



# City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811  
Tel 407-581-8161 \* Fax 407-581-0313 \* [www.universalengineering.com](http://www.universalengineering.com)

## PERMIT CARD – PLEASE POST AT JOB SITE

THIS DOCUMENT BECOMES YOUR PERMIT WHEN PROPERLY VALIDATED

Per FBC 105.3.3: An enforcing authority may not issue a building permit for any building construction, erection, alteration, modification, repair or addition unless the permit either includes on its face or there is attached to the permit the following statement: "NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies." The issuance of this permit does not grant permission to violate any applicable City, Orange County, State of Florida and/or Federal codes and/or ordinances. Separate permits are required for Signs, Roofing, Electrical, Gas, Plumbing and Mechanical services. This permit becomes VOID if the work authorized is not commenced within 6 months, or is suspended or abandoned for a period of 6 months after commencement. **WORK SHALL BE CONSIDERED SUSPENDED IF AN APPROVED INSPECTION HAS NOT BEEN MADE WITHIN A 6 MONTH PERIOD.** PERMISSION IS GRANTED TO DO THE FOLLOWING WORK ACCORDING TO THE CONDITIONS HEREON AND THE APPROVED PLANS AND SPECIFICATIONS, SUBJECT TO COMPLIANCE WITH THE ORDINANCES OF THE CITY OF BELLE ISLE, FLORIDA.

**Scope of Work:** MECHANICAL: one 3.5 ton change out

**Comments:** None

**Project Information**  
**Address:** 1425 Belle Vista Dr, Belle Isle, FL 32809  
**Parcel ID:** 24-23-29-5306-03-070  
**Property Owner:** Rivera, Armondo  
**Phone Number:** 407 859-1687

\*\*\*\*\*  
**Company Name:** Rainaldi Plumbing Inc.  
**Contractor Name:** Rainaldi, Christopher  
**License Number:** CFC1426432  
**Address:** 6111 Old Cheney Hwy, Orlando, FL 32807  
**Phone Number:** 407-282-2900

**Permit Number: 2016-04-047**  
**Date of Application: 04/27/2016**  
**Date Permit Issued: 04/27/2016**

**WARNING TO OWNER:** "YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT." ON THE JOB INSPECTION(S) MUST BE MADE BEFORE PROCEEDING WITH SUBSEQUENT WORK. THIS CARD MUST BE DISPLAYED OUTSIDE AND BE PROTECTED FROM THE WEATHER WHILE BEING VISIBLE FROM THE STREET UNTIL THE FINAL INSPECTIONS HAVE BEEN APPROVED.

### BUILDING FEATURES

IMPACT FEES	
School	\$
Traffic	\$
ZONING FEES	
Zoning Fee	\$
UNIVERSAL ENG - BUILDING FEES	
Cert of Occ	\$
Demo	\$
Building	\$
Fence	\$
Driveway	\$
Shed	\$
Window(s)	\$
Door(s)	\$
PrePower	\$
Electrical	\$
Temp Pole	\$
Plumbing	\$
Mechanical	\$91.50
Gas	\$
Roofing	\$
Boat Dock	\$
Screen End	\$
Swimming Pool	\$
Sign	\$
SURCHARGE FEES	
Surcharge Fee	\$2.00
Surcharge Fee	\$2.00

**TOTAL FEES \$95.50**

**Date Paid** 4-28-16

**CC or Check #** VISA 0233

**Amount Paid** 95.50

**BUILDING INSPECTOR USE ONLY**

IF APPLICABLE:  
 Have Zoning Approval Conditions Been Met? YES NO    Have Stormwater Approval Conditions Been Met? YES NO    Silt fencing in place? YES NO    Turbidity Barrier in place? YES NO

**BUILDING**

1<sup>st</sup> \_\_\_\_\_ (Footing/Foundation)  
 Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? \_\_\_\_\_

2<sup>nd</sup> \_\_\_\_\_ (Slab)

3<sup>rd</sup> \_\_\_\_\_ (Lintel)(Wall Reinforcing on Masonry Building)

4<sup>th</sup> \_\_\_\_\_ (Exterior Framing)(Roof/Wall Sheathing)

5<sup>th</sup> \_\_\_\_\_ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed)

6<sup>th</sup> \_\_\_\_\_ (Insulation to be Made After Roof Installed)

7<sup>th</sup> \_\_\_\_\_ (Drywall)

8<sup>th</sup> \_\_\_\_\_ (Sidewalk/Driveway)

9<sup>th</sup> \_\_\_\_\_ (Other)

10<sup>th</sup> \_\_\_\_\_ (Final – After MEP and Other Applicable Finals)

**ROOFING**

1<sup>ST</sup> ROOFING Deck Nailing/Dry-in/Flashing \_\_\_\_\_

2<sup>nd</sup> ROOFING Covering In-Progress \_\_\_\_\_

3<sup>rd</sup> ROOFING Covering Final \_\_\_\_\_

**PLUMBING** (Pool-Piping, Solar, Irrigation, Water Treatment Equip, Etc...)

1<sup>ST</sup> \_\_\_\_\_ (Underground)    2<sup>nd</sup> \_\_\_\_\_ (Sewer)

3<sup>rd</sup> \_\_\_\_\_ (Rough-In/Tub Set)    4<sup>th</sup> \_\_\_\_\_ (Final)

**CHECK APPROPRIATE BOX**

GAS \_\_\_ Natural \_\_\_ LP     MECHANICAL     ELECTRICAL     LOW VOLTAGE

1<sup>st</sup> \_\_\_\_\_ (Rough-In)    2<sup>nd</sup> \_\_\_\_\_ (Final)

Inspection requests are to be emailed to [IDScheduling@UniversalEngineering.com](mailto:IDScheduling@UniversalEngineering.com); a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 4pm. Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed.

For a copy of your permit, or to check inspection results, please visit <https://universalengineering.sharefile.com>  
login ID = [cobi@universalengineering.com](mailto:cobi@universalengineering.com)    password = universal13



# City of Belle Isle

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## APPLICATION FOR MECHANICAL PERMIT

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

DATE OF APPLICATION: 4/27/16 PERMIT NUMBER 2016-04-047  
PLEASE PRINT. The undersigned hereby applies for a permit to make installations as indicated below:

Project Address 1425 Belle Vista Drive, Belle Isle FL 32809 32812  
Property Owner Armando Rovira Phone 407 859-1687  
Property Owner's Mailing Address \_\_\_\_\_ City \_\_\_\_\_  
State \_\_\_\_\_ Zip Code \_\_\_\_\_ Parcel Id Number: 24-23-29-5306-03-070

To obtain this information, please visit <http://www.ocpafi.org/Searches/ParcelSearch.aspx>

Class of Building: Old  New  Type of Building: Residential  Commercial  Other   
Type of Work: New  Alteration  Addition  Repair

- REQUIRED: Tie Down Engineering
- REQUIRED: if adding A/C to new space, provide Energy Calculations & Equipment Sizing Calculations
- REQUIRED: if replacing unit with no duct work, Duct Certification as per FB 101.4.7.1, must be posted on unit

Please indicate the nature of work by completing the information below:

Air Conditioning: # of Units 1 Tons Per Unit 3.5 Total Tons \_\_\_\_\_  
Type of System: Water to Air \_\_\_\_\_ Chiller \_\_\_\_\_ Split System  Package \_\_\_\_\_ Heat Pump  Estimated Cost \$ 7,105.00

Heating: # of Units KWS Per Unit 1 Total KWS 10 BTU's \_\_\_\_\_  
Oil \_\_\_\_\_ Electric  Boiler \_\_\_\_\_ Gas \_\_\_\_\_ Estimated Cost \$ \_\_\_\_\_

(A) Estimated Cost Fee \$ \_\_\_\_\_

Fees for items below are based on valuation of all units, equipment, materials and labor supplied by owner or contractor.

Ventilation:  
(Number of) Grease \_\_\_\_\_ Heat \_\_\_\_\_ Hoods, Air Intakes \_\_\_\_\_ Exhaust Fans \_\_\_\_\_ Dryer Vents \_\_\_\_\_ Estimated Cost \$ \_\_\_\_\_

Refrigeration: Number of units \_\_\_\_\_ Estimated Cost \$ \_\_\_\_\_

Piping: Air \_\_\_\_\_ Vacuum \_\_\_\_\_ Steam \_\_\_\_\_ Chill Water \_\_\_\_\_ Estimated Cost \$ \_\_\_\_\_

Others: (Specify) \_\_\_\_\_ Estimated Cost \$ \_\_\_\_\_

Was the space previously Air Conditioned? Yes  No \_\_\_\_\_ (B) Estimated Cost Fee \$ \_\_\_\_\_

I hereby certify that the above is true and correct to the best of my knowledge and make Application for Permit as outlined above, and if same is granted I agree to conform to all Florida Building Code Regulations and City Ordinances regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable Town and/or State of Florida codes and/or ordinances.

LICENSE HOLDER SIGNATURE [Signature] LICENSE # CAC1817022  
LICENSE HOLDER NAME Christopher Rainaldi COMPANY NAME Rainaldi Plumbing Heating & Air  
Street Address 6111 Old Cheney Highway  
City Orlando State FL Zip Code 32807 Phone Number 407-382-2900  
Email Address lvelinda@rainaldihomeservices.com

Building Official: [Signature] Date 4/27/16  
Verified Contractor's Licenses & Insurance are on file [Stamp] Date 4-27-16

Permit Fee	\$ <u>61-</u>
Review Fee	\$ <u>30.50</u>
3% Florida Surcharge	\$ <u>4-</u>
Total Permit Fee	\$ <u>95.50</u>

NOTE: The Building Permit Number is required if the Mechanical Installation is associated with any construction or alteration where a Building Permit has been issued.

WO 6709  
6x6  
37  
24  
61 = 30.50



# CERTIFICATE OF LIABILITY INSURANCE

DATE (M/M/DD/YYYY)  
9/30/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Gentry Insurance Agency 175 East Main Street PO Box 2046 APOPKA FL 32704-2046		<b>CONTACT NAME:</b> Amanda Bonventre <b>PHONE (A/C, No, Ext):</b> (407) 886-3301 <b>FAX (A/C, No):</b> (407) 886-9530 <b>E-MAIL ADDRESS:</b> Amanda@gentryins.com	
<b>INSURED</b> A. Rainaldi Plumbing Inc. dba Rainaldi Plumbing P O Box 574557 Orlando FL 32857-4557		<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Indian Harbor <b>INSURER B:</b> Florida Maple Ins Co of FL <b>INSURER C:</b> Bridgefield Employers Ins. Co. <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	

**COVERAGES** **CERTIFICATE NUMBER:** 2015 Master **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL ISUR INSD	INSR YYY	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:			ESG3000963	9/30/2015	9/30/2016	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/DP AGG \$ 2,000,000 Employee Benefits \$ 1,000,000
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS			4150150011356	3/21/2015	3/21/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	0830-49118	9/30/2015	9/30/2016	<input checked="" type="checkbox"/> FER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

<b>CERTIFICATE HOLDER</b> (407) 240-2222 4072402222@fax.tc  City of Belle Isle 1600 Nela Ave. Belle Isle, FL 32809	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE D Liebknecht/AMANDA <i>Debra Liebknecht</i>
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STATE OF FLORIDA  
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD  
1940 NORTH MONROE STREET  
TALLAHASSEE FL 32399-0783

(850) 487-1395

RAINALDI, CHRISTOPHER PAUL  
A RAINALDI PLUMBING INC  
6111 OLD CHENEY HWY  
ORLANDO FL 32807

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto [www.myfloridalicense.com](http://www.myfloridalicense.com). There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!



STATE OF FLORIDA  
DEPARTMENT OF BUSINESS AND  
PROFESSIONAL REGULATION

CAC1817022 ISSUED 08/07/2014

CERTIFIED AIR COND CONTR  
RAINALDI, CHRISTOPHER PAUL  
A RAINALDI PLUMBING INC

IS CERTIFIED under the provisions of Ch. 489 FS.  
Expiration date : AUG 31, 2016 L140E070001293

DETACH HERE

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA  
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION  
CONSTRUCTION INDUSTRY LICENSING BOARD

LICENSE NUMBER
CAC1817022

The CLASS B AIR CONDITIONING CONTRACTOR  
Named below IS CERTIFIED  
Under the provisions of Chapter 489 FS.  
Expiration date: AUG 31, 2016



RAINALDI, CHRISTOPHER PAUL  
A RAINALDI PLUMBING INC  
6111 OLD CHENEY HIGHWAY  
ORLANDO FL 32807





Local Business Tax Receipt - Orange County, Florida  
 This local business tax receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other local authorities. This receipt is valid from October 1 through September 30 of receipt year. Delinquent penalty is added October 1.

		2015	EXPIRES		9/30/2016	1803-0962395	
1803	CONTR-PLUMBING	\$30.00	10	EMPLOYEE	5000 BUSINESS OFFICE	\$30.00	10 EMPLOYEE
1804	AIR CONDITIONING CON	\$30.00	1	EMPLOYEE			

TOTAL TAX \$90.00  
 REGULATED WASTE \$50.00  
 PREVIOUSLY PAID \$140.00  
 TOTAL DUE \$0.00

RAINALDI CHRISTOPHER PAUL

A RAINALDI PLUMBING INC  
 RAINALDI CHRISTOPHER PAUL  
 6111 OLD CHENEY HWY  
 ORLANDO FL 32807-3642

6111 OLD CHENEY HY  
 U - ORLANDO, 32807

PAID: \$140.00 0099-00701565 9/22/2015

**Scott Randolph, Tax Collector - Local Business Tax Receipt - Orange County, Florida**

This local business tax receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other local authorities. This receipt is valid from October 1 through September 30 of receipt year. Delinquent penalty is added October 1.

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TOTAL TAX \$90.00  
 REGULATED WASTE \$50.00  
 PREVIOUSLY PAID \$140.00  
 TOTAL DUE \$0.00



RAINALDI CHRISTOPHER PAUL

A RAINALDI PLUMBING INC  
 RAINALDI CHRISTOPHER PAUL  
 6111 OLD CHENEY HWY  
 ORLANDO FL 32807-3642

6111 OLD CHENEY HY  
 U - ORLANDO, 32807

PAID: \$140.00 0099-00701565 9/22/2015

This receipt is official when validated by the Tax Collector.

# The Metal Shop AC Condenser Clip

## THE METAL SHOP

2541W. Dunnellon Road  
Dunnellon, FL 34433

www.metalshop.org  
Phone: 888-441-2492 Fax: 352-522-0007

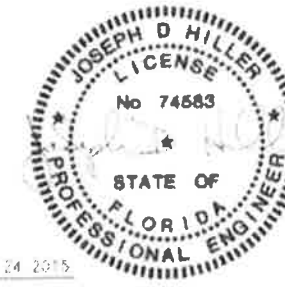
### Notes

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, BUILDING CODES AND ASCE 7-10 AND WIND DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES.
- 2. IF IN THE CONTRACTORS OPINION ANY WORK THAT IS REQUIRED BY THE DRAWINGS OR SPECIFICATIONS IN SUCH A MANNER WILL MAKE IT IMPOSSIBLE TO PRODUCE A TRUST CLAMP PERIOD OF WORK, IT SHOULD DISCREPANCIES APPEAR IN DIMENSIONS OR DETAILS THEY SHOULD IDENTIFY TO OWNER BEFORE PROCEEDING WITH WORK.
- 3. ANY CHANGE FROM THE DRAWINGS AND / OR SPECIFICATIONS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER SO THAT NECESSARY CHANGES CAN BE MADE AND INTENT OF THE DESIGN IS CARRIED OUT TO ITS FULLEST EXTENT.
- 4. ALL ANCHOR CONNECTIONS SHALL BE A MINIMUM 4" CLEARANCE WITH 2" x 4" OR 2" x 6" MINIMUM DESIGN LOADS. DEAD LOADS AND LIVE LOADS IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODES SHALL BE USED.
- 5. ONE TRANSDUCTIVE TEST SHALL BE MADE IN EVERY CONNECTION.
- 6. DESIGN AND ENGINEERING BY THE METAL SHOP AND THE CLIENT SHALL SEE MANUFACTURER INSTRUCTIONS AND SPECIFICATIONS FOR PROPER INSTALLATION OF ALL PARTS.


### Anchor Clip Notes:

1. The anchor clip shall be 16 gauge, G-90 Hot Dipped galvanized steel, rated for coastal applications.
2. The anchor clips shall be installed with #14 self tapping sheet metal screws.
3. Anchor clip in intended for ground mounted installations only.
4. Anchor clip to be installed on 2000 psi minimum strength concrete pad of concrete slabs ONLY. Other pads or installation configurations must be custom designed.
5. Minimum 4 clips required per ac condenser unit. Clip anchors shall be equally space around base of condenser unit. A minimum of 2-#14x 3/4" self drilling screws per anchor clip. Self tapping screws to have neoprene washers. Anchor clip shall be anchored to the concrete pad with 1/4" tapcons 1 3/4" min. embedment.
6. Attach Tapcon anchor into concrete base per Tapcon installation instructions. Do not over tighten anchor.
7. All hardware must be fastened prior to connecting refrigerant lines and electrical power to the unit.

METAL SHOP # T11 = 4" ANCHOR CLIP  
METAL SHOP # T13 = 6" ANCHOR CLIP



DATE JUN 24 2015

<p>REVISED</p> <p>NO. 1</p> <p>DATE</p> <p>BY</p> <p>DESCRIPTION</p>	 <p>Joseph D. Hiller P.E. Florida P.E. License # 74583 8627 Southeast Drive PO Box 10117 Dunnellon, FL 34433 Phone: 888-441-2492 Fax: 352-522-0007</p>
<p>AC Condenser Anchor Clip</p> <p>THE METAL SHOP</p> <p>2541W. Dunnellon Road Dunnellon, FL 34433</p> <p>www.metalshop.org Phone: 888-441-2492 Fax: 352-522-0007</p>	<p>DATE</p> <p>BY</p> <p>DESCRIPTION</p> <p>NO. 1</p> <p>DATE</p> <p>BY</p> <p>DESCRIPTION</p>
<p>A-1</p> <p>1 4</p>	

**CENTER OF GRAVITY OF UNIT IS ASSUMED TO AT THE GEOMETRIC CENTER OF THE MECHANICAL UNIT. ANCHORING IS FOR REGULAR SHAPED UNITS I.E. SQUARE OR RECTANGULAR. NO IRREGULAR SHAPED UNITS**

**CONCRETE BASE OR HOST STRUCTURE TO BE DESIGNED BY OTHERS. CONCRETE MUST BE 2000 PSI MINIMUM. SEE SITE SPECIFIC ENGINEERING FOR ROOF TOP APPLICATIONS OR WOOD SUPPORT MEMBERS**

MINIMUM UNIT WEIGHT: 130lbs condenser unit

**ANCHOR CLIPS**  
THE METAL HOUSING SHALL BE FASTENED TO THE CONCRETE BASE WITH (2) #14x3/4" STS GRADE 5 SHEET METAL SCREWS. UNLESS NOTED OTHERWISE.

**GENERAL NOTES:**

1. THIS PRODUCT HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE FOR USE WITH WIND SPEEDS TO THE EXTENT THAT THE PRODUCT MAY BE USED WITHIN THE 15 MPH TO 110 MPH WIND VELOCITY HURRICANE ZONE.
2. NO LIFT MEANS OR REMOVAL STRAPS HAS BEEN PROVIDED IN THE DESIGN OF THIS ANCHOR SYSTEM.
3. ALLOWABLE DESIGN WINDS ON TABLES IS BASED ON ALLOWABLE SHEAR AND TENSION LOADS OF TYPICAL FASTENERS.
4. MAXIMUM TENSION DESIGN AND WEIGHT LIMITS SHALL CONFORM TO SPECIFICATIONS STATED IN THESE ENGINEERING SHEETS.
5. ALL MECHANICAL SPECIFICATIONS, CLEARANCES, TOLERANCES, ETC. SHALL BE AS PER THE MANUFACTURER RECOMMENDATIONS AND ARE THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
6. FASTENERS TO BE #14x3/4" STS TAPPING SHEET METAL SCREWS UNLESS NOTED OTHERWISE.
7. FASTENERS SHALL BE THE HULDER OR BULO BRAND AND SHALL BE 74N1374 INSTALLED TO 200% OF TYPICAL TENSION STRENGTH. SEE ANCHOR SCHEDULE FOR SUPPORT REQUIREMENTS.
8. ALL STEEL PARTS SHALL BE ASTM A575 STEEL WITH F<sub>y</sub> = 50KSI. ALL STEEL PARTS SHALL BE PROTECTED AGAINST CORROSION WITH UNPAINTED GALVANNEAL COATING SUITABLE FOR ALL COASTAL INSTALLATIONS.
9. INSTALL AN ELECTRICAL GROUND WHEN REQUIRED. ALL ELECTRICAL CONNECTIONS INCLUDING GROUNDS TO BE DESIGNED & INSTALLED BY OTHERS.
10. THE STRUCTURE TO WHICH THIS UNIT IS TO BE FASTENED SHALL BE DESIGNED AND CAPABLE TO WITHSTAND SUPERIMPOSED LOADS. THIS INFORMATION IS NOT INCLUDED IN THIS SPECIFICATION. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR ADAPTATIONS ARE INTENDED.
11. THE SHEET DETAILED HEREIN IS A GENERIC UNIT INSTALLATION. THIS INFORMATION DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC INSTALLATION FOR THE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN. A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE THE SPECIFIC REQUIREMENTS FOR USE IN CONNECTION WITH THIS DOCUMENT.

## EXTERIOR EQUIPMENT TIE DOWN

**STANDARD ANCHOR SCHEDULE**

SUBSTRATE	ANCHOR
CONCRETE (4" THICK MIN. 3192KSI MIN)	(1) 1/4" x 3/4" TAPCON OR BULO BRAND 1/4" x 3/4" FULL THREADED TO CONCRETE, 2-1/2" MIN EDGE DISTANCE, 3" MIN SPACING TO ANY ADJACENT ANCHOR

**MAXIMUM ALLOWABLE LATERAL WIND PRESSURE (ANCHOR TO CONCRETE BASE) (1) CLIP AT EACH CORNER (TOTAL OF 4 CLIPS PER UNIT)**

MAXIMUM SURFACE AREA OF UNITS LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	(1) CLIP AT EACH CORNER TOTAL OF 4 CLIPS 1/4" TAPCON TO CONCRETE BASE
8 FT <sup>2</sup>	24" MAX	12" MIN	43 PSF
9 FT <sup>2</sup>	32" MAX	15" MIN	32 PSF
4 FT <sup>2</sup>			50 PSF
6 FT <sup>2</sup>	48" MAX	24" MIN	60 PSF
5 FT <sup>2</sup>			40 PSF
12 FT <sup>2</sup>			10 PSF
15 FT <sup>2</sup>			20 PSF
20 FT <sup>2</sup>			30 PSF
25 FT <sup>2</sup>	60" MAX	48" MIN	55 PSF
30 FT <sup>2</sup>			45 PSF
36 FT <sup>2</sup>			35 PSF

1. TIE-DOWN CLIPS SHALL BE FASTENED TO MECHANICAL HOUSING UNIT WITH (2) #14x3/4" STS GRADE 5 SHEET METAL SCREWS.
2. MECHANICAL HOUSING UNIT SHALL CONFORM TO THE FOLLOWING:
  - A) ALUMINUM FRAME OR EXTERIOR HOUSING SHALL BE 6063-T6 MIN. ALUMINUM SHEET WITH F<sub>y</sub>=30 KSI, 0.0625" MIN THICKNESS.
  - B) STEEL HOUSING UNITS SHALL BE 33KSI MIN STEEL GRADE 33, 22GA MIN (1-0-02997).
3. MAXIMUM ALLOWABLE WIND PRESSURES MAY BE EQUIVALENT DUE TO THE LIMITING CAPACITY OF THE 1" CLIP.
4. A MAXIMUM ALLOWABLE VALUE OF 200 PSF HAS BEEN UTILIZED. FOR HIGHER DEMAND CAPACITIES CONTACT THIS ENGINEER FOR SITE-SPECIFIC ENGINEERING.

**RECOMMENDED FASTENERS**  
1/4" x 3/4" TAPCON

**MAXIMUM ALLOWABLE SHEAR LOAD FOR 1/4" DIA CONCRETE FASTENERS IN 2000 PSI MINIMUM STRENGTH CONCRETE IS: 325 LBS PULL OUT (TENSION LOAD) STRENGTH OF TAPCON IS 505 LBS WITH 1 3/4" MIN. EMBEDMENT:**

**SINGLE SHEAR: 325 LBS TENSION: 505 LBS**

DATE: JUN 24 2015

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**CENTER OF GRAVITY OF UNIT IS ASSUMED TO BE AT THE GEOMETRIC CENTER OF THE MECHANICAL UNIT. ANCHORING IS FOR REGULAR SHAPED UNITS (E. SQUARE OR RECTANGULAR, NO IRREGULAR SHAPED UNITS)**

**HIGH VELOCITY HURRICANE ZONE**

**POSSIBLE CLIP OPTION:**

1. CLIP SHALL BE USED AT EACH CORNER AND EACH SIDE OF THE UNIT. CLIP SHALL BE USED AT EACH CORNER AND EACH SIDE OF THE UNIT. CLIP SHALL BE USED AT EACH CORNER AND EACH SIDE OF THE UNIT. CLIP SHALL BE USED AT EACH CORNER AND EACH SIDE OF THE UNIT.

**EXTERIOR EQUIPMENT TIE DOWN**

307-815

### GENERAL NOTES:

- THIS PRODUCT HAS BEEN CERTIFIED AND SHALL BE SPECIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2014 FLORIDA BUILDING CODE. FOR USE WITH 2000 PSI CONCRETE. THIS PRODUCT MAY BE USED WITH AN AREA OUTSIDE THE HIGH VELOCITY HURRICANE ZONE.
- NO 2x4 JOIST BRACING IS ALLOWABLE. STRUCTURAL BRACING SHALL BE THE DESIGN OF THE BUILDING SYSTEM.
- ALLOWABLE DESIGN LOADS ON UNITS IS BASED ON ALLOWABLE SHEAR AND TENSION LOADS OF MECHANICAL FASTENERS.
- UNIT WEIGHT & HEIGHT DIMENSIONS AND WEIGHT UNITS SHALL CONFORM TO SPECIFICATIONS STATED ON THEIR MANUFACTURING SHEETS.
- ALL MECHANICAL SPECIFICATIONS, CLEARANCES, TONNAGE, ETC. SHALL BE AS PER THE MANUFACTURER'S SPECIFICATIONS AND ARE THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR.
- FASTENERS TO BE 1/4" x 3/4" S1S GRADE 5 SHEET METAL SCREWS. UNITS WITH OTHERWISE.
- TAPCON SHALL BE THE QUALITY OF EPOX BRAND AND SHALL BE SET WITH 100% THE EMBEDMENT. INSTALLED TO 100% THE INTENTED COMPRESSIVE STRENGTH. SEE ANCHOR SCHEDULE FOR ANCHOR REQUIREMENTS.
- ALL STEEL CLIPS SHALL BE 304L STAINLESS STEEL WITH 1/4" x 1/4" MIN. ALL STEEL PARTS SHALL BE PROTECTED AGAINST CORROSION WITH GPD RATED GALVANIZED LATHING. OBTAINABLE FOR ALL SUBSTRATE INSTALLATIONS.
- INSTALL AN ELECTRICAL GROUND, WHEN REQUIRED. ALL ELECTRICAL CONNECTIONS INCLUDING WIRING TO BE PROVIDED & INSTALLED BY OTHERS.
- THE ADEQUACY OF ANY EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS SHALL BE VERIFIED AND IS NOT ADDRESSED IN THIS CERTIFICATION. CHECK TO EXPRESSLY PROVIDED HEREIN NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- THE SYSTEM DETAIL HEREIN IS A GENERIC ONE. INSTALLATION THIS INSTALLATION DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC INSTALLATION. FOR NON-CIRCUMSTANCES DIFFERENT FROM THE CONDITIONS DETAIL HEREIN A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE THE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THE DOCUMENT.

**STANDARD ANCHOR SCHEDULE**

SUBSTRATE	ANCHOR
CONCRETE (4" THICK MIN., 3192 PSI MIN.)	(1) 1/4" x 1 3/4" S1S BULDER OR EPOX TAPCON, 1 3/4" FULL EMBED TO CONCRETE, 2-1/2" MIN. EDGE DISTANCE, 3" MIN. SPACING TO ANY ADJACENT ANCHOR.

**MAXIMUM ALLOWABLE LATERAL WIND PRESSURE (ANCHOR TO CONCRETE PAD)**  
(1) CLIP AT EACH CORNER (TOTAL OF 4 CLIPS PER UNIT)

MAXIMUM SURFACE AREA OF UNITS LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	2 CLIPS AT EACH SIDE TOTAL OF 8 CLIPS	
			1/4" TAPCON TO CONCRETE BASE	1/4" TAPCON TO CONCRETE BASE
6 FT <sup>2</sup>	24" MAX	12" MIN	81 PSF	81 PSF
9 FT <sup>2</sup>	32" MAX	15" MIN	60 PSF	60 PSF
4 FT <sup>2</sup>			170 PSF	170 PSF
8 FT <sup>2</sup>			113 PSF	113 PSF
3 FT <sup>2</sup>	48" MAX	24" MIN	75 PSF	75 PSF
12 FT <sup>2</sup>			42 PSF	42 PSF
16 FT <sup>2</sup>			32 PSF	32 PSF
25 FT <sup>2</sup>			24 PSF	24 PSF
30 FT <sup>2</sup>	60" MAX	48" MIN	17 PSF	17 PSF
36 FT <sup>2</sup>			10 PSF	10 PSF

- TIE-DOWN CLIPS SHALL BE FASTENED TO MECHANICAL HOUSING UNIT WITH (2) #14x3/4" S1S GRADE 5 SHEET METAL SCREWS.
- MECHANICAL HOUSING UNIT SHALL CONFORM TO THE FOLLOWING:
  - ALUMINUM FRAME OR EXTERIOR HOUSING SHALL BE 6063-T6 MIN ALUMINUM SHEET WITH 1/8" TO 3/16" KSI, 0.0625" MIN. THICKNESS.
  - STEEL HOUSING UNITS SHALL BE 33KSI MIN. STEEL, GRADE 33, 22 GAGE MIN. (1-0.036")
- MAXIMUM ALLOWABLE WIND PRESSURES MAY BE EQUIVALENT DUE TO THE LIMITING CAPACITY OF THE 1" CLIP.
- A MAXIMUM ALLOWABLE VALUE OF 200 PSF HAS BEEN UTILIZED; FOR HIGHER DEMAND CAPACITIES CONTACT THIS ENGINEER FOR SITE SPECIFIC ENGINEERING.

**RECOMMENDED FASTENERS**

1/4" x 1 3/4" TAPCON

**MAXIMUM ALLOWABLE SHEAR LOAD FOR 1/4" DIA CONCRETE FASTENERS IN 2000 PSI MINIMUM STRENGTH CONCRETE IS: 325 LBS. PULL OUT (TENSION LOAD) STRENGTH OF TAPCON IS 505 LBS WITH 1 3/4" MIN. EMBEDMENT.**

**SINGLE SHEAR: 325 LBS  
TENSION: 505 LBS**

DATE: JUN 24 2015

REVISIONS

NO.	DESCRIPTION

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DATE: 6/24/2015  
 BY: JDH  
 CHECKED: JDH

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USE MIN. OF 2- #4x3/4" SCREWS FOR 4" CLIP  
 USE MIN. OF 2- #4x3/4" SCREWS FOR 6" CLIP  
 USE 1/4" x 1 3/4" TAPCON INTO CONCRETE PAD

METAL SHOP # 111 = 4" ANCHOR CLIP  
 METAL SHOP # 113 = 6" ANCHOR CLIP

MAY UPLIFT: 505#

### A/C ANCHOR CLIP

**SHEET METAL SCREWS**

#4x3/4" w/ Neoprene washer

**METAL FASTENERS**

**Tapcon**

1/4" x 1 3/4" INTO CONCRETE PAD

**RECOMMENDED FASTENERS**

1/4" x 1 3/4" TAPCON

MAXIMUM ALLOWABLE SHEAR LOAD FOR 1/4" DIA CONCRETE FASTENERS IN 2000 PSI MINIMUM STRENGTH CONCRETE IS: 325 LBS. PULL OUT (TENSION LOAD) STRENGTH OF TAPCON IS 505 LBS WITH 1 3/4" MIN. EMBEDMENT:

SINGLE SHEAR: 325 LBS  
 TENSION: 505 LBS

**Notes:**

1. Alternative fasteners may be used as shown in the details. All fasteners must meet or exceed the safe working load values specified by the manufacturer, and shall be approved by the building official.

**LOAD CAPACITY FOR TAPCONS**

Anchor Size	Embedment	2000 psi Concrete	3000 psi Concrete	4000 psi Concrete	Concrete Block	Cast Brick
1/4"	1"	760	930	1140	120	940
	1 1/2"	1020	1250	1520	160	1200
	2"	1320	1630	2040	210	1650
3/8"	1"	1020	1250	1520	160	1200
	1 1/2"	1320	1630	2040	210	1650
	2"	1620	1990	2440	260	2100

NOTE: The values listed above are ultimate load capacities for TAPCONS which should be reduced by a safety factor of 4:1 when used to determine the allowable working load. Refer to the section on product selection tables for details. The consistency of N.W. 8500 and 8000 series grout. The load capacities listed above for hollow block and brick should be used on regular only. All test series should be conducted to determine the actual load capacity for these materials.

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DATE: JUN 24 2015

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