City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * 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: c/o 5ton HVAC with no ductwork

Comments: None

Project Information

Address: 6201 Matchett Rd, Belle Isle, FL 32809
Parcel ID: 24-23-29-3400-00-162
Property Owner: Halloway, John W Life Estate
Phone Number: 407-855-4712

****

Company Name: Greens Energy Services, Inc.
Contractor Name: Green, John T
License Number: CAC1813726
Address: 186 N Goldenrod Rd, Orlando, FL 32807
Phone Number: 407-282-5000

Permit Number: 2014-01-017

Date of Application: 1/14/2014
Date Permit Issued: 1/17/2014

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	$74.00
Gas	$
Roofing	$
Boat Dock	$
Screen Encl	$
Swimming Pool	$
Sign	$

SURCHARGE FEES

Surcharge Fee	$2.00
Surcharge Fee	$2.00

TOTAL FEES $78.00

Date Paid 1-20-14
CC or Check # MC
Amount Paid $78.00

The person accepting this permit shall conform to the terms of the application on file and construction shall conform to the requirements of the Florida Building Code (FS 553).

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**

1st _____ (Footing/Foundation)
Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? ____

2nd _____ (Slab)

3rd _____ (Lintel)(Wall Reinforcing on Masonry Building)

4th _____ (Exterior Framing)(Roof/Wall Sheathing)

5th _____ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed)

6th _____ (Insulation to be Made After Roof Installed)

7th _____ (Drywall)

8th _____ (Sidewalk/Driveway)

9th _____ (Other)

10th _____ (Final – After MEP and Other Applicable Finals)

☐ **ROOFING**

1ST ROOFING Deck Nailing/Dry-in/Flashing _____

2nd ROOFING Covering In-Progress _____

3rd ROOFING Covering Final _____

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

☐

1ST _____ (Underground) 2nd _____ (Sewer)

3rd _____ (Rough-In/Tub Set) 4th _____ (Final)

CHECK APPROPRIATE BOX

☐ **GAS** __Natural ___LP ☐ **MECHANICAL** ☐**ELECTRICAL** ☐ **LOW VOLTAGE**

1st _____ (Rough-In) 2nd _____ (Final)

Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 1pm. 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/f/fo94edc4-832d-44bd-9809-ecf32f9e2e63
login ID = cobi@universalengineering.com password = universal13

PROJECT NUMBER 0115.1400019.0000

TASK NUMBER 01

CITY OF BELLE ISLE

Permit Application Review Sheet

Permit Number	2014-01-017
Property Owner	Holloway
Address	6201 Matchett Rd
Nature of Improvement	Mechanical
Received Application	1-14-14
Sent for Stormwater Review	\
Stormwater Approved	
Sent for Zoning Review	\
Zoning Approved	
Applied for Variance	\
Variance Approved	
Sent to BO for Review	1-14-14
Building Official Approved	1-17-2014
Comments	
1. 1-14-14 AP-	Provide signed & sealed certification of
2.	Anchor clips for 140 MPH Exposure C (minimum).
3. 1-15-14 LW	Emailed Contractor
4. 1-15-14 LW	Received Engineering Report
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

received 1-14-14

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: 1/13/14 **PERMIT NUMBER** 2014-01-017

PLEASE PRINT. The undersigned hereby applies for a permit to make installations as indicated below:

Project Address 6201 8201 Matchett Rd, Belle Isle FL ☑ 32809 ☐ 32812
Property Owner John Holloway Phone 407-855-4712
Property Owner's Mailing Address 8201 Matchett Rd. City Orlando
State FL Zip Code 32809 **Parcel Id Number:** 24-23-29-3400-00-162
To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

Class of Building: Old ☒ New ☐ **Type of Building:** Residential ☒ Commercial ☐ Other ☐
Type of Work: New ☐ Alteration ☐ Addition ☐ Repair ☐ Replace ☒

- **REQUIRED Tie Down Engineering and Equipment Sizing Calculation**
- **REQUIRED, adding A/C to new space – provide Energy 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 5.0 Total Tons 5.0
Type of System: Water to Air ____ Chiller ____ Split System X Package ____ Heat Pump X Estimated Cost $ ____

Heating: # of Units KWS Per Unit 10 Total KWS 10 BTU's ____ Estimated Cost $ 13,025.00
Oil ____ Electric X Boiler ____ Gas ____

(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 X 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 John Green LICENSE # CAC1813726
LICENSE HOLDER NAME John Green COMPANY NAME Greens Energy Services, Inc
Street Address 186 N. Goldenrod Rd
City Orlando State FL Zip Code 32807 Phone Number 407-282-5000
Email Address cynthia.durham@greensenergy.com

NO DUCT WORK
Building Official: M Fuez BU1557 **Date** 1/17/2014

Review & Permit Fee	$ 74.00
3% Florida Surcharge	$ 4.00
Total Permit Fee	$ 78.00

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. Building Permit Number ____

Permit Number:
Folio/Parcel ID #: 24-23-29-3400-00-1102
Prepared by: Greens Energy Services, Inc
186 N. Goldenrod Rd
Orlando, FL 32807
Return to:
Same

DOCH 20140021214 B: 10689 P: 2205
01/14/2014 09:31:56 AM Page 1 of 1
Rec Fee: $10.00
Martha O. Haynie, Comptroller
Orange County, FL
MB - Ret To: GREENS ENERGY SERVICES

NOTICE OF COMMENCEMENT

State of Florida, County of Orange

The undersigned hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

1. **Description of property** (legal description of the property, and street address if available)
   6201 Matchett Rd Belle Isle, FL 32809
2. **General description of improvement**
   A/C Changeout
3. **Owner information or Lessee information if the Lessee contracted for the improvement**
   Name John Holloway
   Address 6201 Matchett Rd Belle Isle, FL 32809
   Interest in Property
   Name and address of fee simple titleholder (if different from Owner listed above)
   Name
   Address
4. **Contractor**
   Name Greens Energy Services, Inc Telephone Number 407-282-5008
   Address 186 N. Goldenrod Rd Orlando, FL 32807
5. **Surety** (if applicable, a copy of the payment bond is attached)
   Name Telephone Number
   Address Amount of Bond $
6. **Lender**
   Name Telephone Number
   Address
7. **Persons within the State of Florida designated by Owner upon whom notices or other documents may be served as provided by §713.13(1)(a)7, Florida Statutes.**
   Name Telephone Number
   Address
8. **In addition to himself or herself, Owner designates the following to receive a copy of the Lienor's Notice as provided in §713.13(1)(b), Florida Statutes.**
   Name Telephone Number
   Address
9. **Expiration date of notice of commencement** (the expiration date may not be before the completion of construction and final payment to the contractor, but will be 1 year from the date of recording unless a different date is specified)

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART I, SECTION 713.13, FLORIDA STATUTES, AND CAN 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 COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

State of FLORIDA, County of ORANGE
I hereby certify that this is a true copy of the document as recorded in the Official Records.
MARTHA O. HAYNIE, COUNTY COMPTROLLER
By: Deputy Comptroller

Signature of Owner or Lessee, or Owner's or Lessee's Authorized Officer/Director/Partner/Manager — Signatory's Title/Office

The foregoing instrument was acknowledged before me this 10th day of 1/2014 (month/year) by John Holloway (name of person)
as Owner (Type of authority, e.g., officer, trustee, attorney in fact) for John Holloway (Name of party on behalf of whom instrument was executed)

Signature of Notary Public – State of Florida — Print, type, or stamp commissioned name of Notary Public

Personally Known ____ OR Produced ID ✓
Type of ID Produced DL

RUSSELL LEE
Notary Public - State of Florida
My Comm. Expires Jan 27, 2018
Commission # EE 211798
Bonded Through National Notary Assn.

Form content revised: 10/17/12

THE CROM CORPORATION

PRESTRESSED COMPOSITE TANKS

BUILDING TANKS SINCE 1956

ENGINEERING REPORT

Date:	April 7, 2009	**Job No.:**	CECS Project – **REV C**
Job Name:	Mechanical Unit Wind Analysis		
Subject:	Wind Load Analysis of Bracket and Anchor for Installation of Mechanical Unit		
Requested By:	Lennox Industries, Inc.		
Performed By:	Phuong C. Bacon, EI		
Reviewed By:	K. Ryan Harvey, PE		

Purpose of Report:

The purpose of the report is to address wind loads on the brackets and anchors used for the installation of mechanical units manufactured by Lennox Industries, Inc., and to determine if they meet the requirements of the Florida Building Code and ASCE 7-05.

Design Requirements:

The following design standards, codes and information were used in the analysis:

1. 2007 Florida Building Code.
2. ASCE 7-05 Minimum Design Loads for Buildings and Other Structures, provisions of 6.5.15 for Design Wind Loads on Other Structures.
3. AISC Manual of Steel Construction, 13th Edition.
4. Information on the **installation brackets fabricated by miami tech, inc., anchor bolts used to install units and dimensions of units manufactured by Lennox Industries, Inc.**

The following assumptions were used in the analysis:

1. The maximum height of the structure above ground where the mechanical unit is mounted is 100'.
2. The structure on which the unit is mounted is designed to accommodate the load due to the effects of wind on the mechanical unit.
3. The substrate where the unit is mounted is of sufficient thickness for adequate embedment of the anchor bolt.
4. A maximum wind speed of 150 MPH at a 3-second gust.
5. An exposure category of C.
6. An importance factor (I) of 1.15.
7. The installation of the bracket and anchors are in accordance with the manufacturer's recommendations and the additional information provided herein.

Results of Analysis:

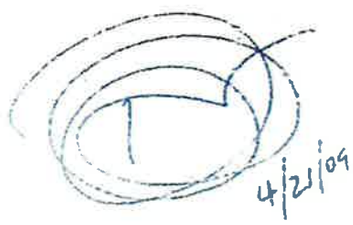
The results of the analysis of the bracket and anchor using the assumptions and information from above are as follows:

1. The total force on the mechanical unit and subsequent forces on each bracket and anchor are shown in the attached calculations. Based on the force calculated, we find that the following anchor configurations are acceptable to resist the calculated wind loads provided they are installed in accordance with manufacturers recommendations:
   a. 1/4" x 1 ¼" long Tapcon Threaded Anchor.
   b. 3/8" x 2 ½" Expansion Anchor.

c. 1/4" x 2 ½" Expansion Anchor.

2. The total force due to wind load is shown in the attached calculations for the 14 gauge galvanized steel bracket as manufactured by miami tech (CUTD1). Based on the calculated wind load, we find that the bracket is acceptable for the calculated wind load.
3. The total force due to wind load on each screw used to attach the brackets is shown in the attached calculations. Based on the calculated shear force, we find that the brackets should be attached with a minimum of two #10 (3/16") Type AB self-tapping screws.
4. **The DLXC20-60 represents the worst case for design purposes. Results of the calculations will be the same or better for all units manufactured by Lennox, Inc. which are included in the attached list.**

K. Ryan Harvey, PE
Florida License Number: 56945
THE CROM CORPORATION
Certificate of Authorization Number: 1875



Attachments: West Palm Beach, Florida Mechanical Unit Wind Load Analysis REV A
West Palm Beach, Florida Mechanical Unit Wind Load Analysis REV B
Drawing for Lennox Mounting Bracket **by miami tech (CUTD1)**
Unit Information provided by Lennox Industries, Inc.

TRANE®

It's Hard To Stop A Trane.®

Florida Residential Whole House Worksheet – For Equipment Sizing

Customer's Name John Holloway Address 6201 Matchett Rd

City Orlando State FL Zip 32809 Telephone Number 407-855-4712

WINTER: Inside Design Temp 70 °F—**Outside Design Temp** _____ °F = **Heating Temp Difference** _____ °F

SUMMER: Outside Design Temp _____ °F—**Inside Design Temp** 75 °F = **Cooling Temp Difference** _____ °F

HEATING BTUH LOSS	HEATING FACTOR	COMMON DATA SECTION SUBJECT	SQ. FT.	COOLING FACTOR	COOLING BTUH GAIN
	FROM TABLE A	GROSS WALL 267 x 9	2403	FROM TABLE C	
		DOORS & WINDOWS (Table A or B)	-453		14158
		NET WALL	1950	5.0	9750
		CEILING R-19	2502	2.22	5554
		FLOORS			

Infiltration Btu/hr = Heating Table D x 10 x 1.1/60 x Volume (Cu. Ft.) | Volume (Cu. Ft.) x 1.1/60 x ΔT x Cooling Table D = Infiltration Btu/hr

= x 0.18333 x 25020 x 0.01833 x 20 x 15 = 4586

		SUB-TOTAL BTUH LOSS (per 10°F)	
x		MULTIPLIER (Table C)	
		TOTAL BTUH LOSS	
		PEOPLE 6 x 300 BTUH GAIN (Assume 2 persons per bedroom)	1800
		APPLIANCES BTUH	1200
		SUB-TOTAL BTUH GAIN (Sensible Only)	37048
x		DUCT LOSS/GAIN FACTOR (Table F)	x 1.15
		SUB-TOTAL BTUH (Sensible Gain)	42605
		MOISTURE REMOVAL (Sub Total x 1.3)	x 1.3
		DESIGN TOTAL BTUH LOSS/GAIN (75°/63 WB)	55386
		A.R.I. EQUIPMENT CAPACITY MULTIPLIER	TABLE G x 1.076
		A.R.I. CAPACITY (80° DB/67° WB)	59596

TABLE A – DOORS AND WINDOWS(a) – HEATING

WINDOW & DOOR TYPES	FRAMES: WOOD	TIM	METAL	x AREA	BTUH LOSS
Single Pane	9.9	10.46	11.56		
Low e = 0.4 Single	8.2	8.64	9.56		
Double Pane	5.52	6.1	7.26		
Jalousie	–	–	11		
Jalousie w/Storm	–	–	5		
Sliding (Single)	9.9	10.46	11.56		
Sliding Low e (Single)	8.2	8.64	9.56		
Sliding (Double)	5.52	6.1	7.26		
Skylight (Single)	10.36	10.92	12.06		
Skylight (Double)	6.66	7.36	8.76		
Wood Door	4.6	–	–		
Wood Door (Storm)	3.2	–	–		
Metal Door	–	–	1.9		
Metal Door (Storm)	–	–	1.7		
French Doors (Single)	9.36	9.9	12.1		
French Doors (Low e)	7.74	8.2	10.02		
French Doors (Double)	5.22	5.52	7.54		
			TOTALS		

TABLE C

HEATING BTUH DESIGN MULTIPLIER

Heating Temperature Difference / 10 = ____ / 10 = ____ MULTIPLIER

ESTIMATED PROCEDURES

1. Fill in customer information.
2. Record outside design temperatures; find temp difference.
3. Measure length of each outside wall, multiply each by ceiling height. Record the total sq. ft. of exposed wall under "gross wall."
4. Using Tables A and B, determine the total area for windows and doors and enter in common data section.
5. Determine Net Wall by subtracting windows and doors from gross.
6. Measure and record total ceiling area.
7. Measure and record total floor area for floors over crawl space or basement. Total floor edge length (perimeter) if floor is a slab.
8. Using Table E, select construction type and use the corresponding heat and cool factors on the form.
9. Determine BTUH Loss and Gain in Tables A and B by multiplying the area of glass and doors by the multiplier under the specified temperature difference. Enter total BTUH Loss/Gain on worksheet.
10. On worksheet, multiply the areas x the factors and total as instructed.

TABLE D – INFILTRATION MULTIPLIERS

Winter Air Changes Per Hour

FLOOR AREA	900 OR LESS	900-1500	1500-2100	OVER 2100
Best	0.4	0.4	0.3	0.3
Average	1.2	1.0	0.8	0.7
Poor	2.2	1.8	1.2	1.0
For each fireplace add:		Best 0.1	Average 0.2	Poor 0.6

Summer Air Changes Per Hour

FLOOR AREA	900 OR LESS	900-1500	1500-2100	OVER 2100
Best	0.2	0.2	0.2	0.3
Average	0.5	0.5	0.4	0.4
Poor	0.8	0.7	0.6	0.5

Pub. No. 22-3139-01

CITY	WINTER	SUMMER
Belle Glade	44°	91°
Cape Kennedy	38°	88°
Daytona Beach	35°	90°
Ft. Lauderdale	46°	91°
Fort Myers (AP)	44°	92°
Fort Pierce	42°	90°
Gainesville (AP)	31°	93°
Jacksonville (AP)	32°	94°
Key West (AP)	57°	90°
Lakeland	41°	91°
Miami (AP)	47°	90°
Miami Beach	48°	89°
Ocala	34°	93°
Orlando	38°	93°
Panama City	33°	90°
Pensacola	29°	93°
St. Augustine	35°	89°
St. Petersburg	40°	91°
Sanford	38°	93°
Sarasota	42°	92°
Tallahassee (AP)	30°	92°
Tampa (AP)	40°	91°
West Palm Beach (AP)	45°	91°

TABLE F – COOLING/HEATING DUCT MULTIPLIERS

HEATING		DUCT LOCATION AND INSULATION VALUE	COOLING
Under 120	Over 120		
		Exposed to Outdoor Ambient	
1.10	1.15	Attic, Garage or Open Crawl Space R-4	1.15
1.05	1.10	Attic, Garage or Open Crawl Space R-8	1.10
		In Unconditioned Space	
1.05	1.10	Vented/Unvented Crawl Space R-4	1.05
1.00	1.05	Vented/Unvented Crawl Space R-8	1.00
		Buried In or Under Concrete Slab	
1.20	1.25	No Edge Insulation	1.10
1.10	1.15	Edge Insulation R-3 to 4	1.10
1.05	1.10	Edge Insulation R-5 to 7	1.00

NO DUCT IN SLAB	DUCT IN SLAB	CONCRETE SLAB FLOOR ON GRADE
8.10	19.00	No Edge Insulation
4.10	11.40	1" Edge Insulation R-5
2.70	10.00	1.5" Edge Insulation R-8
2.10	9.30	2" Edge Insulation R-9

Factors are for Heating BTUH losses only. Concrete Slab Floors have no cooling BTUH gains.

TABLE G

For Air Cooled Equipment Only

A.R.I. AMBIENT MULTIPLIERS							
AMBIENT	88°	89°	90°	91°	92°	93°	94°
MULTIPLIER	1.068	1.061	1.055	1.048	1.042	1.035	1.029

For Air Cooled Equipment, adjusts Design (95/83) BTUH to A.R.I. Directory conditions of 95 ambient and (80/67). Exact adjustment factor will depend on manufacturer's data and the equipment combination.

TABLE B – DOORS(A) AND WINDOWS – COOLING

	AMBIENT	88°	89°	90°	91°	92°	93°	94°	AREA =	BTUH
	DIRECTION	AMBIENT COOLING HTM X								
Clear Glass Single Pane No Shading	N	25.4	26.2	27.0	27.8	28.6	29.4	30.2		
	NE & NW	58.4	59.2	60.0	60.8	61.6	62.4	63.2		
	E & W	83.4	84.2	85.0	85.8	86.6	87.4	88.2		
	SE & SW	72.4	73.2	74.0	74.8	75.6	76.4	77.2		
	S	42.4	43.2	44.0	44.8	45.6	46.4	47.2		
	Skylights (b)	162.4	163.2	164.0	164.8	165.6	166.4	167.2		
Clear Glass Single Pane Venetian Blinds or Draperies	N	16.4	17.2	18.0	18.8	19.6	20.4	21.2	240	4896
	NE & NW	35.4	36.2	37.0	37.8	38.6	39.4	40.2		
	E & W	50.4	51.2	52.0	52.8	53.6	54.4	55.2	134	7289
	SE & SW	43.4	44.2	45.0	45.8	46.6	47.4	48.2		
	S	26.4	27.2	28.0	28.8	29.6	30.4	31.2	58	1763
Clear Glass Double Pane Venetian Blinds or Draperies	N	13.2	13.8	14.0	14.4	14.8	15.2	15.6		
	NE & NW	30.2	30.8	31.0	31.4	31.8	32.2	32.6		
	E & W	43.2	43.6	44.0	44.4	44.8	45.2	45.6		
	SE & SW	38.2	38.8	39.0	39.4	39.8	40.2	40.6		
	S	22.2	22.6	23.0	23.4	23.8	24.2	24.6		
	Skylights (b)	140.2	140.6	141.0	141.4	141.8	142.2	142.6		
Tinted Glass Low-e Single or Double pane Venetian Blinds or Draperies	N	10.2	10.6	11.0	11.4	11.8	12.2	12.6		
	NE & NW	23.2	23.6	24.0	24.4	24.8	25.2	25.6		
	E & W	32.2	32.6	33.0	33.4	33.8	34.2	34.6		
	SE & SW	28.2	28.6	29.0	29.4	29.8	30.2	30.6		
	S	16.2	16.6	17.0	17.4	17.8	18.2	18.6		
	Skylights (b)	90.2	90.6	91.0	91.4	91.8	92.2	92.6		
Doors	Solid Core Wood (c)	7.7	8.1	8.6	9.1	9.5	10.0	10.4	21	210
	Wood with Storm (c)	5.4	5.7	6.0	6.3	6.6	6.9	7.8		
	Metal (Urethane)	3.1	3.3	3.6	3.7	3.9	4.1	4.3		
	Metal (Urethane) w/Storm	2.9	3.0	3.2	3.4	3.5	3.7	3.9		
								TOTALS	453	14158

a) Sliding glass doors are treated as windows.

b) Skylights are treated as Unshaded Horizontal Glass. If on a angle and area exceeds 25 ft², use factors from Table 3F, page 78, Manual "J" 7th edition to reduce cooling BTUH load.

c) Use these factors for polystyrene core metal doors as well as wood.

TABLE E – WALL, CEILING AND FLOOR CONSTRUCTION MULTIPLIERS

HEATING FACTOR	CONS. NO.	WOOD FRAME EXTERIOR WALLS WITH SHEATING & SIDING OR BRICK VENEER OR OTHER EXTERIOR FINISH	COOLING FACTORS 88°	89°	90°	91°	92°	93°	94°
2.72	12A	No Insulation, 1/2" Gypsum Board	4.48	4.74	5.00	5.28	5.56	5.84	6.12
2.16	12B	No Insulation, 1/2" Asphalt Board	3.60	3.80	4.00	4.22	4.44	4.66	4.88
0.90	12C	R-11 Insulation, 1/2" Gypsum Board	1.50	1.60	1.70	1.78	1.86	1.94	2.02
0.80	12D	R-11 Insulation, Asphalt or Bead Board	1.34	1.42	1.50	1.58	1.66	1.74	1.82
0.40	12L	R-19 Insulation with R-8 Sheating	0.62	0.66	0.70	0.74	0.78	0.82	0.86
		Masonry Walls, 8" or 12" Block							
5.10	14A	No Insulation	6.84	5.28	5.60	6.30	6.90	7.30	7.80
1.44	14B	R-5 Insulation	1.32	1.46	1.60	1.74	1.88	2.02	2.16
0.76	14C	R-11 Insulation	0.74	0.82	0.90	0.98	1.06	1.14	1.22
		Ceilings Under Vented Attic Space							
0.66	16C	R-11 Insulation	3.04	3.12	3.20	3.30	3.40	3.50	3.60
0.52	16D	R-19 Insulation	1.98	2.04	2.10	2.14	2.18	2.22	2.26
0.48	16E	R-22 Insulation	1.76	1.84	1.90	1.94	1.98	2.02	2.06
0.32	16G	R-30 Insulation	1.22	1.26	1.30	1.34	1.38	1.42	1.46
		Cathedral Roof-Ceiling Combination (Dark)							
3.08	18A	No Insulation	10.64	10.92	11.20	11.48	11.76	12.04	12.32
0.72	18B	R-11 Insulation	2.64	2.72	2.80	2.88	2.96	3.04	3.12
0.48	18C	R-19 Insulation (2x6 Rafters)	1.62	1.68	1.90	1.96	2.02	2.08	2.14
0.44	18D	R-22 Insulation (2x8 Rafters)	1.68	1.74	1.80	1.84	1.88	1.92	1.96
		Floors Over a Garage or Open Crawl Space							
3.12	20A	Hardwood Floor, No Insulation	3.10	3.50	3.90	4.26	4.66	5.04	5.42
0.80	20B	Hardwood Floor, R-11 Insulation	0.64	0.72	0.80	0.90	1.00	1.10	1.20
0.52	20D	Hardwood Floor, R-19 Insulation	0.44	0.48	0.50	0.56	0.62	0.68	0.74
2.16	20F	Carpeted Floor, No Insulation	2.02	2.26	2.50	2.76	3.02	3.28	3.54
0.72	20G	Carpeted Floor, R-11 Insulation	0.64	0.72	0.80	0.86	0.92	0.98	1.04
0.48	20I	Carpeted Floor, R-19 Insulation	0.38	0.44	0.50	0.54	0.58	0.62	0.66

TRANE

18-HE44D2-1

Extreme Condition Mounting Kit

BAYECMT023
BAYECMT004

⚠WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER BEFORE SERVICING

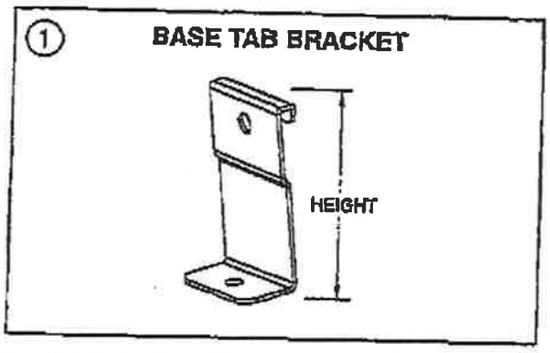
ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

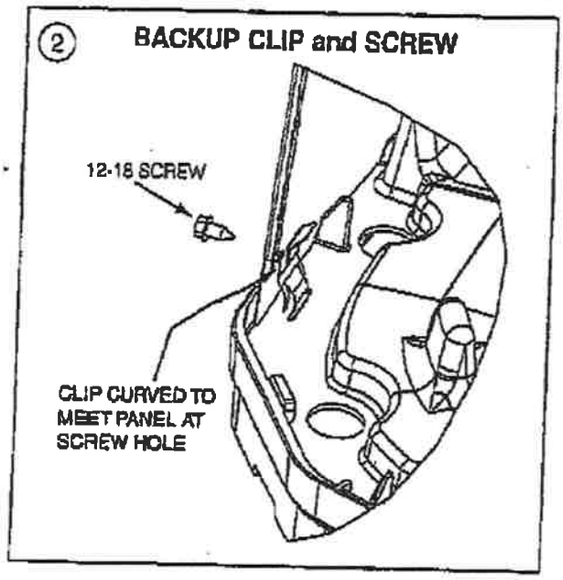
IMPORTANT— This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

KIT CONTENT - BAYECMT023:
Will mount 10 individual units.
Base Tab Bracket – Qty 40 (Height 2.1" for Base 2 & 3)
Backup Clip – Qty 40
Self drilling 12-14 Screws – Qty 45
12-18 Screws – Qty 45

KIT CONTENT - BAYECMT004:
Will mount 5 - 10 individual units depending on unit height. See Installation - BAYECMT004 UNITS greater to or equal to 51" verses 64".
Base Tab Bracket – Qty 40 (Height 2.5" for Base 4)Backup Clip – Qty 40Self drilling 12-14 Screws – Qty 45
12-18 Screws – Qty 45

INSPECTION - ALL KITS:
Check carefully for any shipping damage. This must be reported to and claims made against the transportation company immediately. Any missing parts should be reported to your supplier at once and replaced with authorized parts only.





City of Lakewood Community Services Depart.
Building Division
"Reviewed For Code Compliance"
Date 6/14/12
Reviewed by Bob C.
Reviewed plans do not relieve the designer or contractor from compliance with all applicable codes and local ordinances.

Installer's Guide

INSTALLATION - BAYECMT023:

1. Installation of the Extreme Condition Mounting Kit must be made prior to connecting refrigerant lines and/or electrical power to the unit.
2. The installation location must (i) be a ground-level application and (ii) must not be a location susceptible to channeling effects or buffeting in the wake of upwind obstructions. It is the installer's responsibility to ensure that the slab mounting method meets or exceeds the requirements of local code and is approved by the appropriate local code authority.
3. Tip the uncrated unit to expose the base, insert the four (4) Backup clips through the slit openings in the base with the screw engagement hole facing the side louvered panels. See Figures 2 & 3. Each panel has a hole or dimple to mark the screw location. If a dimple is present, drill a ¼" hole at the dimple. Using (4) of the 12-18 screws in the kit, attach each side panel to the matching Backup Clip.
4. Attach the (4) Base Tab Brackets to the unit base using (4) of the 12-14 self drilling screws in the kit, locating them two to each long side of the unit (not on the service access and opposite side), *using (4) field provided bolts appropriate to the material the unit is mounted on* (recommend a 0.25" diameter bolt with a minimum of SAE-Grade 5 (ASTM-A449) or better with a appropriate washer). See Figures 1, 2 & 3.

INSTALLATION - BAYECMT004 UNITS 51" TALL OR LESS:

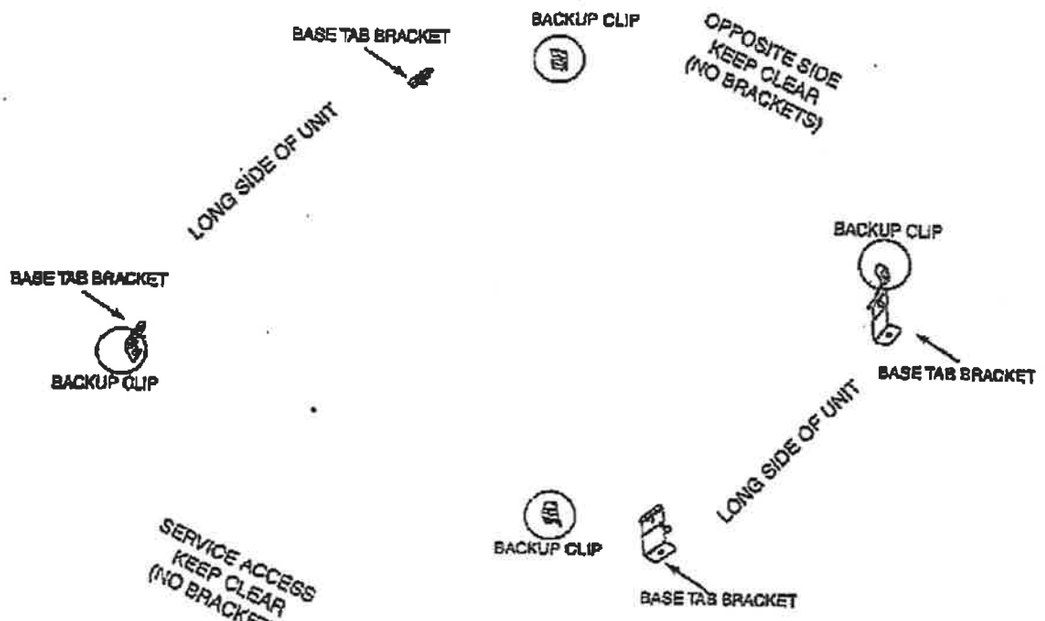
1. Installation of the Extreme Condition Mounting Kit must be made prior to connecting refrigerant lines and/or electrical power to the unit.
2. The installation location must (i) be a ground-level application and (ii) must not be a location susceptible to channeling effects or buffeting in the wake of upwind obstructions. It is the installer's responsibility to ensure that the slab mounting method meets or exceeds the requirements of local code and is approved by the appropriate local code authority.
3. Tip the uncrated unit to expose the base, insert the four (4) Backup clips through the slit openings in the base with the screw engagement hole facing the side louvered panels. See Figures 2 & 3. Each panel has a hole or dimple to mark the screw location. If a dimple is present, drill a ¼" hole at the dimple. Using (4) of the 12-18 screws in the kit, attach each side panel to the matching Backup Clip.
4. Attach the (4) Base Tab Brackets to the unit base using (4) of the 12-14 self drilling screws in the kit, locating them two to each long side of the unit (not on the service access and opposite side), *using (4) field provided bolts appropriate to the material the unit is mounted on* (recommend a 0.25" diameter bolt with a minimum of SAE-Grade 5 (ASTM-A449) or better with a appropriate washer). See Figures 1, 2 & 3.

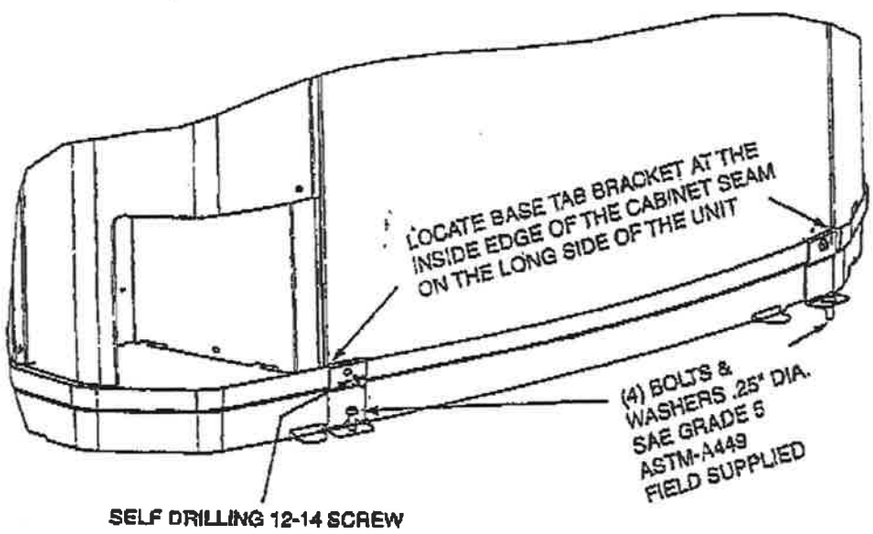
INSTALLATION - BAYECMT004 UNITS 54" TALL:

1. Installation of the Extreme Condition Mounting Kit must be made prior to connecting refrigerant lines and/or electrical power to the unit.
2. The installation location must (i) be a ground-level application and (ii) must not be a location susceptible to channeling effects or buffeting in the wake of upwind obstructions. It is the installer's responsibility to ensure that the slab mounting method meets or exceeds the requirements of local code and is approved by the appropriate local code authority.
3. Tip the uncrated unit to expose the base, insert the four (4) Backup clips through the slit openings in the base with the screw engagement hole facing the side louvered panels. See Figures 2 & 3. Each panel has a hole or dimple to mark the screw location. If a dimple is present, drill a ¼" hole at the dimple. Using (4) of the 12-18 screws in the kit, attach each side panel to the matching Backup Clip.
4. Attach the (8) Base Tab Brackets to the unit base using (8) of the 12-14 self drilling screws in the kit, locating them four to each long side of the unit (not on the service access and opposite side), *using (8) field provided bolts appropriate to the material the unit is mounted on* (recommend a 0.25" diameter bolt with a minimum of SAE-Grade 5 (ASTM-A449) or better with a appropriate washer). See Figures 1, 2 & 4.

③

BAYECMT023 & BAYECMT004 (51" TALL OR LESS) BACKUP CLIP and BASE TAB BRACKET LOCATIONS

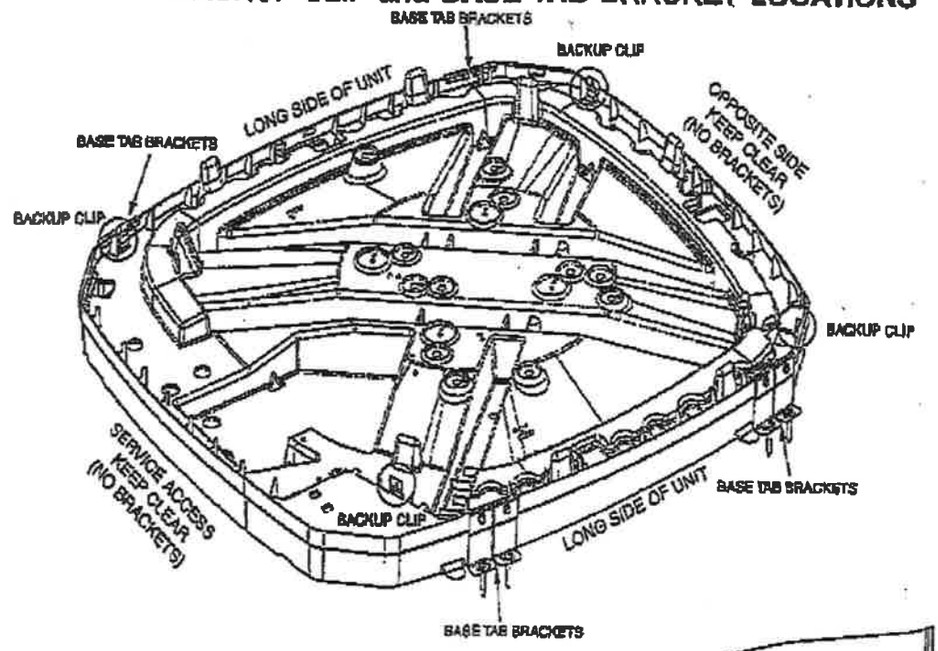


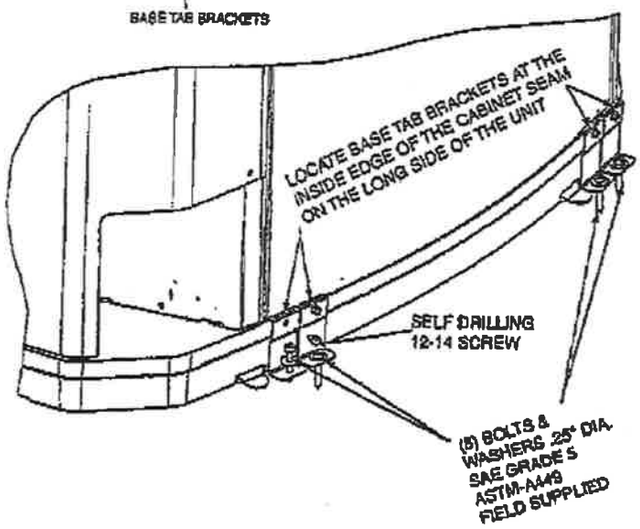


Installer's Guide

④

BAYECMT004 (54" TALL)
BACKUP CLIP and BASE TAB BRACKET LOCATIONS





04/08

Trane
6200 Troup Hwy.
Tyler, TX

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/28/2013

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).

PRODUCER
Bowen, Miclette & Britt of Florida LLC
1020 N. Orlando Avenue Suite 200
Maitland FL 32751

CONTACT NAME: Nobu Nakata
PHONE (A/C, No, Ext): 407-647-1616 FAX (A/C, No): 407-628-1635
E-MAIL ADDRESS: certificates@bmbinc.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : United States Fire Insurance Co.	21113
INSURER B : Bridgefield Employers Insurance Co.	10701
INSURER C : Chartis Specialty Insurance Company	26883
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
GREENSENER
Greens Energy Services, Inc.
186 N. Goldenrod Road
Orlando FL 32807

COVERAGES **CERTIFICATE NUMBER:** 2114756607 **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 INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY			5068738944	6/30/2013	6/30/2014	EACH OCCURRENCE	$1,000,000
	[X] COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
	[ ] CLAIMS-MADE [X] OCCUR						MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
							GENERAL AGGREGATE	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$2,000,000
	[X] POLICY [ ] PRO-JECT [ ] LOC							$
A	AUTOMOBILE LIABILITY			5068738944	6/30/2013	6/30/2014	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	[ ] ANY AUTO						BODILY INJURY (Per person)	$
	[X] ALL OWNED AUTOS [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	[X] HIRED AUTOS [X] NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
A	[X] UMBRELLA LIAB [X] OCCUR			5237078112	6/30/2013	6/30/2014	EACH OCCURRENCE	$4,000,000
	[ ] EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$4,000,000
	[ ] DED [X] RETENTION $0							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N	N/A		83045369	6/30/2013	6/30/2014	[X] WC STATU-TORY LIMITS [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] (Mandatory in NH)						E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
C	Pollution Liability			CPL24177779	6/30/2013	6/30/2014	Per Occurence	$1,000,000
							Ded	$10,000

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

CERTIFICATE HOLDER
City of Belle Isle
1600 Nela Ave
Belle Isle FL 32809

CANCELLATION
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

C# 6228127

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD

SEQ# L12072600858

DATE	BATCH NUMBER	LICENSE NBR
07/26/2012	120002982	CAC1813726

The CLASS B AIR CONDITIONING CONTRACTOR
Named below IS CERTIFIED
Under the provisions of Chapter 489 FS.
Expiration date: AUG 31, 2014

GREEN, JOHN T JR
GREENS ENERGY SERVICES INC
186 N. GOLDENROD RD
ORLANDO FL 32807

RICK SCOTT
GOVERNOR

KEN LAWSON
SECRETARY

DISPLAY AS REQUIRED BY LAW