



## TEST & BALANCE REPORT

**PROJECT:** Walmart 3082

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**ARCHITECT:** Trevor Tyson Holcomb

**MECH. ENGINEER:** Scott Joseph Jack

**GEN. CONTRACTOR:** Brinkman

**PROJECT NUMBER:** P1010640

This is to certify that Melink Corporation has balanced the systems described herein to their optimum performance capabilities. The testing and balancing has been performed in accordance with the standard requirements and procedures of the National Environmental Balancing Bureau, and the results of the tests are herein recorded.

**T & B ENGINEER:** Stephen K. Melink, PE

**DATE** 12/18/2012



## TEST AND BALANCE CONTACT INFORMATION

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**WALMART MECHANICAL SERVICES:** Brent Johnson

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## FIELD SUMMARY

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

This air balance report is based on actual field readings and measurements taken from the store's HVAC systems during operation. All systems were also balanced to within 95% - 110% of design unless noted otherwise. The following corrections were performed by Melink and/or the contractors on-site.

### 1. Arrival

Melink arrived onsite and met with jobsite superintendant Derek. Mechanical drawings were provided and jobsite readiness confirmed.

### 2. RTU inspection

RTU-1: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-2: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-3: initially tested within design. No fan speed adjustments were necessary. OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-4: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-5: initially tested within design. No fan speed adjustments were necessary. OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-6: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-7: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-8: initially tested below design. The fan speed was increased by adjusting the installed motor pulley. The system retested within design and OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

RTU-9: initially tested within design. No fan speed adjustments were necessary. OA was set per plan. There is no thermostat to program as this site is monitored and controlled offsite.

## FIELD SUMMARY

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This air balance report is based on actual field readings and measurements taken from the store's HVAC systems during operation. All systems were also balanced to within 95% - 110% of design unless noted otherwise. The following corrections were performed by Melink and/or the contractors on-site.

### 3. EF inspection

EF-1: tested within design. No VSC was installed at the time of balance and the installed motor HP did not match design. A negative pressure was verified.

EF-2: tested within design. No VSC was installed at the time of balance and the installed motor HP did not match design. A negative pressure was verified.

EFH-1: was initially installed in the wrong location. After relocating the fan the installed VSC was adjusted to achieve design airflow. 100% smoke capture was verified.

EFH-2: was initially installed in the wrong location. After relocating the fan the installed VSC was adjusted to achieve design airflow. 100% smoke capture was verified.

### 4. Conclusion

All equipment was successfully balanced to design specifications. The building pressure was verified to be a positive .011" at the main entrance.

## PUNCH LIST

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

The following list details the remaining deficiencies of the store's HVAC and exhaust systems. These corrections are necessary to comply with the design specifications.

### Contractor Responsible

- |   |                   |
|---|-------------------|
| <b>1. Relocate EFH1 and EFH2</b><br>EFH1 and EFH2 are installed in the wrong locations. The fans need to be reinstalled in the correct locations for the balance to be completed. | <b>Completed</b>  |
| <b>2. Label EFH1 and EFH2</b><br>The fans are currently not labeled   | <b>Mechanical</b> |
| <b>3. Install VSC for EF-1 and EF-2</b><br>There is currently no VSC installed  | <b>Mechanical</b> |
| <b>4. Install functional gauges in AHU-1</b><br>There is only one gauge installed to monitor static pressures.  | <b>Munters</b>    |
| <b>5. Label concentric diffusers for RTU-3 and RTU-5</b><br>Wal-mart specifies the bottom of the diffuser to be labeled in black lettering.                                       | <b>Mechanical</b> |

**Melink recommends revisiting this store due to the deficiencies listed above.**

Revisit necessary? No      30-60 days after opening? NA      Before opening? NA

Project Manager: Please contact Melink in order to authorize the revisit.

## RECOMMENDATIONS

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

The following list details the recommendations for improving comfort and energy efficiency. These items are not requirements of the design specifications.

**1. Change filters regularly**

Clean filters are vital to system efficiency.

## PHOTOS

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910



**Picture 1:** Concentric diffusers incorrectly labeled



**Picture 2:** EFH's not labeled



**Picture 3:** Static gauges not installed in Munter's



**Picture 4:** VSC not installed in EF's



**Picture 5:** RTU's correctly labeled



**Picture 6:** Gas lines painted



## PHOTOS

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**Picture 7:** Condensates installed



**Picture 8:** Clean filters



**Picture 9:** Clean coils



**Picture 10:** Remote sensors labeled



# ROOFTOP INSPECTION

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## DESCRIPTION

## STATUS

### STANDARD

Verify proper unit locations

Verify units marked for easy identification

Inspect units

- Unit sealed & properly seated to roof curb
- Unit nameplate data matches design
- Motor nameplate data matches design
- No unusual vibration or noise
- All filters installed, clean & secure
- Condenser coil clean & free of damage
- Evaporator or coil clean & free of damage
- Gas cocks turned on
- Gas pipe painted
- Condensate drain lines properly installed
- P-Traps properly installed
- Drain lines properly sloped

Remove unit access panels

- Panels open freely & fully
- Panels latch securely
- Belts properly tensioned & free of damage
- Pulleys properly aligned
- Blower wheel clean & free of damage
- Control transformer wired for correct voltage

Check disconnect switches & covers

- Verify on/off disconnects work
- Verify voltage input correct
- Verify switch covers installed

Power-on diagnostic check

- Fans operating in correct rotation
- Compressors operating in correct rotation
- No unusual vibration or noise

Outside air (OA) dampers

- Outside air dampers installed & operational
- Ensure slightly positive building pressure
- Position marked for reference
- Sticker affixed to unit to preclude tampering

RTU								
1	2	3	4	5	6	7	8	9
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

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√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

# ROOFTOP INSPECTION

**PROJECT:** Walmart 3082

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## DESCRIPTION

## STATUS

### STANDARD

Verify proper unit locations  
Verify units marked for easy identification

RTU										AHU				
										1				
										√				
										√				

### Inspect units

- Unit sealed & properly seated to roof curb
- Unit nameplate data matches design
- Motor nameplate data matches design
- No unusual vibration or noise
- All filters installed, clean & secure
- Condenser coil clean & free of damage
- Evaporator or coil clean & free of damage
- Gas cocks turned on
- Gas pipe painted
- Condensate drain lines properly installed
- P-Traps properly installed
- Drain lines properly sloped

										√				
										√				
										√				
										√				
										√				
										√				
										√				
										√				
										√				
										√				
										√				

### Remove unit access panels

- Panels open freely & fully
- Panels latch securely
- Belts properly tensioned & free of damage
- Pulleys properly aligned
- Blower wheel clean & free of damage
- Control transformer wired for correct voltage

										√				
										√				
										√				
										√				
										√				
										√				

### Check disconnect switches & covers

- Verify on/off disconnects work
- Verify voltage input correct
- Verify switch covers installed

										√				
										√				
										√				

### Power-on diagnostic check

- Fans operating in correct rotation
- Compressors operating in correct rotation
- No unusual vibration or noise

										√				
										√				
										√				

### Outside air (OA) dampers

- Outside air dampers installed & operational
- Ensure slightly positive building pressure
- Position marked for reference
- Sticker affixed to unit to preclude tampering

										√				
										√				
										√				
										√				

# ROOFTOP INSPECTION

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**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## DESCRIPTION

## STATUS

### STANDARD

Verify proper unit locations  
Verify units marked for easy identification

EF/EFH															
1	2									1	2				
√	√									√	√				
√	√									X	X				

### Inspect units

- Unit sealed & properly seated to roof curb
- Unit nameplate data matches design
- Motor nameplate data matches design
- No unusual vibration or noise

√	√									√	√				
√	√									√	√				
X	X									√	√				
√	√									√	√				

### Exhaust fans (EF)

- Transition from exhaust duct to fan installed
- Duct continuously welded & liquid tight
- Fan hinged & opened for easy access
- Grease traps properly installed

√	√									√	√				
NA	NA									√	√				
√	√									√	√				
NA	NA									√	√				

### Remove unit access panels

- Panels open freely & fully
- Panels latch securely
- Belts properly tensioned & free of damage
- Pulleys properly aligned
- Blower wheel clean & free of damage

√	√									√	√				
√	√									√	√				
NA	NA									NA	NA				
NA	NA									NA	NA				
NA	NA									NA	NA				

### Check disconnect switches & covers

- Verify on/off disconnects work
- Verify voltage input correct
- Verify switch covers installed

√	√									√	√				
√	√									√	√				
√	√									√	√				

### Power-on diagnostic check

- Fans operating in correct rotation
- No unusual vibration or noise

√	√									√	√				
√	√									√	√				

## ABOVE CEILING INSPECTION

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

### DESCRIPTION

### STATUS

#### STANDARD

##### Supply duct system

- Ductwork installed as per design
- All volume dampers properly installed
- Dampers accessible & operable
- Installed diffusers match design
- Ductwork properly covered w/ insulation, insulation is secure

RTU									
1	2	3	4	5	6	7	8	9	
√	√	√	√	√	√	√	√	√	
√	√	√	√	√	√	√	√	√	
√	√	√	√	√	√	√	√	√	
√	√	√	√	√	√	√	√	√	
√	√	√	√	√	√	√	√	√	

- Ductwork installed as per design
- All volume dampers properly installed
- Dampers accessible & operable
- Installed diffusers match design
- Ductwork properly covered w/ insulation, insulation is secure

RTU									

- Ductwork installed as per design
- All volume dampers properly installed
- Dampers accessible & operable
- Installed diffusers match design
- Ductwork properly covered w/ insulation, insulation is secure

RTU									

- Ductwork installed as per design
- All volume dampers properly installed
- Dampers accessible & operable
- Installed diffusers match design
- Ductwork properly covered w/ insulation, insulation is secure

RTU									

#### STANDARD

##### Exhaust duct system

- Cleanouts are installed where applicable
- Firewrap installed on duct as specified
- Horizontal duct sloped as specified
- Welds appear to be liquid tight

EF/EFH									
1	2								
NA	NA					√	√		
NA	NA					√	√		
NA	NA					√	√		
NA	NA					√	√		

## BELOW CEILING INSPECTION

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

### DESCRIPTION

### STATUS

#### STANDARD

##### Thermostats

- Remote sensor installed in correct location
- Unit was cycled to verify proper operation
- Heating mode tested satisfactorily
- Cooling mode tested satisfactorily

RTU								
1	2	3	4	5	6	7	8	9
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	√

##### Thermostats

- Remote sensor installed in correct location
- Unit was cycled to verify proper operation
- Heating mode tested satisfactorily
- Cooling mode tested satisfactorily

RTU								

##### Thermostats

- Remote sensor installed in correct location
- Unit was cycled to verify proper operation
- Heating mode tested satisfactorily
- Cooling mode tested satisfactorily

RTU								

##### Thermostats

- Remote sensor installed in correct location
- Unit was cycled to verify proper operation
- Heating mode tested satisfactorily
- Cooling mode tested satisfactorily

RTU									AHU			
									1			
									√			
									√			
									√			
									√			

#### STANDARD

##### Exhaust hoods

- Grease cups are installed
- All grease filters are installed
- Filters are of correct type & size
- Cooking appliances are operating
- Cooking appliances located under hoods
- Smoke capture is satisfactory

		KH										
1	2											
√	NA											
√	NA											
√	NA											
√	√											
√	√											
√	√											

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## RTU-1

### *Break Room/Restrooms*

## DESIGN DATA

CAPACITY (TONS)	5
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	330

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC060H4BH1G
SERIAL NO.	5612D03579
CATALOG NO.	L1059
RATED TONS	5
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL40 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	799
FINAL RPM	894
INITIAL AMPS	1.1
FINAL OPER. AMPS	1.3
VOLTS	484
CFM PER TON	342
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.14"
FAN SUCTION SP	0.2"
FAN DISCHARGE SP	0.29"
FILTER/COIL SP	0.06"
ACT EXTERNAL SP	0.43"
TOTAL FAN SP	0.49"

[illegible]

1RA	Break room	Return Grille	1485	812	1488	100%

	DESIGN	PRELIM.	FINAL	
SUPPLY	1650	1130	1710	104%
RETURN	1485		1488	100%
OUTSIDE AIR	165		168	102%
%OUTSIDE AIR	10%		10%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

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**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## RTU-2

### *Training/Courtesy*

## DESIGN DATA

CAPACITY (TONS)	3
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	400

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC036H4BT1g
SERIAL NO.	5612D00963
CATALOG NO.	L1058
RATED TONS	3
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL34 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	712
FINAL RPM	891
INITIAL OPER. AMPS	1.3
FINAL OPER. AMPS	1.4
VOLTS	486
CFM PER TON	400
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.09"
FAN SUCTION SP	0.18"
FAN DISCHARGE SP	0.24"
FILTER/COIL SP	0.09"
ACT EXTERNAL SP	0.33"
TOTAL FAN SP	0.42"

[illegible]

2RA	Customer Service	Return Grille	455	331	422	93%
2RB	Cash	Return Grille	175	131	161	92%
2RC	Site to store	Return Grille	100	77	98	98%
2RD	Managers Office	Return Grille	175	144	171	

DESIGN PRELIM.		FINAL	
SUPPLY	1200	961	1200 100%
RETURN	730		681 93%
OUTSIDE AIR	120		124 103%
%OUTSIDE AIR	10%		10%



## ROOFTOP UNITS (RTU) DATA

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## RTU-3

### *Checkout/Sales*

## DESIGN DATA

CAPACITY (TONS)	20
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	325

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGA240H4MH1G
SERIAL NO.	5612A04567
CATALOG NO.	N5378
RATED TONS	20
FAN MOTOR	Baldor
HP	5
RPM	1750
VOLTS/PHASE	460/3
FLA	6.7
MOTOR SHEAVE	BK50H X 1 1/8
FAN SHEAVE	MB98 X 1 7/16
BELT(S)	BX67

## TEST DATA

INITIAL RPM	617
FINAL RPM	617
INITIAL OPER. AMPS	4.9
FINAL OPER. AMPS	4.9
VOLTS	484
CFM PER TON	314
VFD OPER HZ (MAX)	43
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.23"
FAN SUCTION SP	0.59"
FAN DISCHARGE SP	0.52"
FILTER/COIL SP	0.36"
ACT EXTERNAL SP	0.75"
TOTAL FAN SP	1.11"

[illegible]

	DESIGN	PRELIM.	FINAL	
SUPPLY	6500	6271	6271	96%
RETURN	5850		5612	96%
OUTSIDE AIR	650		669	103%
%OUTSIDE AIR	10%		11%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

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**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**RTU-4**  
***Pharmacy***

## DESIGN DATA

CAPACITY (TONS)	3
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	400

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC036H4BT1g
SERIAL NO.	5612D00962
CATALOG NO.	L1058
RATED TONS	3
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL34 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	714
FINAL RPM	776
INITIAL OPER. AMPS	1.2
FINAL OPER. AMPS	1.3
VOLTS	486
CFM PER TON	376
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.11"
FAN SUCTION SP	0.23"
FAN DISCHARGE SP	0.28"
FILTER/COIL SP	0.12"
ACT EXTERNAL SP	0.39"
TOTAL FAN SP	0.51"

NO.	AREA SERVED	TYPE	DESIGN	PRELIM.	FINAL	
4A	Pharmacy	4-Way	350	298	323	92%
4B	Pharmacy	4-Way	350	294	335	96%
4C	Pharmacy	4-Way	350	299	328	94%
4D	Pharmacy RR	4-Way	150	128	142	95%

[illegible]

4RA	Pharmacy	Return Grille	1080	584	946	88%

	DESIGN	PRELIM.	FINAL	
SUPPLY	1200	1019	1128	94%
RETURN	1080		996	92%
OUTSIDE AIR	120		114	95%
%OUTSIDE AIR	10%		10%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## RTU-5 Sales

## DESIGN DATA

CAPACITY (TONS)	10
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	370

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC120H4MH1G
SERIAL NO.	5612B07549
CATALOG NO.	L1061
RATED TONS	10
FAN MOTOR	Interlink
HP	3
RPM	1750
VOLTS/PHASE	460/3
FLA	4.0
MOTOR SHEAVE	VL40 X 7/8"
FAN SHEAVE	MB75 X 1"
BELT(S)	BX57

## TEST DATA

INITIAL RPM	803
FINAL RPM	803
INITIAL OPER. AMPS	2.4
FINAL OPER. AMPS	2.4
VOLTS	484
CFM PER TON	389
VFD OPER HZ (MAX)	59
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.2"
FAN SUCTION SP	0.44"
FAN DISCHARGE SP	0.51"
FILTER/COIL SP	0.24"
ACT EXTERNAL SP	0.71"
TOTAL FAN SP	0.95"

[illegible]

	DESIGN	PRELIM.	FINAL	
SUPPLY	3700	3892	3892	105%
RETURN	3330		3378	101%
OUTSIDE AIR	370		397	107%
%OUTSIDE AIR	10%		10%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**RTU-6**  
***UPC***

## DESIGN DATA

CAPACITY (TONS)	3
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	400

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SCC036H4BN1G
SERIAL NO.	5612F04983
CATALOG NO.	N9547
RATED TONS	3
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL34 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	766
FINAL RPM	812
INITIAL OPER. AMPS	1.2
FINAL OPER. AMPS	1.3
VOLTS	487
CFM PER TON	396
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.08"
FAN SUCTION SP	0.18"
FAN DISCHARGE SP	0.21"
FILTER/COIL SP	0.1"
ACT EXTERNAL SP	0.29"
TOTAL FAN SP	0.39"

[illegible]

6RA	UPC	Return Grille	1080	909	989	92%

	DESIGN	PRELIM.	FINAL	
SUPPLY	1200	1112	1188	99%
RETURN	1080		989	92%
OUTSIDE AIR	120		124	103%
%OUTSIDE AIR	10%		10%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**RTU-7**  
*Deli Prep/Mech/Elec*

## DESIGN DATA

CAPACITY (TONS)	5
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	330

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC060H4BH1G
SERIAL NO.	5612D03581
CATALOG NO.	L1059
RATED TONS	5
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL40 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	812
FINAL RPM	889
INITIAL OPER. AMPS	1.2
FINAL OPER. AMPS	1.3
VOLTS	484
CFM PER TON	321
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.16"
FAN SUCTION SP	0.27"
FAN DISCHARGE SP	0.33"
FILTER/COIL SP	0.11"
ACT EXTERNAL SP	0.49"
TOTAL FAN SP	0.6"

[illegible]

	DESIGN	PRELIM.	FINAL	
SUPPLY	1650	1426	1607	97%
RETURN	1485		1446	97%
OUTSIDE AIR	165		177	107%
%OUTSIDE AIR	10%		11%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## RTU-8

### *Bakery/Produce Prep*

## DESIGN DATA

CAPACITY (TONS)	5
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	330

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC060H4BH1G
SERIAL NO.	5612D03581
CATALOG NO.	L1059
RATED TONS	5
FAN MOTOR	Interlink
HP	1 1/2
RPM	1745
VOLTS/PHASE	460/3
FLA	2.0
MOTOR SHEAVE	VL40 x 7/8"
FAN SHEAVE	MA60 x 1"
BELT(S)	AX44

## TEST DATA

INITIAL RPM	709
FINAL RPM	859
INITIAL OPER. AMPS	1.2
FINAL OPER. AMPS	1.4
VOLTS	484
CFM PER TON	308
VFD OPER HZ (MAX)	N/A
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.18"
FAN SUCTION SP	0.26"
FAN DISCHARGE SP	0.31"
FILTER/COIL SP	0.08"
ACT EXTERNAL SP	0.49"
TOTAL FAN SP	0.57"

[illegible]

8RA	Produce Prep	Return Grille	520	389	504	97%
8RB	Bakery Prep	Return Grille	965	762	902	93%

	DESIGN	PRELIM.	FINAL	
SUPPLY	1650	1254	1542	93%
RETURN	1485		1406	95%
OUTSIDE AIR	165		181	110%
%OUTSIDE AIR	10%		12%	

## ROOFTOP UNITS (RTU) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## RTU-9 *Receiving*

## DESIGN DATA

CAPACITY (TONS)	10
EXTERNAL SP	0.5"
MODEL NO.	Lennox SG
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	370

## EQUIP. DATA

UNIT MFR.	Lennox
MODEL NO.	SGC120H4MH1G
SERIAL NO.	5612B07548
CATALOG NO.	L1061
RATED TONS	10
FAN MOTOR	Interlink
HP	3
RPM	1750
VOLTS/PHASE	460/3
FLA	4.0
MOTOR SHEAVE	VL40 X 7/8"
FAN SHEAVE	MB75 X 1"
BELT(S)	BX57

## TEST DATA

INITIAL RPM	806
FINAL RPM	806
INITIAL OPER. AMPS	2.3
FINAL OPER. AMPS	2.3
VOLTS	484
CFM PER TON	394
VFD OPER HZ (MAX)	59
IOP DAMPER (OA)%	10%

## STATIC PROFILE

RETURN SP	0.13"
FAN SUCTION SP	0.32"
FAN DISCHARGE SP	0.22"
FILTER/COIL SP	0.19"
ACT EXTERNAL SP	0.35"
TOTAL FAN SP	0.54"

[illegible]

9RA	Receiving	Return Grille	3330	3432	3432	103%

	DESIGN	PRELIM.	FINAL	
SUPPLY	3700	3942	3942	107%
RETURN	3330		3432	103%
OUTSIDE AIR	370		404	109%
%OUTSIDE AIR	10%		10%	



## DEHUMIDIFICATION UNIT (DHU)

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## AHU-1 Sales

## DESIGN DATA

CAPACITY (TONS)	NA
EXTERNAL SP	0.5"
MODEL NO.	DDXC8040AAD
FAN HP	N/A
VOLTS/PHASE	460/3
CFM PER TON	NA

## EQUIP. DATA

UNIT MFR.	Munters
MODEL NO.	DDXC8040AAD- EBBG402-
SERIAL NO.	C12DDDXC80545
CATALOG NO.	N/A
RATED TONS	NA
FAN MOTOR	WEG
HP	7 1/2
RPM	1765
VOLTS/PHASE	460/3
FLA	9.0
MOTOR SHEAVE	VP65 X 1 3/8"
FAN SHEAVE	BK110H X 1 7/16"
BELT(S)	B67

## TEST DATA

VFD FREQ (DH)	51. Hz
VFD FREQ (DX)	51.4 Hz
VOLTS	484.0"
INITIAL OPER. AMPS	5.7
FINAL OPER. AMPS	5.7
DX COIL SP DH*	NA
DX COIL SP DX	NA
PROCESS SP*	NA
REACT SP*	NA
REACT COIL SP*	NA
CFM PER TON	NA

\*SP readings in DH mode

[illegible]

	DESIGN	PRELIM.	FINAL	
SUPPLY	4700	4825	4825	103%
RETURN	0		744	
OUTSIDE AIR	4000		4062	102%
%OUTSIDE AIR	85%		84%	

## EXHAUST FAN (EF) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

## EF-1

### *Restrooms*

## DESIGN DATA

EXTERNAL S.P.	0.28"
FAN HP	1/3
VOLTS/PHASE	120/1

## EQUIP. DATA

UNIT MFR.	PennBarry
• MODEL NO.	DX13Q
• SERIAL NO.	G12PZ24638
FAN MOTOR	Fasco
• HP	1/4
• RPM	1725
• VOLTS/PHASE	120/1
• FLA	3.5
• O.L. PROTECT.	Thermal
MOTOR SHEAVE	N/A
FAN SHEAVE	N/A
BELT(S)	N/A

## TEST DATA

INITIAL RPM	Single
FINAL RPM	Single
EXTERNAL S.P.	N/A
MOTOR HZ	60
ACTUAL VOLTS	120
INITIAL AMPS	2.2
FINAL AMPS	2.2

[illegible]

## EXHAUST FAN (EF) DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

**EF-2**  
***Pharmacy Restroom***

## DESIGN DATA

EXTERNAL S.P.	0.14"
FAN HP	1/10
VOLTS/PHASE	120/1

## EQUIP. DATA

UNIT MFR.	PennBarry
• MODEL NO.	DX08R
• SERIAL NO.	G12PZ24639
FAN MOTOR	A.O. Smith
• HP	1/30
• RPM	1550
• VOLTS/PHASE	120/1
• FLA	0.6
• O.L. PROTECT.	Thermal
MOTOR SHEAVE	N/A
FAN SHEAVE	N/A
BELT(S)	N/A

## TEST DATA

INITIAL RPM	Single
FINAL RPM	Single
EXTERNAL S.P.	N/A
MOTOR HZ	60
ACTUAL VOLTS	120
INITIAL AMPS	0.5
FINAL AMPS	0.5

[illegible]

EXHAUST DATA	GRILLE	200	197	197	99%
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## KITCHEN HOOD & ASSOCIATED EXHAUST FAN DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

### KH-1 / EF-12 Stacked Combination Oven

#### DESIGN DATA

EXHAUST CFM	1000
EXTERNAL S.P.	0.85"
FAN HP	1/2
VOLTS/PHASE	120/1

#### EQUIP. DATA

UNIT MFR.	Captive-Aire
• MODEL NO.	DU50HFA
• SERIAL NO.	1600844
FAN MOTOR	Marathon
• HP	1/2
• RPM	1625
• VOLTS/PHASE	120/1
• FLA	8.1
• O.L. PROTECT.	Thermal
MOTOR SHEAVE	Direct Drive
FAN SHEAVE	Direct Drive
BELT(S)	Direct Drive

#### TEST DATA

INITIAL RPM	VSC
FINAL RPM	VSC
EXTERNAL S.P.	N/A
MOTOR HZ	60
ACTUAL VOLTS	120
INITIAL AMPS	2.3
FINAL AMPS	2.3
EXHAUST CFM	946

95%

#### DESIGN DATA

HOOD MFR.	Captive-Aire
• MODEL NO.	6024 ND-2
DUCT COLLAR SIZE.	10"

#### EQUIP. DATA

HOOD MFR.	Captive-Aire
• MODEL NO.	6024 ND-2
• SERIAL NO.	1600844
• HOOD TYPE	Wall Canopy
FILTER MFR.	Kleen-Gard
FILTER HEIGHT	16 "

#### TEST DATA

FILTER LG		VELOCITY	
-1-	-2-	-1-	-2-
16 "		166	
20 "		171	
20 "		177	

## KITCHEN HOOD & ASSOCIATED EXHAUST FAN DATA

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

### KH-2 / EF-14 *Mini Rotating Oven*

#### DESIGN DATA

EXHAUST CFM	825
EXTERNAL S.P.	0.625"
FAN HP	1/3
VOLTS/PHASE	120/1

#### EQUIP. DATA

UNIT MFR.	Captive-Aire
• MODEL NO.	DU33HFA
• SERIAL NO.	1600844
FAN MOTOR	Marathon
• HP	1/3
• RPM	1625
• VOLTS/PHASE	120/1
• FLA	4.4
• O.L. PROTECT.	Thermal
MOTOR SHEAVE	Direct Drive
FAN SHEAVE	Direct Drive
BELT(S)	Direct Drive

#### TEST DATA

INITIAL RPM	VSC
FINAL RPM	VSC
EXTERNAL S.P.	N/A
MOTOR HZ	60
ACTUAL VOLTS	120
INITIAL AMPS	2.6
FINAL AMPS	2.6
EXHAUST CFM	884

107%

#### DESIGN DATA

HOOD MFR.	Captive-Aire
• MODEL NO.	6024 VHB-ND
DUCT COLLAR SIZE.	12"

#### EQUIP. DATA

HOOD MFR.	Captive-Aire
• MODEL NO.	6024 VHB-ND
• SERIAL NO.	1600844
• HOOD TYPE	Wall Canopy
FILTER MFR.	NA
FILTER HEIGHT	NA

#### TEST DATA

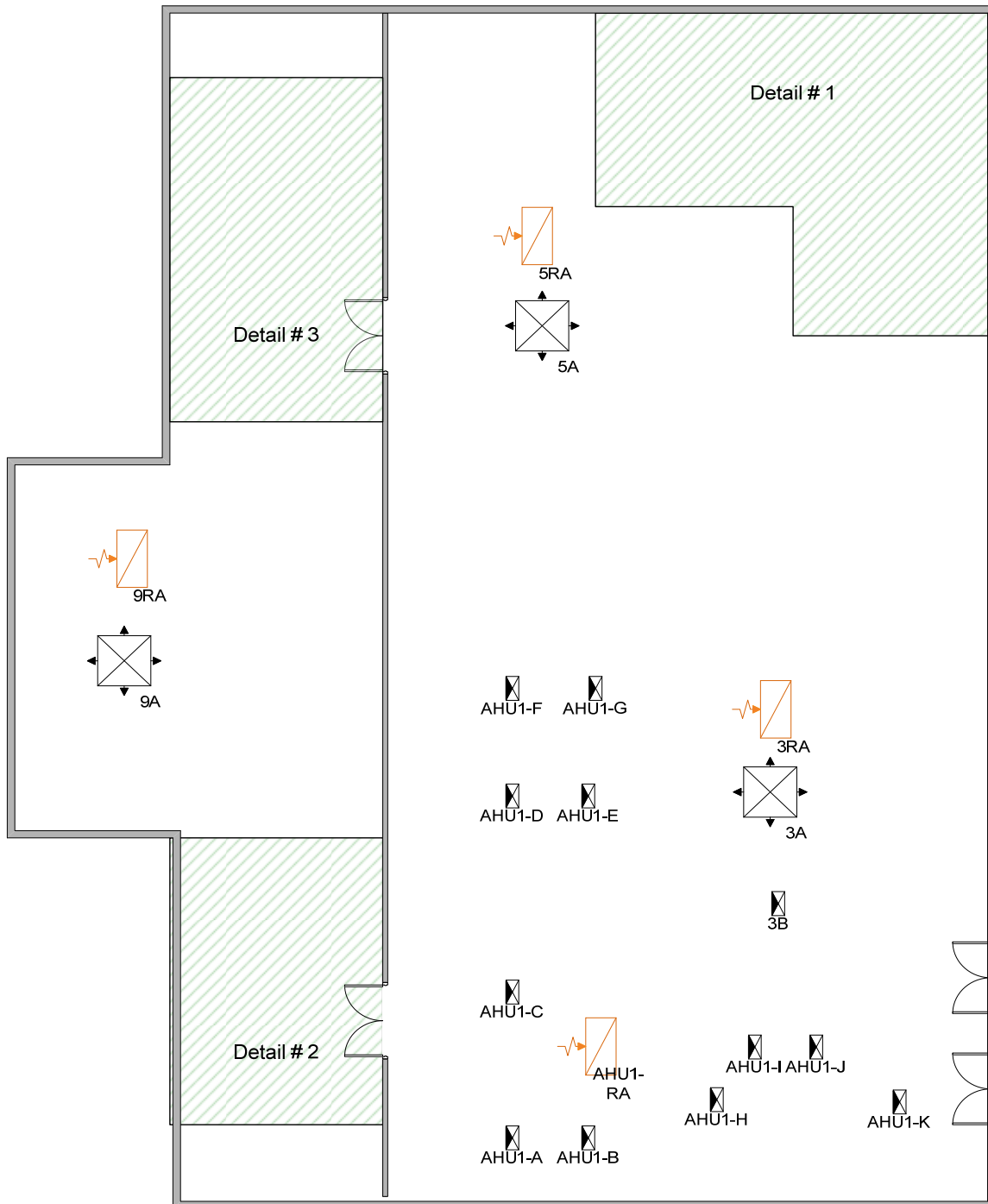
FILTER LG		VELOCITY	
-1-	-2-	-1-	-2-
N/A		Flow	
		Hood	

# BUILDING AND ROOFTOP LAYOUT

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910



# BUILDING AND ROOFTOP LAYOUT

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910



## Detail #1



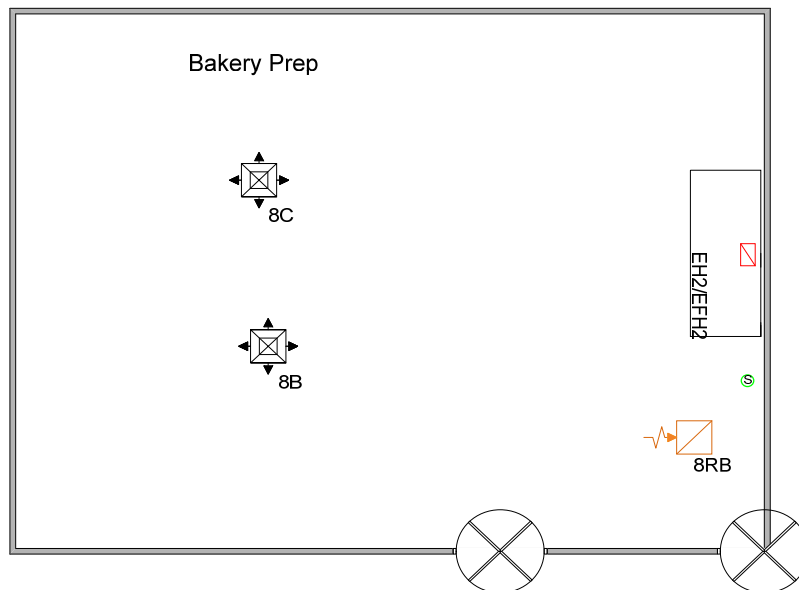


## BUILDING AND ROOFTOP LAYOUT

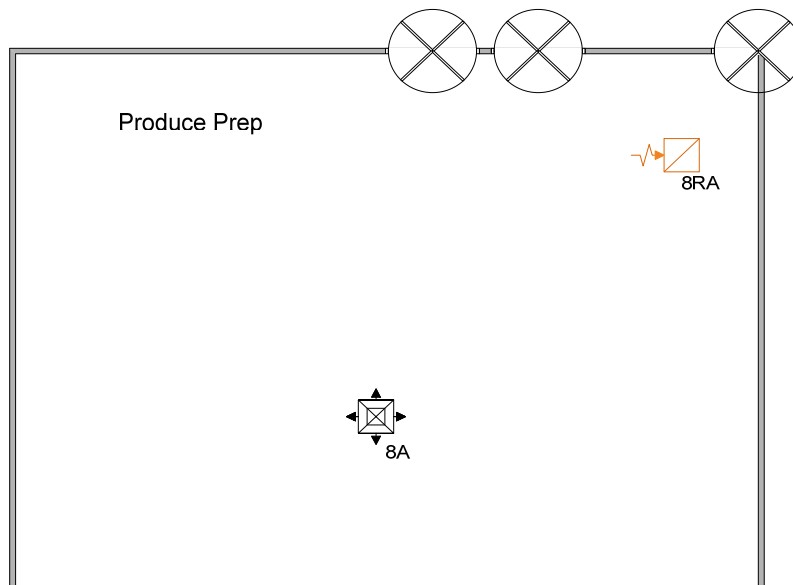
**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910



Detail #2



## BUILDING AND ROOFTOP LAYOUT

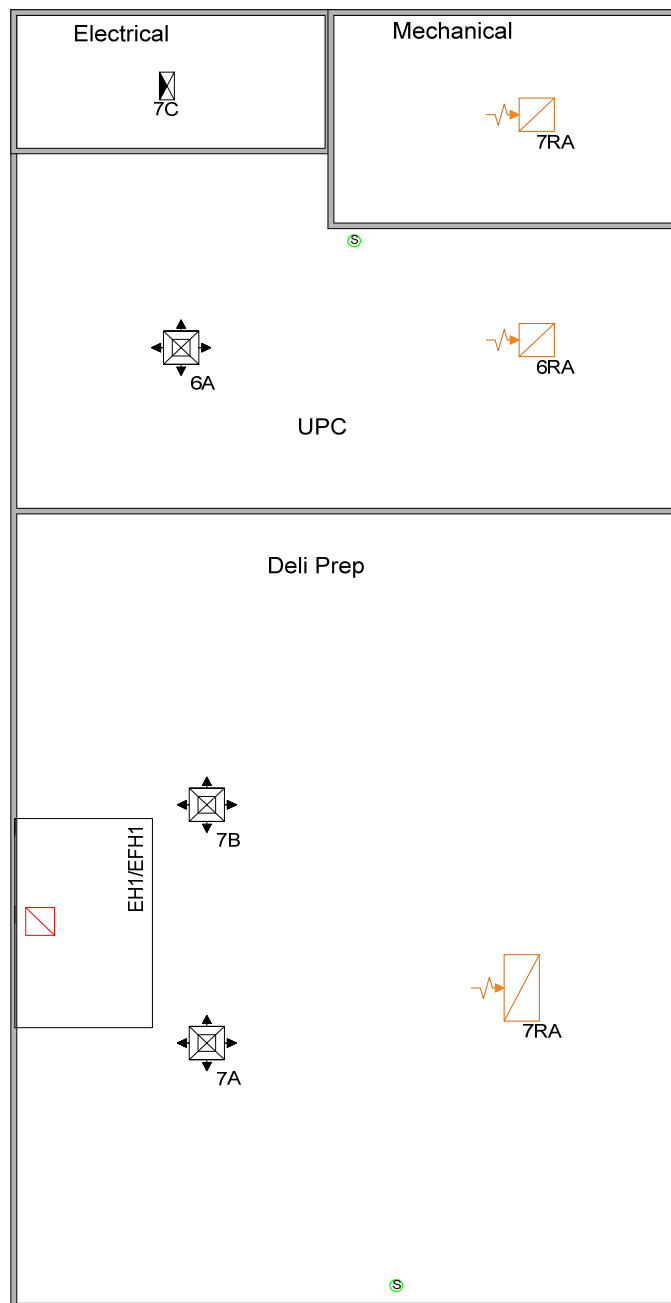
**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910



Detail #3



## BUILDING AND ROOFTOP LAYOUT

**PROJECT:** Walmart 3082

**DATE:** 12/18/2012

**LOCATION:** 1622 South Academy Blvd, Colorado Springs, CO 80910

