Systems	Fans per System	Fan On Standby	Exhaust System Type	ERS Plenum	Total Exhaust Volume (CFM)	Min. Lab Exh. Volume (CFM)	Additional System BAP Air (CFM)	Wind Speed (MPH)
1	1	No	Variable Volume	No	37,500	18,750	0	10.0

FAN SELECTION CRITERIA

Volume (CFM)	External SP (in wg)	Internal SP (in wg)	Total SP (in wg)	Air Stream Temp. (F)	Elevation (ft)	Drive Loss (%)	Air Density (lb/ft ³)
37,500	4	0.15	4.15	70	0	3	0.075

FAN PERFORMANCE

Model	Fan RPM (RPM)	Max Class FRPM	Operating Power (hp)
Vektor-MD-40-9-85-LV-HPW	1,235	1,251	54.51

MOTOR SPECS

Motor Size (hp)	RPM	V/C/P	Enclosure
60	1725	460/60/3	TEFC

DISCHARGE PERFORMANCE

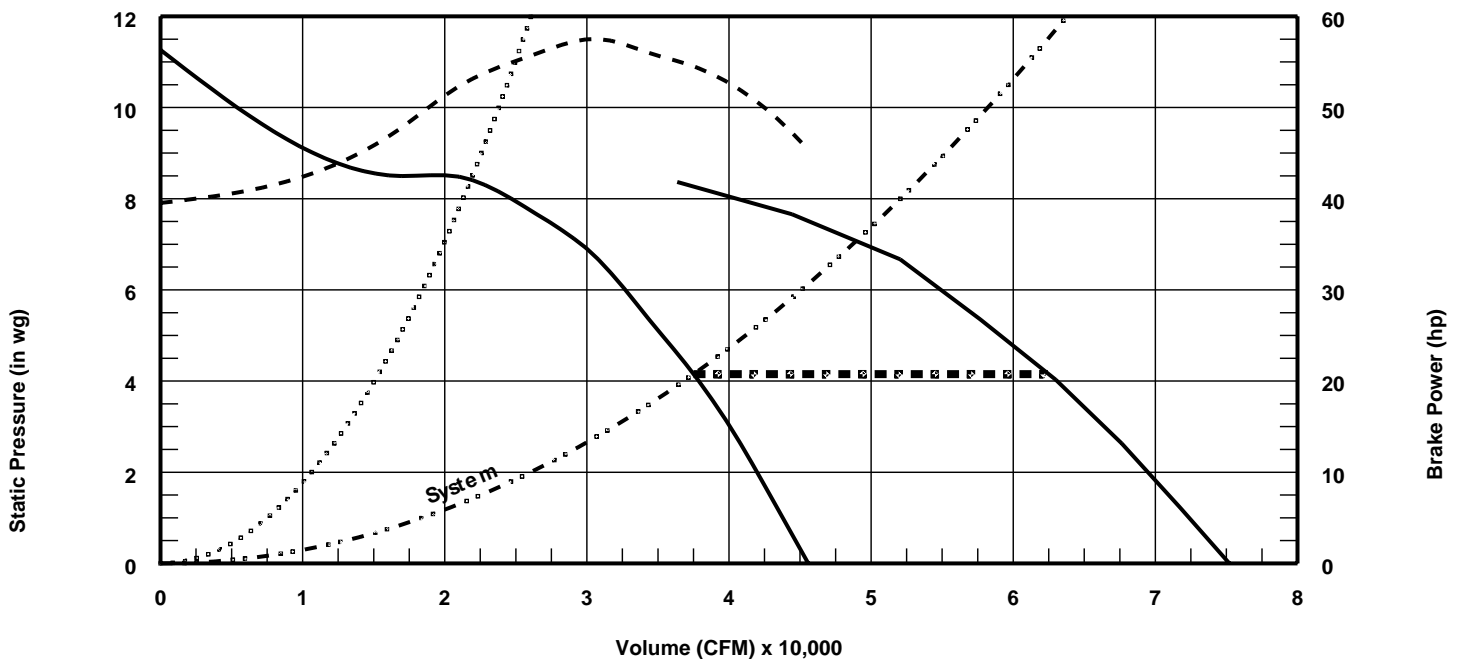
Nozzle OV (ft/min)	Windband OV (ft/min)	WB Exit Vol. (CFM)	Effective Plume Height (ft)	Dilution %
5,130	2,277	62,625	64.7	167

FAN CONSTRUCTION

Material Type	Drive Type	Arrangement
Spark C	Belt	9

PLENUM CONFIGURATION

Bypass Air Plenum "BAP"	Arrangement
Yes	Inline



— RPM Curve
 - - - System Curve
 . . . Brake Power Curve
 - - - Do not select to the left of this surge curve

VEKTOR-H LABORATORY EXHAUST SYSTEM

Job: UC RIEVESCHL HALL
Mark: LEF-6 & LEF-7
Model: VK-H-22 1X1

Contractor: THE THOMAS J DYER COMPANY
Engineer: FOSDICK and HILMER
Architect: FOSDICK and HILMER

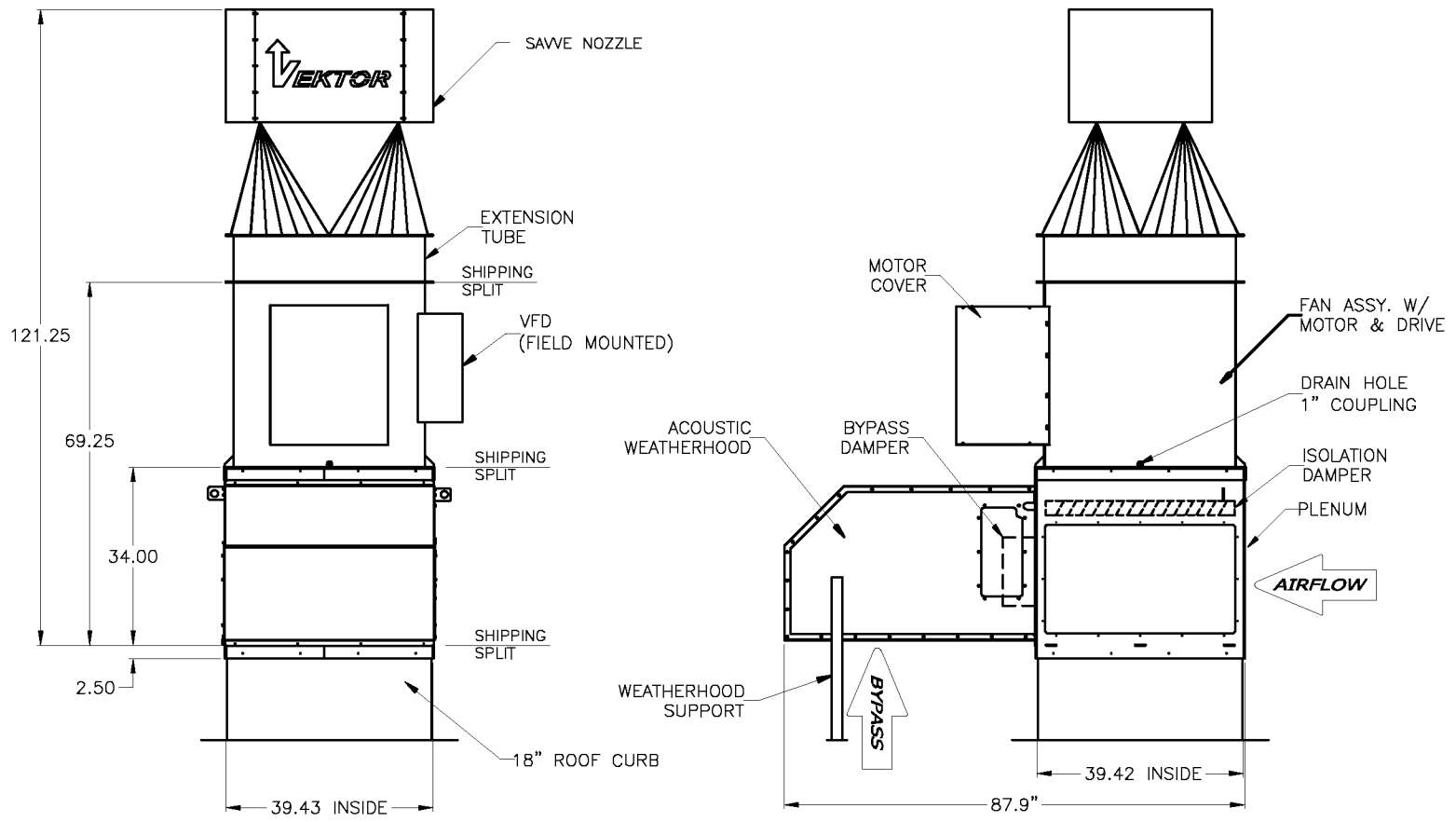
Date: 12/13/2011
Revision: 03
Project #: V1155
GFC SO:

Motor Information

HP	V/C/P	Encl:	RPM
7 1/2	460/60/3	TEFC	1725



Patents Pending	
Weights:	LBS:
Fan Ass'y	624
SAVVE Nozzle	200
Plenum	268
Extension Tube	41
Curb	129
Weatherhood	64
Total Weight	1326



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VEKTOR-HS FUME EXHAUST SYSTEM

DESIGN CONDITIONS

Number of Systems	Fans per System	Fan on Standby	Exhaust System Type	Max Design Exhaust Volume (CFM)	Min Design Exhaust Volume (CFM)	Wind Speed (mph)	Bypass Air at Min Design Volume (CFM)
1	1	No	Variable Volume	5000	100	10	1535

Bypass air at min design volume is the bypass air required for the system to operate at the min design exhaust volume while maintaining 3000 fpm outlet velocity.

FAN SELECTION CRITERIA

Volume (CFM)	External SP (in. w.g.)	Internal SP (in. w.g.)	Total SP (in. w.g.)	Air Stream Temp. (F)	Elevation (ft)	Drive Loss (%)	Air Density (lb/ft3)
5,000	3.00	0.15	3.15	70	0	10	0.0750

FAN PERFORMANCE

Model		Fan RPM (RPM)	Volume (CFM)	Operating Power (hp)	Drive Frequency (Hz)
Vektor-HS-22	Max	1578	5000	5.98	60
	Min	1537	1635	2.90	58.44

DISCHARGE PERFORMANCE

	Nozzle Area (ft ²)	OV (ft/ min)	Effective plume Height (ft)
Max	1.67	3000	26.51
Min	0.55	3000	20.13

MOTOR SPECS

Motor Size (hp)	RPM	V/C/P	Enclosure
7.5	1725	460/60/3	TEFC

FAN CONSTRUCTION

Material Type	Drive Type	Arrangement
Spark B	Belt	9

PLENUM CONFIGURATION

Bypass Air Plenum	Arrangement
Yes	Inline

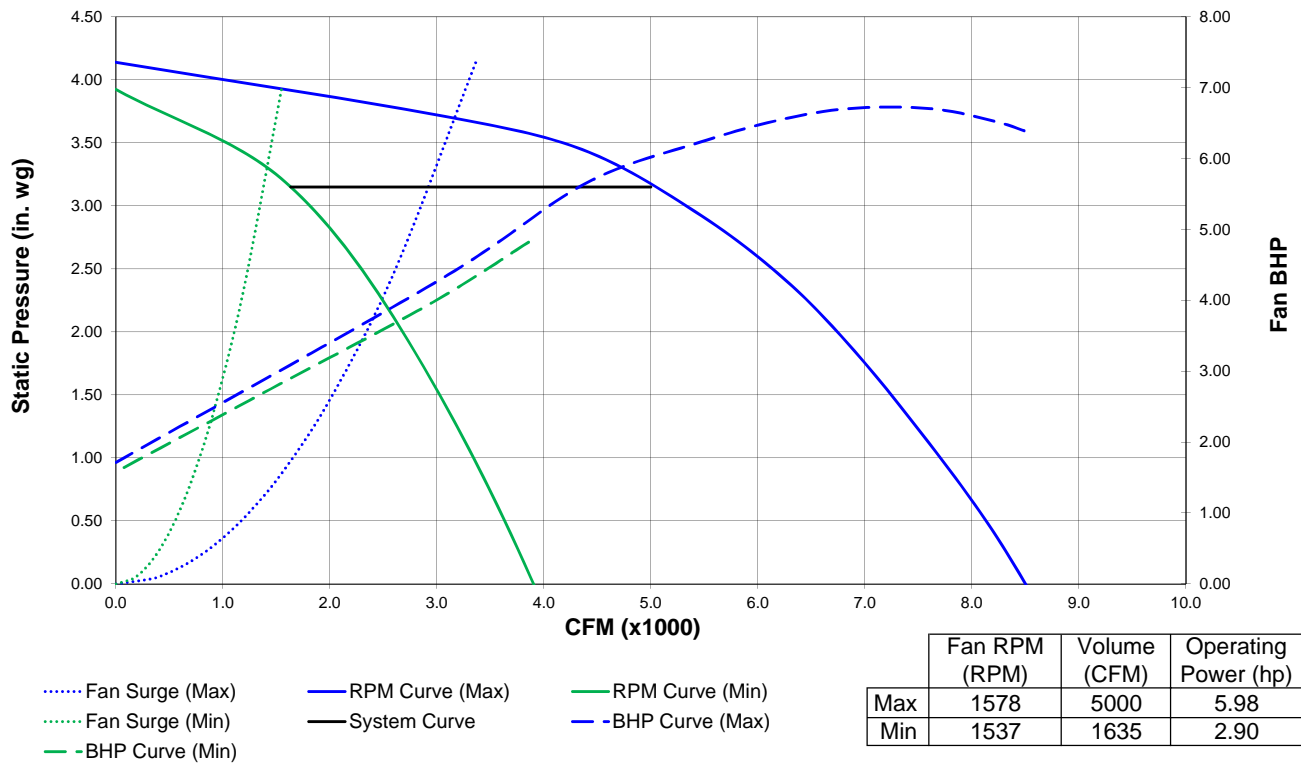
SOUND

	Inlet Sound Power by Octave Band								LwA	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Max	93	90	87	83	80	78	72	66	86	75	25
Min	93	89	86	82	79	77	71	65	85	75	24

LwA - "A" weighted sound power level, based on ANSI S1.4
dBA - "A" weighted sound pressure level, based on 11.5db attenuation per octave band at 5.0 ft.
Sones calculated using AMCA 301 at 5.0 ft.

Isolation Damper, VCD-23, Control, Parallel Blades, mounted in BAP, one per fan
Coating, LabCoat, Dark Gray (041), Entire Unit
Curb GPFHL-39.5/39.5-G18
UL/cUL-705 - "Power Ventilators"
Drive Service Factor of 2.0 - Standard
Class B Motor Insulation or Greater
Plenum - single wall, steel liner, inlet position B, side exhaust intake
Spare Belts - one set per fan
Bypass Damper, VCD-23, 14 x 14, weatherhood and inlet screen - Opposed Blade (1)
NEMA Premium Efficient Motor - meets NEMA Table 12-12
Stainless Steel Shaft
L(10) 200,000 Hour Bearings
Acoustic Weatherhood
VFD to be Field Mounted on Fan Housing, Brackets by GFC
VFD includes integral disconnect and motor starter

Vektor-HS-22



* The "RPM Curve (Max)" is the fan curve for when the system is running at design conditions with the nozzle fully open.

* The "RPM Curve (Min)" is the fan curve for when the nozzle is fully closed.

* The min and max fan surge curves, and BHP curves, correspond to the min and max RPM curves respectively.

Energy Savings Analysis

Operating Costs (Per Year)					
Traditional VAV System	Vektor-HS	Energy Savings (Per Year)		Payback (Years)	
\$5,861.96	\$2,921.96	\$2,940.00	50.15%	1.15	Based On 5 Day A Week Lab Occupancy
\$5,861.96	\$4,101.98	\$1,759.98	30.02%	1.92	Based On 7 Day A Week Lab Occupancy

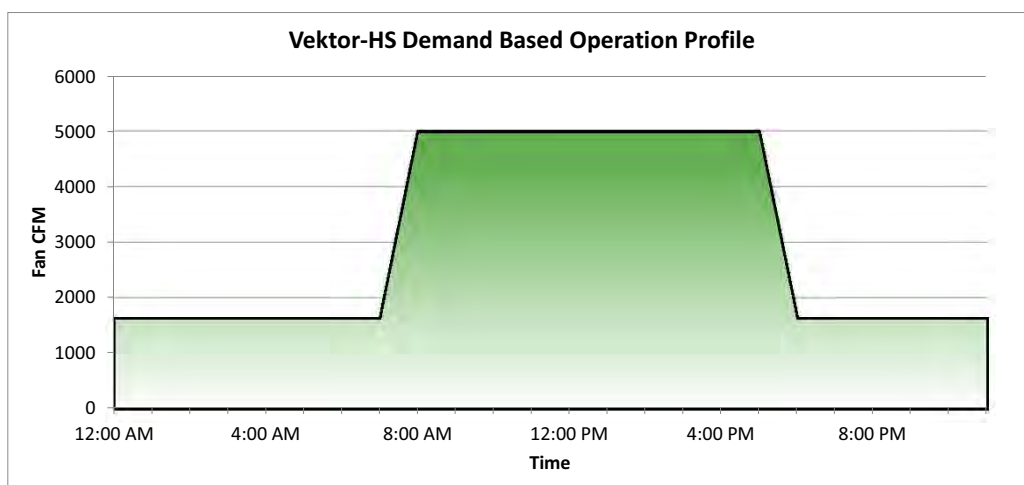
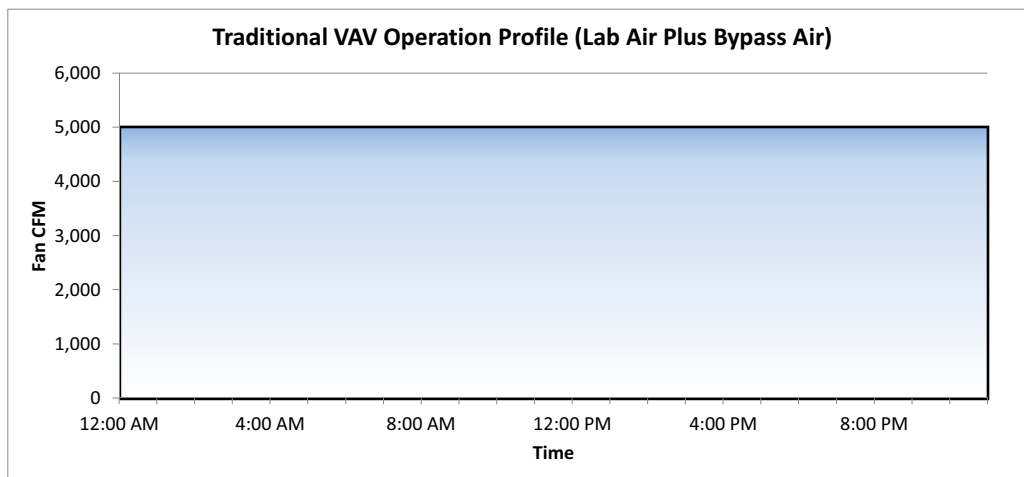
*Energy cost used for energy analysis: 0.15 \$/kWhr

*This energy analysis compares the cost of operating a Vektor-HS system to the cost of operating a traditional variable volume exhaust system.

*Energy savings for 5 day a week operation assumes standard operation (per Vektor-HS Demand Based Operation Profile) during the work week and operation at minimum design exhaust volume during the weekend.

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*Fan CFM in the above graphs is equal to the building cfm plus any bypass cfm required to maintain 3000 fpm outlet velocity.

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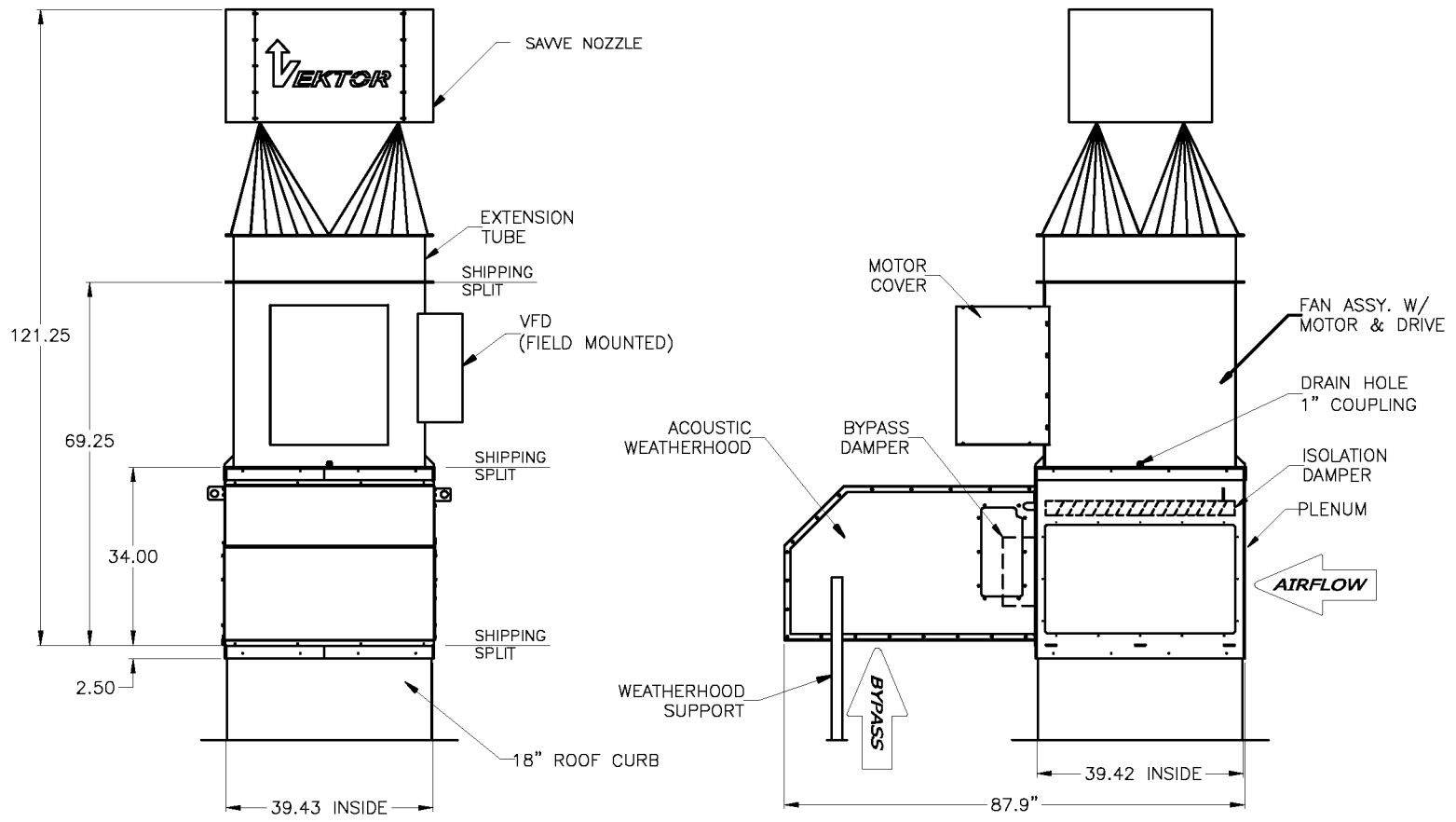
Date: 12/13/2011
Revision: 03
Project #: V1155
GFC SO:

Motor Information

HP	V/C/P	Encl:	RPM
7 1/2	460/60/3	TEFC	1725



Patents Pending	
Weights:	LBS:
Fan Ass'y	624
SAVVE Nozzle	200
Plenum	268
Extension Tube	41
Curb	129
Weatherhood	64
Total Weight	1326



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MOTOR SPECS

Motor Size (hp)	RPM	V/C/P	Enclosure
7.5	1725	460/60/3	TEFC

FAN CONSTRUCTION

Material Type	Drive Type	Arrangement
Spark B	Belt	9

PLENUM CONFIGURATION

Bypass Air Plenum	Arrangement
Yes	Inline

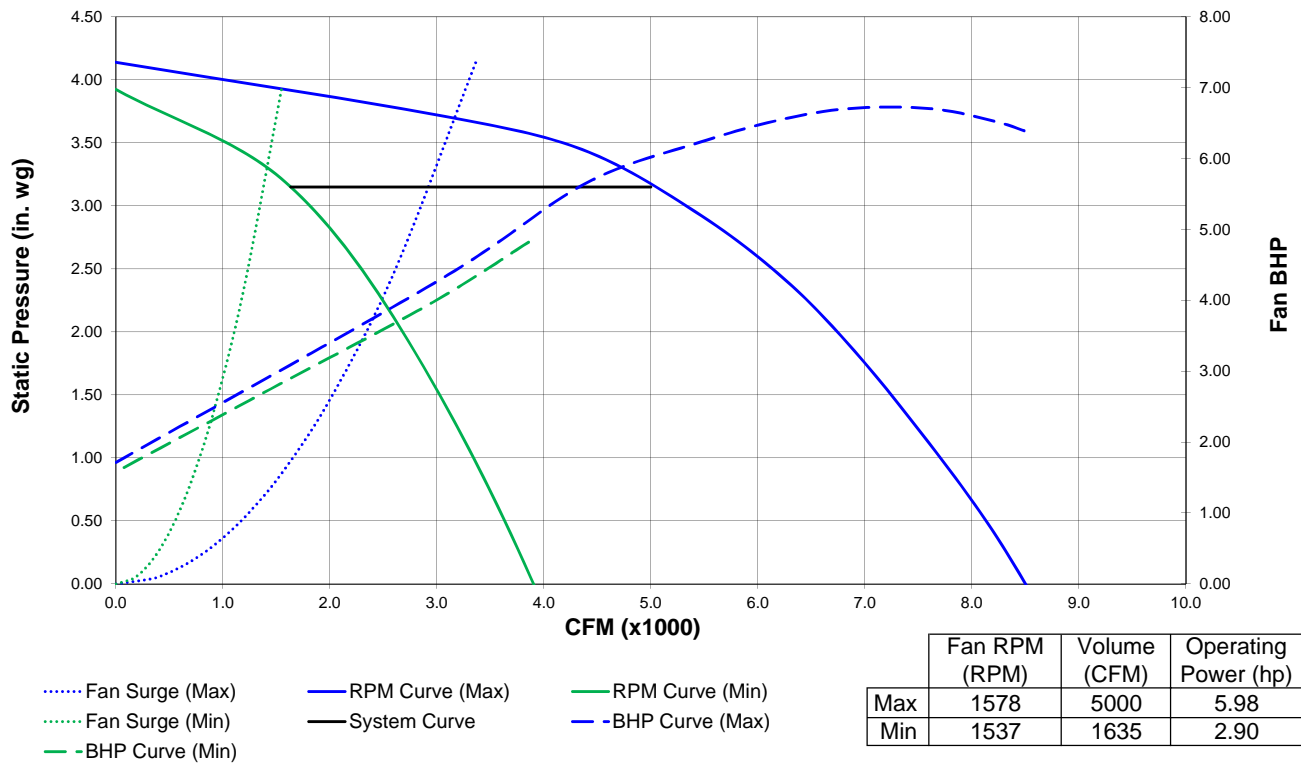
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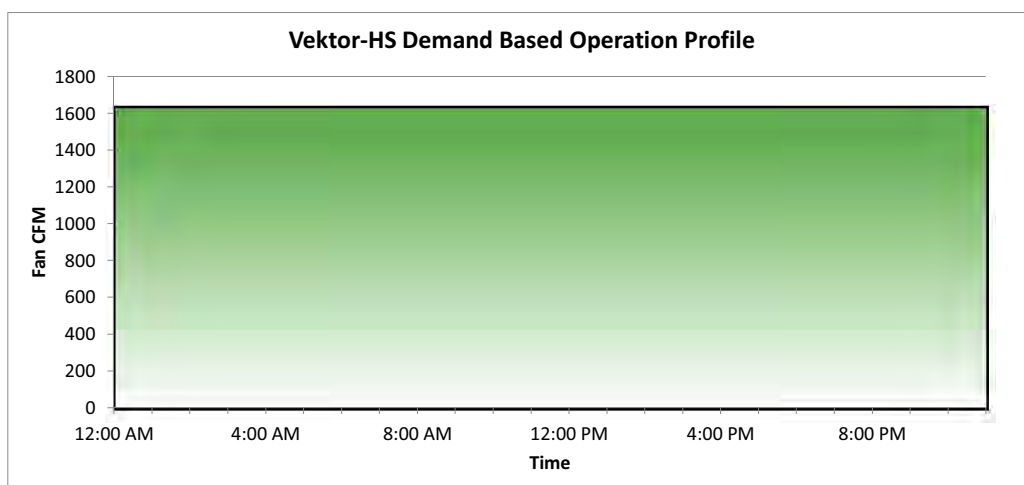
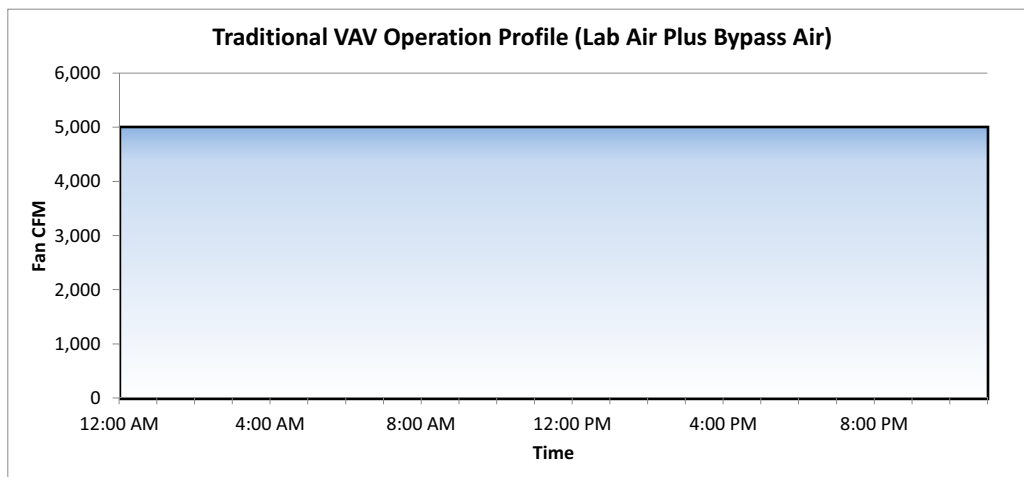
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