CITY OF GROSSE POINTE WOODS, MICHIGAN
20025 Mack Plaza Dr.
Rescheduled Planning Commission Meeting
Tuesday, September 22, 2015
7:30 p.m.

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **PLEDGE OF ALLEGIANCE**
4. **ACCEPTANCE OF AGENDA**
5. **RECOGNITION OF COUNCIL REPRESENTATIVE/S**

6. **APPROVAL OF MINUTES:**
   Planning Commission – 07/28/15

7. **SITE PLAN REVIEW: SCREEN FOR ROOFTOP MECHANICAL UNIT, CHURCHILL'S BISTRO CIGAR BAR, 19271 MACK AVE:**
   A. PC Excerpt – 10/28/14
   B. Memo – Public Safety – *will be distributed at PC meeting*
   C. Memo – Building Official (Tutag) – 09/15/15
   D. Photos (5) – 09/01/15 & 09/10/15
   E. Munters Energy Saving Systems Submittal (32 pgs) – 02/19/15
   F. Multi-Wing Optimiser Specs Sheet – 08/18/15
   G. Option "A" – Proposed Elevations A-4A – 09/14/15
   H. Option "A" – Roof Plan and Details A-6A – 09/14/15
   I. Option "B" – Proposed Elevations A-4B – 09/14/15
   J. Option "B" – Roof Plan and Details A-6B – 09/14/15

8. **BUILDING OFFICIAL'S MONTHLY REPORTS:**
   Building Department Reports – July & August 2015

9. **COUNCIL REPORT:**
   August - Vitale
   September - Fuller

10. **INFORMATION ONLY: COUNCIL REPRESENTATIVE FOR NEXT MEETINGS:**
    October - Gilezan

11. **NEW BUSINESS:**
    2020 Plan (Hamborsky/Vitale/Fuller/Gilezan)
    Special Sign (Vaughn/Fuller/Stapleton)

12. **PUBLIC COMMENT:**

13. **ADJOURNMENT:**

MINUTES OF THE PLANNING COMMISSION OF THE CITY OF GROSSE POINTE WOODS HELD ON TUESDAY, JULY 28, 2015, IN THE COUNCIL-COURT ROOM OF THE MUNICIPAL BUILDING, 20025 MACK AVENUE, GROSSE POINTE WOODS, MICHIGAN.

The meeting was called to order at 7:36 p.m. by Chair Vitale.

Roll Call:	Chair Vitale Fuller, Hamborsky, Stapleton, Vaughn
Absent:	Gilezan (arrived at 7:41), Profeta, Rozycki
Also Present:	Building Official Tutag Deputy City Clerk Gerhart

Motion by Vaughn, seconded by Fuller, that Commission Members Gilezan, Profeta, and Rozycki be excused from tonight's meeting.

MOTION CARRIED by the following vote:
YES: Fuller, Hamborsky, Stapleton, Vaughn, Vitale
NO: None
ABSENT: Gilezan, Profeta, Rozycki

Motion by Stapleton, seconded by Fuller, that all items on tonight's agenda be received, placed on file, and taken in order of appearance.

MOTION CARRIED by the following vote:
YES: Fuller, Hamborsky, Stapleton, Vaughn, Vitale
NO: None
ABSENT: Gilezan, Profeta, Rozycki

Motion by Vaughn, seconded by Stapleton, regarding **Approval of Minutes**, that the Planning Commission minutes dated June 25, 2015, be approved as submitted.

MOTION CARRIED by the following vote:
YES: Fuller, Hamborsky, Stapleton, Vaughn, Vitale
NO: None
ABSENT: Gilezan, Profeta, Rozycki

The next item on the agenda was a **Continued Revision to Previously Approved Façade Change: Churchill's Bistro Cigar Bar, 19271 Mack Ave.** Building Official Tutag provided an

overview of the project. He then outlined the updates to the plan that he and Chair Vitale reviewed with the petitioner. John Gumma of Etchen Gumma Limited, on behalf of Churchill's Bistro Cigar Bar, was present for questions and discussion. Mr. Gumma presented the Commission with sample building materials. The Chair appreciated the diligence that the architects had in getting the project to an acceptable state.

Recording Secretary's Note: Commission Member Gilezan was now in attendance at tonight's meeting.

Motion by Hamborsky, seconded by Fuller, regarding the **Revision to Previously Approved Façade Change: Churchill's Bistro Cigar Bar, 19271 Mack,** to approve the façade change as presented.

MOTION CARRIED by the following vote:

YES:	Fuller, Gilezan, Hamborsky, Stapleton, Vaughn, Vitale
NO:	None
ABSENT:	Profeta, Rozycki

The next item on the agenda was **Discussion: Special Sign Subcommittee**.

At the June 25, 2015 Planning Commission meeting the idea of disbanding the Special Sign Subcommittee for lack of necessity was discussed. As a result of a recent Supreme Court ruling, Reed vs. Town of Gilbert, Arizona, regarding temporary signage regulation by municipalities, the Commission will review the courts decision at an upcoming meeting. The Commission decided to take no action on the issues until further discussion could be held at the August 25th Planning Commission meeting.

The next item on the agenda was the **Building Official's Monthly Report – June 2015.** Mr. Tutag reported the following:

- Plans will be submitted this week for the MedPost location at Mack and Van Antwerp;
- Progress is being made on the Rivers;
- A lot of residential work is being done in the City;
- The City is currently looking for a plumbing inspector;
- Progress has begun on the Briarcliff project, brick has been ordered and will be delivered in six to eight weeks;
- The Building Department is extremely busy.

Regarding the **July 2015 Council Reports**:

- Commissioner Vaughn reported that the City has changed the ordinance regarding the maximum allowable animals. He also reported that the Rivers is appealing their tax assessment.

Chair Vitale will attend the Council Meetings in August.

Under **New Business**, the following **Subcommittee Reports** were provided:

2020 Plan – Commission Members Hamborsky, Vitale, Fuller and Gilezan had nothing to report.

Special Sign – Commission Members Vaughn, Stapleton, and Fuller had nothing to report.

Motion by Vaughn, seconded by Stapleton, that the Planning Commission Meeting be adjourned at 8:03 p.m. PASSED UNANIMOUSLY.

Respectfully submitted,

Steve Gerhart
Deputy City Clerk

PLANNING COMMISSION EXCERPT
10/28/14

The next item on the agenda was the **Proposed Façade Change: Churchill's Bistro Cigar Bar, 19271 Mack.** Building Official Tutag gave an overview of the project noting that the design reflects the colonial style architectural elements mandated by the City Code. He was in favor of approving the request as long as it did not include signage and with the condition that any roof top equipment be screened as to prevent being viewed from grade level. John Gumma, on behalf of Churchill's Bistro Cigar Bar, was present for questions. Discussion ensued regarding the design concept.

Motion by Vaughn, seconded by Fuller, that the Planning Commission approve the **Proposed Façade Change: Churchill's Bistro Cigar Bar, 19271 Mack** as presented, with the following conditions:

1. Approval does not include sign approval, sign approvals require additional review;
2. Approval does not include any patio, a separate permit and administrative review will be required;
3. Any roof top equipment shall be properly positioned or screen as to not be visible from grade level and be approved by the Building Official;
4. Finial façade design, lighting and colors be approved by the Building Official.

Substitute motion by Hamborsky, seconded by Vaughn, that the Planning Commission approve the **Proposed Façade Change: Churchill's Bistro Cigar Bar, 19271 Mack** as presented, with the following conditions:

1. Approval does not include sign approval, sign approvals require additional review;
2. Approval does not include any patio, a separate permit and administrative review will be required;
3. Any roof top equipment shall be properly positioned or screen as to not be visible from grade level and be approved by the Building Official;
4. Finial façade design, lighting and colors be approved by the Building Official;
5. Give the Building Official the flexibility to approve a façade that maintains the current location of the entrance.

SUBSTITUTE MOTION CARRIED by the following vote:

YES:	Fuller, Gilezan, Hamborsky, Harrell, Profeta, Rozycki, Vaughn, Vitale
NO:	None
ABSENT:	Stapleton

CITY OF GROSSE POINTE WOODS
BUILDING DEPARTMENT
MEMORANDUM

TO: Planning Commission

FROM: Gene Tutag, Building Official

DATE: September 15, 2015

SUBJECT: Review of Rooftop HVAC Unit
Churchill's Cigar Bar, 19271 Mack Avenue

The applicant has installed new HVAC equipment on the rooftop of 19271 Mack. This equipment is related to the reuse of the former Robusto's into a new cigar bar called Churchill's. The new piece of mechanical HVAC equipment will facilitate the heating and cooling of the building along with cleaning the air of pipe, cigar smoke, and odor. This equipment has been installed on a 12" high curb that is attached to the existing flat roof. The unit measures according to plans provided; 28'6" long, 7'4" wide and 7'9" high (8'9"overall with curb).

The placement of the unit and mechanical work completed to date has been done without permit or any approvals from the City.

The screening of mechanical equipment is required by City Code. This was addressed in the recent approval of the façade improvement at this location (PC Excerpt 10-28-15). A condition of approval was stated that rooftop equipment shall be properly positioned or screened as to not be visible from grade level and be approved by the Building Official (copy attached).

The proposed screening of this mechanical unit is being referred back to the Planning Commission for review. The unit has not been placed on the roof in such a manner to diminish its size and mass from grade level. The size and mass of this unit, along with the proposed screening, amount to what can be interpreted as an additional story to the building. The area of the existing roof taken up by the unit and proposed screening options exceeds 30% of the roof.

Two options of providing screening are being proposed by the applicant:

One is by installing a louvered screen wall 9' above the roof deck on a 60 degree angle on the east and west elevations and at 90 degrees on the north and south elevations. The material or color of this screening is not indicated on the plans.

The second option involves constructing an enclosure around the unit that would look like a third story to the building as this option has doors, windows, siding, and trim matching the existing building's design.

Regardless, either option will become a significant visual feature of the building.

Chairman Vitale and myself met with the architect, Ed Etchen, to discuss the screening last week. Repositioning of the unit to a less noticeable location was discussed but not included in this submittal.

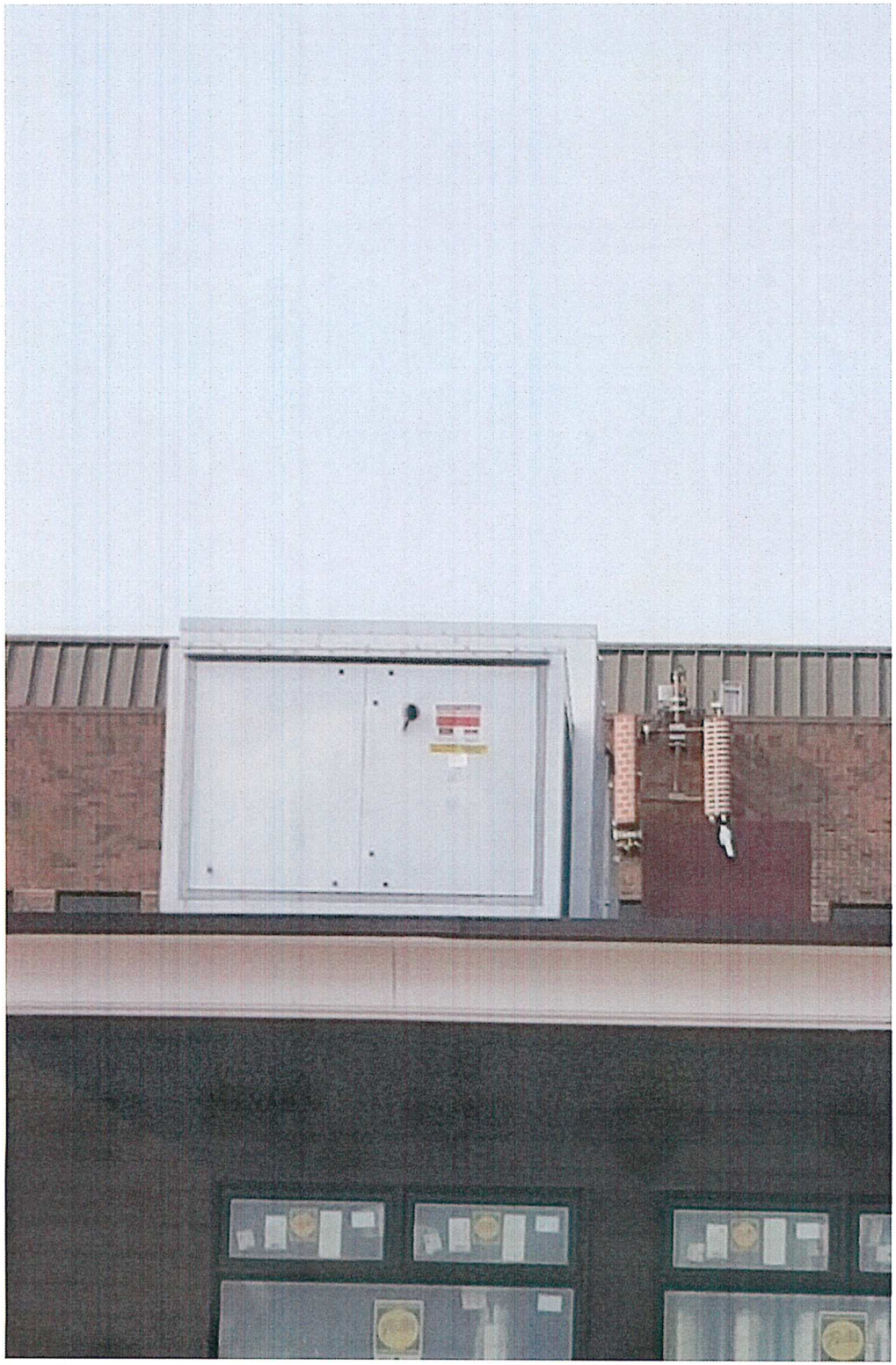
This unit has a number of intake and exhaust fans. The manufacture of the unit (Munters) does not test the assembly for sound levels. The engineer who designed this unit, Mr. Hipes, indicated to me on September 15,2015 that the fans used in this unit produce between 94 and 96 decibels. Since this unit will be providing heating and cooling for the building, a 24 hour noise study must be provided. The City's ordinance limits the maximum decibels at 85.

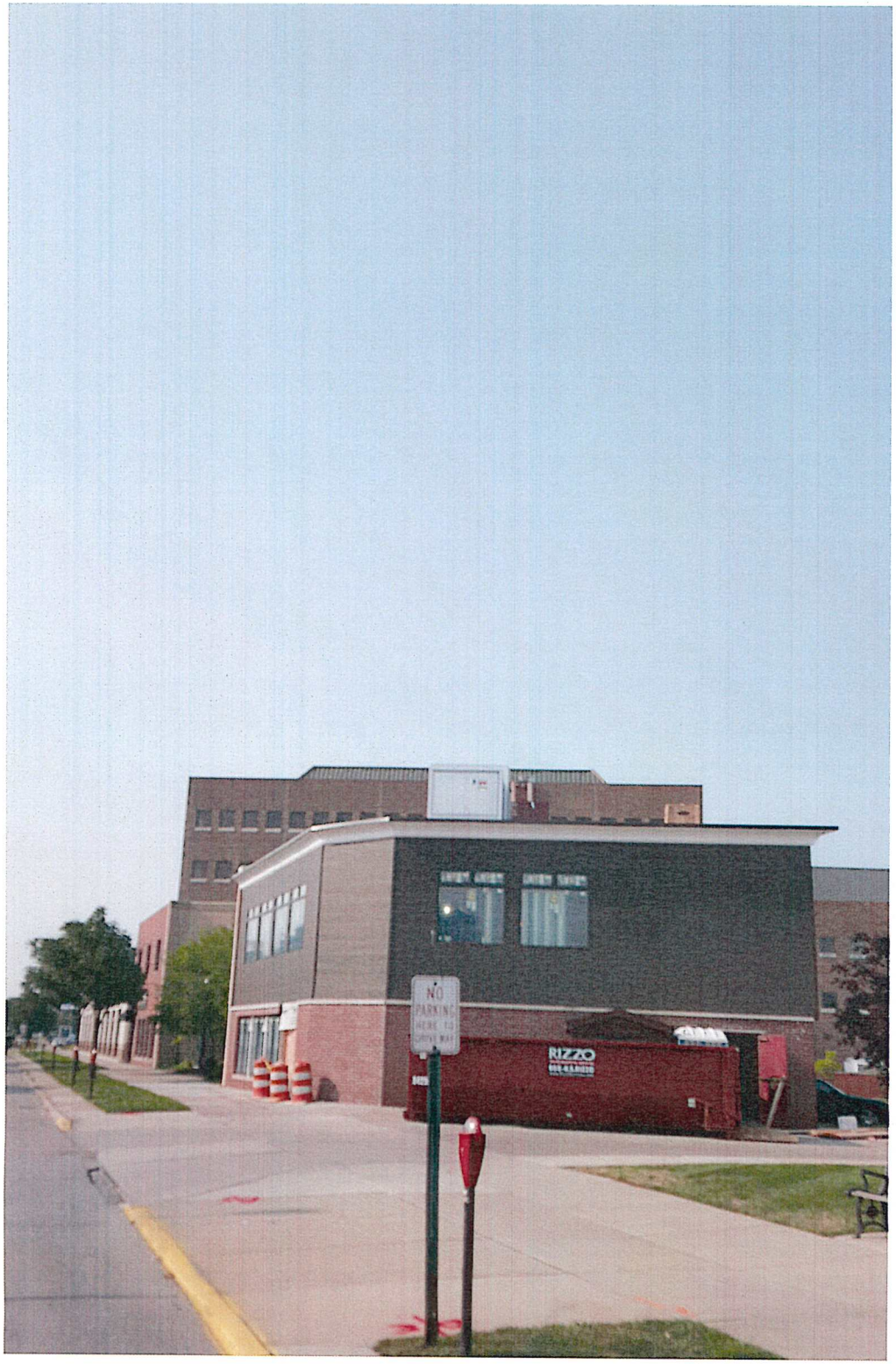
A complete structural analysis has not been performed to insure that the building and roof will support the additional load of this unit (14,000 pounds), plus any additional loads created by the screening, wind, snow, ice, and water that will pond against the curb of the unit caused by the deflection in the roof.

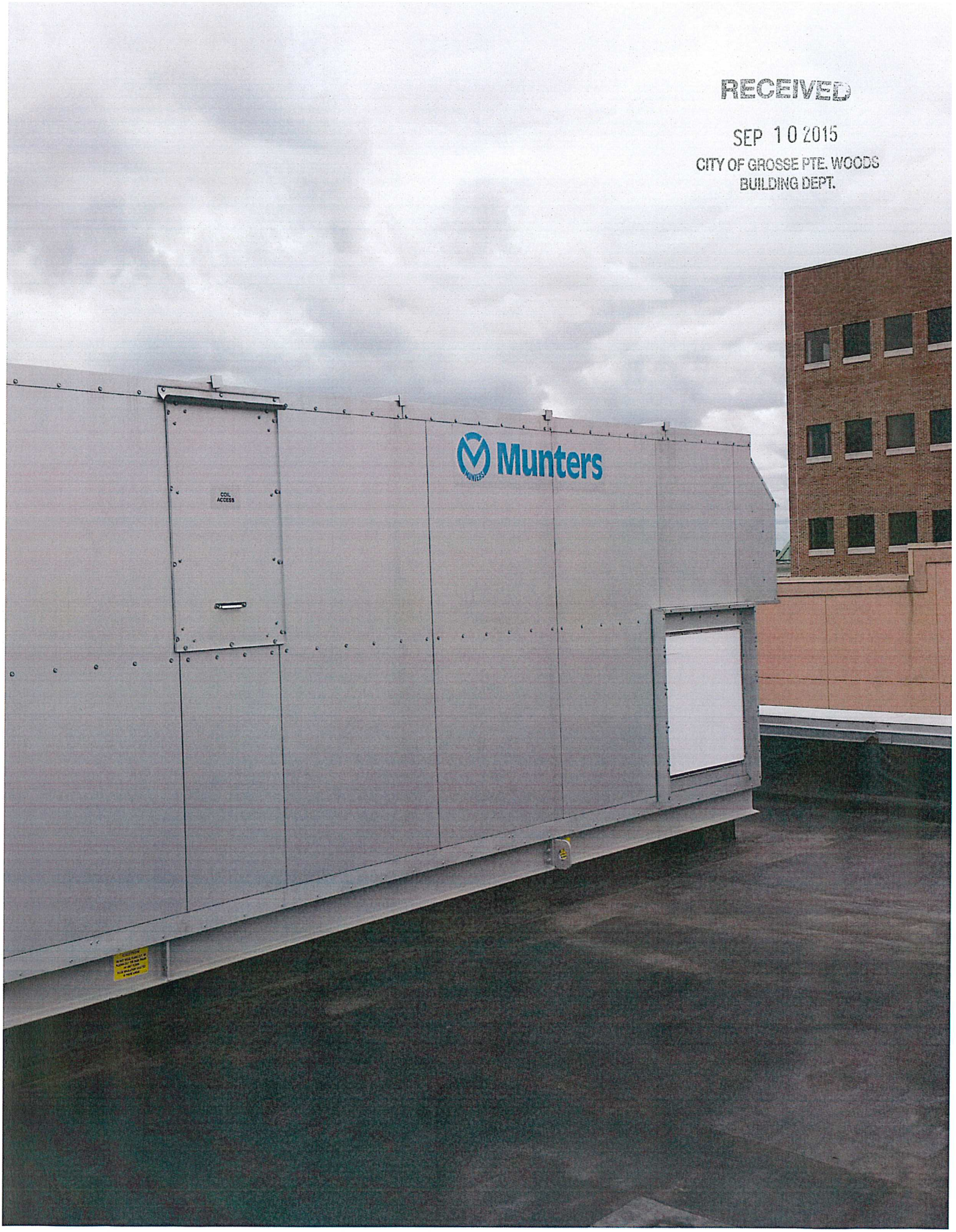
The drawings have been submitted to the Fire Marshall for review, he will provide a response later this week which will more than likely be distributed at the meeting.

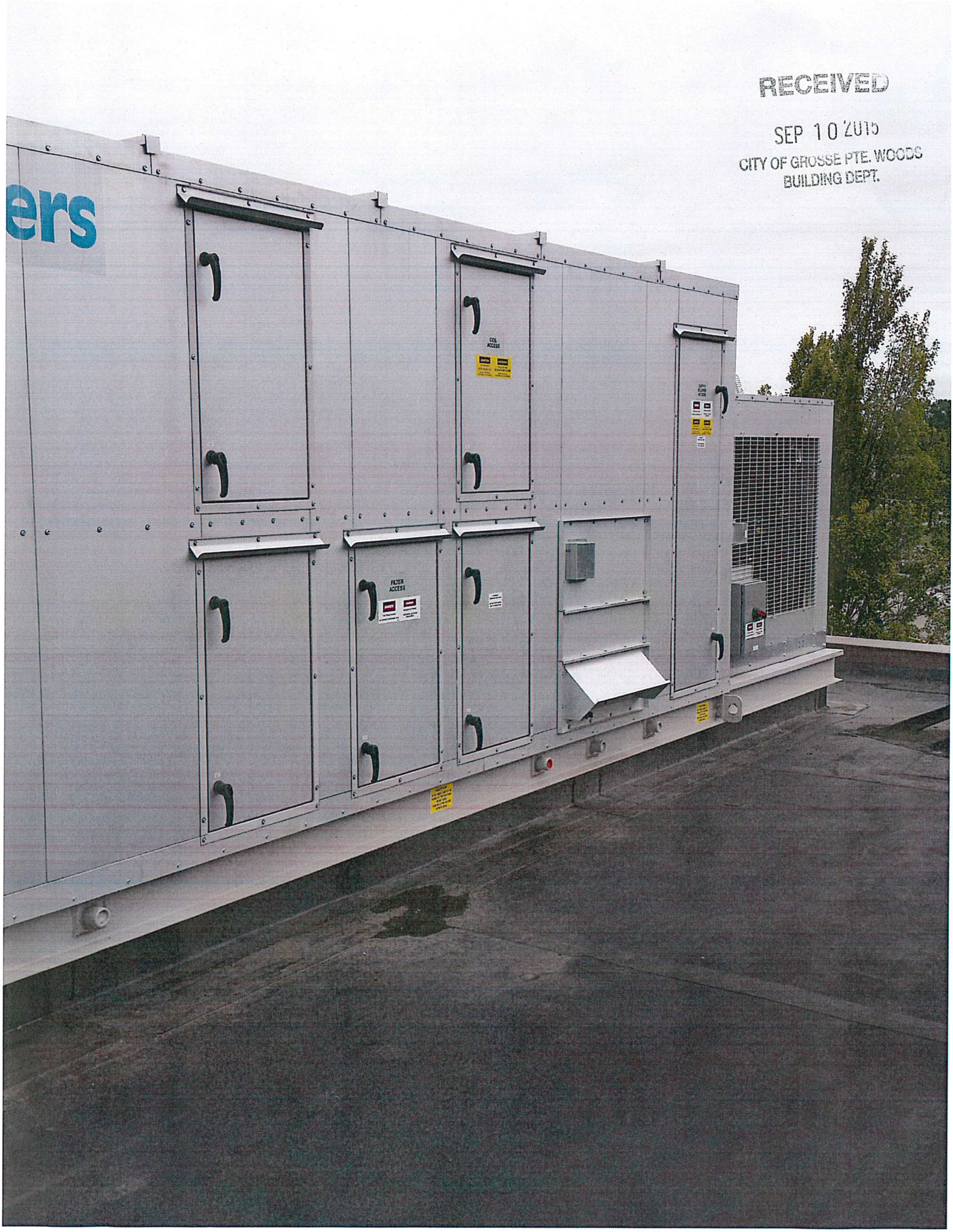
Again the unit was installed without approval or permit of any kind from the City. This is not the first time that this applicant has been before the Planning Commission requesting approvals for work that has already been completed or modified. The track record on this project moving forward has been disappointing. In order to protect the public health, safety and welfare until the structural, public safety, and noise concerns have been adequately addressed, I do not recommend any action be taken on this matter at this time.

Attachments
PC Excerpt 10/28/14









Submittal

Energy Saving Systems

To:	Climate Technologies Corp. 23935 Research Drive Farmington Hills, MI 48335	**Project Name:**	Churchill's
		Order #:	21436764
		Customer PO #:	4147.MUN.WZ
Attn:	Walt Zimmerman	**Date:**	February 19, 2015

SUBMITTAL STATUS

X	***Submit for Approval****	_____	***Submit for Record***
_____	***Re-Submit for Approval****	_____	***As-Built Submittal***

* Please note the following if a "…for Approval" status is checked: Munters' quality control procedures prevent the manufacture of any equipment prior to our receipt of an approved submittal unless the customer waives the need for such approval in writing. Please note that manufacturing lead-time does not begin until our receipt of your approved submittal.

Please find the following certified data: **Page 1 of 1**

Shop Order No.	Unit Tag	Revision Level		Shop Order No.	Unit Tag	Revision Level
21436764-01	ERU-1	Rev. -				

B. Craft

Copies To: Approved By:

Munters uses the submittal documents to communicate our interpretation of the plans and specifications. As such, our customers' review and approval of the submittal is required. Munters will manufacture your equipment per the approved submittal. Please select the applicable box below, sign and date. Submittal change requests that substantially impact the equipment, i.e. unit dimension, duct size, electrical changes, may require submission for re-approval prior to release for manufacture. Any customer release with engineering changes requested may add to production lead-times.

☐ **Approved - No exceptions taken / Release for manufacture**

☐ **Make corrections noted - Submit for record / Release for manufacture**

☐ **Amend & Re-Submit for approval**

☐ **Rejected – See notes**

Signature:_____ **Date:**_____

Munters Corporation
225 South Magnolia Ave., Buena Vista, VA 24416
540-291-1111 (phone) 540-291-2211 (fax)

Munters

Submittal Data

Air-to-Air Energy Saving Systems

ORDER NAME: CHURCHILL'S

ORDER NUMBER: 21436764

Engineered By: Hipes
Date: December 26, 2014

Submittal Revision History

21436764 Churchill's (ERU-1)

Engineered by: Hipes

Rev	Page	Description	By	Date
-	All	Initial release	Hipes	1/6/15

Dear Valued Munters Customer:

It is our aim to manufacture equipment that satisfies the intent of the plans, schedules, and specifications, and ultimately results in a successful installation.

The submittal that follows represents our best interpretation of the equipment that you have purchased, and defines what we intend to provide when released for fabrication. The information listed below is our attempt to highlight some of these important details.

Please carefully review the defined features listed below and make comments or corrections as part of your submittal review.

Hydronic / Steam Pipe Connections (including heating and cooling coils, condenser water, or potable water for evaporative cooling and water wash functions)

☐ Stubbed through unit side wall casing or out side of base frame for field piping by others.

☐ Pipe chase provided in unit floor and space allowed internally for limited field piping by others.

☐ Connection points are terminated internal to the unit casing, and penetrations through the unit casing will need to be made by the installing contractor as required.

☒ Not Applicable

Electrical Wire Routing (power and control wiring)

☒ External: Contractor shall penetrate the electrical enclosure(s) from the outside of the unit as required.

☐ Internal: Contractor shall route wiring through an electrical chase in the unit floor and shall make terminations internal to casing and/or penetrate the unit side wall as required.

☐ Not Applicable

Unit Electrical Wiring

☒ Standard: Unit wired and electrical componets installed in accordance with UL 1995, which allows the use of plenum rated wire that is not installed in conduit.

☐ Upgrade One: Power wiring in liquid-tight conduit, control wiring to be plenum rated.

☐ Upgrade Two: All wiring installed in liquid-tight conduit.

☐ Not Applicable

Drain Connections

☐ Bottom: Contractor must have access to the bottom of the unit after mounting. Traps are field installed and piped to drain below the unit.

☒ Side: Contractor must install in a manner that allows ample height above grade or roof-line for traps to be properly installed and piped to external.

☐ Not Applicable

Basic Control Intent (Note: Specific control details and functions are detailed in the submittal.)

☒ Discharge Air Control: Unit shall control the supply air temperature and/or dew point temperature. Unit DOES NOT provide individual room temperature control.

☐ Room Control: Unit shall provide temperature and/or humidity control of a single space.

☐ Not Applicable

Controls Protocol and Interface

☐ N2 Open	☐ N2 Closed	☐ LonWorks
☒ BACnet MS/TP	☐ BACnet IP	☐ Modbus
☐ Stand-alone Controls	☐ Not Applicable	

Remote LCD Display / Control Panel

☐ Unit provided with Remote mounted LCD or control panel for field installation and wiring by others.

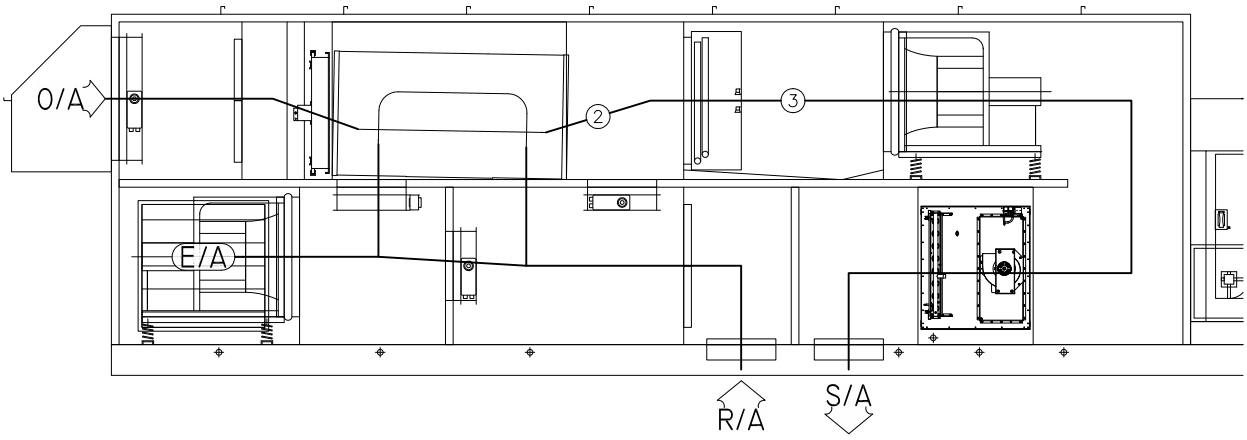
☒ Not Applicable

Factory ETL Labeled ☒ Yes ☐ No. If label is required, it will need to field labeled at owner expense.

Unit Performance

Order Number: 21436764

General	Unit Tag	ERU-1	
	Unit Type	Mini-Z-Pack	
	Model Number	PV-MZP-8707	
Fan Data	Type	Supply	Exhaust
	Model	22-APH-4-65-II-150 (x1)	22-APH-4-75-II-150 (x1)
	Total Airflow (SCFM)	8000 (x1)	8000 (x1)
	External Static Pressure (in WG)	2.50	2.50
	Motor Horsepower (HP)	15 (x1)	15 (x1)



Operating Point	Summer			Winter		
	DB (°F)	WB (°F)	SCFM	DB (°F)	WB (°F)	SCFM
OA	95.0	73.0	8,000	0.0	-1.5	8,000
2	80.3	68.7	8,000	51.5	34.6	8,000
3	54.0	54.0	8,000	51.5	34.6	8,000
SA	57.0	55.2	8,000	88.4	52.7	8,000
RA	74.0	64.4	8,000	70.0	53.0	8,000
EA	88.7	69.0	8,000	26.4	26.4	8,000

Munters

Unit Specifications

ORDER NUMBER: 21436764

GENERAL NOTES
- Unit is rated for operation at elevations from 0 to 2,000 feet above sea level.
- Maximum air flow turndown of 2 to 1 for continuous operation. Consult factory for lower air flow requirements.
- Input Power: 208 Volts / 60 Hertz / 3 Phase
- Unit to be constructed for outdoor use and field mounting on a customer provided roof curb by others.

UNIT CASING
- Double wall casing consisting of 18 gauge galvalume steel outer with 22 gauge galvanized steel inner.
- Unit exterior finish to be uncoated galvalume.
- 16 gauge all-welded aluminized steel interior floor with upturned edges around perimeter and openings.
- 2", 1.5 pound density NFPA approved fiberglass insulation in roof and walls.
- 2" minimum sprayed urethane foam insulation under floor.

STRUCTURAL AND FRAME
- Frame consisting of an all-welded structural steel base and integral lifting lugs. Frame to be coated with an alkyd resin primer and two coats of a corrosion resistant acrylic latex.

ENERGY RECOVERY SECTION
- High efficiency counterflow plate-type heat exchanger in a galvanized steel casing.
- Plate constructed of 0.006 inch thick aluminum, sealed to eliminate cross leakage.
- Epoxy coating on supply and exhaust side of heat exchanger.

FANS
- AMCA certified direct-drive airfoil plenum fans.
- Fans to be mounted on 1" deflection spring isolation base with flex connectors.
- Premium efficiency ODP motors with 1.15 service factor wihtout shaft grounding ring.
- Fan accessories to include: peizometer ring with transducer.

VARIABLE FREQUENCY DRIVES (Supply and Exhaust)
- Each fan motor will be controlled with an ABB ACH550 without bypass (NEMA 1) VFD.

DAMPERS
- Modulating motorized outside, exhaust, recirculation, and face and bypass air dampers.
- All dampers to be aluminium construction.

FILTERS
- O/A: eight (8) 16" x 20" x 2" MERV 8 pleated filters.
- R/A: eight (8) 16" x 20" x 2" MERV 8 pleated filters.

COILS
- Casing constructed from double flanged galvanized steel.
- Aluminum fins die-formed and mounted to round seamless copper tubes.
- Cooling coil to be mounted in a single sloped, uncoated stainless steel drain pan.

CONDENSING SECTION
- 30 ton air-cooled type with scroll compressors and aluminum fin / copper tube condenser coils.
- System to be charged with R-410a refrigerant. All specialties for normal operation provided.

GAS HEAT
- Indirect type with stainless steel heat exchanger and 5:1 modulating control.
- Gas heater capable of 320 MBH output with Natural Gas at a inlet pressure of 7-14 in WC.

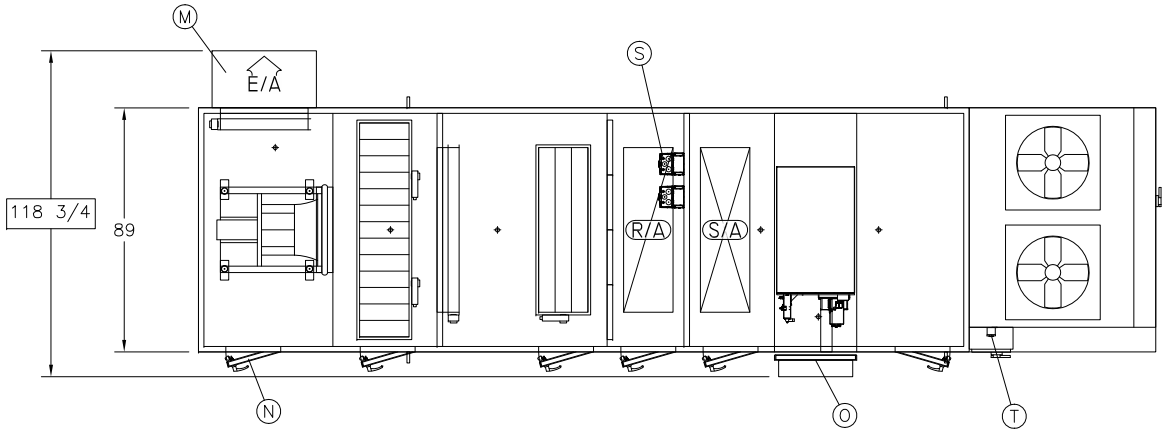
Munters

Unit Specifications

ORDER NUMBER: 21436764

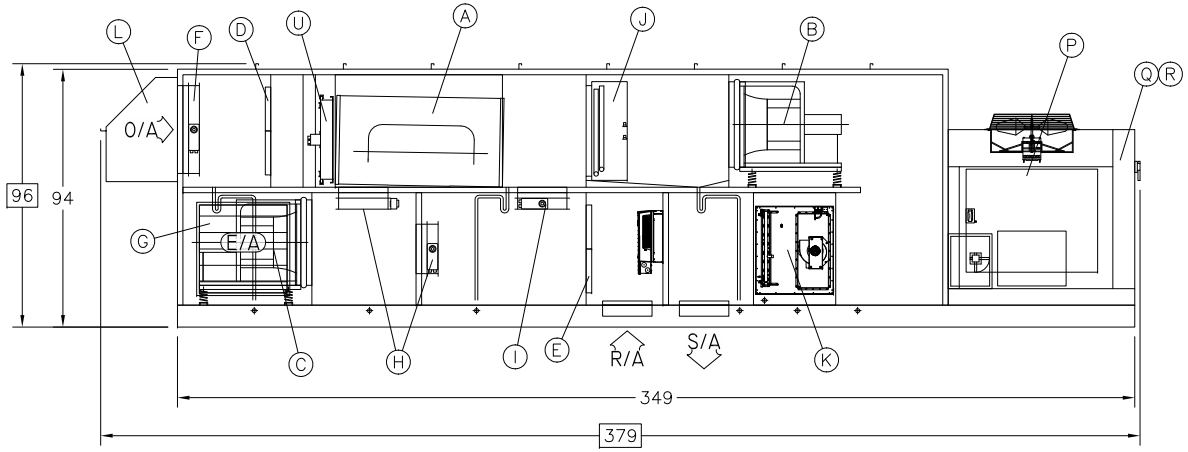
MISCELLANEOUS

- Unit to be ETL labeled and wired in accordance with UL 1995.
- All wiring to be plenum rated and not installed in conduit.
- Standard DDC controls, programmed per included control sequence, by Munters.
- One (1) GFCI receptacle with 120V transformer provided by Munters.



PLAN VIEW

ROOF REMOVED



ELEVATION VIEW

WALL REMOVED

MAJOR COMPONENTS:

A. AIR–TO–AIR HEAT EXCHANGER
B. S/A FAN WITH MOTOR
C. E/A FAN WITH MOTOR
D. O/A FILTER BANK (MERV 8)
E. R/A FILTER BANK (MERV 8)
F. O/A SHUT–OFF DAMPER
G. E/A SHUT–OFF DAMPER
H. FACE AND BYPASS AIR DAMPERS
I. RECIRCULATION AIR DAMPER
J. COOLING COIL (DIRECT EXPANSION)
K. GAS HEATER (INDIRECT GAS–FIRED)
L. O/A HOOD WITH BIRDSCREEN
M. E/A HOOD WITH BIRDSCREEN
N. UNIT ACCESS DOOR (TYPICAL)
O. UNIT ACCESS PANEL (TYPICAL)
P. CONDENSING SECTION (AIR–COOLED)
Q. UNIT ELECTRICAL PANEL
R. DDC CONTROL PANEL
S. VARIABLE FREQUENCY DRIVE
T. GFCI RECEPTACLE AND TRANSFORMER
U. TRAVERSING DEFROST PLATE

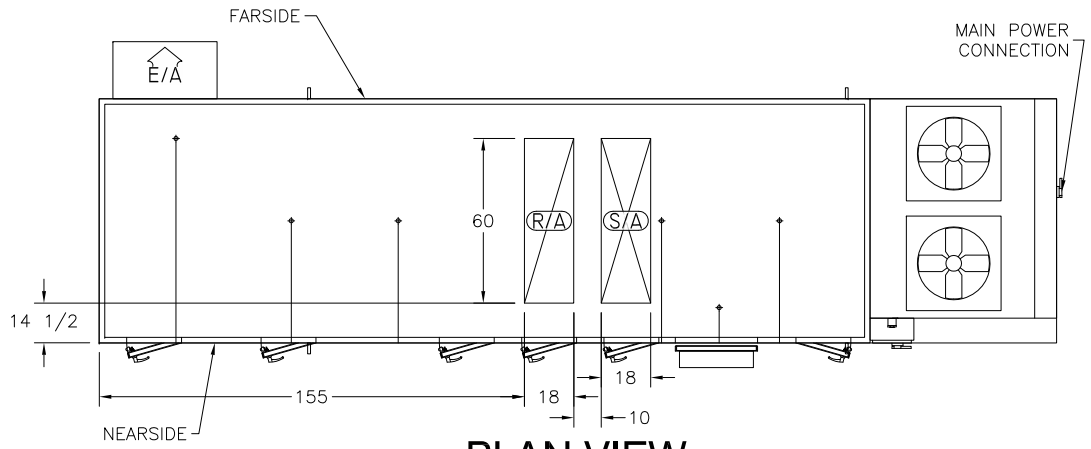
NOTES:

1. MINIMUM 3'–0" CLEARANCE REQUIRED FOR SERVICE ACCESS (COILS MAY REQUIRE MORE ACCESS FOR REMOVAL).
2. FOR DRAIN AND CONNECTION LOCATIONS, SIZES, AND QUANTITIES SEE M–AA02.
3. FOR BASE FRAME DWG SEE M–AA03.
4. FOR ROOF CURB DWG SEE M–AA04.
5. FOR REFRIGERANT PIPING SEE M–AA05.
6. UNIT OVERALL ENVELOPE DIMENSIONS ARE SHOWN IN BOXED DIMENSIONS.
7. WEATHER HOODS AND ANY EXTERNALLY MOUNTED DEVICE MAY BE SHIPPED LOOSE AND/OR BROKEN DOWN FOR FIELD ASSEMBLY AND INSTALLATION BY OTHERS.
8. ATTENUATION OF FAN SOUND POWER LEVELS, IF REQUIRED, IS BY OTHERS.

AIR FLOW KEY:
O/A: OUTSIDE AIR
S/A: SUPPLY AIR
R/A: RETURN AIR
E/A: EXHAUST AIR

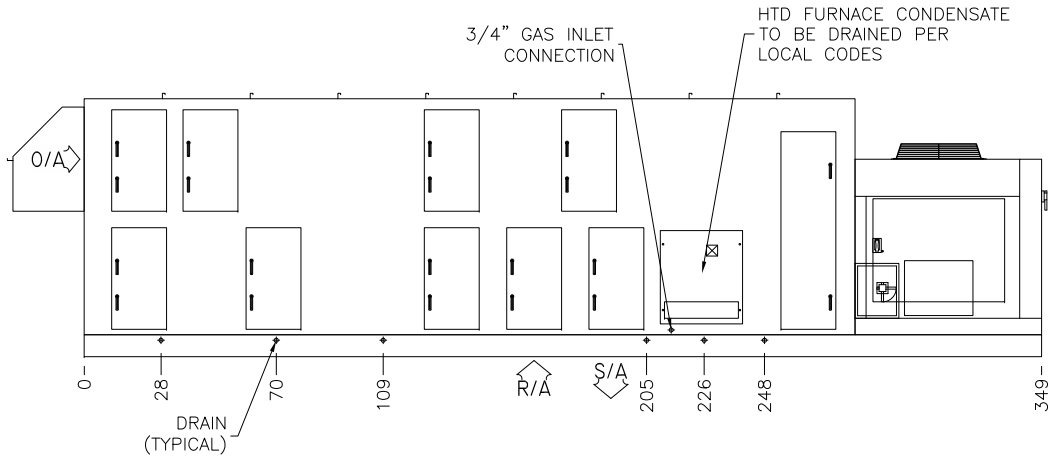
UNIT TAG: ERU–1
ITEM #: –01
S/O NUMBER: –0001
UNIT QUANTITY: 1 TOTAL
EST. UNIT WEIGHT: 14,000 LBS

ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI–Z–PACK	
DRAWN: HIPES	1/6/15	TITLE: MECHANICAL LAYOUT	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M–AA01
SHEET 1 OF 1	SCALE: NTS		MODEL: PV–MZP–8707



PLAN VIEW

FLOOR LEVEL



ELEVATION VIEW

NOTES:

1. UNIT IS EQUIPPED WITH SIX (6) 1-1/2" FPT DRAIN CONNECTIONS. EACH DRAIN MUST BE TRAPPED SEPARATELY. DRAINS MAY BE LOCATED UP TO 4 INCHES FROM INDICATED POSITION.
2. DRAINS AND TRAPS EXPOSED TO OUTSIDE AMBIENT AIR MUST BE HEAT TRACED BY OTHERS TO PERMIT DRAINAGE IN WINTER.
3. S/A AND R/A DUCT CONNECTIONS ARE LOCATED AS SHOWN AND EACH HAS A 1-1/2" COLLAR.
4. DUCTWORK CONNECTIONS MUST BE MADE IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICE. SYSTEM EFFECTS, ELBOWS, AND FAN VELOCITY DEVELOPMENT AS DESCRIBED BY ASHRAE FUNDAMENTALS, ASHRAE SYSTEMS, SMACNA, AND AMCA MUST BE TAKEN INTO ACCOUNT. IMPROPER DUCTWORK DESIGN MAY RESULT IN SYSTEM PROBLEMS THAT WILL CAUSE ADDITIONAL PRESSURE LOSS, LOW AIRFLOW, AND INCREASED SYSTEM NOISE.
5. ALL OUTSIDE AND EXHAUST CONNECTIONS MUST BE PROTECTED WITH A HOOD, CONNECTED DUCTWORK, OR OTHER PROTECTIVE DEVICE. IT IS THE CUSTOMERS RESPONSIBILITY TO PROVIDE THIS PROTECTION, UNLESS OTHERWISE PROVIDED FROM THE FACTORY BY MUNTERS.
6. PIPE CHASES WILL HAVE CAPPED OPENINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DRILL HOLES AND SEAL AROUND PIPING.

DRAIN LOCATIONS:
☒NEARSIDE ☐FARSIDE ☐BOTTOM

MAXIMUM PLENUM STATIC PRESSURE:
4.5 IN W.C. (POSITIVE OR NEGATIVE)

AIR FLOW KEY:
O/A: OUTSIDE AIR
S/A: SUPPLY AIR
R/A: RETURN AIR
E/A: EXHAUST AIR

UNIT TAG: ERU-1
ITEM #: -01
S/O NUMBER: -0001
UNIT QUANTITY: 1 TOTAL

ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI-Z-PACK	
DRAWN: HIPES	1/6/15	TITLE: DRAINS AND CONNECTIONS	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M-AA02
SHEET 1 OF 2	SCALE: NTS		MODEL: PV-MZP-8707

DRAIN TRAP GUIDELINES

UNITS ARE PROVIDED WITH DRAIN FITTINGS FOR USE BY THE CUSTOMER, EITHER ON ONE SIDE OF THE UNIT OR BENEATH THE UNIT FLOOR. INTERNAL DRAINS ARE TYPICALLY PROVIDED IN OUTSIDE AIR COMPARTMENTS, ANY COMPARTMENT EXPOSED TO CONDENSATE, SUMPS FOR EVAPORATIVE COOLING, AND IN COMPARTMENTS ADJACENT TO WATER COILS. THE UNIT IS TYPICALLY PROVIDED WITH 1-1/2" NPT FITTINGS FOR EACH DRAIN. HOWEVER, 3/4" NPT CONNECTION MAY ALSO BE PRESENT.

DRAINS MUST BE PROPERLY PIPED AND TRAPPED TO PERMIT DRAINAGE FROM THE UNIT AND TO PREVENT AIR LEAKAGE FROM THE UNIT OR FROM COMPARTMENT TO COMPARTMENT.

THE STATIC PRESSURE IN EACH COMPARTMENT IS USUALLY DIFFERENT. THEREFORE, DRAINS EMANATING FROM DIFFERENT COMPARTMENTS MUST BE TRAPPED SEPARATELY. THE DESIGN OF THE TRAP MUST ENSURE A WATER SEAL IS MAINTAINED UNDER ALL MODES OF OPERATION.

THE DRAIN TRAP HEIGHT "H", IN INCHES, MUST BE THREE TIMES THE MAXIMUM STATIC PRESSURE IN THE COMPARTMENT. THE SPILL HEIGHT MUST BE AT LEAST 1/2 THE TRAP HEIGHT. SEE FIGURE 1 BELOW FOR DETAILS.

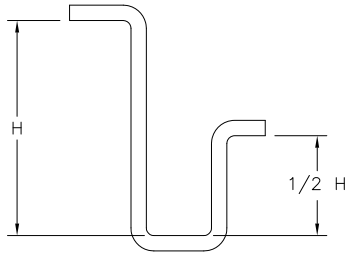


FIGURE 1
TYPICAL DRAIN TRAP

CONTRACTOR INSTALLED DUCTWORK

DUCTWORK CONNECTED TO THE UNIT IS PROVIDED AND INSTALLED BY OTHERS IN THE FIELD. UNITS ARE PROVIDED WITH DUCT COLLARS FOR FIELD CONNECTION. IT IS THE INSTALLER'S RESPONSIBILITY TO PROPERLY SUPPORT AND SEAL ANY AND ALL DUCTWORK CONNECTED TO MUNTERS EQUIPMENT. WHILE THE PROVIDED DUCT COLLARS MAY BE USED TO ATTACH FIELD PROVIDED DUCTWORK, THE COLLARS CAN NOT BE USED FOR SUPPORTING ANY DUCTWORK WITHOUT EXPRESS WRITTEN PERMISSION FROM MUNTERS. SEE FIGURES 1 AND 2 BELOW FOR TYPICAL DUCT CONNECTIONS.

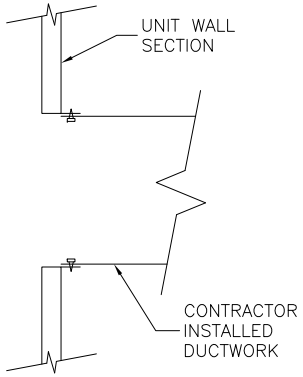


FIGURE 1
TYPICAL WALL CONNECTION

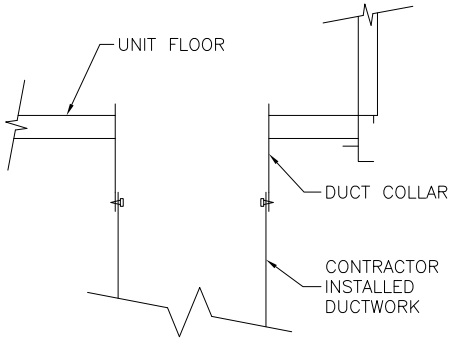
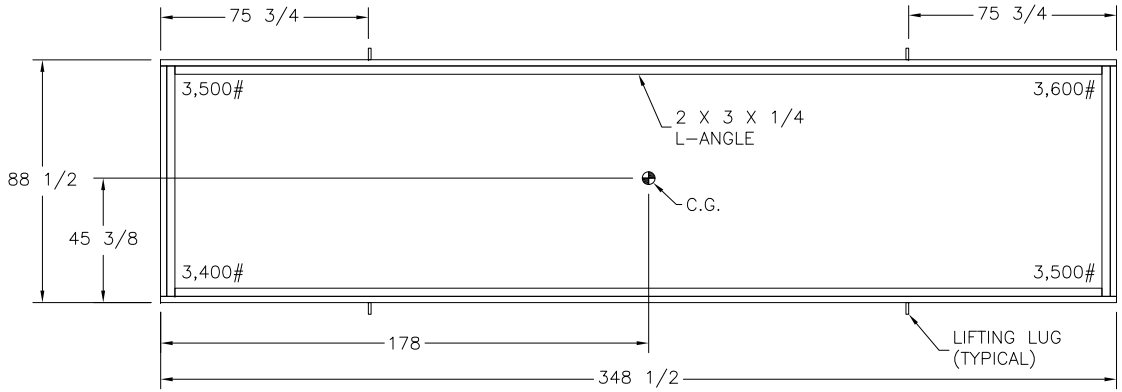


FIGURE 2
TYPICAL FLOOR CONNECTION

UNIT TAG: ERU-1
ITEM #: -01
S/O NUMBER: -0001
UNIT QUANTITY: 1 TOTAL

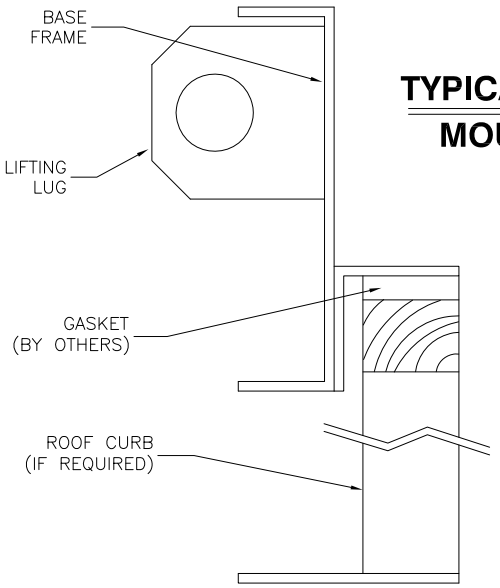
ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI-Z-PACK	
DRAWN: HIPES	1/6/15	TITLE: DRAINS AND CONNECTIONS	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M-AA02
SHEET 2 OF 2	SCALE: NTS		MODEL: PV-MZP-8707



PLAN VIEW

NOTES:
1. THE BASE FRAME IS AN INTEGRAL PART OF THE UNIT AND IS FABRICATED FROM C8 X 11.5# STRUCTURAL CHANNEL.
2. ALL LIFTING AND RIGGING MUST BE FROM THE PROVIDED LIFTING LUGS. SEE OPERATION, INSTALLATION, AND MAINTENANCE MANUAL.
3. LIFTING LUGS MAY BE LOCATED UP TO 12" FROM INDICATED POSITION.
4. BASE FRAME MAY CONTAIN REMOVABLE CHANNEL SUPPORTS ON THE BOTTOM OF THE UNIT. THESE CHANNELS ARE ONLY ACCESSIBLE FROM BELOW THE BASE FRAME AND MAY BE FIELD REMOVED, IF NECESSARY, PRIOR TO UNIT INSTALLATION.

LIFTING LUGS TO BE:
☒ REMOVABLE
☐ NOT REMOVABLE

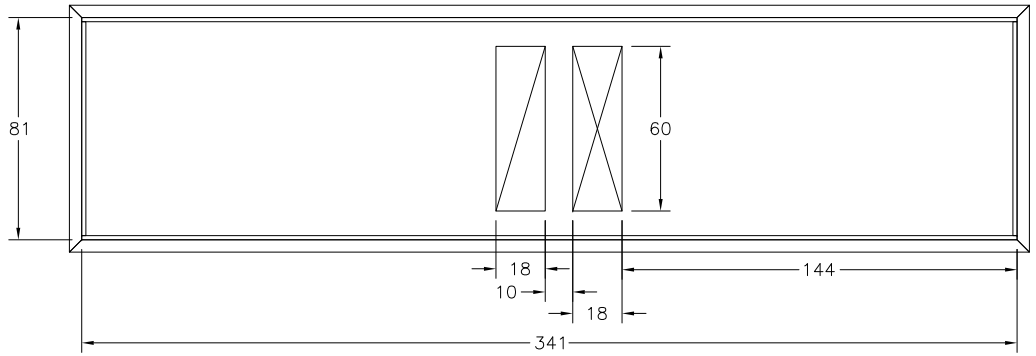


TYPICAL OUTDOOR UNIT
MOUNTING DETAIL

UNIT TAG: ERU-1
ITEM #: -01
S/O NUMBER: -0001
UNIT QUANTITY: 1 TOTAL

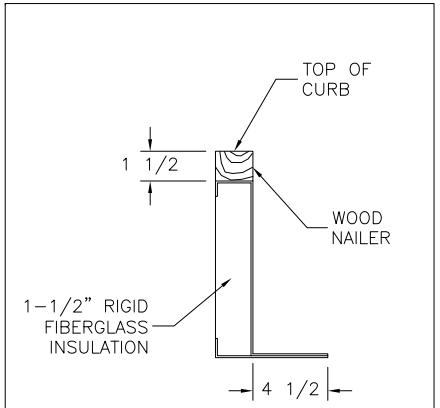
ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI-Z-PACK	
DRAWN: HIPES	1/6/15	TITLE: BASEFRAME LAYOUT	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M-AA03
SHEET 1 OF 1	SCALE: NTS		MODEL: PV-MZP-8707

NOTES:
1. CURB WILL HAVE A 1-1/2" WOOD NAILER ON UPPER EDGE FOR FLASHING ATTACHMENT.
2. CURB IS SHIPPED DISASSEMBLED FOR FIELD ASSEMBLY BY OTHERS.
3. INSTRUCTIONS AND HARDWARE FOR ASSEMBLY ARE INCLUDED WITH CURB.



PLAN VIEW

ELEVATION VIEW



CURB SECTION

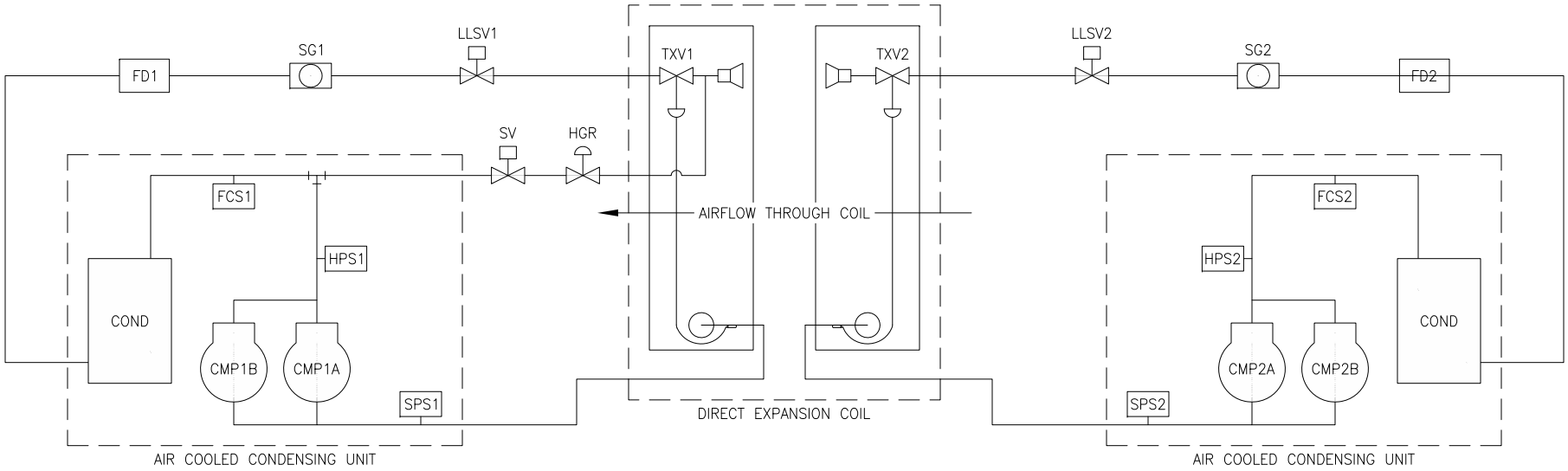
ROOF CURB DRAWING
FOR REFERENCE ONLY

UNIT TAG: ERU-1
ITEM #: -01
S/O NUMBER: -0001
UNIT QUANTITY: 1 TOTAL
EST. UNIT WEIGHT: 14,000 LBS

ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI-Z-PACK	
DRAWN: HIPES	1/6/15	TITLE: ROOF CURB LAYOUT	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M-AA04
SHEET 1 OF 1	SCALE: NTS		MODEL: PV-MZP-8707

REFRIGERATION COMPONENTS:

CMPR – COMPRESSOR
COND –CONDENSING COIL
CV – CHECK VALVE
DPS – DISCHARGE PRESSURE SENSOR
FD – FILTER DRIER
HGR – HOT GAS REGULATOR
HPS – HIGH PRESSURE SWITCH
SG – SIGHT GLASS
SPS – SUCTION PRESSURE SENSOR
SV – SOLENOID VALVE
TXV – THERMOSTATIC EXPANSION VALVE
ULV – UNLOADER VALVE



NOTE: THIS DRAWING IS FOR REFERENCE ONLY. CIRCUITING SHOWN MAY NOT BE APPLICABLE TO ALL SITUATIONS AND MAY NEED TO BE CHANGED ACCORDING TO HVAC INDUSTRY STANDARDS.

UNIT TAG: ERU-1
ITEM #: -01
S/O NUMBER: -0001
UNIT QUANTITY: 1 TOTAL

ORDER NO. 21436764		Munters	
		ORDER NAME: CHURCHILL'S	
APPROVALS	DATE	UNIT TYPE: MINI-Z-PACK	
DRAWN: HIPES	1/6/15	TITLE: REFRIGERATION PIPING SCHEMATIC	
TOLERANCE: ±1/4 INCH (UNLESS OTHERWISE SPECIFIED)		SIZE: A	DWG NO. M-AA05
SHEET 1 OF 1	SCALE: NTS	MODEL: PV-MZP-8707	

ORDER NAME: CHURCHILL'S
ORDER NUMBER: 21436764

Munters

TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
SIZE: A
MODEL: PV-MZP-8707

DRAWN: JFH
DATE: 01/19/15
SCALE: NTS
DRAWING NUMBER: E-AA01

NOTES:

1. SEE GLOVIA FILES FOR COMPLETE LIST OF MATERIALS

2. THIS DRAWING REPRESENTS THE FOLLOWING SHOP ORDER NUMBER(S):

   21436764-01 (ERU-1, 21436764-01)

3. FUSE TYPE KEY:
   TYPE 1: CLASS CC FOR MOTOR PROTECTION, 600V, 200KA INTERRUPT RATING
   TYPE 2: CLASS CC FOR CONTROL TRANSFORMER PROTECTION, 600V, 200KA INTERRUPT RATING
   TYPE 3: CLASS CC FOR GENERAL PURPOSE PROTECTION, 600V, 200KA INTERRUPT RATING
   TYPE 4: CLASS J FOR GENERAL PURPOSE PROTECTION, 600V, 300KA INTERRUPT RATING, REDUCED DIMENSION
   TYPE 5: CLASS RK1 FOR GENERAL PURPOSE PROTECTION, 250V, 300KA INTERRUPT RATING
   TYPE 6: CLASS RK1 FOR GENERAL PURPOSE PROTECTION, 600V, 300KA INTERRUPT RATING
   TYPE 7: CLASS J FOR GENERAL PURPOSE PROTECTION, 600V, 300KA INTERRUPT RATING, FINGER SAFE
   TYPE 8: CLASS T FOR GENERAL PURPOSE PROTECTION, 600V, 200KA INTERRUPT RATING

△4 SEE LINES 601-616 FOR SENSOR MOUNTING LOCATIONS AND DAMPER CONFIGURATIONS.

△5 REFER TO MECHANICAL LAYOUT FOR MOUNTING LOCATION.

△6 REFER TO MANUFACTURER'S LITERATURE FOR ADDITIONAL WIRING, INSTALLATION, AND SAFETY INSTRUCTIONS.

△7 MOUNT HIGH PRESSURE SWITCH IN THE REFRIGERANT DISCHARGE LINE AS CLOSE TO THE COMPRESSOR AS PRACTICAL. SWITCH OPEN AT 575 PSIG ON A RISE IN PRESSURE.

△8 MOUNT FAN CYCLE SWITCH IN THE REFRIGERANT DISCHARGE LINE AS CLOSE TO THE COMPRESSOR AS PRACTICAL. SET TO CLOSE AT 350 PSIG ON A RISE IN PRESSURE. SET TO OPEN AT 250 PSIG ON A FALL IN PRESSURE.

△9 REFER TO THE REFRIGERATION SCHEMATIC FOR MOUNTING LOCATION.

△10 MOUNT S1 IN THE DOOR OF THE UNIT CONTROL PANEL AND LABEL "DDC ENABLE SWITCH".

△11 MOUNT HMI1 IN UNIT ELECTRICAL ENCLOSURE.

△12 RHMI1 AND SEN2 SHIPPED LOOSE FOR WALL MOUNTING AND WIRING BY OTHERS.

⚠ WARNING
HAZARDOUS VOLTAGE

FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

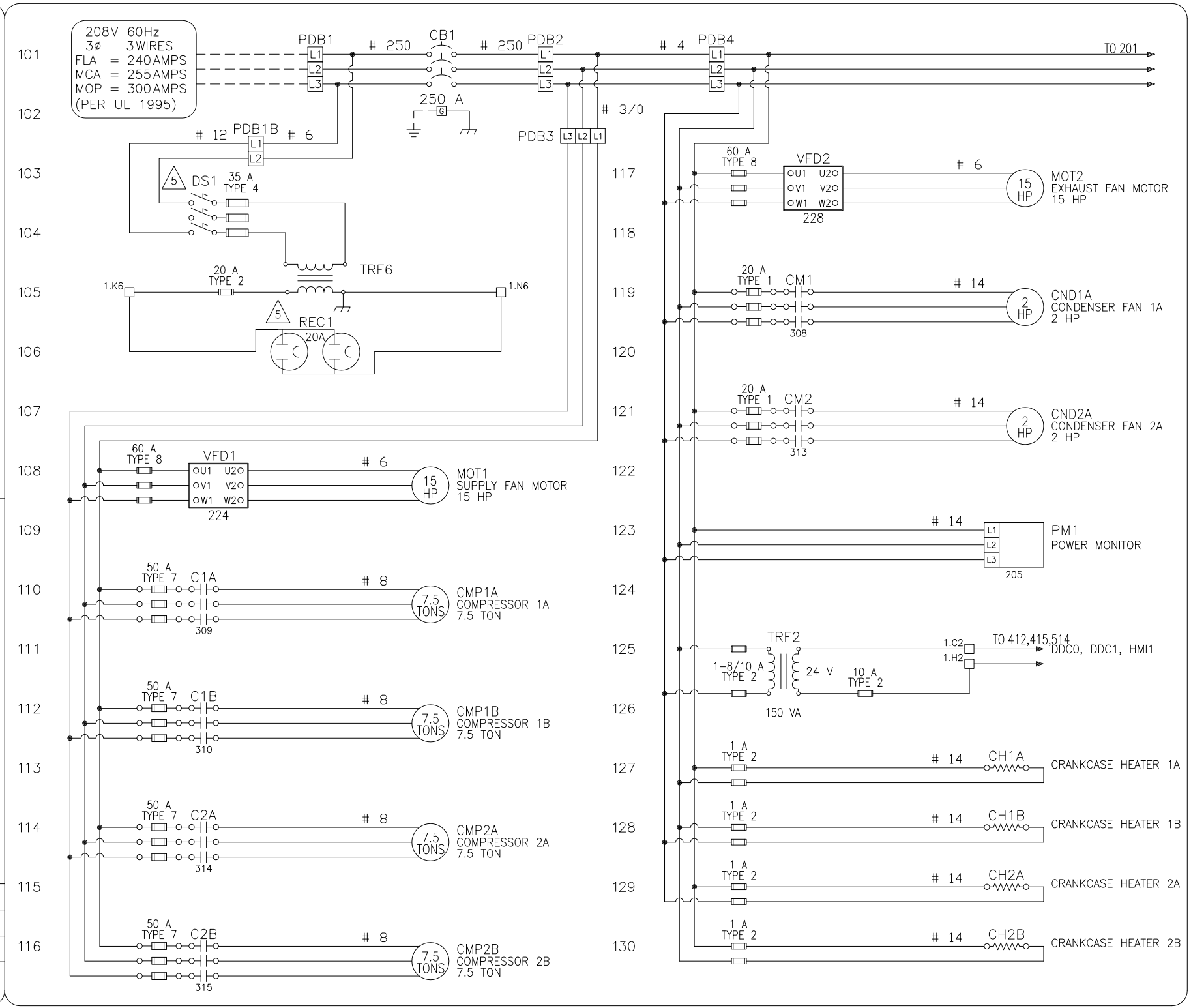
ALL FIELD WIRING MUST BE IN ACCORDANCE WITH LOCAL, STATE AND NATIONAL ELECTRICAL CODES.

UNIT WIRE SCHEDULE		
APPLICATION	WIRE COLOR	WIRE TYPE
3 PHASE (#14-#4)	BLACK/GREEN	MTW
3 PHASE (#3 AND UP)	BLACK/GREEN	THHN IN CONDUIT
120 VAC	RED/WHITE	PLENUM RATED
24 VAC	WHITE	SHIELDED
24 VDC/SENSOR	WHITE	SHIELDED
COMMUNICATION	YELLOW	SHIELDED

PANEL WIRE SCHEDULE		
APPLICATION	WIRE COLOR	WIRE TYPE
3 PHASE (#14-#4)	BLACK/GREEN	MTW
3 PHASE (#3 AND UP)	BLACK/GREEN	THHN
120 VAC	BROWN/WHITE	THHN
24 VAC	BLUE/GRAY	THHN
24 VDC/SENSOR	PURPLE/PURPLE BLACK STRIPE	THHN
COMMUNICATION	YELLOW	SHIELDED
JUMPER BET. PANELS	ORANGE/ORANGE BLACK STRIPE	MTW

APS	AIR PRESSURE SWITCH
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CON	CONTACTOR
CR	CONTROL RELAY
CSR	CURRENT SENSOR RELAY
DDC	DIRECT DIGITAL CONTROLLER
DF	DISCONNECT FUSE
DLS	DOOR LIMIT SWITCH
DM	DAMPER ACTUATOR
DS	DISCONNECT SWITCH
ES	END SWITCH
F	FUSE
FS	FLOW SWITCH
FTS	FLOAT SWITCH
H	HUMIDISTAT
HC	HUMIDITY CONTROLLER
LCD	DISPLAY MODULE
LS	LIMIT SWITCH
LT	PILOT LIGHT
M	MOTOR CONTROLLER
OL	OVERLOAD RELAY
PDB	POWER DISTRIBUTION BLOCK
PKS	PARK SWITCH
PMP	PUMP
PPR	POWER PROTECTION RELAY
PR	POWER RELAY
PS	PRESSURE SWITCH
PWR	POWER SUPPLY
R	RESISTOR
REC	RECEPTACLE
S	SWITCH
SC	STEP CONTROLLER
SCR	SCR CONTROL MODULE
SD	SMOKE DETECTOR
SEN	SENSOR
SSM	SOLID STATE MODULE
SSR	SOLID STATE RELAY
T	THERMOSTAT
TB	TERMINAL BLOCK
TC	TEMPERATURE CONTROLLER
TDR	TIME DELAY RELAY
TRF	TRANSFORMER
VFD	VARIABLE FREQUENCY DRIVE
VM	VALVE ACTUATOR
VPL	VAPOR PROOF LIGHT
XP	EXPANSION MODULE
XT	EXTENTION MODULE

FACTORY WIRING
FIELD WIRING
3 UNIT PANEL TERM. PT.
3 REMOTE TERM. PT.
3 SIGNAL PANEL TERM. PT



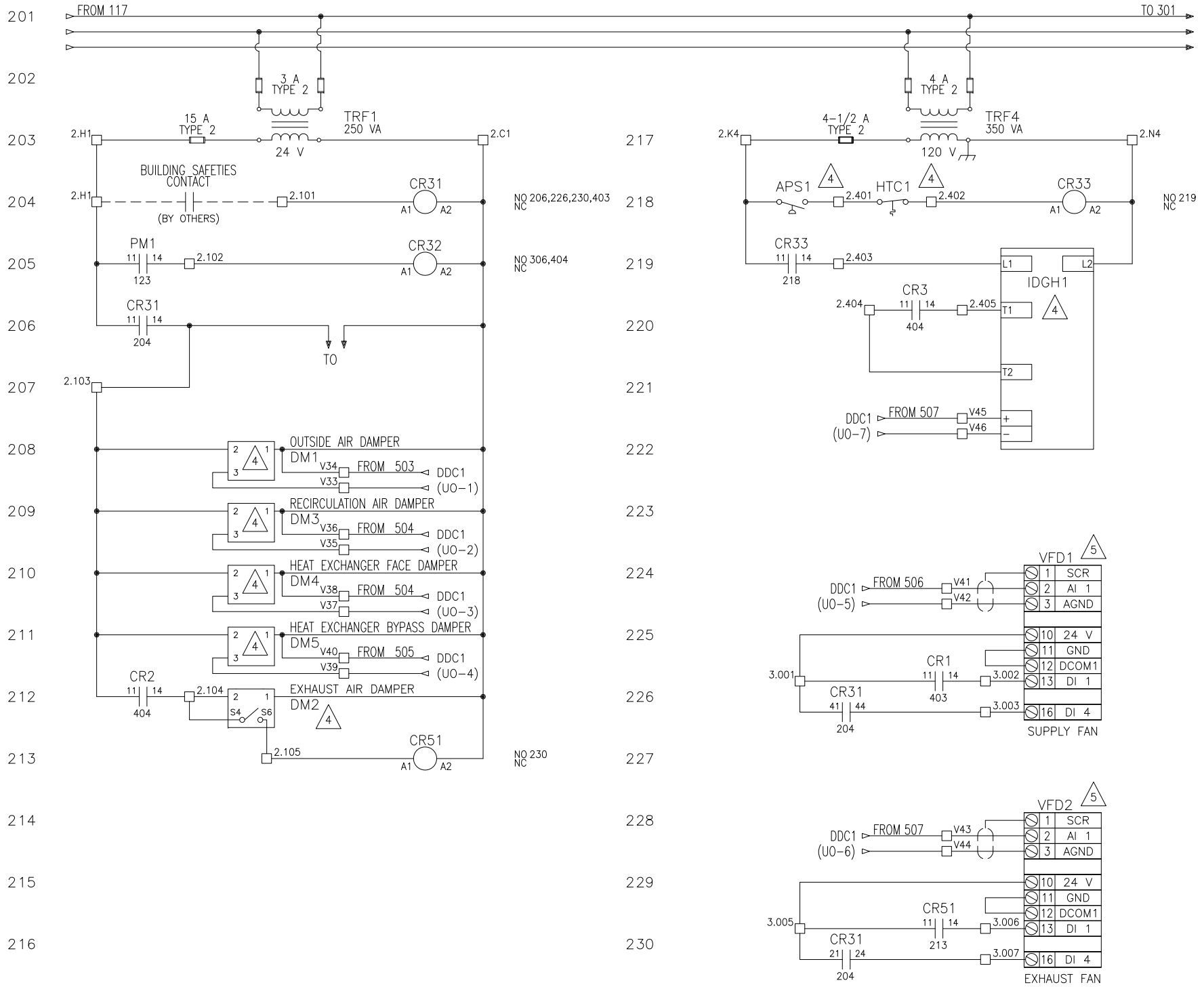
ORDER NAME: CHURCHILL'S
ORDER NUMBER: 21436764
Munters
TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
SIZE: A
MODEL: PV-MZP-8707
DRAWN: JFH
DATE: 01/19/15
SCALE: NTS
DRAWING NUMBER E-AA01

ORDER NAME: CHURCHILL'S
ORDER NUMBER: 21436764

Munters

TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
SIZE: A
MODEL: PV-MZP-8707

DRAWN: JFH
DATE: 01/19/15
SCALE: NTS
DRAWING NUMBER: E-AA01



ORDER NAME: CHURCHILL'S
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TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
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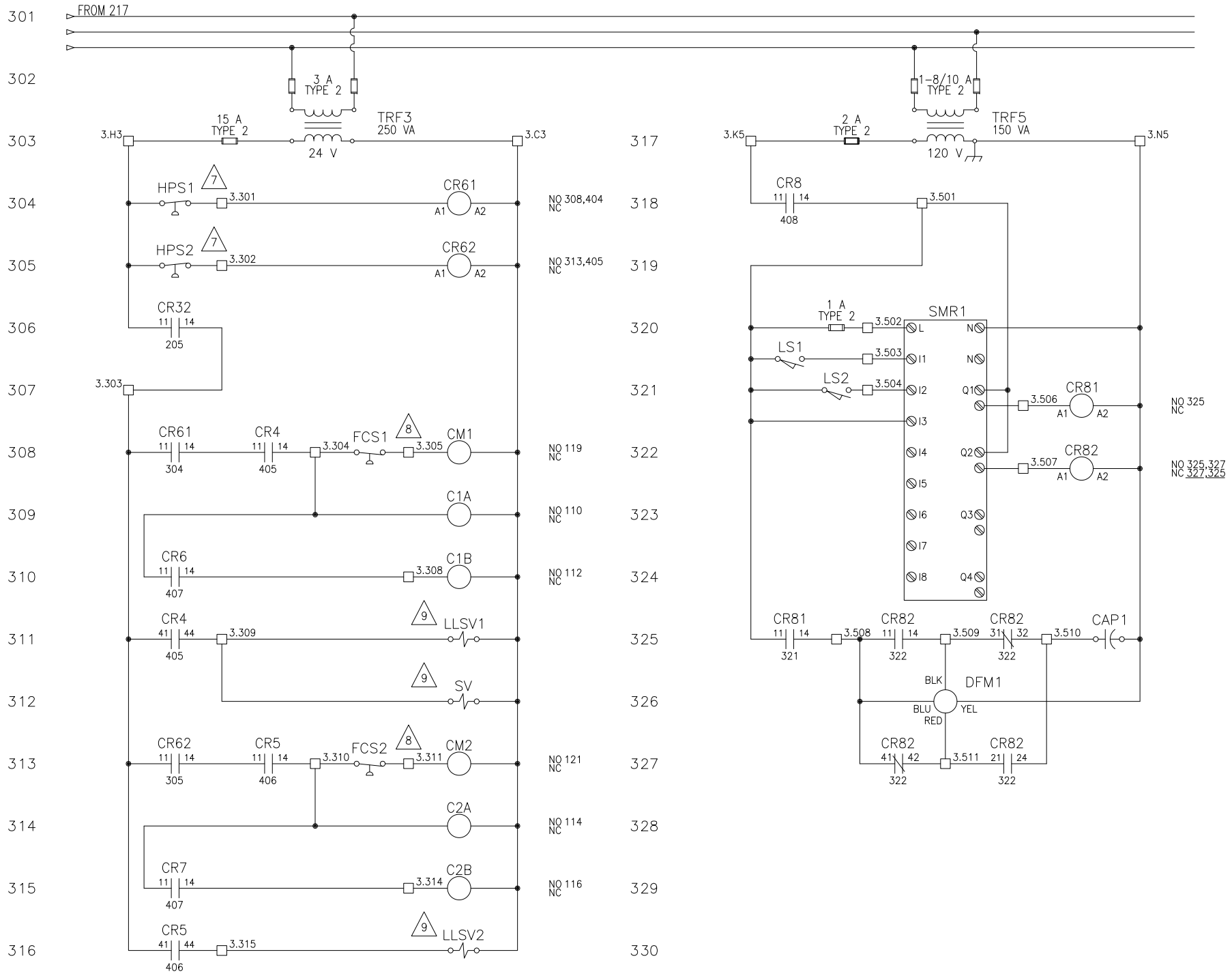

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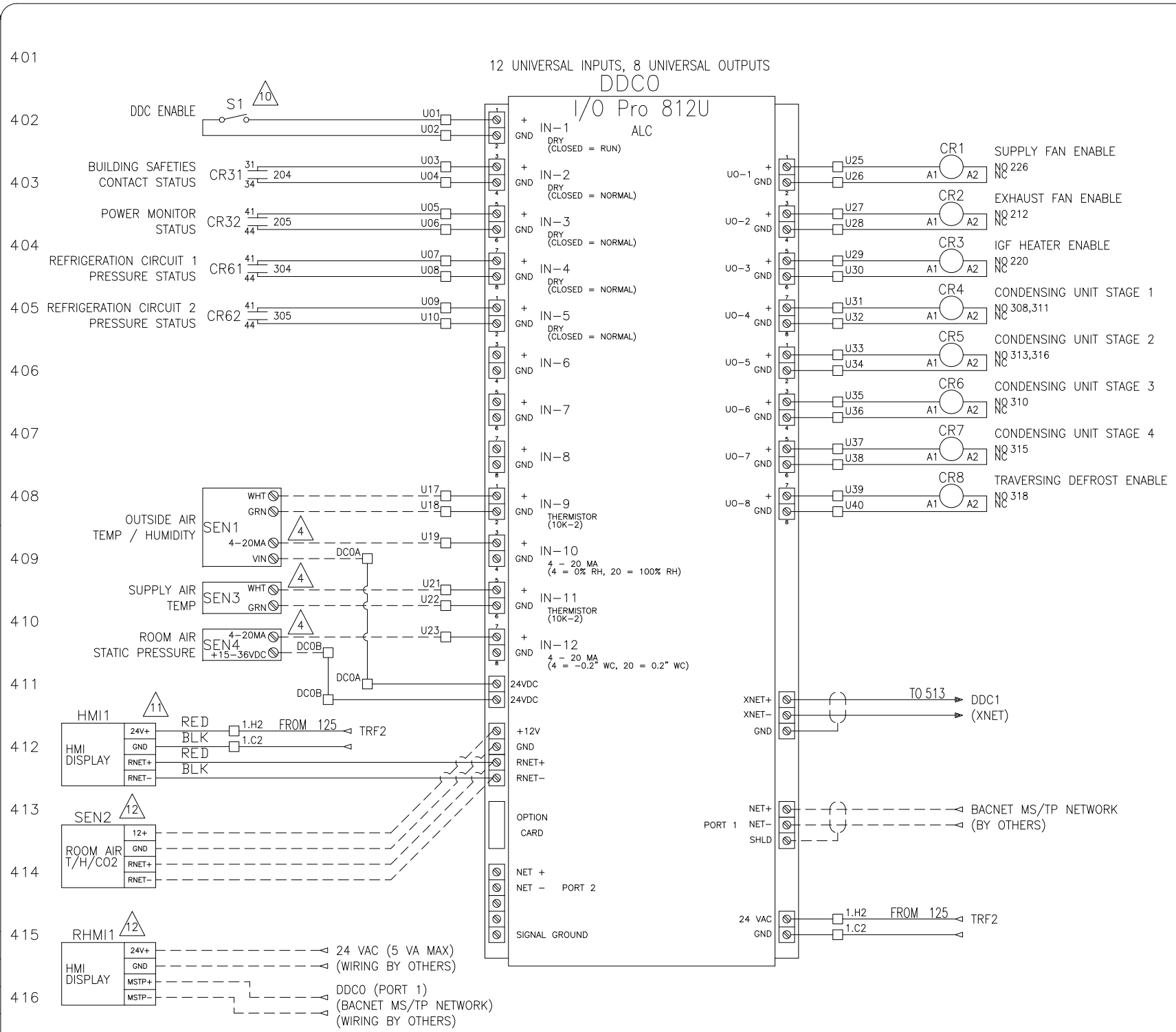
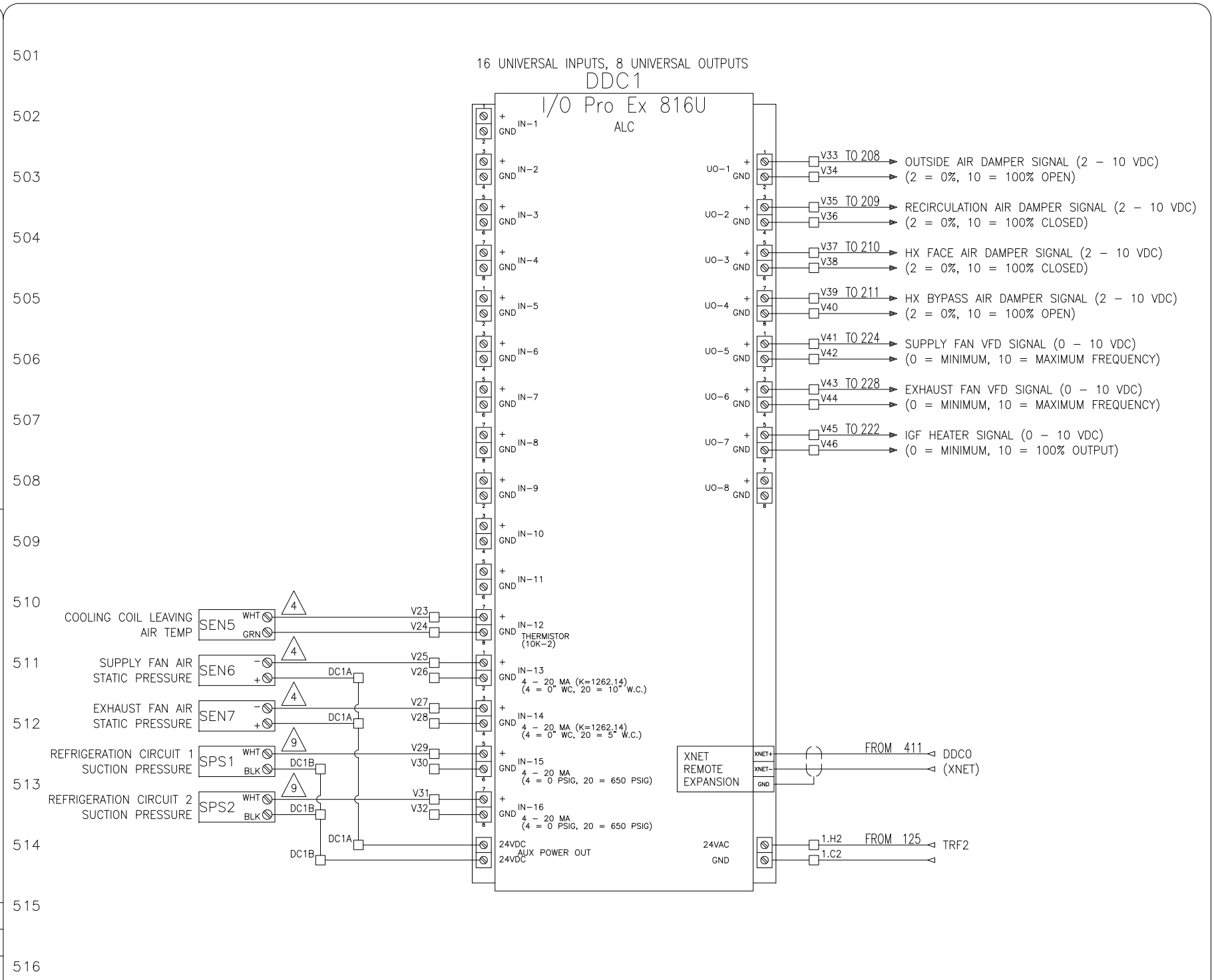


ORDER NAME: CHURCHILL'S
ORDER NUMBER: 21436764

Munters

TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
SIZE: A
MODEL: PV-MZP-8707

DRAWN: JFH
DATE: 01/19/15
SCALE: NTS
DRAWING NUMBER: E-AA01



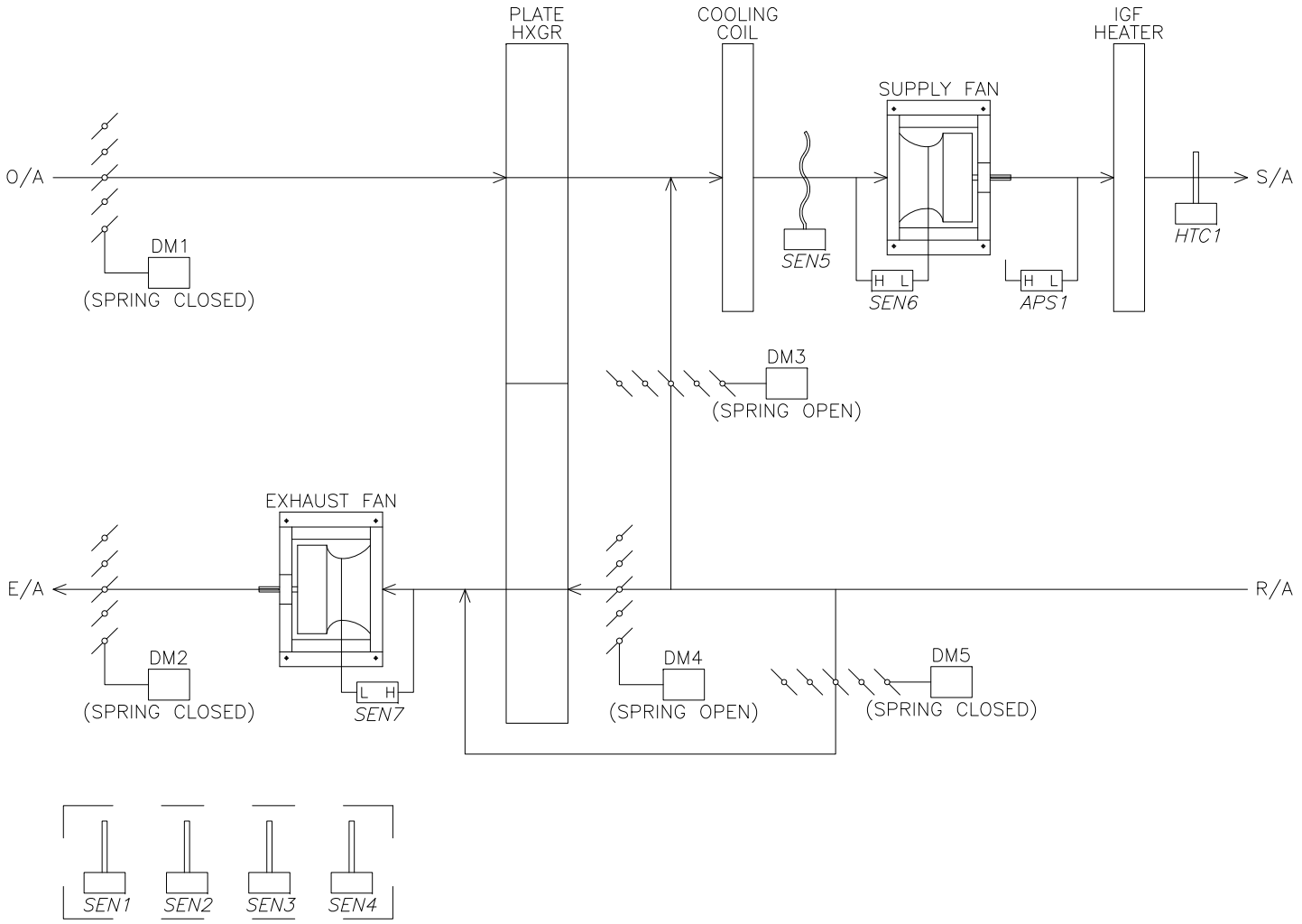
ORDER NAME: CHURCHILL'S
ORDER NUMBER: 21436764

Munters

TYPE: MINI-Z-PACK
TITLE: ELECTRICAL SCHEMATIC
SIZE: A
MODEL: PV-MZP-8707

DRAWN: JFH
DATE: 01/19/15
SCALE: NTS
DRAWING NUMBER: E-AA01

SENSOR LOCATION & DAMPER ACTUATOR CONFIGURATION



- ☒ DM1 OUTSIDE AIR DAMPER, MODULATING MOTORIZED.
- ☒ DM2 EXHAUST AIR DAMPER, 2-POSITION MOTORIZED, SET END SWITCH TO CLOSE AT 75% OPEN OR GREATER.
- ☒ DM3 RECIRCULATION AIR DAMPER, MODULATING MOTORIZED.
- ☒ DM4 HEAT EXCHANGER FACE AIR DAMPER, MODULATING MOTORIZED.
- ☒ DM5 HEAT EXCHANGER BYPASS AIR DAMPER, MODULATING MOTORIZED.
- ☒ APS1 IGF HEATER AIR PROVING SWITCH, SET TO CLOSE AT 0.25" WC ON A RISE IN PRESSURE.
- ☒ HTC1 IGF HEATER HIGH TEMPERATURE CUTOUT, MOUNT NEAR TO OF PLENUM, SET TO CLOSE AT 150° F ON A RISE IN TEMPERATURE.
- ☒ SEN1 OUTSIDE AIR TEMPERATURE / HUDMIITY SENSOR, SHIPPED LOOSE FOR MOUNTING ON NORTH FACE OF UNIT BY OTHERS.
- ☒ SEN2 ROOM AIR TEMPERATURE / HUMIDITY / CO2 SENSOR, SHIPPED LOOSE FOR WALL MOUNTING BY OTHERS.
- ☒ SEN3 SUPPLY AIR SENSOR, SHIPPED LOOSE FOR DUCT MOUNTING BY OTHERS.
- ☒ SEN4 ROOM PRESSURE DIFFERENTIAL STATIC AIR PRESSURE, SENSOR AND TAPS SHIPPED LOOSE FOR MOUNTING BY OTHERS.
- ☒ SEN5 COOLING COIL LEAVING AIR TEMPERATURE SENSOR (AVERAGING TYPE).
- ☒ SEN6 SUPPLY FAN DIFFERENTIAL AIR STATIC PRESSURE SENSOR
- ☒ SEN7 EXHAUST FAN DIFFERENTIAL AIR STATIC PRESSURE SENSOR.

Unit Control Sequence

Job Number: 21436764 Engineered by: JFH
Job Name: Churchill's
Unit Tag(s): ERU-1
Item Number(s): 21436764-01
S/O Number(s): 21436764-01

Controller Data

Controller Manufacturer	Controller Model Number(s)
ALC	I/O Pro 812U with one (1) I/O Pro 816U point expander

Set Point Table

Set Point Designation	Factory Setting
Room Air Temperature	74° F
Room Air Dew Point Temperature	60° F
Room Air Static Pressure	0" W.C.
Room Air CO2 Concentration	1000 PPM
Suppply Fan Speed	100%
Unoccupied Room Air Temperature	74° F
Unoccupied Room Air Dew Point Temperature	60° F
Unoccupied Room Air Static Pressure	0" W.C.
Unoccupied Room Air CO2	1000 PPM
Unoccupied Suppply Fan Speed	100%
Outside Air Dew Point Temperature To Enable Dehumidification	53° F
Outside Air Temperature To Enable Cooling	60° F
Outside Air Temperature To Enable Traversing Defrost	30° F
Maximum Supply Air Temperature	105° F
Maximum Room Air Pressure Differential	0.05" W.C.
Minimum Supply Air Temperature	55° F
Minimum Cooling Coil Leaving Air Temperature	35° F
Gas Heat Enabled During Dehumidification	OFF
Unit Enable	ON

Unit Control Overview

Room Dew Point Temperature and Room Temperature Control

The unit will operate to maintain the Room Air Temperature at set point, the Room Air Dew Point Temperature at or below set point, the Room Air CO2 at set point, and the Room Air Static Pressure at set point.

Unit Operation

Start Sequence

Hand-Off-Auto DDC Enable Switch with LCD Display

The DDC Start Sequence will be initiated whenever the DDC Enable Switch is placed in the "ON" position and the Unit Enable digital constant is set to "ON". The Dampers and Fans control sequence will then be executed.

Dampers and Fans

Modulating Outside Air and Recirculation Dampers with Preset Positions and Two Position Exhaust Air Damper for Ventilation / Recirculation

The Outside Air and Recirculation Dampers will be modulated to maintain the Room Air CO2 Concentration at the Room Air CO2 Concentration set point. The Supply Fan Motor

Unit Control Sequence

will be started immediately when the Start Sequence is completed. When the Exhaust Damper is approximately 75% open, the end switches will close and start the the Exhaust Fan Motor. Once fan operation has been proven, by a static air pressure transmitter input, unit operation will proceed.

Variable Frequency Drives

Modulating Supply Fan Speed for Set Point Control

The Supply Fan Motor VFD will be modulated as required to maintain the Supply Fan Speed at Set Point.

Modulating Exhaust Fan Speed for Set Point Control

The Exhaust Fan Motor VFD will be modulated as required to maintain the Room Air Static Pressure at the Room Air Static Pressure Set Point.

Heat Exchanger Dampers

Modulating Face and Bypass Dampers for Maximum Temperature Control

The Face and Bypass Dampers will be modulated to maintain the Room Air Temperature at the Room Air Temperature Set Point. As the Room Air Temperature rises above its set point, the Face Damper will modulate closed and the Bypass Damper will modulate open decreasing the heat transfer between the exhaust air and outdoor air streams.

Dehumidification or Cooling

Multistage Compressors for Dehumidification and Sensible Cooling

Whenever the Outside Air Dew Point Temperature is greater than the Outside Air Dew Point Temperature To Enable Dehumidification Set Point, the compressors will be staged to maintain the Room Air Dew Point Temperature at the Room Air Dew Point Temperature Set Point. Also, when the Outside Air Dew Point Temperature is less than the Outside Air Dew Point Temperature Set Point and the Outside Air Temperature is greater than the Outdoor Air Temperature to Enable Cooling, the compressors will be staged to maintain the Room Air Temperature at the Room Air Temperature Set Point. The Coil Leaving Air Temperature will be monitored and reduce the staging as the coil approaches the Minimum Cooling Coil Leaving Air Temperature Set Point

Heating

Modulating Indirect Gas Fired Furnace

Whenever the Outside Air Temperature is less than the Outdoor Air Temperature To Enable Heating, the Indirect Gas Fired Burner will be enabled and modulated to maintain the Room Air Temperature at the Room Air Temperature Set Point. Also, when the Outside Air Dew Point Temperature is greater than the Outside Air Dew Point Temperature To Enable Dehumidification Set Point and the Gas Heat During Dehumidification Set Point is set to “ON”, the Indirect Gas Fired Burner will be enable and modulated to maintain the Room Air Temperature at the Room Air Temperature Set Point. The Supply Air Temperature will be limited to the Maximum and Minimum Supply Air Temperature Set Points.

Traversing Defrost Plate

On/Off Control

Whenever the Outside Air Temperature is less than the Outside Air Temperature To Enable Traversing Defrost Set Point, the Traversing Defrost Plate will be enabled.

Unit Control Sequence

Alternate Operating Modes

Unoccupied Mode

The Outside Air Damper will be modulated fully closed and the Recirculation Damper will be modulated fully open. Otherwise the unit will operate as described above.

Unit Operation Schedule

Unoccupied Mode

The unit will run continuously. When the unit is “ON” the unit will operate in Occupied Mode. When the unit is “OFF” the unit will operate in Unoccupied Mode. The Unit mode will be determined by the schedule below.

Unit Operation Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
On	9:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM	11:00 AM	11:00 AM
Off	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM	11:00 AM	11:00 AM

Munters

Thermodynamic Performance

Date 06 Jan 2015

Sheet 1 of 2

WebDH Project ID	21436764	Prepared By	usroamihi
Order Name	Churchill's	Representative	No Entry
UnitTag	ERU-1	Customer	No Entry
Internal JobID# / UnitID#	MIHI-10024-MIHI / 1	RSM Email	Mike.Hipes@Munters.com
		Location	Alabama
Altitude	0 ft -- 0 m	Atmospheric Pressure	14.696 psi -- 1013.289 kpa

SUMMER Performance

Unit Information	IP
Model Code Designation (Quantity)	S81CF (2)
Model Designation per Bulletin	CZD IU-8/8-122.39-700-ALM
Plate Material (Coating)	1100 Aluminum (Plain)
Plate Spacing, inches Supply / Exhaust	.24 / .24
Plate Thickness, in.	.006
Plate Pitch, inches Supply / Exhaust	.246 / .246
Plate Surface Area, ft²	4336.04

SUPPLY SIDE	
Gas Mixture ()	
Inlet Gauge Pressure, T1, in. WC / Inlet Absolute Pressure, T1, psi	0.0 / 14.696
Inlet Temperature, T1, F°	95.0
Outlet Temperature, T2, F°	80.3
Air Flow at Entry Point T1, CFM	8,378.0
Air Flow at Exit Point T2, CFM	8,156.0
Air Flow, SCFM (wet) [Lbs/Hr (dry)]	8,000.0 [35,219.0]
WetBulb WB T1, F°	73.0000
WetBulb WB T2, F°	68.7000
Pressure Drop, in. WC	1.01

EXHAUST SIDE	
Gas Mixture ()	
Inlet Gauge Pressure, T3, in. WC / Inlet Absolute Pressure, T3, psi	0.0 / 14.696
Inlet Temperature, T3, F°	74.0
Outlet Temperature, T4, F°	88.7
Air Flow at Entry Point T3, CFM	8,060.0
Air Flow at Exit Point T4, CFM	8,282.0
Air Flow, SCFM (wet) [Lbs/Hr (dry)]	8,000.0 [35,316.0]
WetBulb WB T3, F°	64.4000
WetBulb WB T4, F°	69.0000
Pressure Drop, in. WC	1.23

Thermal Performance	
Water Condensed from Cooled Air, lbs/hour	0.0
Thermal Transfer Effectiveness, %	70.0
Heat Transferred, Q, BTU/hr	125,368

The output data from this program are derived from laboratory testing and field test results.

Munters

Thermodynamic Performance

Date 06 Jan 2015

Sheet 1 of 2

WebDH Project ID	21436764	Prepared By	usroamihi
Order Name	Churchill's	Representative	No Entry
UnitTag	ERU-1	Customer	No Entry
Internal JobID# / UnitID#	MIHI-10024-MIHI / 1	RSM Email	Mike.Hipes@Munters.com
		Location	Alabama
Altitude	0 ft -- 0 m	Atmospheric Pressure	14.696 psi -- 1013.289 kpa

WINTER Performance

Unit Information	IP
Model Code Designation (Quantity)	S81CF (2)
Model Designation per Bulletin	CZD IU-8/8-26.21-735-ALM
Plate Material (Coating)	1100 Aluminum (Plain)
Plate Spacing, inches Supply / Exhaust	.24 / .24
Plate Thickness, in.	.006
Plate Pitch, inches Supply / Exhaust	.246 / .246
Plate Surface Area, ft²	4336.04

SUPPLY SIDE	
Gas Mixture ()	
Inlet Gauge Pressure, T1, in. WC / Inlet Absolute Pressure, T1, psi	0.0 / 14.696
Inlet Temperature, T1, F°	0.0
Outlet Temperature, T2, F°	51.5
Air Flow at Entry Point T1, CFM	6,943.0
Air Flow at Exit Point T2, CFM	7,720.0
Air Flow, SCFM (wet) [Lbs/Hr (dry)]	8,000.0 [35,898.0]
WetBulb WB T1, F°	-1.5000
WetBulb WB T2, F°	34.6000
Pressure Drop, in. WC	0.88

EXHAUST SIDE	
Gas Mixture ()	
Inlet Gauge Pressure, T3, in. WC / Inlet Absolute Pressure, T3, psi	0.0 / 14.696
Inlet Temperature, T3, F°	70.0
Outlet Temperature, T4, F°	26.4
Air Flow at Entry Point T3, CFM	8,000.0
Air Flow at Exit Point T4, CFM	7,323.0
Air Flow, SCFM (wet) [Lbs/Hr (dry)]	8,000.0 [35,654.0]
WetBulb WB T3, F°	53.0000
WetBulb WB T4, F°	26.4000
Pressure Drop, in. WC	1.14

Thermal Performance	
Water Condensed from Cooled Air, lbs/hour	60.5
Thermal Transfer Effectiveness, %	73.5
Heat Transferred, Q, BTU/hr	435,044

The output data from this program are derived from laboratory testing and field test results.

Customer:
Contact:
Telephone:
Cell:
Fax:
Job:
Quote #:

Date: 1/6/15
From:
Company:
Return Tel:
Return Fax:

Construction

Item:	DX Coil
Coils Per Bank:	1
Tube OD IN:	1/2
Style:	EJ
Fins Per Inch:	13
Rows:	8
Fin Surface:	B
Fin Height (IN):	32.50
Finned Length (IN):	67.00
Tubing Mat. (IN):	0.016 Copper
Fin Mat. (IN):	0.0075 Aluminum
Circuiting:	Optimize
Face Area (SQ FT):	15.12

Air Side

Air Flow (Sft^3/min)	8000.0
Altitude FT:	0.00
Ent. Air DB/WB °F:	80.30 / 68.70
Lvg. Air DB/WB °F:	54.00 / 54.00
Total / Sensible MBH:	0.00 / 0.00
Max Air PD "H2O:	0.00

Refrigerant Side

Refrigerant:	410A
Super Heat °F:	10.00
Saturated Suction Temp °F:	48.00
Liquid Temp °F:	110.0

OUTPUT DATA				OPTIONS	
Model Number:		4EJ1308B		Casing Material:	Galvanized
Air Velocity:	(Sft/min)	529.0		Casing Type:	Flanged
Total Capacity:	MBH	371.8		Hand:	Universal
Sens. Capacity:	MBH	228.4		Connection Material:	Copper
Lvg. Air DB:	°F	53.87		ByPass Kit Quantity:	0
Lvg. Air WB:	°F	53.87		ByPass Kit Size:	0
Standard APD	"H2O	1.07		Label Kit:	No
Code 18/19:		7026/15		Coating: None	
Code 18/19_2:		N/A		Mounting Holes:	No
Suction Conn.:	IN	(2) 1.625		Drain Headers:	No
Distributor Conn 1:	IN	(2) 0.875		Boxed Headers:	No
Distributor Conn 2:	IN	N/A			
Refg. PD:	lbf/in^2	2.60			
Refg. Velocity:	ft/min	1095.5			
Internal Volume:	in^3	2916.4			
Weight:	lbm	368.0			
Notes:		CJM			

Notes:

C) Coil is NOT certified by AHRI.
J) Coil Will Be Supplied With Multiple Distributors.
M) Coil rating valid for Heatcraft coils only.

GREENHECK
Building Value in Air.

Printed Date: 1/6/15
Job: 21436764 Churchills
Mark: Supply Fan

Performance	
Quantity	1
Volume (CFM)	8,000
External SP (in. wg)	5.93
Total SP (in. wg)	5.93
Operating Power (hp)	11.49
Start-Up Power (hp)	11.49
Fan RPM	2425
Max Fan RPM	2,808
Oper. Frequency (Hz)	82
Elevation (ft)	0
Start-up Temp.(F)	70
Operating Temp.(F)	70

Fan Configuration	
Size	22
Class	II
Arrangement	4
Rotation	CW
Orientation	Horizontal

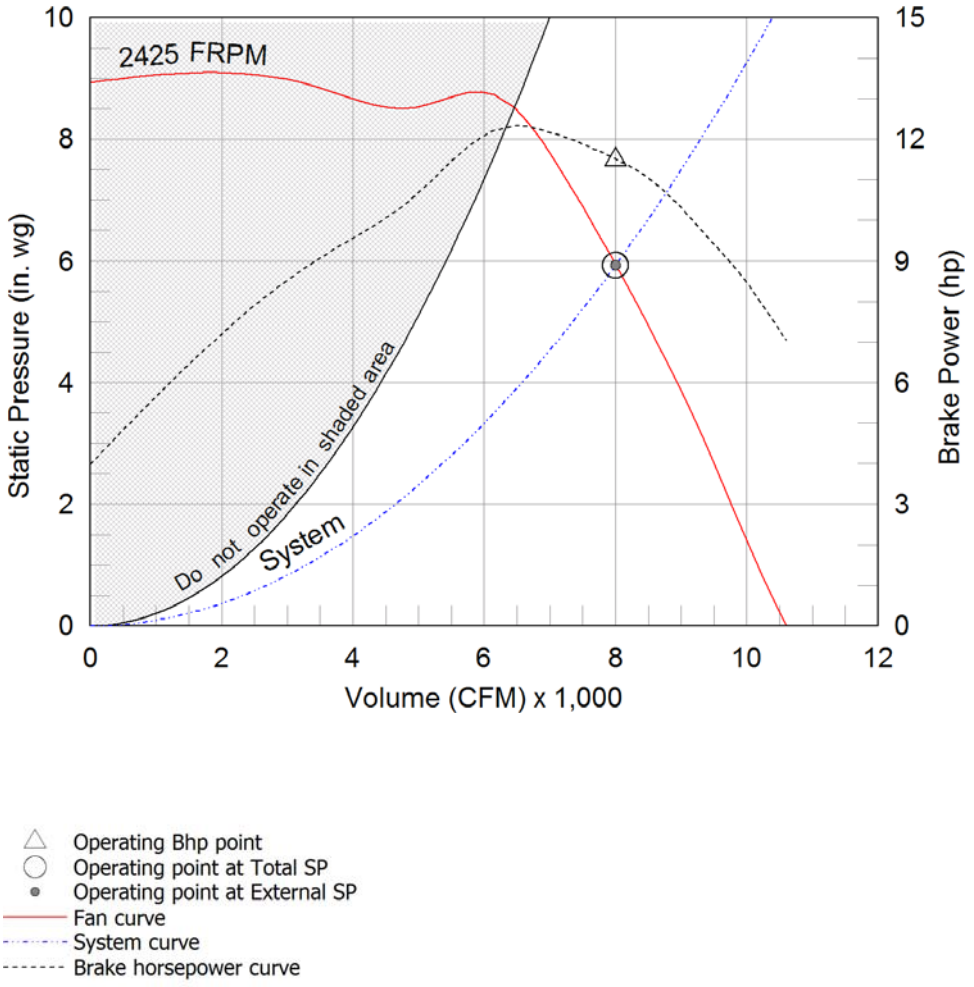
Equipment Weights	
Fan (LMD)(lb)	136
Motor/Drive (lb)	217
Accessories (lb)	0

Misc Fan Data	
Outlet Velocity (ft/min)	2,122
Static Efficiency (%)	65
Tip Speed (ft/min)	14,125

Motor and Drives	
Motor Supplier	Greenheck
Size (hp)	15
RPM	1770
Enclosure	ODP
Voltage	460
Cycle	60
Phase	3
Frame Size	254T
Max Frame Size	286
Location	Centered

Model: 22-APH-4-65-II-150
Plenum Fan

Operating Performance



amca WORLDWIDE CERTIFIED RATINGS SOUND AND AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC. www.amca.org

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	85	87	90	93	88	86	82	78	94	82	37
Outlet	94	94	94	98	96	93	89	84	101	89	57

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 ft- dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft

GREENHECK
Building Value in Air.

Printed Date: 1/6/15
Job: 21436764 Churchills
Mark: Supply Fan

Model: 22-APH-4-65-II-150

Plenum Fan

Standard Construction Features:

HOUSING: Heavy gauge, welded steel mounting frame with die formed flanges - Inlet panel is heavy gauge steel with die formed flanges with welded corners - Steel components are phosphatized and coated - Corrosion resistant fasteners BEARINGS, SHAFT, AND WHEEL: Heavy duty, concentric locking, self-aligning ball or roller pillow block bearings - Polished, solid steel shafts - Welded, aluminum centrifugal wheel - 12 bladed construction- Airfoil blade profile

Options & Accessories:

NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated without Shaft Grounding Protection
Motor with 40 Degree C Ambient Temperature
Motor with Class B Insulation
Coated with Permatector, Concrete Gray-RAL 7023, Fan and Attached Accessories, Mill Finish on Aluminum Wheel
Sure-Aire Flow Station (No Electronics)
Factory Vibration Test, 0.08 in/sec, peak, filter-in

GREENHECK
Building Value in Air.

Printed Date: 1/6/15
Job: 21436764 Churchills
Mark: Exhaust Fan

Performance	
Quantity	1
Volume (CFM)	8,000
External SP (in. wg)	4.78
Total SP (in. wg)	4.78
Operating Power (hp)	9.13
Start-Up Power (hp)	9.13
Fan RPM	2134
Max Fan RPM	2,678
Oper. Frequency (Hz)	72
Elevation (ft)	0
Start-up Temp.(F)	70
Operating Temp.(F)	70

Fan Configuration	
Size	22
Class	II
Arrangement	4
Rotation	CW
Orientation	Horizontal

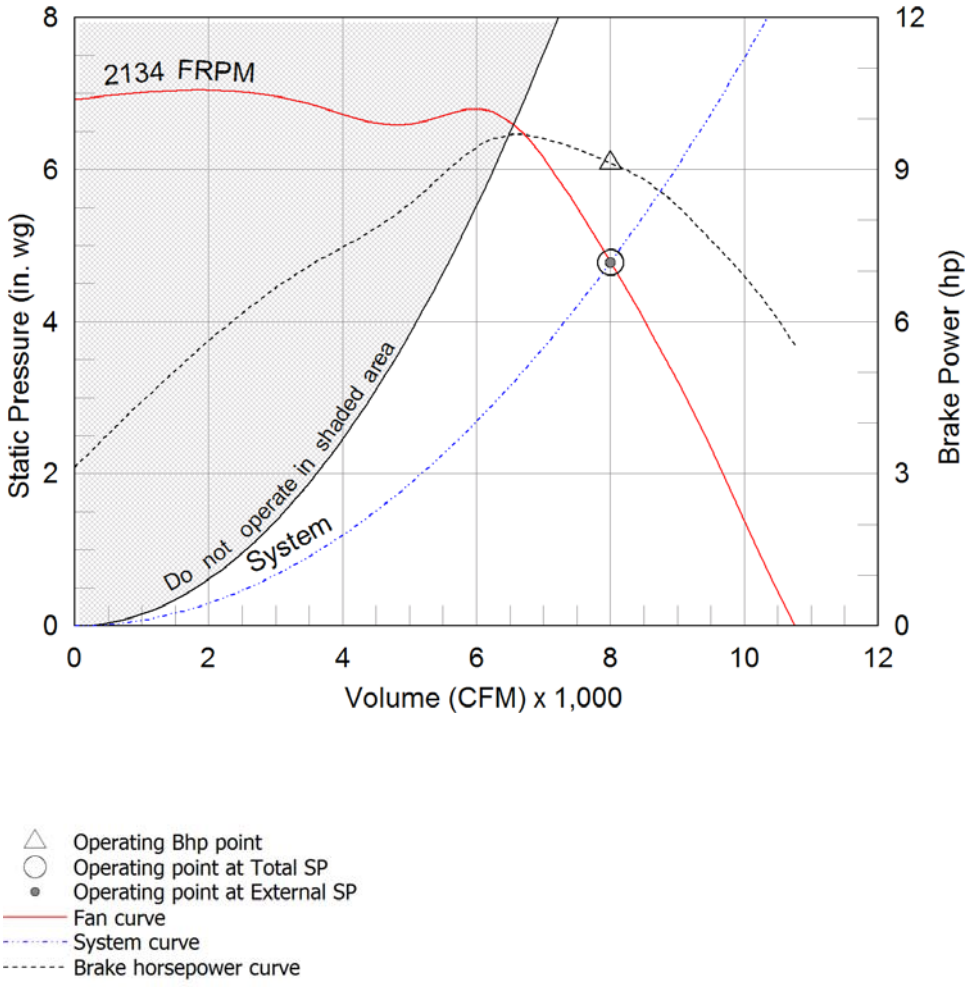
Equipment Weights	
Fan (LMD)(lb)	136
Motor/Drive (lb)	217
Accessories (lb)	0

Misc Fan Data	
Outlet Velocity (ft/min)	2,122
Static Efficiency (%)	66
Tip Speed (ft/min)	12,432

Motor and Drives	
Motor Supplier	Greenheck
Size (hp)	15
RPM	1770
Enclosure	ODP
Voltage	460
Cycle	60
Phase	3
Frame Size	254T
Max Frame Size	286
Location	Centered

Model: 22-APH-4-75-II-150
Plenum Fan

Operating Performance



Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	83	85	88	90	84	83	79	75	91	80	31
Outlet	92	91	92	95	93	90	85	81	98	86	47

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 ft- dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft

GREENHECK
Building Value in Air.

Printed Date: 1/6/15
Job: 21436764 Churchills
Mark: Exhaust Fan

Model: 22-APH-4-75-II-150

Plenum Fan

Standard Construction Features:

HOUSING: Heavy gauge, welded steel mounting frame with die formed flanges - Inlet panel is heavy gauge steel with die formed flanges with welded corners - Steel components are phosphatized and coated - Corrosion resistant fasteners BEARINGS, SHAFT, AND WHEEL: Heavy duty, concentric locking, self-aligning ball or roller pillow block bearings - Polished, solid steel shafts - Welded, aluminum centrifugal wheel - 12 bladed construction- Airfoil blade profile

Options & Accessories:

NEMA Premium Efficient Motor - meets NEMA Table 12-12
Motor VFD Rated without Shaft Grounding Protection
Motor with 40 Degree C Ambient Temperature
Motor with Class B Insulation
Coated with Permatector, Concrete Gray-RAL 7023, Fan and Attached Accessories, Mill Finish on Aluminum Wheel
Sure-Aire Flow Station (No Electronics)
Factory Vibration Test, 0.08 in/sec, peak, filter-in

MUNTERS CORPORATION – DEHUMIDIFICATION DIVISION
BASIC PRODUCT LIMITED WARRANTY

SCOPE:

What is included:	Product Warranty for Purchased Warranty Period
What is excluded:	Preventive or Routine Maintenance Equipment Repairs or Modifications from Original Design Shipping and Installation Damage Labor Warranty

Munters Basic Product Limited Warranty

Munters Corporation warrants that the Products shall be free from defects in workmanship and materials for the lesser of (i) fifteen (15) months from the date of shipment of the Product by Munters; or (ii) twelve (12) months from the date that such Product becomes operational (collectively, the "Warranty"). Any extended warranties or warranties for services or labor shall be subject to Munters' "Additional Terms and Conditions – Service Plans," which shall be provided by Munters to Purchaser if applicable.

The Warranty applies only to Products that are properly installed, maintained and operated under normal conditions with competent supervision in accordance with the instruction manual, good maintenance practice and Munters recommendations, if any, made by Munters in writing. Without limiting the foregoing, the Warranty shall be void, and Munters shall have no liability for, in the case of any Products that: (a) have been disassembled, repaired or tampered with in any way, except when such work has been done with Munters' prior written approval, (b) have been damaged by use or operation in excess of any maximum pressures, temperatures or rated capacities as specified by Munters in writing, (c) have been damaged by corrosion, or have degradation in performance as a result of dirt, dust, or other foreign material, or (d) are considered consumable.

Munters' obligation, and Purchaser's sole and exclusive remedy, under the Warranty is limited to repair or replacement at Munters' facility, at Munters' option, of any Products (or parts thereof) determined to be defective in workmanship or material during the applicable warranty period. The Warranty is a parts only warranty, and except as may be provided in "Additional Terms and Conditions – Service Plans," if these Additional Terms are applicable, the Purchaser's remedy under the Warranty does not include services or labor. The warranty period shall not be extended by the performance of warranty repairs or replacements.

The Warranty shall be voided if payment is not made in accordance with the terms set forth in Munters' standard terms and conditions of sale.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AT LAW OR IN EQUITY, WITH RESPECT TO THE PRODUCTS, ANY RELATED SERVICES OR LABOR OR THEIR CHARACTERISTICS, QUALITY OR PERFORMANCE, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES, AND ANY AND ALL SUCH WARRANTIES AND REPRESENTATIONS ARE HEREBY DISCLAIMED. NO AGENT, REPRESENTATIVE, OR DEALER, OR ANY OTHER PERSON OR ENTITY, IS AUTHORIZED TO GIVE ON MUNTERS' BEHALF ANY REPRESENTATION OR WARRANTY AS TO PRODUCT(S) OR TO ASSUME FOR MUNTERS ANY LIABILITY PERTINENT TO PRODUCT(S) UNDER ANY CIRCUMSTANCES.

Munters' Responsibility:

- Munters Corporation shall maintain a Service Department to handle all warranty claims, and shall make every provision to resolve warranty claims quickly.
- Munters Corporation shall ship parts or products (equipment) repaired or replaced under this warranty to the customer F.O.B. Munters Corporation factory. Method of shipment shall be standard ground transportation at Munters Corporation expense. Munters Corporation shall not bear the cost of expedited delivery.
- Munters Corporation's obligation under this warranty is limited to repair or replacement, at its sole discretion, of warranted products which Munters Corporation's examination shall disclose to it's satisfaction to be defective.

Customer's Responsibility:

- To adhere to the requirements set forth in Munters Corporation Terms of Sale, including timely and full payment.
- Purchase factory supplied Startup Services as an acknowledged line item on the original purchase order to Munters for the equipment to extend Munters Product Warranty as noted in scope above.
- The customer must contact Munters Corporation Service Department at the Products' manufacturing location.
    - provide model, serial number and part number of product or part and a description of failure
    - to obtain warranty service or written authorization to repair or replace defective products; and
    - to obtain written authorization to return products believed to be defective
- Issue a purchase order for product shipment in advance of warranty determination for 1) new parts needed; 2) expedited delivery charges; 3) returned goods charges; 4) labor and 5) warranty claim processing fees if requested.
- Defective products must be returned within 30 days to receive credit.
- This warranty does not include labor. The customer shall pay all charges and costs associated with expedited delivery and all labor and equipment charges (such as crane, lifting devices, rigging, etc.) for removal or replacement of defective components. If the customer requires expedited delivery, the customer must inform Munters Corporation Service Department of the requirement.
- To keep this warranty in full effect, the customer must:
    - maintain the product according to Munters Corporation Products' written instructions;
    - repair damaged equipment promptly, and files warranty claims within seven (7) days of a problem occurrence.
- Munters Corporation shall in no way be prevented from providing warranty service using its employees or contractors.

Exclusions:
This warranty does not cover:

- Physical damage resulting from accident, or improper transportation, handling, or installation;
- Damage or operational problems caused by corrosion, or excessive dirt, dust or other foreign material;
- Damage or operational problems caused by lack of proper care or maintenance, negligence, or improper application or use of the equipment
- Installation or connection of power supply and signals, external ductwork, piping or charging by others
- Components supplied or installed by the customer or others including but not limited to valves, filters, driers, accumulators and program based controllers;
- Labor charges associated with removal or replacement of warranted components;
- Any Munters Corporation Products which:
    - has been repaired or altered in any manner without express written permission from Munters Corporation Service Department; or
    - has been operated in any manner contrary to Munters Corporation Products' written instructions.

In such cases that Munters Corporation is prevented from providing service through its employees or contractors, the Customer accepts full responsibility for any warranty claim and Munters Corporation shall be absolved of any and all responsibility or liability for the repair.

Support:
Technical troubleshooting and product support are available via phone on a twenty-four hour basis. Please contact the original equipment manufacturing facility at:

Massachusetts:
Munters Corporation – Dehumidification Division
79 Monroe Street
Amesbury, MA 01913
Tel: 1-888-DH-WHEEL (1-888-349-4335) 8 AM to 5 PM
Or: 1-978-372-9782 5 PM to 8 AM
www.munters.com

Texas:
Munters Corporation – Dehumidification Division
16900 Jordan Road
Selma, TX 78154
Tel: 1-800-229-8557 8 AM to 5 PM
Or: 210-249-3848 5 PM to 8 AM
www.munters.com

Virginia:
Munters Corporation – Dehumidification Division
225 South Magnolia Avenue
Buena Vista, VA 24416
Tel: 1-540-291-1111
www.munters.com

26/4-4/40°/PAGI/8DR

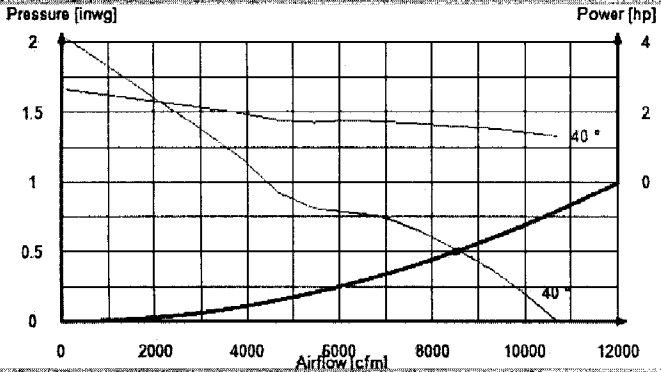
DATE: 8/18/15

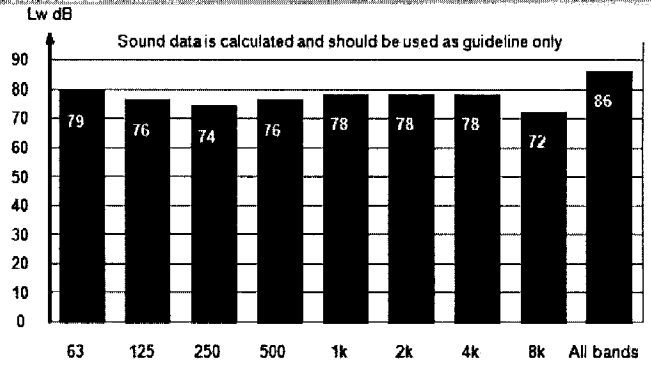
COMPANY: -
ATTN: -

FROM: Multi-Wing International a-s
Mike Hipes

Current Working Point

Airflow	8570 cfm	Total Pres	0.802 inwg	Propagation	Spherical
Static Pres	0.506 inwg	Power	1.59 hp		
Dynamic Pressure	0.297 inwg	Efficiency	68 %	Sound Power	86.1 Lw dB





Mechanical

Tip Speed	129 ft/s	Moment of Inertia	1.05 lb ft2
Air Velocity	38.7 ft/s	Blade Centrifugal force	156 lbf
Torque	7.34 lbf ft	Axial Force	15.4 lbf

IMPELLER INFORMATION:

Impeller Diameter:	26 in
No of blades:	4
Pitch:	40 °
Blade Material:	PAGI
Blade Type:	8D
Impeller Rotation:	R

Tests are carried out according to methods described in ANSI / AMCA 210-99 (ISO 5801, DIN 24163)
Sound data is calculated and should be used as guideline only

APPLICATION:

Speed:	1140 RPM
Tip Clearance:	0.5 %
Temperature:	140 °F
Altitude:	0 ft
Density:	0.06614 lb/ft3

Disclaimer
Load factors in Optimiser are based on static operation.

REMARKS:

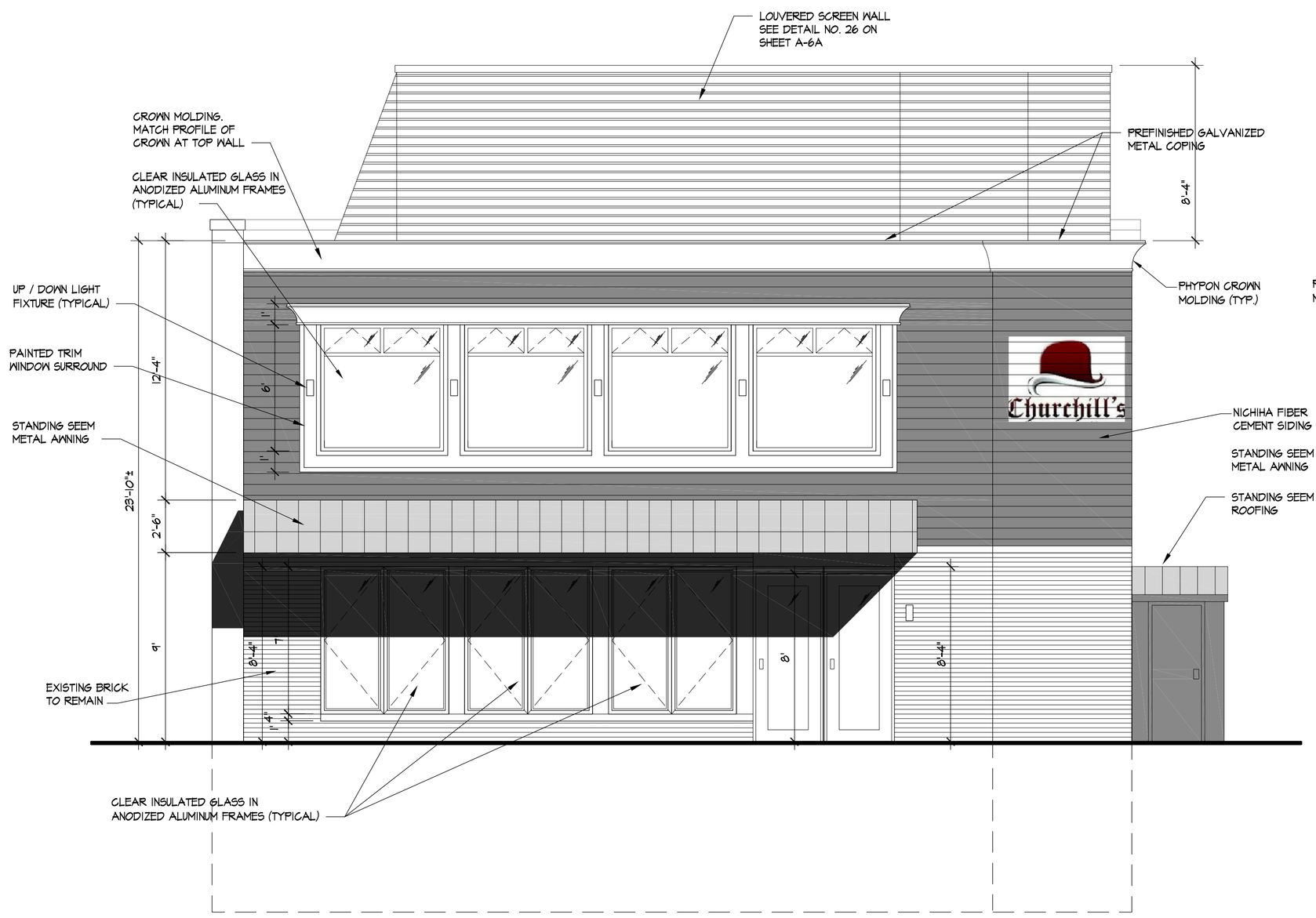
Multi-Wing International a-s
Denmark

Staktoften 16
-
DK-2950 Vedbæk

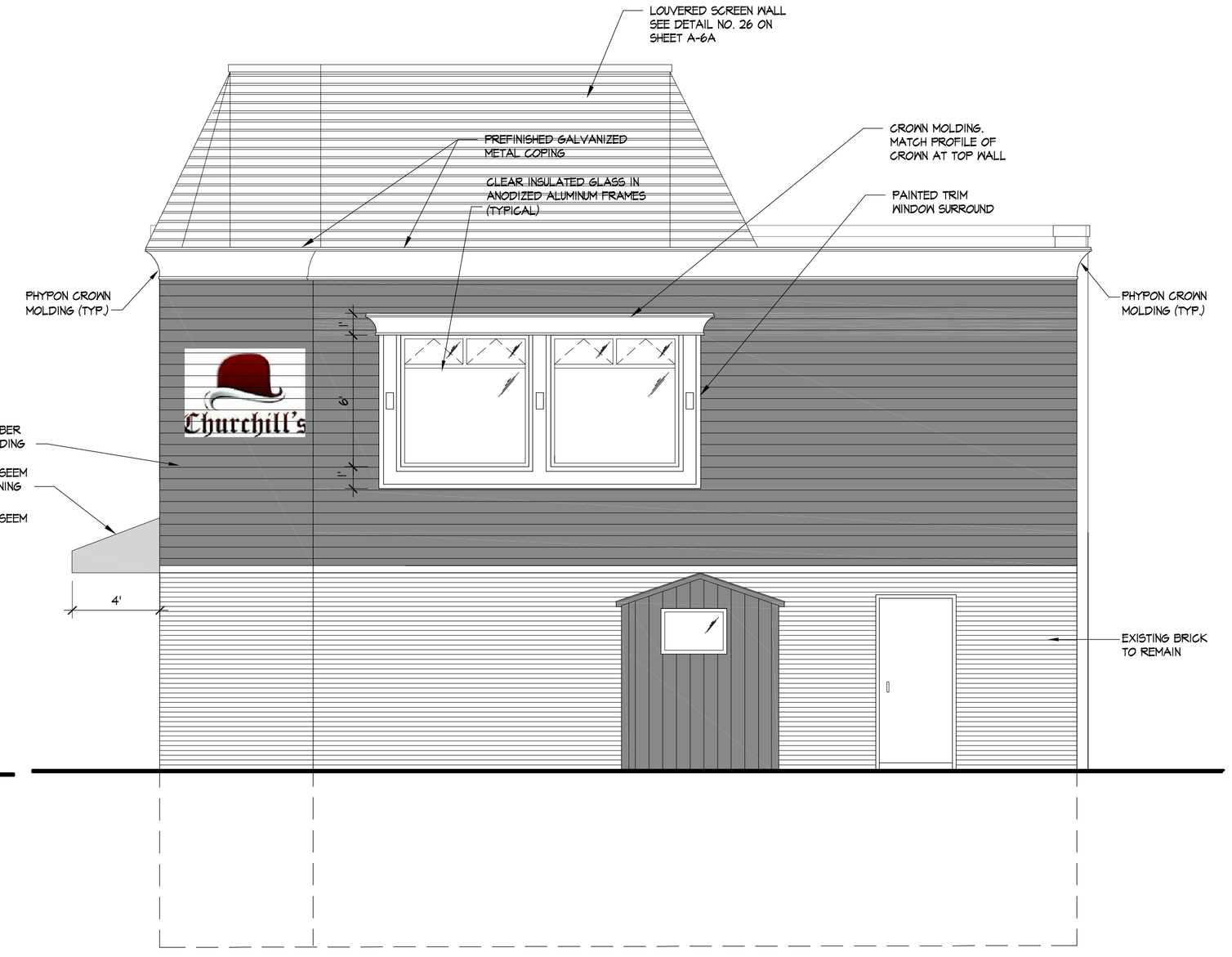
+45 4589 0133 Telephone
+45 4589 3133 Fax
Optimiser Version: 8.5.0.57

mike.hipes@munters.com
http://www.multi-wing.com
7/3/15 7:24:37 AM

MULTI-WING



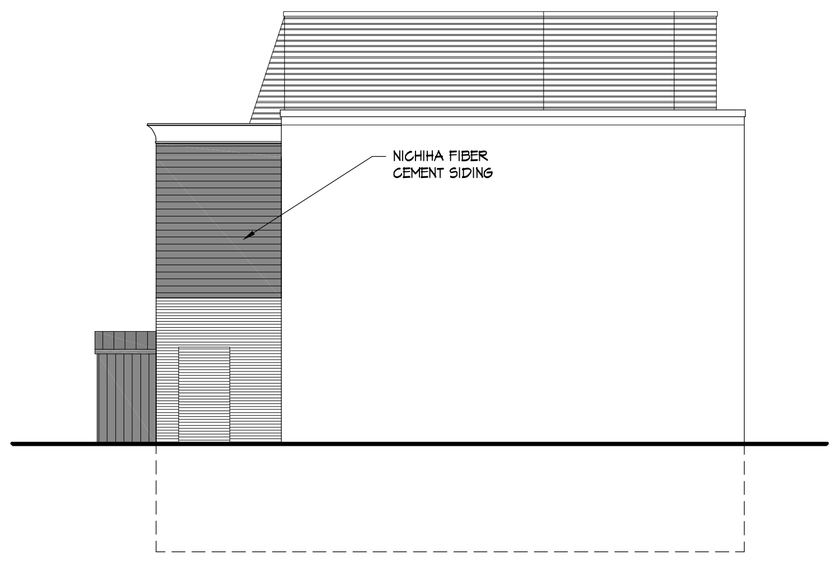
WEST ELEVATION
SCALE: 1/4" = 1'-0"



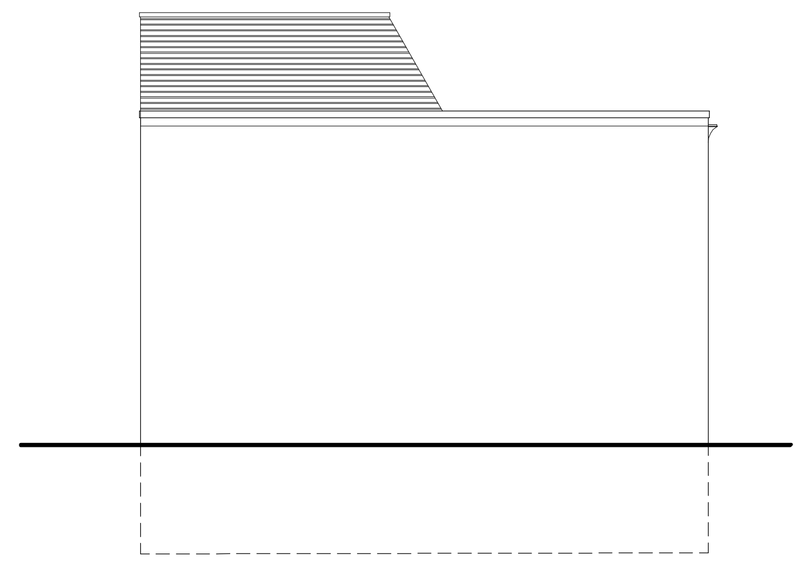
NORTH ELEVATION
SCALE: 1/4" = 1'-0"

NOTE:

SEE NORTH AND WEST ELEVATIONS FOR TYPICAL NOTES AND DIMENSIONS.



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



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

ETCHEN GUMMA LIMITED
ARCHITECTS·ENGINEERS·BUILDERS
www.etchengumma.com
31000 Northwestern Hwy. Suite L-100
Farmington Hills, MI 48334
(248) 865-5555 Fax (248) 865-5015

Project:

Churchill's
Cigar Bar

19271 Mack Avenue
Grosse Pointe Woods, MI 48236

Designed	E. A. Etchen, Architect
Drawn	L. Akrawi
Approved	E. A. Etchen, Architect
Scale	AS NOTED

Notes

This sheet includes details no. 1 Thru 5

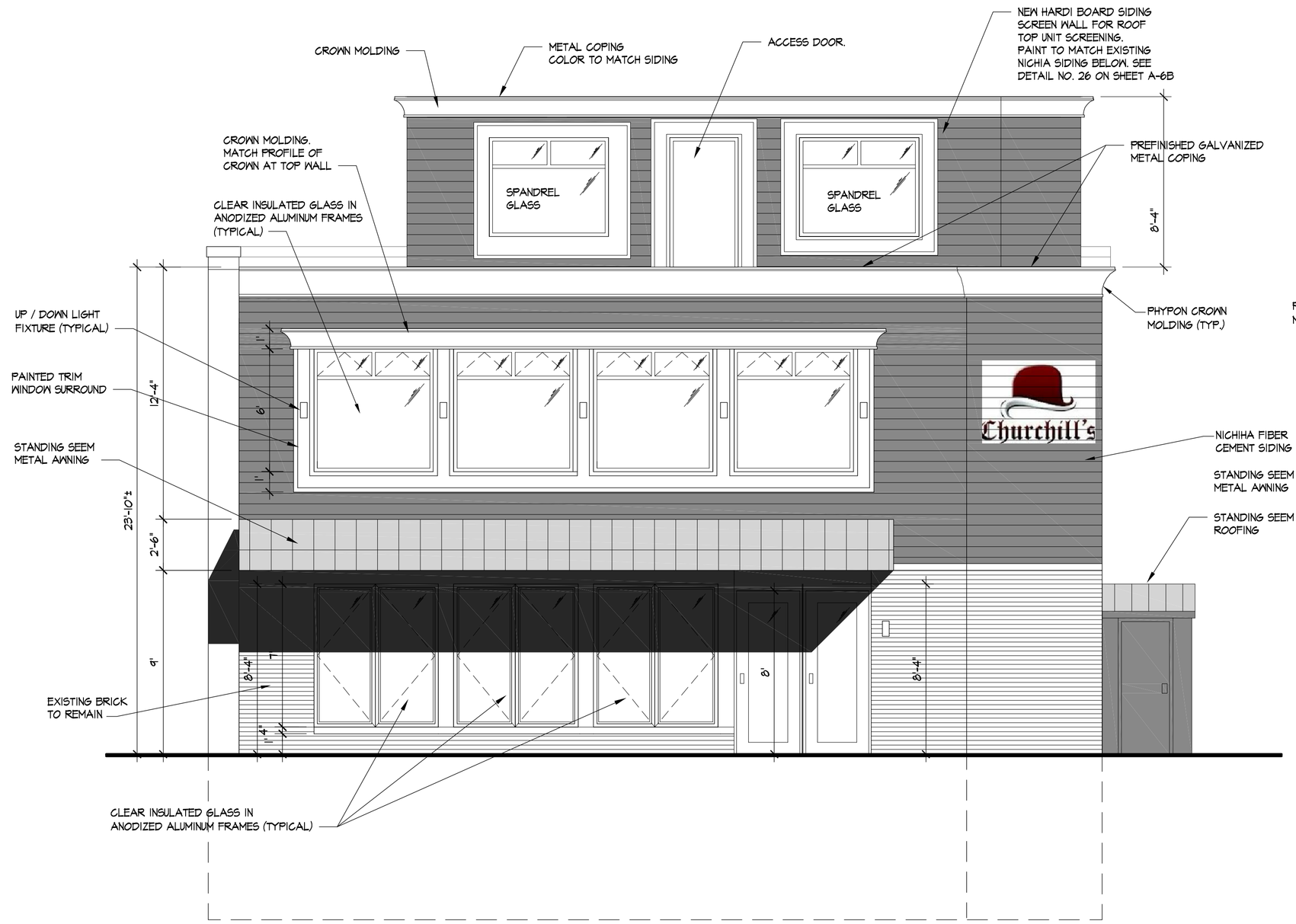
Issued

Bids & Permits	01/08/14
Owner's Review	07/07/14
Bids & Permits	09/11/14
Approvals	05/04/15
City Approval	06/01/15
City Approval	07/10/15
Site Plan Approval	09/09/15
Site Plan Approval	09/14/15

Sheet Title and Number

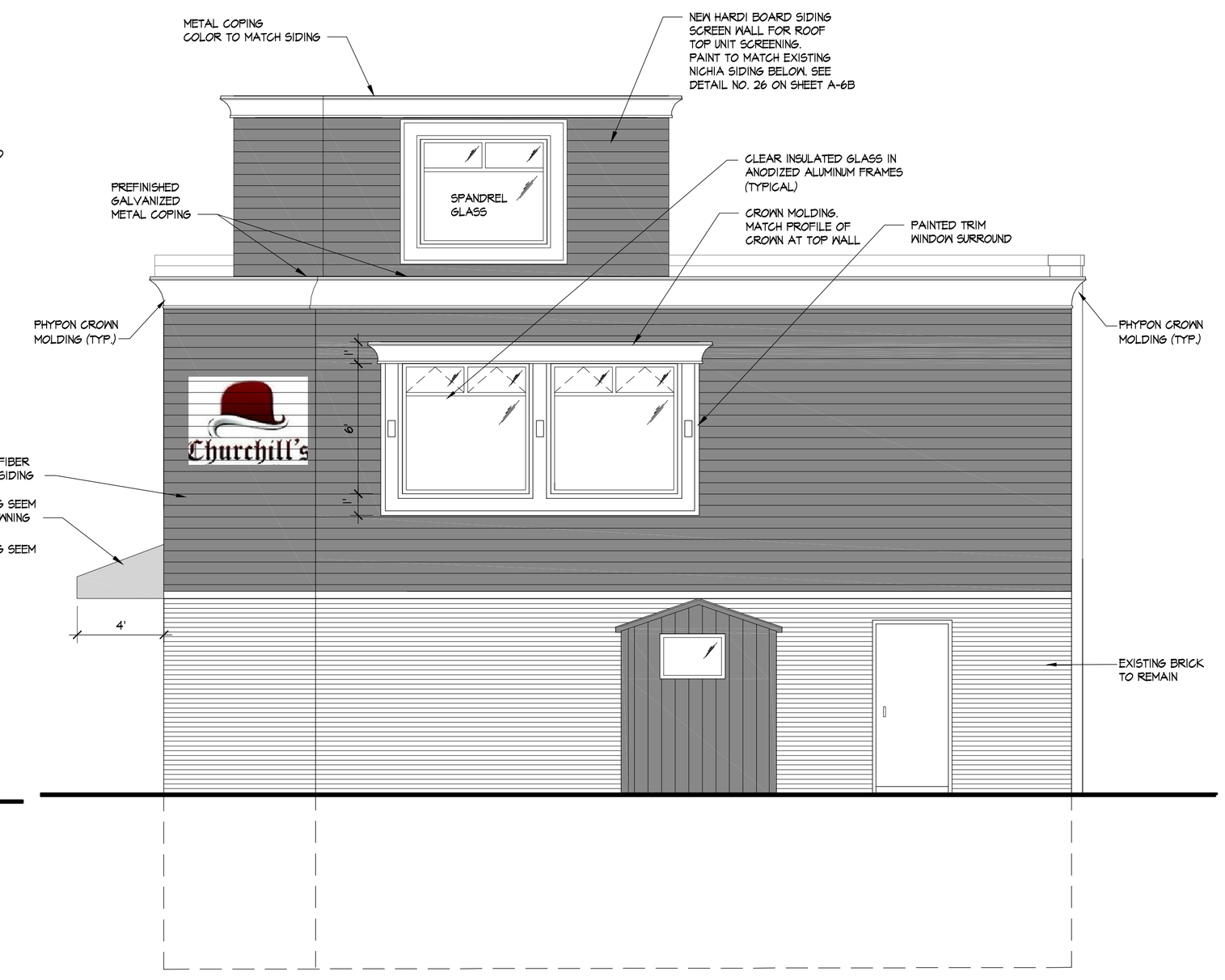
Option "A"
Proposed
Elevations

A-4A



WEST ELEVATION

SCALE: 1/4" = 1'-0"

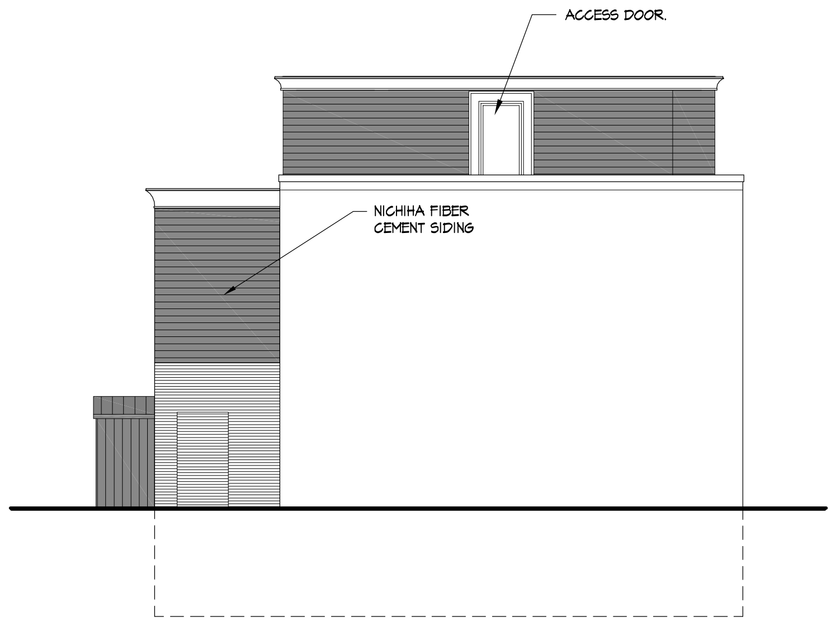


NORTH ELEVATION

SCALE: 1/4" = 1'-0"

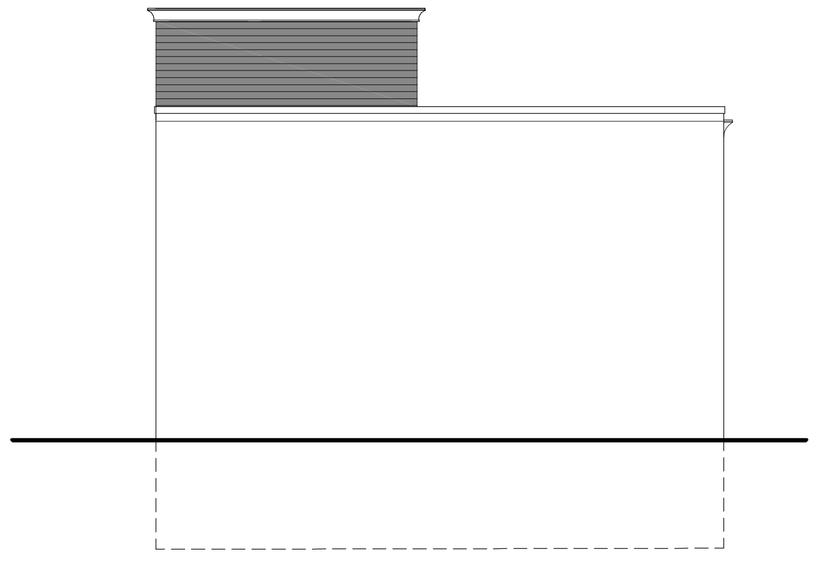
NOTE:

SEE NORTH AND WEST ELEVATIONS FOR TYPICAL NOTES AND DIMENSIONS.



EAST ELEVATION

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



SOUTH ELEVATION

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

ETCHEN GUMMA LIMITED
ARCHITECTS·ENGINEERS·BUILDERS
www.etchengumma.com
31000 Northwestern Hwy. Suite L-100
Farmington Hills, MI 48334
(248) 865-5555 Fax (248) 865-5015

Project:

Churchill's
Cigar Bar

19271 Mack Avenue
Grosse Pointe Woods, MI 48236

Designed E. A. Etchen, Architect
Drawn L. Akrawi
Approved E. A. Etchen, Architect
Scale AS NOTED

Notes

This sheet includes details no. 1 Thru 5

Issued

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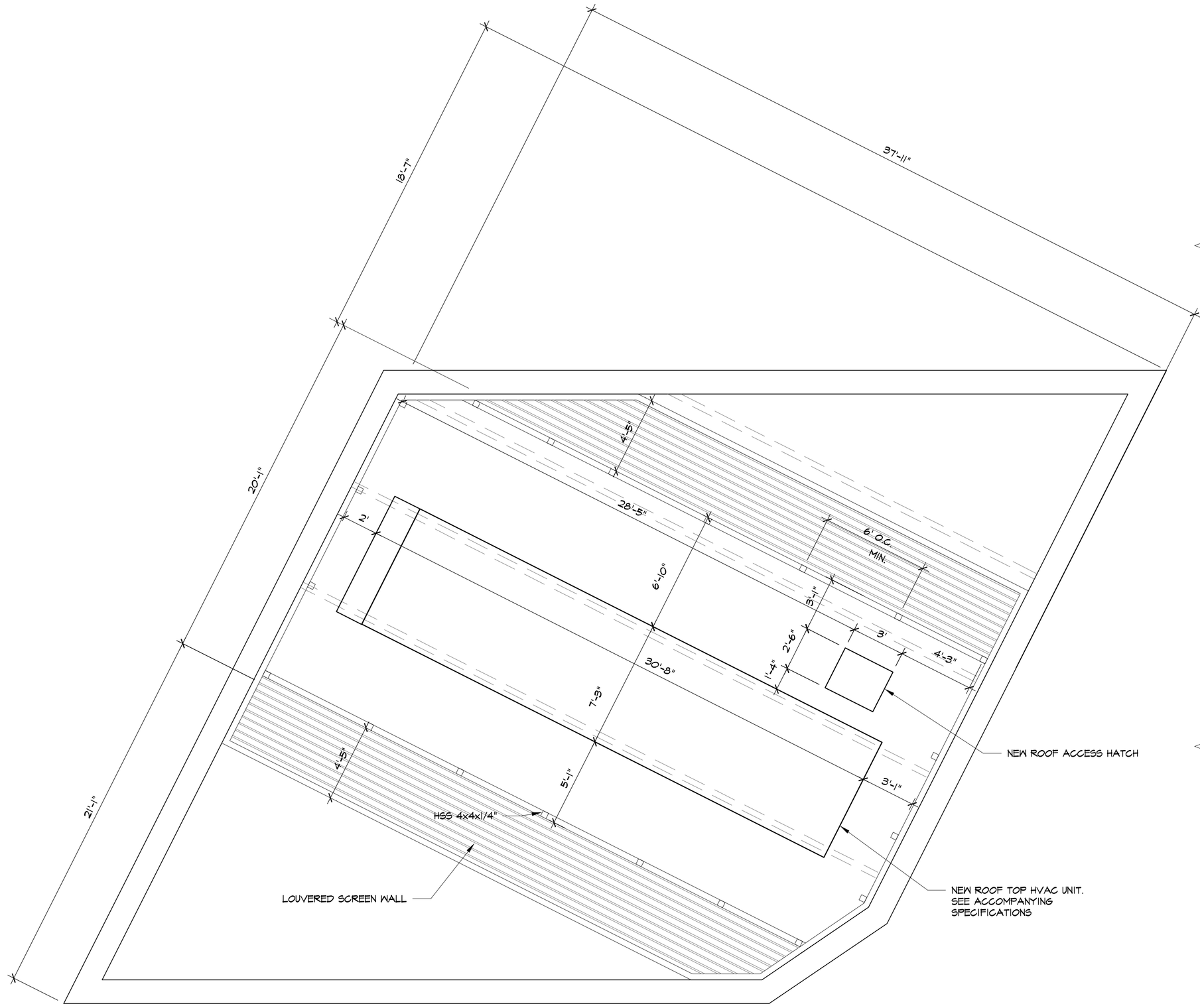
City Approval	07/10/15
Site Plan Approval	09/09/15
Site Plan Approval	09/14/15

Sheet Title and Number

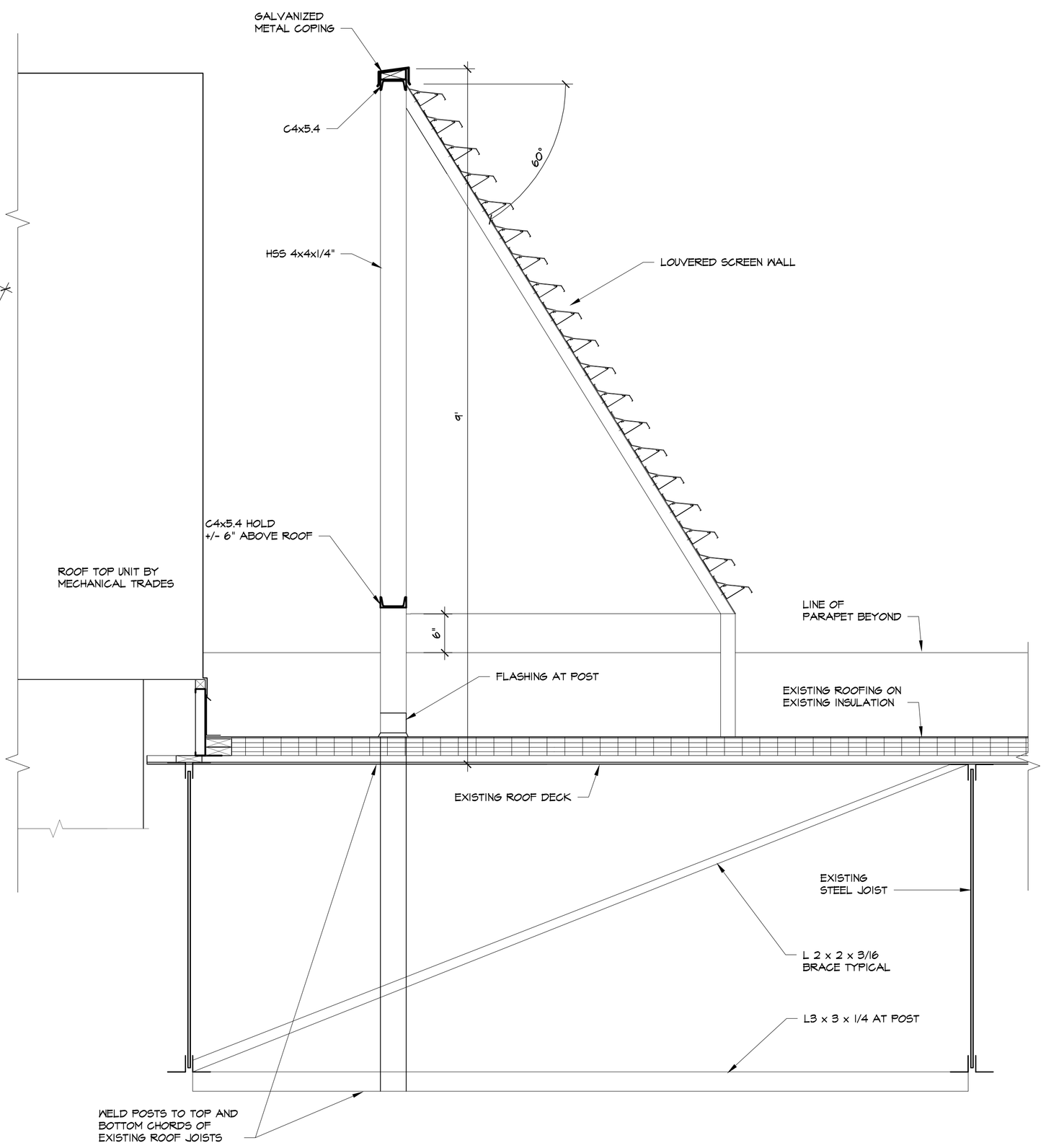
Option "B"
Proposed
Elevations

A-4B



ROOF PLAN
SCALE: 1/4" = 1'-0"

NORTH



26 / A-4 ROOF TOP UNIT SCREEN WALL DETAIL
SCALE: 1" = 1'-0"

ETCHEN GUMMA LIMITED
ARCHITECTS·ENGINEERS·BUILDERS
www.etchengumma.com
31000 Northwestern Hwy. Suite L-100
Farmington Hills, MI 48334
(248) 865-5555 Fax (248) 865-5015

Project:

Churchill's
Cigar Bar

19271 Mack Avenue
Grosse Pointe Woods, MI 48236

Designed E. A. Etchen, Architect
Drawn L. Akrawi
Approved E. A. Etchen, Architect
Scale AS NOTED

Notes

This sheet includes details no. 26 Thru 30

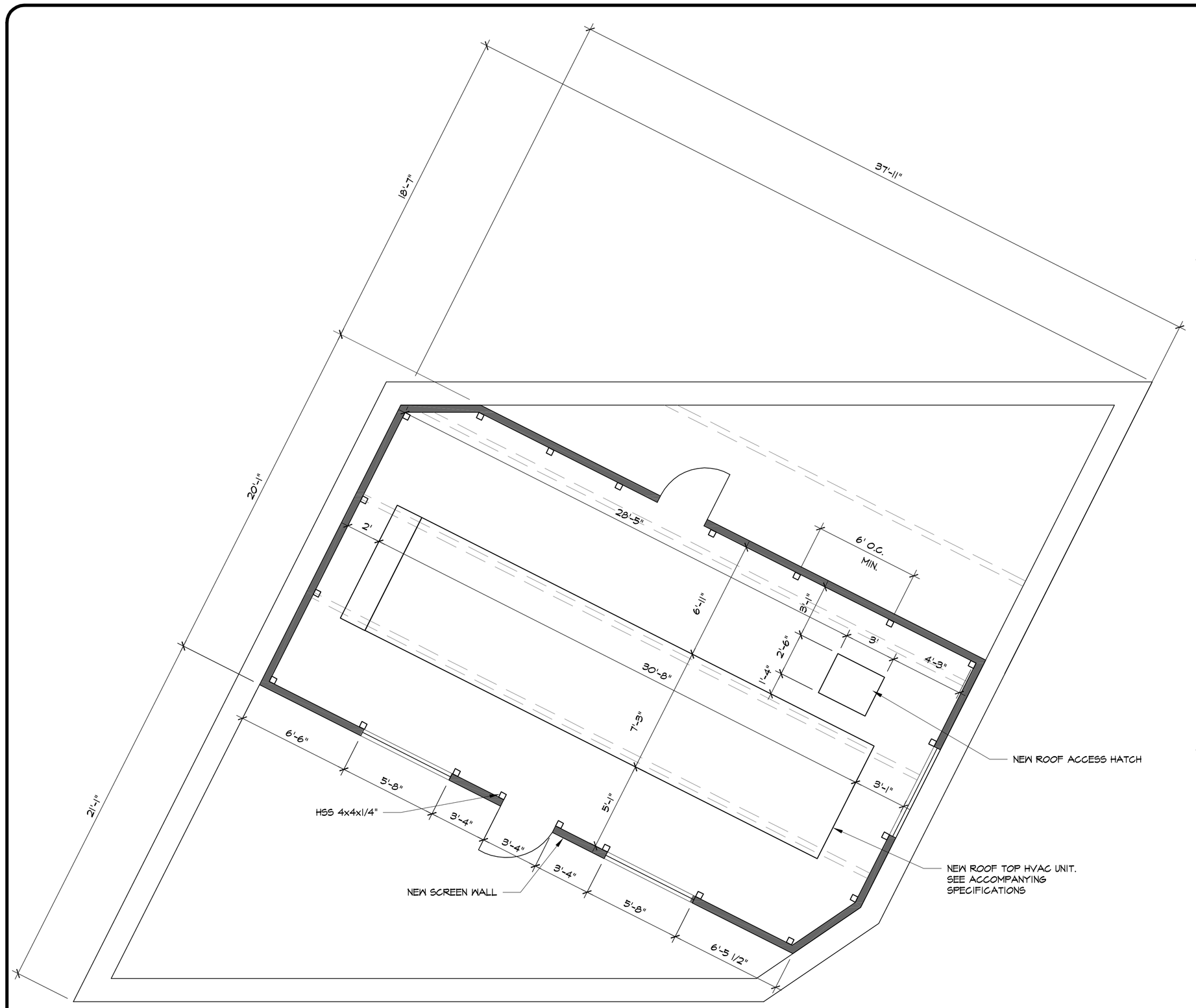
Issued

Bids & Permits	06/18/15
Site Plan Approval	09/09/15
Site Plan Approval	09/14/15

Sheet Title and Number

Option "A"
Roof Plan
and Details

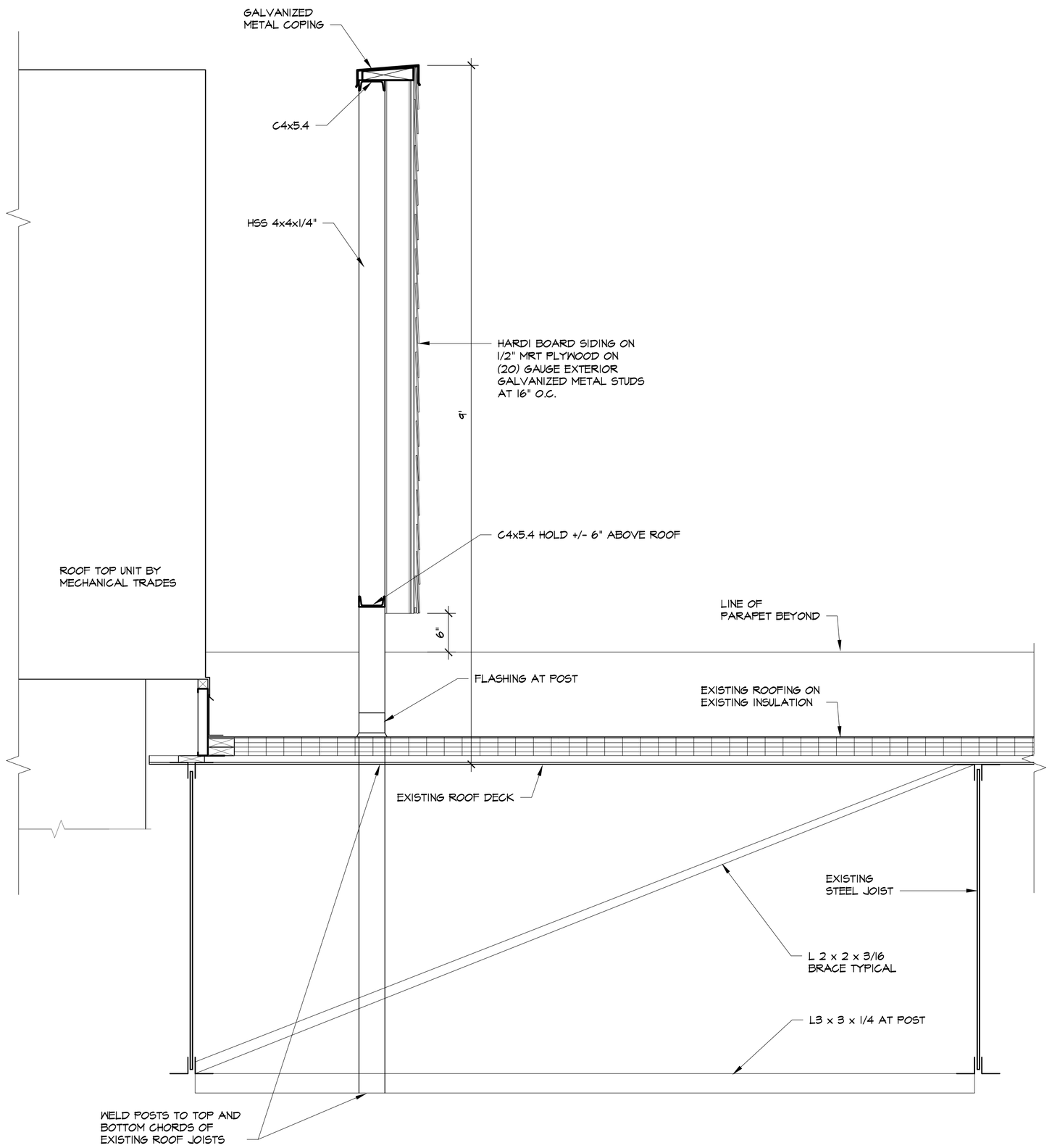
A-6A



ROOF PLAN

SCALE: 1/4" = 1'-0"

NORTH



26 / A-4 ROOF TOP UNIT SCREEN WALL DETAIL

SCALE: 1" = 1'-0"

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Scale AS NOTED

Notes

This sheet includes details no. 26 Thru 30

Issued

Bids & Permits	06/18/15
Site Plan Approval	09/09/15
Site Plan Approval	09/14/15

Sheet Title and Number

Option "B"
Roof Plan
and Details

A-6B

City of Grosse Pointe Woods
BUILDING DEPARTMENT
Monthly Financial Report – JULY 2015

Permits Issued: 240
Rental Certificates: 16

Total: $ 51,460

CODE ENFORCEMENT

Abandoned/Foreclosure Compl. Notices Issued:	0
# of Complaints Investigated by Code Enforcement:	24
Closed Due to Compliance:	15
Open for Longer Compliance Time:	9
Citations Issued:	13
Early Trash Notices:	2
Code Violation Notices to Residents:	5
Tall Grass Notices Issued:	24
Stop Work notices to Contractors (working w/o permit):	12
Outside Storage:	14

NEW BUSINESS

My Family Dental, 21308 Mack Avenue

City of Grosse Pointe Woods
BUILDING DEPARTMENT
Monthly Financial Report – AUGUST 2015

Permits Issued: 240
Rental Certificates: 8

Total: $ 50,165

CODE ENFORCEMENT

Abandoned/Foreclosure Compl. Notices Issued:	0
# of Complaints Investigated by Code Enforcement:	32
Closed Due to Compliance:	23
Open for Longer Compliance Time:	9
Citations Issued:	5
Early Trash Notices:	6
Code Violation Notices to Residents:	11
Tall Grass Notices Issued:	22
Stop Work notices to Contractors (working w/o permit):	20
Outside Storage:	5

NEW BUSINESS

Law Offices of Laura McMahon Lynch, 19658 Mack Avenue