

 UNIVERSITY OF SOUTH CAROLINA	INVITATION FOR BID	Solicitation Number	USC-IFB-2585-LW
		Date Issued	4/21/2014
		Date Posted	4/21/2014
		Procurement Officer	Lana Widener
		Phone	803-777-7776
		E-Mail Address	llw@mailbox.sc.edu

DESCRIPTION: Mechanical Equipment for USC 1600 Hampton Street Annex

USING GOVERNMENT AGENCY: UNIVERSITY OF SOUTH CAROLINA

The Term "Offer" Means Your "Bid" or "Proposal".

SUBMIT OFFER BY: (Opening Date/Time): **5/08/2014 at 3:00 PM** See "Deadline for Submission of Offer" provision

QUESTIONS MUST BE RECEIVED BY: **4/28/2014 at 10:00 AM** See "Questions From Offerors" provision

NUMBER OF COPIES TO BE SUBMITTED: **One (1) Original in Hardcopy and one (1) copy marked 'Copy' (Original shall prevail).**

Offers must be submitted in a sealed package. Solicitation Number & Opening Date must appear on package exterior.

SUBMIT YOUR SEALED OFFER TO EITHER OF THE FOLLOWING ADDRESSES:

MAILING ADDRESS: University of South Carolina – Purchasing Dept. 1600 Hampton St., Suite 606 Columbia, SC 29208	PHYSICAL ADDRESS: University of South Carolina – Purchasing Dept. 1600 Hampton St., Suite 606 Columbia, SC 29208
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See "Submitting Your Offer" provision

CONFERENCE TYPE: N/A DATE & TIME: As appropriate, see "Conferences-Pre-Bid/Proposal" & "Site Visit" provisions	LOCATION: N/A
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AWARD & AMENDMENTS	Award will be posted at the Physical Address stated above on 5/9/2014 . The award, this solicitation, and any amendments will be posted at the following web address: http://purchasing.sc.edu
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You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, You agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of thirty (30) calendar days after the Opening Date.

NAME OF OFFEROR (Full legal name of business submitting the offer)	OFFEROR'S TYPE OF ENTITY: (Check one) <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporate entity (not tax-exempt) <input type="checkbox"/> Tax –exempt corporate entity <input type="checkbox"/> Government entity (federal, state, or local) <input type="checkbox"/> Other _____ (See "Signing Your Offer" provision.)
AUTHORIZED SIGNATURE	
(Person signing must be authorized to submit binding offer to enter contract on behalf of Offeror named above.) TITLE (Business title of person signing above)	
PRINTED NAME (Printed name of person signing above)	
DATE SIGNED	

Instructions regarding Offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity identified as the offeror above. An offer may be submitted by only one legal entity. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, *i.e.*, a separate corporation, partnership, sole proprietorship, etc.

STATE OF INCORPORATION (If offeror is a corporation, identify the state of Incorporation.)

TAXPAYER IDENTIFICATION NO. (See "Taxpayer Identification Number" provision)

PAGE TWO

(Return Page Two with Your Offer)

HOME OFFICE ADDRESS (Address for offeror's home office / principal place of business) 	NOTICE ADDRESS (Address to which all procurement and contract related notices should be sent.) (See "Notice" clause) <hr/> Area Code - _____ Number - Extension Facsimile <hr/> E-mail Address _____
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PAYMENT ADDRESS (Address to which payments will be sent.) (See "Payment" clause) _____ Payment Address same as Home Office Address _____ Payment Address same as Notice Address (check only one)	ORDER ADDRESS (Address to which purchase orders will be sent) (See "Purchase Orders and "Contract Documents" clauses) _____ Order Address same as Home Office Address _____ Order Address same as Notice Address (check only one)
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ACKNOWLEDGMENT OF AMENDMENTS
 Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. (See "Amendments to Solicitation" Provision)

Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date

DISCOUNT FOR PROMPT PAYMENT (See "Discount for Prompt Payment" clause)	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	_____ Calendar Days (%)
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PREFERENCES - A NOTICE TO VENDORS (SEP. 2009): On June 16, 2009, the South Carolina General Assembly rewrote the law governing preferences available to in-state vendors, vendors using in-state subcontractors, and vendors selling in-state or US end products. This law appears in Section 11-35-1524 of the South Carolina Code of Laws. A summary of the new preferences is available at www.procurement.sc.gov/preferences. ***ALL THE PREFERENCES MUST BE CLAIMED AND ARE APPLIED BY LINE ITEM, REGARDLESS OF WHETHER AWARD IS MADE BY ITEM OR LOT. VENDORS ARE CAUTIONED TO CAREFULLY REVIEW THE STATUTE BEFORE CLAIMING ANY PREFERENCES. THE REQUIREMENTS TO QUALIFY HAVE CHANGED. IF YOU REQUEST A PREFERENCE, YOU ARE CERTIFYING THAT YOUR OFFER QUALIFIES FOR THE PREFERENCE YOU'VE CLAIMED. IMPROPERLY REQUESTING A PREFERENCE CAN HAVE SERIOUS CONSEQUENCES.*** [11-35-1524(E)(4)&(6)]

PREFERENCES - ADDRESS AND PHONE OF IN-STATE OFFICE: Please provide the address and phone number for your in-state office in the space provided below. An in-state office is necessary to claim either the Resident Vendor Preference (11-35-1524(C)(1)(i)&(ii)) or the Resident Contractor Preference (11-35-1524(C)(1)(iii)). Accordingly, you must provide this information to qualify for the preference. An in-state office is not required, but can be beneficial, if you are claiming the Resident Subcontractor Preference (11-35-1524(D)).

_____ In-State Office Address same as Home Office Address
 _____ In-State Office Address same as Notice Address (check only one)

Solicitation Outline

- I. Scope of Solicitation
- II. Instructions to Offerors
 - A. General Instructions
 - B. Special Instructions
- III. Scope of Work / Specifications
May be blank if Bidding Schedule / Cost Proposal attached
- IV. Information for Offerors to Submit
- V. Qualifications
- VI. Award Criteria
- VII. Terms and Conditions
 - A. General
 - B. Special
- VIII. Bidding Schedule / Cost Proposal
- IX. Attachments to Solicitation

I. Scope Of Solicitation

ACQUIRE SUPPLIES / EQUIPMENT (JAN 2006): The purpose of this solicitation is to establish a source or sources of supply for the purchase of new supplies and/or equipment as listed.

It is the intent of the University of South Carolina to solicit bids from qualified sources of supply to provide mechanical equipment (material only) for the 1600 Hampton Street Annex on the USC Columbia Campus in accordance with all the requirements stated herein.

II. Instructions To Offerors - A. General Instructions

DEFINITIONS (JANUARY 2006) EXCEPT AS OTHERWISE PROVIDED HEREIN, THE FOLLOWING DEFINITIONS ARE APPLICABLE TO ALL PARTS OF THE SOLICITATION.

AMENDMENT – means a document issued to supplement the original solicitation document.

BUYER – means the Procurement Officer.

CHANGE ORDER - means any written alteration in specifications, delivery point, rate of delivery, period of performance, price, quantity, or other provisions of any contract accomplished by mutual agreement of the parties to the contract.

CONTRACT - See clause entitled “Contract Documents & Order of Precedence.”

CONTRACT MODIFICATION – means a written order signed by the Procurement Officer, directing the contractor to make changes which the changes clause of the contract authorizes the Procurement Officer to order without the consent of the contractor.

CONTRACTOR - means the Offeror receiving an award as a result of this solicitation.

COVER PAGE – means the top page of the original solicitation on which the solicitation is identified by number. Offerors are cautioned that Amendments may modify information provided on the Cover Page.

OFFER – means the bid or proposal submitted in response this solicitation. The terms “Bid” and “Proposal” are used interchangeably with the term “Offer.”

OFFEROR – means the single legal entity submitting the offer. The term “Bidder” is used interchangeably with the term “Offeror.” See bidding provisions entitled “Signing Your Offer” and “Bid/Proposal As Offer To Contract.”

ORDERING ENTITY - Using Governmental Unit that has submitted a Purchase Order.

PAGE TWO – means the second page of the original solicitation, which is labeled Page Two.

PROCUREMENT OFFICER – means the person, or his successor, identified as such on the Cover Page.

YOU and YOUR – means Offeror.

SOLICITATION – means this document, including all its parts, attachments, and any Amendments.

STATE – means the Using Governmental Unit(s) identified on the Cover Page.

SUBCONTRACTOR – means any person having a contract to perform work or render service to Contractor as a part of the Contractor’s agreement arising from this solicitation.

USING GOVERNMENTAL UNIT – means the unit(s) of government identified as such on the Cover Page. If the Cover Page names a “Statewide Term Contract” as the Using Governmental Unit, the Solicitation seeks to establish a Term Contract [11-35-310(35)] open for use by all South Carolina Public Procurement Units [11-35-4610(5)].

WORK - means all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations under the Contract.

AMENDMENTS TO SOLICITATION (JANUARY 2006) (a) The Solicitation may be amended at any time prior to opening. All actual and prospective Offerors should monitor the following web site for the issuance of Amendments: <http://purchasing.sc.edu>. (b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and

returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

AWARD NOTIFICATION (NOV 2007): Notice regarding any award or cancellation of award will be posted at the location specified on the Cover Page. If the contract resulting from this Solicitation has a total or potential value of fifty thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation. Should the contract resulting from this Solicitation have a total or potential value of one hundred thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation and any award will not be effective until the eleventh day after such notice is given. [02-2A010-1]

BID / PROPOSAL AS OFFER TO CONTRACT (JANUARY 2006) By submitting Your Bid or Proposal, You are offering to enter into a contract with the Using Governmental Unit(s). Without further action by either party, a binding contract shall result upon final award. Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror on the Cover Page. An Offer may be submitted by only one legal entity; "joint bids" are not allowed.

BID ACCEPTANCE PERIOD (JANUARY 2006) In order to withdraw Your Offer after the minimum period specified on the Cover Page, You must notify the Procurement Officer in writing.

BID IN ENGLISH & DOLLARS (JANUARY 2006) Offers submitted in response to this solicitation shall be in the English language and in US dollars, unless otherwise permitted by the Solicitation.

CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS (JANUARY 2006)

(a)(1) By submitting an Offer, Offeror certifies, to the best of its knowledge and belief, that-

(i) Offeror and/or any of its Principals-

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;

(B) Have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) Offeror has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any public (Federal, state, or local) entity.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Offeror shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) If Offeror is unable to certify the representations stated in paragraphs (a)(1), Offer must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Offeror's responsibility. Failure of the Offeror to furnish additional information as requested by the Procurement Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (MAY 2008)

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

(a) By submitting an offer, the offeror certifies that-

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to-

- (i) Those prices;
- (ii) The intention to submit an offer; or
- (iii) The methods or factors used to calculate the prices offered.

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory-

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or

(2)(i) Has been authorized, in writing, to act as agent for the offeror's principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification [As used in this subdivision (b)(2)(i), the term "principals" means the person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal];

(ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

CLARIFICATION (NOV 2007): Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with you after opening for the purpose of clarifying either your offer or the requirements of the solicitation. Such communications may be conducted only with offerors who have submitted an offer which obviously conforms in all material aspects to the solicitation. Clarification of an offer must be documented in writing and included with the offer. Clarifications may not be used to revise an offer or the solicitation. [Section 11-35-1520(8); R.19-445.2080] [02-2B055-1]

CODE OF LAWS AVAILABLE (JAN 2006): The South Carolina Code of Laws, including the Consolidated Procurement Code, is available at <http://www.scstatehouse.net/code/statmast.htm>. The South Carolina Regulations are available at: <http://www.scstatehouse.gov/coderegs/statmast.php>

COMPLETION OF FORMS / CORRECTION OF ERRORS (JAN 2006): All prices and notations should be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Do not modify the solicitation document itself (including bid schedule). (Applicable only to offers submitted on paper.)

DEADLINE FOR SUBMISSION OF OFFER (JANUARY 2006) Any offer received after the Procurement Officer of the governmental body or his designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the designated purchasing office or the governmental bodies' mail room which services that purchasing office prior to the bid opening. [R.19-445.2070(H)]

DISCLOSURE OF CONFLICTS OF INTEREST OR UNFAIR COMPETITIVE ADVANTAGE (MAY 2011): You warrant and represent that your offer identifies and explains any unfair competitive advantage you may have in competing for the proposed contract and any actual or potential conflicts of interest that may arise from your participation in this competition or your receipt of an award. The two underlying principles are (a) preventing the existence of conflicting roles that might bias a contractor's judgment, and (b) preventing an unfair competitive advantage. If you have an unfair

competitive advantage or a conflict of interest, the state may withhold award. Before withholding award on these grounds, an offeror will be notified of the concerns and provided a reasonable opportunity to respond. Efforts to avoid or mitigate such concerns, including restrictions on future activities, may be considered.

DRUG FREE WORK PLACE CERTIFICATION (JANUARY 2006) By submitting an Offer, Contractor certifies that, if awarded a contract, Contractor will comply with all applicable provisions of The Drug-free Workplace Act, Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

DUTY TO INQUIRE (JANUARY 2006) Offeror, by submitting an Offer, represents that it has read and understands the Solicitation and that its Offer is made in compliance with the Solicitation. Offerors are expected to examine the Solicitation thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation. Failure to do so will be at the Offeror's risk. Offeror assumes responsibility for any patent ambiguity in the Solicitation that Offeror does not bring to the State's attention.

ETHICS CERTIFICATE (May 2008): By submitting an offer, the offeror certifies that the offeror has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed. [02-2A075-2]

ILLEGAL IMMIGRATION (NOV. 2008): (An overview is available at www.procurement.sc.gov) By signing your offer, you certify that you will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agree to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable to you and your subcontractors or sub-subcontractors; or (b) that you and your subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." You agree to include in any contracts with your subcontractors language requiring your subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. [07-7B097-1]

Procurement Code Transactions: Construction

By signing its bid or proposal, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at www.procurement.sc.gov)

Other Transactions

By submitting an offer, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act, 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Contractor and any subcontractors or sub-subcontractors; or (b) the compliance with Title 8, Chapter 14 by Contractor and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring the subcontractors

to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14.

OMIT TAXES FROM PRICE (JANUARY 2006): Do not include any sales or use taxes in Your price that the State may be required to pay.

PROCUREMENT AGENT (AUG 2004) Authorized Agent. All authority regarding the conduct of this procurement is vested solely with the responsible Procurement Officer. Unless specifically delegated in writing, the Procurement Officer is the only government official authorized to bind the government with regard to this procurement.

PROTESTS (JUNE 2006) Any prospective bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen days of the date of issuance of the applicable solicitation document at issue. Any actual bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest within ten days of the date notification of award is posted in accordance with this code. A protest shall be in writing, shall set forth the grounds of the protest and the relief requested with enough particularity to give notice of the issues to be decided, and must be received by the appropriate Chief Procurement Officer within the time provided. See clause entitled "Protest-CPO". [~ 11-35-4210]

PUBLIC OPENING (JANUARY 2006) Offers will be publicly opened at the date / time and at the location identified on the Cover Page, or last Amendment, whichever is applicable

QUESTIONS FROM OFFERORS (JANUARY 2006): (a) Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing. Questions must be received by the Procurement Officer no later than five (5) days prior to opening unless otherwise stated on the Cover Page. Label any communication regarding your questions with the name of the procurement officer, and the solicitation's title and number. Oral explanations or instructions will not be binding. Any information given a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an Amendment to the solicitation, if that information is necessary for submitting offers or if the lack of it would be prejudicial to other prospective offerors. (b) The State seeks to permit maximum practicable competition. Offerors are urged to advise the Procurement Officer – as soon as possible – regarding any aspect of this procurement, including any aspect of the Solicitation that unnecessarily or inappropriately limits full and open competition.

REJECTION/CANCELLATION (JAN 2004) The State may cancel this solicitation in whole or in part. The State may reject any or all proposals in whole or in part. [SC Code Section 11-35-1710 & R.19-445.2065.]

RESPONSIVENESS / IMPROPER OFFERS (JANUARY 2006)

(a) Bid as Specified. Offers for supplies or services other than those specified will not be considered unless authorized by the Solicitation.

(b) Multiple Offers. Offerors may submit more than one Offer, provided that each Offer has significant differences other than price. Each separate Offer must satisfy all Solicitation requirements. If this solicitation is an Invitation for Bids, each separate offer must be submitted as a separate document. If this solicitation is a Request for Proposals, multiple offers may be submitted as one document, provided that you clearly differentiate between each offer and you submit a separate cost proposal for each offer, if applicable.

(c) Responsiveness. Any Offer which fails to conform to the material requirements of the Solicitation may be rejected as nonresponsive. Offers which impose conditions that modify material requirements of the Solicitation may be rejected. If a fixed price is required, an Offer will be rejected if the total possible cost to the State cannot be determined. Offerors will not be given an opportunity to correct any material nonconformity. Any deficiency resulting from a minor informality may be cured or waived at the sole discretion of the Procurement Officer. [R.19-445.2070 and Section 11-35-1520(13)]

(d) Price Reasonableness: Any offer may be rejected if the Procurement Officer determines in writing that it is unreasonable as to price. [R. 19-445.2070].

(e) Unbalanced Bidding. The State may reject an Offer as nonresponsive if the prices bid are materially unbalanced between line items or subline items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the State even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

RESTRICTIONS APPLICABLE TO OFFERORS (JANUARY 2006) Violation of these restrictions may result in disqualification of your offer, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, *you agree not to discuss this procurement activity in any way with the Using Governmental*

Unit or its employees, agents or officials. All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement Officer, ***you agree not to give anything to any Using Governmental Unit***

SIGNING YOUR OFFER (JANUARY 2006) Every Offer must be signed by an individual with actual authority to bind the Offeror. (a) If the Offeror is an individual, the Offer must be signed by that individual. If the Offeror is an individual doing business as a firm, the Offer must be submitted in the firm name, signed by the individual, and state that the individual is doing business as a firm. (b) If the Offeror is a partnership, the Offer must be submitted in the partnership name, followed by the words "by its Partner," and signed by a general partner. (c) If the Offeror is a corporation, the Offer must be submitted in the corporate name, followed by the signature and title of the person authorized to sign. (d) An Offer may be submitted by a joint venturer involving any combination of individuals, partnerships, or corporations. If the Offeror is a joint venture, the Offer must be submitted in the name of the Joint Venture and signed by every participant in the joint venture in the manner prescribed in paragraphs (a) through (c) above for each type of participant. (e) If an Offer is signed by an agent, other than as stated in subparagraphs (a) through (d) above, the Offer must state that it has been signed by an Agent. Upon request, Offeror must provide proof of the agent's authorization to bind the principal.

STATE OFFICE CLOSINGS: If an emergency or unanticipated event interrupts normal government processes so that offers cannot be received at the government office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Amendment may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Amendment will be issued to reschedule the conference. Useful information may be available at: <http://www.scemd.org/closings>

SUBMITTING CONFIDENTIAL INFORMATION (AUG 2002): (An overview is available at www.procurement.sc.gov) For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that Offeror contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410. For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the words "TRADE SECRET" every page, or portion thereof, that Offeror contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "PROTECTED" every page, or portion thereof, that Offeror contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire response (bid, proposal, quote, etc.) as confidential, trade secret, or protected! If your response, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation or request, Offeror (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Offeror's marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED". By submitting a response, Offeror agrees to defend, indemnify and hold harmless the State of South Carolina, its officers and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Offeror marked as "confidential" or "trade secret" or "PROTECTED". (All references to S.C. Code of Laws.)

SUBMITTING YOUR OFFER OR MODIFICATION (JANUARY 2006) (a) Offers and offer modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) – (1) Addressed to the office specified in the Solicitation; and (2) Showing the time and date specified for opening, the solicitation number, and the name and address of the bidder. (b) If you are responding to more than one solicitation, each offer must be submitted in a different envelope or package. (c) Each Offeror must submit the number of copies indicated on the Cover Page. (d) Offerors using commercial carrier services shall ensure that the Offer is addressed and marked on the outermost envelope or wrapper as prescribed in paragraphs (a)(1) and (2) of this provision when delivered to the office specified in the Solicitation. (e) Facsimile or e-mail offers, modifications, or withdrawals, will not be considered unless authorized by the Solicitation. (f) Offers submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

TAX CREDIT FOR SUBCONTRACTING WITH DISADVANTAGED SMALL BUSINESSES (JAN 2008): Pursuant to Section 12-6-3350, a taxpayer having a contract with this State who subcontracts with a socially and economically disadvantaged small business is eligible for an income tax credit equal to four percent of the payments to that subcontractor for work pursuant to the contract. The subcontractor must be certified as a socially and economically disadvantaged small business as defined in Section 11-35-5010 and regulations pursuant to it. The credit is limited to a maximum of fifty thousand dollars annually. A taxpayer is eligible to claim the credit for ten consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. A taxpayer claiming the credit shall maintain evidence of work performed for the contract by the subcontractor. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. [02-2A135-1]

TAXPAYER IDENTIFICATION NUMBER (JANUARY 2006): (a) If Offeror is owned or controlled by a common parent as defined in paragraph (b) of this provision, Offeror shall submit with its Offer the name and TIN of common parent.
(b) Definitions: "Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member. "Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.
(c) If Offeror does not have a TIN, Offeror shall indicate if either a TIN has been applied for or a TIN is not required. If a TIN is not required, indicate whether (i) Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States; (ii) Offeror is an agency or instrumentality of a state or local government; (iii) Offeror is an agency or instrumentality of a foreign government; or (iv) Offeror is an agency or instrumentality of the Federal Government.

WITHDRAWAL OR CORRECTION OF OFFER (JANUARY 2006) Offers may be withdrawn by written notice received at any time before the exact time set for opening. If the Solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for opening. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid. The withdrawal and correction of Offers is governed by S.C. Code Section 11-35-1520 and Regulation 19-445.2085.

II. Instructions To Offerors - B. Special Instructions

SUBMISSION OF QUESTIONS

Mark envelopes on questions mailed:

QUESTIONS: USC-IFB-2585-LW

Title: Mechanical Equipment for USC 1600 Hampton Street Annex

Attn: Lana Widener

QUESTIONS MAY BE E-MAILED TO: llw@mailbox.sc.edu

FAXED TO: 803-777-2032

DESCRIPTIVE LITERATURE – LABELLING (JAN 2006): Include offeror's name on the cover of any specifications or descriptive literature submitted with your offer.

DESCRIPTIVE LITERATURE – REQUIRED (JAN 2006): Your offer must include manufacturer's latest literature showing complete product specifications.

DISCUSSIONS WITH BIDDERS (JAN 2006) After opening, the Procurement Officer may, in his sole discretion, initiate discussions with you to discuss your bid. Discussions are possible only if your bid is apparently responsive and only for the purpose of clarification to assure your full understanding of the solicitation's requirements. Any discussions will be documented in writing and shall be included with the bid.

PROTEST – CPO - MMO ADDRESS (JAN 2006): Any protest must be submitted in writing to the Chief Procurement Officer, Materials Management Office, and submitted in writing (a) by email to protest-mmo@mmo.state.sc.us, (b) by facsimile at 803-737-0639, or (c) by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201. [02-2B122-1]

PREFERENCES - A NOTICE TO VENDORS (SEP. 2009): On June 16, 2009, the South Carolina General Assembly rewrote the law governing preferences available to in-state vendors, vendors using in-state subcontractors, and vendors selling in-state or US end products. This law appears in Section 11-35-1524 of the South Carolina Code of Laws. A summary of the new preferences is available at www.procurement.sc.gov/preferences. *ALL THE PREFERENCES MUST BE CLAIMED AND ARE APPLIED BY LINE ITEM, REGARDLESS OF WHETHER AWARD IS MADE BY ITEM OR LOT.* VENDORS ARE CAUTIONED TO CAREFULLY REVIEW THE STATUTE BEFORE CLAIMING ANY PREFERENCES. THE REQUIREMENTS TO QUALIFY HAVE CHANGED. IF YOU REQUEST A PREFERENCE, YOU ARE CERTIFYING THAT YOUR OFFER QUALIFIES FOR THE PREFERENCE YOU'VE CLAIMED. IMPROPERLY REQUESTING A PREFERENCE CAN HAVE SERIOUS CONSEQUENCES. [11-35-1524(E)(4)&(6)]

PREFERENCES - SC/US END-PRODUCT (SEP 2009): Section 11-35-1524 provides a preference to vendors offering South Carolina end-products or US end-products, if those products are made, manufactured, or grown in SC or the US, respectively. An end-product is the tangible project identified for acquisition in this solicitation, including all component parts in final form and ready for the use intended. The terms "made," "manufactured," and "grown" are defined by Section 11-35-1524(A). By signing your offer and checking the appropriate space(s) provided and identified on the bid schedule, you certify that the end-product(s) is either made, manufactured or grown in South Carolina, or other states of the United States, as applicable. Preference will be applied as required by law. Post award substitutions are prohibited. See "Substitutions Prohibited - End Product Preferences (Sep 2009)" provision.

PREFERENCES - RESIDENT VENDOR PREFERENCE (SEP 2009): To qualify for the RVP, you must maintain an office in this state. An office is a nonmobile place for the regular transaction of business or performance of a particular service which has been operated as such by the bidder for at least one year before the bid opening and during that year the place has been staffed for at least fifty weeks by at least two employees for at least thirty five hours a week each. In addition, you must either: (1) maintain at a location in South Carolina at the time of the bid an inventory of expendable items which are representative of the general type of commodities for which the award will be made and which have a minimum total value, based on the bid price, equal to the lesser of fifty thousand dollars [\$50,000] or the annual amount of the contract; or (2) be a manufacturer headquartered and having an annual payroll of at least one million dollars in South Carolina and the end product being sold is either made or processed from raw materials into a finished end product by that manufacturer or its affiliate (as defined in Section 1563 of the Internal Revenue Code).

III. Scope of Work / Specifications

DELIVERY / PERFORMANCE LOCATION – PURCHASE ORDER (JAN 2006): After award, all deliveries shall be made and all services provided to the location specified by the Using Governmental Unit in its purchase order.

QUALITY – NEW (JAN 2006): All items must be new.

SCOPE OF WORK

Provide mechanical equipment (material only; no installation required) to the USC Columbia Campus for the 1600 Hampton Street Annex.

NOTE: The mechanical equipment is for the 1600 Hampton Street Annex – Deferred maintenance Renovations construction project number, H27-6107. The specifications and drawings included in this solicitation have been provided by the Architect of record for the renovation project, Jumper Carter Sease Architects.

PRODUCT SPECIFICATIONS (ATTACHED):

SECTION 23 81 26	DUCTLESS SPLIT SYSTEM HEAT PUMP
SECTION 23 81 43	PACKAGED HEAT PUMPS
SECTION 23 82 19	SPLIT SYSTEM HEAT PUMPS

SCHEDULES (ATTACHED)

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE
PACKAGED HEAT PUMP SCHEDULE
SPLIT SYSTEM HEAT PUMP SCHEDULE

Product Specifications and Drawings are in Section IX of the Solicitation.

IV. Information For Offerors To Submit

INFORMATION FOR OFFERORS TO SUBMIT – GENERAL (JAN 2006): Offeror shall submit a signed Cover Page and Page Two. Offeror should submit all other information and documents requested in this part and in parts II.B. Special Instructions; III. Scope of Work; V. Qualifications; VIII. Bidding Schedule/Price Proposal; and any appropriate attachments addressed in section IX. Attachments to Solicitations.

MINORITY PARTICIPATION (JAN 2006)

Is the bidder a South Carolina Certified Minority Business? Yes NO

Is the bidder a Minority Business certified by another governmental entity? Yes NO

If so, please list the certifying governmental entity: _____

Will any of the work under this contract be performed by a SC certified Minority Business as a subcontractor? Yes NO

If so, what percentage of the total value of the contract will be performed by a SC certified Minority Business as a subcontractor? Yes NO

Will any of the work under this contract be performed by a minority business certified by another governmental entity as a subcontractor? Yes NO

If so, what percentage of the total value of the contract will be performed by a minority business certified by another governmental entity as a subcontractor? Yes NO

If a certified Minority Business is participating in this contract, please indicate all categories for which the Business is certified:

- Traditional minority
- Traditional minority, but female
- Women (Caucasian females)
- Hispanic minorities
- DOT referral (Traditional minority)
- DOT referral (Caucasian female)
- Temporary certification
- SBA 8 (a) certification referral
- Other minorities (Native American, Asian, etc.)

(If more than one minority contractor will be utilized in the performance of this contract, please provide the information above for each minority business.)

V. Qualifications

QUALIFICATION OF OFFEROR (JANUARY 2006): To be eligible for award of a contract, a prospective contractor must be responsible. In evaluating an Offeror's responsibility, the State Standards of Responsibility [R.19-445.2125] and information from any other source may be considered. An Offeror must, upon request of the State, furnish satisfactory evidence of its ability to meet all contractual requirements. Unreasonable failure to supply information promptly in connection with a responsibility inquiry may be grounds for determining that you are ineligible to receive an award. S.C. Code Section 11-35-1810.

VI. Award Criteria

AWARD CRITERIA – BIDS (JAN 2006): Award will be made to the lowest responsible and responsive bidder(s).

AWARD TO ONE OFFEROR (JAN 2006): Award will be made to one Offeror.

VII. Terms and Conditions - A. General

ASSIGNMENT (JAN 2006): No contract or its provisions may be assigned, sublet, or transferred without the written consent of the Procurement Officer.

BANKRUPTCY (JAN 2006): (a) Notice. In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the Using Governmental Unit. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all State contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract. (b) Termination. This contract is voidable and subject to immediate termination by the State upon the contractor's insolvency, including the filing of proceedings in bankruptcy.

CHOICE-OF-LAW (JAN 2006): The Agreement, any dispute, claim, or controversy relating to the Agreement, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation.

CONTRACT DOCUMENTS & ORDER OF PRECEDENCE (JAN 2006): (a) Any contract resulting from this solicitation shall consist of the following documents: (1) a Record of Negotiations, if any, executed by you and the Procurement Officer, (2) documentation regarding the clarification of an offer [e.g., 11-35-1520(8) or 11-35-1530(6)], if applicable, (3) the solicitation, as amended, (4) modifications, if any, to your offer, if accepted by the Procurement Officer, (5) your offer, (6) any statement reflecting the state's final acceptance (a/k/a "award"), and (7) purchase orders. These documents shall be read to be consistent and complimentary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. (b) The terms and conditions of documents (1) through (6) above shall apply notwithstanding any additional or different terms and conditions in either (i) a purchase order or other instrument submitted by the State or (ii) any invoice or other document submitted by Contractor. Except as otherwise allowed herein, the terms and conditions of all such documents shall be void and of no effect. (c) No contract, license, or other agreement containing contractual terms and conditions will be signed by any Using Governmental Unit. Any document signed or otherwise agreed to by persons other than the Procurement Officer shall be void and of no effect.

DISCOUNT FOR PROMPT PAYMENT (JAN 2006)

(a) Discounts for prompt payment will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a discount for prompt payment in conjunction with the offer, offerors awarded contracts may include discounts for prompt payment on individual invoices.

(b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the state annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day.

DISPUTES (JAN 2006): (1) Choice-of-Forum. All disputes, claims, or controversies relating to the Agreement shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the Government regarding the Agreement is not a waiver of either the Government's sovereign immunity or the Government's immunity under the Eleventh Amendment of the United State's Constitution. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation. (2) Service of Process. Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any disputes, claims, or controversies relating to the Agreement; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided as the Notice Address on Page Two or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

EQUAL OPPORTUNITY (JAN 2006): Contractor is referred to and shall comply with all applicable provisions, if any, of Title 41, Part 60 of the Code of Federal Regulations, including but not limited to Sections 60-1.4, 60-4.2, 60-4.3, 60-250.5(a), and 60-741.5(a), which are hereby incorporated by reference.

FALSE CLAIMS (JAN 2006): According to the S.C. Code of Laws § 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime.

FIXED PRICING REQUIRED (JAN 2006): Any pricing provided by contractor shall include all costs for performing the work associated with that price. Except as otherwise provided in this solicitation, contractor's price shall be fixed for the duration of this contract, including option terms. This clause does not prohibit contractor from offering lower pricing after award.

NON-INDEMNIFICATION (JAN 2006): Any term or condition is void to the extent it requires the State to indemnify anyone.

NOTICE (JAN 2006): (A) After award, any notices shall be in writing and shall be deemed duly given (1) upon actual delivery, if delivery is by hand, (2) upon receipt by the transmitting party of automated confirmation or answer back from the recipient's device if delivery is by telex, telegram, facsimile, or electronic mail, or (3) upon deposit into the United States mail, if postage is prepaid, a return receipt is requested, and either registered or certified mail is used. (B) Notice to contractor shall be to the address identified as the Notice Address on Page Two. Notice to the state shall be to the Procurement Officer's address on the Cover Page. Either party may designate a different address for notice by giving notice in accordance with this paragraph.

PAYMENT & INTEREST (MAY 2011): (a) Unless otherwise provided in this Solicitation, the State shall pay the Contractor, after the submission of proper invoices or vouchers, the prices stipulated in this contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified herein, including the purchase order, payment shall not be made on partial deliveries accepted by the Government. (b) Unless otherwise provided herein, including the purchase order, payment will be made by check. (c) Notwithstanding any other provision, payment shall be made in accordance with S.C. Code Section 11-35-45, which provides the Contractor's exclusive means of recovering any type of interest from the Owner. Contractor waives imposition of an interest penalty unless the invoice submitted specifies that the late penalty is applicable. Except as set forth in this paragraph, the State shall not be liable for the payment of interest on any debt or claim arising out of or related to this contract for any reason. (d) Amounts due to the State shall bear interest at the rate of interest established by the South Carolina Comptroller General pursuant to Section 11-35-45 ("an amount not to exceed fifteen percent each year"), as amended. (e) Any other basis for interest, including but not limited to general (pre- and post-judgment) or specific interest statutes, including S.C. Code Ann. § 34-31-20, are expressly waived by both parties. If a court, despite this agreement and waiver, requires that interest be paid on any debt by either party other than as provided by items (c) and (d) above, the parties further agree that the applicable interest rate for any given calendar year shall be the lowest prime rate as listed in the first edition of the Wall Street Journal published for each year, applied as simple interest without compounding.

PUBLICITY (JAN 2006): Contractor shall not publish any comments or quotes by State employees, or include the State in either news releases or a published list of customers, without the prior written approval of the Procurement Officer.

PURCHASE ORDERS (JAN 2006): Contractor shall not perform any work prior to the receipt of a purchase order from the using governmental unit. The using governmental unit shall order any supplies or services to be furnished under this contract by issuing a purchase order. Purchase orders may be used to elect any options available under this contract, e.g., quantity, item, delivery date, payment method, but are subject to all terms and conditions of this contract. Purchase orders may be electronic. No particular form is required. An order placed pursuant to the purchasing card provision qualifies as a purchase order.

SETOFF (JAN 2006): The state shall have all of its common law, equitable, and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the state with regard to this contract, any other contract with any state department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the state for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto.

SURVIVAL OF OBLIGATIONS (JAN 2006): The Parties' rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses: Indemnification - Third Party Claims, Intellectual Property Indemnification, and any provisions regarding warranty or audit.

TAXES (JAN 2006): Any tax the contractor may be required to collect or pay upon the sale, use or delivery of the products shall be paid by the State, and such sums shall be due and payable to the contractor upon acceptance. Any personal property taxes levied after delivery shall be paid by the State. It shall be solely the State's obligation, after payment to contractor, to challenge the applicability of any tax by negotiation with, or action against, the taxing authority. Contractor agrees to refund any tax collected, which is subsequently determined not to be proper and for which a refund has been paid to contractor by the taxing authority. In the event that the contractor fails to pay, or delays in paying, to any taxing authorities, sums paid by the State to contractor, contractor shall be liable to the State for any loss (such as the assessment of additional interest) caused by virtue of this failure or delay. Taxes based on Contractor's net income or assets shall be the sole responsibility of the contractor.

TERMINATION DUE TO UNAVAILABILITY OF FUNDS (JAN 2006): Payment and performance obligations for succeeding fiscal periods shall be subject to the availability and appropriation of funds therefor. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the contract shall be canceled. In the event of a cancellation pursuant to this paragraph, contractor will be reimbursed the resulting

unamortized, reasonably incurred, nonrecurring costs. Contractor will not be reimbursed any costs amortized beyond the initial contract term.

THIRD PARTY BENEFICIARY (JAN 2006): This Contract is made solely and specifically among and for the benefit of the parties hereto, and their respective successors and assigns, and no other person will have any rights, interest, or claims hereunder or be entitled to any benefits under or on account of this Contract as a third party beneficiary or otherwise.

WAIVER (JAN 2006): The State does not waive any prior or subsequent breach of the terms of the Contract by making payments on the Contract, by failing to terminate the Contract for lack of performance, or by failing to strictly or promptly insist upon any term of the Contract. Only the Procurement Officer has actual authority to waive any of the State's rights under this Contract. Any waiver must be in writing.

VII. Terms and Conditions - B. Special

HIPAA LAW: The Contractor agrees that to the extent that some or all of the activities within the scope of this Contract are subject to the Health Insurance Portability Accountability Act of 1996, P.L. 104-91, as amended ("HIPAA"), or its implementing regulations, it will comply with the HIPAA requirements and will execute such agreements and practices as the University of South Carolina may require to ensure compliance. Additional information may be viewed at: <http://www.sa.sc.edu/shs/hipaa>

PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT - The University of South Carolina requires that all contractual activities to be in compliance with local, state and federal mandates concerning "protection of human health and the environment". In addition, the University of South Carolina is a "Drug Free Work Place" and requires all contractors to comply with South Carolina Code of Laws Section 41-15-10 ET sequence (1976 w/amendments). Any contractor doing business with the University will be required to document compliance with these mandates and to furnish specific information requested by the University's Department of Environmental Health and Safety when notified to do so. The Contractor understands and agrees that jobsites are open at all times work is being performed by the Contractor to authorized University employees who have been trained to identify unsafe work conditions. The Contractor will immediately correct any deficiencies noted by these inspections when requested by the University's Department of Environmental Health and Safety to do so. In work areas where a specific hazard is posed which includes but is not limited to lead paint and asbestos abatement projects, Contractors will be required to produce Lead Compliance Plans and Asbestos Project Designs which outline their method of work prior to the start of work. Each contractor shall designate a responsible member of the Contractor's organization to be at the site whose duty shall be the prevention of accidents. By submission of this bid, the vendor agrees to take all necessary steps to insure compliance with the requirements outlined above.

COMPLIANCE WITH LAWS (JAN 2006): During the term of the contract, contractor shall comply with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs.

DEFAULT – SHORT FORM (JAN 2006): The state may terminate this contract, or any part hereof, for cause in the event of any default by the contractor, or if the contractor fails to comply with any contract terms and conditions, or fails to provide the state, upon request, with adequate assurances of future performance. In the event of termination for cause, the state shall not be liable to the contractor for any amount for supplies or services not accepted, and the contractor shall be liable to the state for any and all rights and remedies provided by law. If it is determined that the state improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

INDEMNIFICATION - THIRD PARTY CLAIMS (JAN 2006): Notwithstanding any limitation in this agreement, Contractor shall defend and indemnify the State of South Carolina, its instrumentalities, agencies, departments, boards, political subdivisions and all their respective officers, agents and employees against all suits or claims of any nature (and all damages, settlement payments, attorneys' fees, costs, expenses, losses or liabilities attributable thereto) by any third party which arise out of, or result in any way from, any defect in the goods or services acquired hereunder or from any act or omission of Contractor, its subcontractors, their employees, workmen, servants or agents. Contractor shall be given written notice of any suit or claim. State shall allow Contractor to defend such claim so long as such defense is diligently and capably prosecuted through legal counsel. State shall allow Contractor to settle such suit or claim so long as (i) all settlement payments are made by (and any deferred settlement payments are the sole liability of) Contractor, and (ii) the settlement imposes no non-monetary obligation upon State. State shall not admit liability or agree to a settlement or other disposition of the suit or claim, in whole or in part, without the prior written consent of Contractor. State shall reasonably cooperate with Contractor's defense of such suit or claim. The obligations of this paragraph shall survive termination of the parties' agreement.

MATERIAL AND WORKMANSHIP (JAN 2006): Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in the work covered by this contract are to be new and of the most suitable grade for the purpose intended.

SHIPPING / RISK OF LOSS (JAN 2006): F.O.B. Destination. Destination is the shipping dock of the Using Governmental Units' designated receiving site, or other location, as specified herein. (See Delivery clause)

SUBSTITUTIONS PROHIBITED - END PRODUCT PREFERENCES (SEP 2009): If you receive the award as a result of the South Carolina end product or United States end product preference, you may not substitute a nonqualifying end product for a qualified end product. If you violate this provision, the State may terminate your contract for cause and you may be debarred. In addition, you shall pay to the State an amount equal to twice the difference between the price paid by the State and your evaluated price for the item for which you delivered a substitute. [11-35-1534(B)(4)]

TERMINATION FOR CONVENIENCE – SHORT FORM (JAN 2006): The Procurement Officer may terminate this contract in whole or in part, for the convenience of the State. In such a termination, the Procurement Officer may require the contractor to transfer title and deliver to the State in the manner and to the extent directed by the Procurement Officer: (a) any completed supplies; and (b) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing material") as the contractor has specifically produced or specially acquired for the performance of the terminated part of this contract. Upon such termination, the contractor shall (a) stop work to the extent specified, (b) terminate any subcontracts as they relate to the terminated work, and (c) be paid the following amounts without duplication, subject to the other terms of this contract: (i) contract prices for supplies or services accepted under the contract, (ii) costs incurred in performing the terminated portion of the work, and (iii) any other reasonable costs that the contractor can demonstrate to the satisfaction of the State, using its standard record keeping system, have resulted from the termination. The contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided. As a condition of payment, contractor shall submit within three months of the effective date of the termination a claim specifying the amounts due because of the termination. The absence of an appropriate termination for convenience clause in any subcontract shall not increase the obligation of the state beyond what it would have been had the subcontract contained such a clause.

WARRANTY – STANDARD (JAN 2006): Contractor must provide the manufacturer's standard written warranty upon delivery of product. Contractor warrants that manufacturer will honor the standard written warranty provided.

VIII. BIDDING SCHEDULE / PRICE-BUSINESS PROPOSAL

Commodity (Material)
(do not include sales tax)

Item	Qty	Unit of Measure	Description	Unit Price
1	1	lot	Ductless Split System Heat Pumps per schedule, as specified	\$ _____

Manufacturer: _____ Product #: _____

Resident Vendor Preference _____
 SC End Product Preference _____
 US End Product Preference _____

DELIVERY ARO: _____

Item	Qty	Unit of Measure	Description	Unit Price
2	1	lot	Packaged Heat Pumps per schedule, as specified	\$ _____

Manufacturer: _____ Product #: _____

Resident Vendor Preference _____
 SC End Product Preference _____
 US End Product Preference _____

DELIVERY ARO: _____

Item	Qty	Unit of Measure	Description	Unit Price
3	1	lot	Split System Heat Pumps per schedule, as specified.	\$ _____

Manufacturer: _____ Product #: _____

Resident Vendor Preference _____
 SC End Product Preference _____
 US End Product Preference _____

DELIVERY ARO: _____

NOTE: The commodity preferences do not apply to a single unit of an item with a price in excess of \$50,000 or a single award with a total potential value in excess of \$500,000. [11-35-1524(E)(2)]
 Please refer to the preference clauses listed in the terms and conditions of this solicitation to ensure that you qualify to select the above preferences.

TOTAL (Items 1-3) = \$ _____

IX. ATTACHMENTS TO SOLICITATION

1. IMPORTANT TAX NOTICE – NONRESIDENTS ONLY
2. NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING
3. OFFEROR'S CHECKLIST
4. SPECIFICATIONS – MECHANICAL SPECIFICATIONS
5. SCHEDULES:
 - DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE
 - PACKAGED HEAT PUMP SCHEDULE
 - SPLIT SYSTEM HEAT PUMP SCHEDULE

IMPORTANT TAX NOTICE - NONRESIDENTS ONLY

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

The withholding requirement applies to every governmental entity that uses a contract ("Using Entity"). Nonresidents should submit a separate copy of the Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to every Using Entity that makes payment to the nonresident pursuant to this solicitation. Once submitted, an affidavit is valid for all contracts between the nonresident and the Using Entity, unless the Using Entity receives notice from the Department of Revenue that the exemption from withholding has been revoked.

Section 12-8-540 requires persons making payment to a nonresident taxpayer of rentals or royalties at a rate of \$1,200.00 or more a year for the use of or for the privilege of using property in South Carolina to withhold 7% of the total of each payment made to a nonresident taxpayer who is not a corporation and 5% if the payment is made to a corporation. Contact the Department of Revenue for any applicable exceptions.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at www.sctax.org.

This notice is for informational purposes only. This agency does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898-5383.



STATE OF SOUTH CAROLINA
DEPARTMENT OF REVENUE
**NONRESIDENT TAXPAYER
REGISTRATION AFFIDAVIT
INCOME TAX WITHHOLDING**

I-312
(Rev. 5/7/04)
3323

The undersigned nonresident taxpayer on oath, being first duly sworn, hereby certifies as follows:

1. Name of Nonresident Taxpayer: _____
2. Trade Name, if applicable (Doing Business As): _____
3. Mailing Address: _____
4. Federal Identification Number: _____
5. Hiring or Contracting with: _____
- Name: _____
- Address: _____
- Receiving Rentals or Royalties From: _____
- Name: _____
- Address: _____
- Beneficiary of Trusts and Estates: _____
- Name: _____
- Address: _____

6. I hereby certify that the above named nonresident taxpayer is currently registered with

(check the appropriate box):

- The South Carolina Secretary of State or
- The South Carolina Department of Revenue

Date of Registration: _____

7. I understand that by this registration, the above named nonresident taxpayer has agreed to be subject to the jurisdiction of the South Carolina Department of Revenue and the courts of South Carolina to determine its South Carolina tax liability, including estimated taxes, together with any related interest and penalties.

8. I understand the South Carolina Department of Revenue may revoke the withholding exemption granted under Code Sections 12-8-540 (rentals), 12-8-550 (temporarily doing business or professional services in South Carolina), and 12-8-570 (distributions to nonresident beneficiary by trusts or estates) at any time it determines that the above named nonresident taxpayer is not cooperating with the Department in the determination of its correct South Carolina tax liability.

The undersigned understands that any false statement contained herein could be punished by fine, imprisonment or both.

Recognizing that I am subject to the criminal penalties under Code Section 12-54-44 (B) (6) (a) (i), I declare that I have examined this affidavit and to the best of my knowledge and belief, it is true, correct and complete.

(Seal)

Signature of Nonresident Taxpayer (Owner, Partner or Corporate Officer, when relevant)

Date

If Corporate officer state title:

(Name - Please Print)

Mail to: The company or individual you are contracting with.

OFFEROR'S CHECKLIST

AVOID COMMON BID/PROPOSAL MISTAKES

Review this checklist prior to submitting your bid/proposal.
If you fail to follow this checklist, you risk having your bid/proposal rejected.

- DO NOT INCLUDE ANY OF YOUR STANDARD CONTRACT FORMS!
- UNLESS EXPRESSLY REQUIRED, DO NOT INCLUDE ANY ADDITIONAL BOILERPLATE CONTRACT CLAUSES.
- REREAD YOUR ENTIRE BID/PROPOSAL TO MAKE SURE YOUR BID/PROPOSAL DOES NOT TAKE EXCEPTION TO ANY OF THE STATE'S MANDATORY REQUIREMENTS.
- MAKE SURE YOU HAVE PROPERLY MARKED ALL PROTECTED, CONFIDENTIAL, OR TRADE SECRET INFORMATION IN ACCORDANCE WITH THE INSTRUCTIONS ENTITLED: SUBMITTING CONFIDENTIAL INFORMATION. ***DO NOT MARK YOUR ENTIRE BID/PROPOSAL AS CONFIDENTIAL, TRADE SECRET, OR PROTECTED! DO NOT INCLUDE A LEGEND ON THE COVER STATING THAT YOUR ENTIRE RESPONSE IS NOT TO BE RELEASED!***
- HAVE YOU PROPERLY ACKNOWLEDGED ALL AMENDMENTS? INSTRUCTIONS REGARDING HOW TO ACKNOWLEDGE AN AMENDMENT SHOULD APPEAR IN ALL AMENDMENTS ISSUED.
- MAKE SURE YOUR BID/PROPOSAL INCLUDES A COPY OF THE SOLICITATION COVER PAGE. MAKE SURE THE COVER PAGE IS SIGNED BY A PERSON THAT IS AUTHORIZED TO CONTRACTUALLY BIND YOUR BUSINESS.
- MAKE SURE YOUR BID/PROPOSAL INCLUDES THE NUMBER OF COPIES REQUESTED.
- CHECK TO ENSURE YOUR BID/PROPOSAL INCLUDES EVERYTHING REQUESTED!
- IF YOU HAVE CONCERNS ABOUT THE SOLICITATION, DO NOT RAISE THOSE CONCERNS IN YOUR RESPONSE! **AFTER OPENING, IT IS TOO LATE! IF THIS SOLICITATION INCLUDES A PRE-BID/PROPOSAL CONFERENCE OR A QUESTION & ANSWER PERIOD, RAISE YOUR QUESTIONS AS A PART OF THAT PROCESS!** PLEASE SEE INSTRUCTIONS UNDER THE HEADING "SUBMISSION OF QUESTIONS" AND ANY PROVISIONS REGARDING PRE-BID/PROPOSAL CONFERENCES.

This checklist is included only as a reminder to help offerors avoid common mistakes.
Responsiveness will be evaluated against the solicitation, not against this checklist.
You do not need to return this checklist with your response.

SECTION 23 81 26 - DUCTLESS SPLIT SYSTEM HEAT PUMPS

PART 1 - GENERAL (BY VENDOR)

1.1 Section 23 00 00 Mechanical, General applies to the work specified in this section of specifications.

1.2 SYSTEM DESCRIPTION:

- A. The split system heat pump shall be a Daikin as scheduled on the drawings or equal by Carrier, Mitsubishi, Samsung, Panasonic or approved equal.
- B. Each indoor unit or group of indoor units shall be independently controlled.
- C. Indoor and outdoor sections of the systems shall be by the same manufacturer.

1.3 QUALITY ASSURANCE

- A. The units shall be tested by a Nationally Recognized Testing Laboratory (NRTL), in accordance with ANSI/UL 1995 - Heating and Cooling Equipment and bear the Listed Mark.
- B. All wiring shall be in accordance with the National Electrical Code (N.E.C.).
- C. The units shall be manufactured in a facility registered to ISO 9001 and ISO14001 which is a set of standards applying to environmental protection set by the International Standard Organization (ISO).
- D. A full charge of R-410A for the condensing unit only shall be provided in the outdoor section of the heat pump.

1.4 DELIVERY, STORAGE AND HANDLING

Unit shall be stored and handled according to the manufacturer's recommendations.

1.5 **WARRANTY:** The units shall be covered by the manufacturer's limited warranty for a period of one (1) year from date of installation, or a maximum of eighteen (18) months from the date of shipment. In addition the compressor shall have a manufacturer's limited warranty for a period of six (6) years from date of installation. If, during this period, any part should fail to function properly due to defects in workmanship or material, it shall be replaced or repaired at the discretion of the manufacturer. This warranty shall not include labor.

1.6 The system shall be installed by a factory trained mechanical contractor. The mandatory contractor service and install training should be performed by the manufacturer.

1.7 The split system heat pump shall perform as scheduled on the drawings.

1.8 EQUIPMENT RAILS AND PIPE PENTHOUSES

Contractor to provide all equipment submittals to equipment supplier for proper selection of equipment rails and pipe penthouses. Equipment rails and pipe penthouses shall be manufactured by Imperial Metals or Roof Product System or approved equal.

- 1.9 The Ductless Split System Heat Pumps will be purchased by the Owner. The Vendor shall deliver the equipment to a location specified by the Installation Contractor. See Part 3 - Execution in this section of the specifications. Equipment rails and pipe penthouses shall be purchased and provided by the Installation Contractor.

PART 2 - PRODUCTS (BY VENDOR)

2.1 OUTDOOR UNIT:

A. GENERAL:

1. The outdoor unit shall be factory assembled and pre-wired with all necessary electronic and refrigerant controls. The refrigeration circuit of the condensing unit shall consist of scroll compressors, motors, fans, condenser coil, electronic expansion valves, solenoid valves, 4-way valve, distribution headers, capillaries, filters, shut off valves, oil separators, service ports and refrigerant regulator. High/low pressure gas line, liquid and suction lines shall be individually insulated between the outdoor and indoor units.
2. The outdoor unit can be wired and piped with outdoor unit access from the left, right, rear or bottom.
3. The connection ratio of indoor units to outdoor unit shall be permitted up to 200%.
4. The system shall automatically restart operation after a power failure and shall not cause any settings to be lost, thus eliminating the need for reprogramming.
5. The unit shall incorporate an auto-charging feature and a refrigerant charge check function.
6. The outdoor unit shall be modular in design and should allow for side-by-side installation with minimum spacing.
7. The following safety devices shall be included on the condensing unit; high pressure switch, control circuit fuses, crankcase heaters, fusible plug, high pressure switch, overload relay, inverter overload protector, thermal protectors for compressor and fan motors, over current protection for the inverter and anti-recycling timers.
8. Oil recovery cycle shall be automatic occurring 2 hours after start of operation and then every 8 hours of operation.
9. The outdoor unit shall be capable of heating operation at 0°F dry bulb ambient temperature without additional low ambient controls.
10. The system shall continue to provide heat to the indoor units in heating operation while in the defrost mode.

B. UNIT CABINET:

The outdoor unit shall be completely weatherproof and corrosion resistant. The unit shall be constructed from rust-proofed mild steel panels coated with a baked enamel finish.

C. FAN:

The condensing unit shall consist of one or more propeller type, direct-drive 350 and 750 W fan motors that have multiple speed operation via a DC (digitally commutating) inverter. The condensing unit fan motor shall have multiple speed operation of the DC (digitally commutating) inverter type, and be of high external static pressure and shall be factory set as standard at 0.12 in. WG. A field setting switch to a maximum 0.32 in. WG pressure is available to accommodate field applied duct for indoor mounting of condensing units. The fan shall be a vertical discharge

configuration with a nominal airflow maximum range of 6,700 CFM to 14,120 CFM dependant on model specified. The fan motor shall have inherent protection and permanently lubricated bearings and be mounted. The fan motor shall be provided with a fan guard to prevent contact with moving parts.

D. COIL:

The condenser coil shall be manufactured from copper tubes expanded into aluminum fins to form a mechanical bond. The heat exchanger coil shall be of a waffle louver fin and rifled bore tube design to ensure high efficiency performance. The heat exchanger on the condensing units shall be manufactured from Hi-X seamless copper tube with N-shape internal grooves mechanically bonded on to aluminum fins to an e-Pass Design. The fins are to be covered with an anti-corrosion acrylic resin and hydrophilic film type E1. The pipe plates shall be treated with powdered polyester resin for corrosion prevention. The thickness of the coating must be between 2.0 to 3.0 microns.

E. COMPRESSOR:

1. The inverter scroll compressors shall be variable speed (PAM inverter) controlled which is capable of changing the speed to follow the variations in total cooling and heating load as determined by the suction gas pressure as measured in the condensing unit. In addition, samplings of evaporator and condenser temperatures shall be made so that the high/low pressures detected are read every 20 seconds and calculated. With each reading, the compressor capacity (INV frequency or STD ON/OFF) shall be controlled to eliminate deviation from target value.
2. The inverter driven compressor in each condensing unit shall be of highly efficient reluctance DC (digitally commutating), hermetically sealed scroll "G-type" with a maximum speed of 7,980 rpm.
3. Neodymium magnets shall be adopted in the rotor construction to yield a higher torque and efficiency in the compressor instead of the normal ferrite magnet type. At complete stop of the compressor, the neodymium magnets will position the rotor into the optimum position for a low torque start.
4. The capacity control range shall be as low as 6% to 100%.
5. Each non-inverter compressor shall also be of the hermetically sealed scroll type.
6. Each compressor shall be equipped with a crankcase heater, high pressure safety switch, and internal thermal overload protector.
7. Oil separators shall be standard with the equipment together with an intelligent oil management system.
8. The compressor shall be spring mounted to avoid the transmission of vibration.
9. Units sized 8-12 ton shall contain a minimum of 2 compressors, 14-16 ton units shall contain a minimum of 3 compressors and 18-20 ton shall contain a minimum of 4 compressors. In the event of compressor failure the remaining compressors shall continue to operate and provide heating or cooling as required at a proportionally reduced capacity. The microprocessor and associated controls shall be designed to specifically address this condition.
10. In the case of multiple condenser modules, conjoined operation hours of the compressors shall be balanced by means of the Duty Cycling Function, ensuring sequential starting of each module at each start/stop cycle, completion of oil return, completion of defrost or every 8 hours.

G. ELECTRICAL:

The control voltage between the indoor and outdoor unit shall be 16VDC non-shielded, stranded 2 conductor cable. The control wiring shall be a two-wire multiplex transmission system, making it possible to connect multiple indoor units to one outdoor unit with one 2-cable wire, thus simplifying the wiring operation.

2.2 INDOOR UNITS

- A. Each system shall perform in accordance to the ratings shown in the schedule on the drawings. Performance shall be based on nominal cooling conditions of 80°FDB, 67°FWB for the indoor unit and 95°FDB for the outdoor unit and nominal heating conditions of 70°FDB for the indoor unit and 47°FDB for the outdoor unit.
- B. The indoor units shall be completely factory assembled and tested. Units shall be factory wired and piped, and shall have electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory. Both refrigerant lines shall be insulated from the outdoor unit. The indoor units shall be equipped with a return air thermistor.
- C. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while inhibiting changes in room temperature.

D. CONCEALED CEILING DUCTED UNITS:

- 1. General: Daikin indoor unit FXMQ or equal by Sanyo or approved equal shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation into the ceiling cavity. It shall be constructed of a galvanized steel casing. It shall be a horizontal discharge air with horizontal return air configuration. Units shall be a low height (15-3/8") cabinet. The indoor units sound pressure shall range from 41 dB(A) to 45 dB(A) at low speed measured 5 feet below the ducted unit.
- 2. The unit shall have an external adjustable static pressure switch.
- 3. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
- 4. The fan shall be direct-drive Sirocco type fan with statically and dynamically balanced impeller with high and low fans speeds available. Air flow rate shall be available in high and low settings. The fan motor shall be thermally protected. Fans shall be capable of external static pressures as scheduled on drawings.
- 5. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance. The coil shall be a 3 row cross fin copper evaporator coil with 13 fpi design completely factory tested. The refrigerant connections shall be flare connections and the condensate will be 1-1/4 inch outside diameter PVC.

E. WALL MOUNTED UNITS:

1. General: Daikin indoor unit FXAQ or equal by Sanyo or approved equal shall be a wall mounted fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation onto a wall within a conditioned space. A mildew-proof, polystyrene air filter and condensate drain pan shall be included as standard equipment. The indoor units sound pressure shall range from 32 dB(A) to 35 dB(A) at low speed measured at 3.3 feet below and from the unit.
2. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops. The remote controller shall be able to set five (5) steps of discharge angle. The front grille shall be easily removed for washing. The discharge angle shall automatically set at the same angle as the previous operation upon restart. The drain pipe shall be able to be fitted to from either left or right sides.
3. The cabinet shall be affixed to a factory supplied wall mounting template and located in the conditioned space. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
4. The fan shall be direct-drive cross-flow fan with statically and dynamically balanced impeller with high and low fans speeds available. Air flow rate shall be available in high and low settings. The fan motor shall be thermally protected.
5. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance. The coil shall be a 2-row cross fin copper evaporator coil with 14 fpi design completely factory tested. The refrigerant connections shall be flare connections and the condensate will be 11/16 inch outside diameter PVC. A thermistor will be located on the liquid and gas line. A condensate pan shall be located in the unit.
6. A condensate pump with a 15 foot lift shall be located below the coil in the condensate pan with a built in safety alarm. Condensate pump shall be factory installed, high capacity.

F. 4-WAY CEILING CASSETTE UNITS:

1. General: Daikin indoor unit model FXFQ or equal by Sanyo or approved equal shall be a ceiling cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation into the ceiling cavity equipped with an air panel grill. It shall be a four-way air distribution type, ivory white, impact resistant with a washable decoration panel. The supply air is distributed via motorized louvers which can be horizontally and vertically adjusted from 0° to 90°. The indoor units sound pressure shall range from 28 dB(A) to 33 dB(A) at low speed measured at 5 feet below the unit.
2. A condensate pump with a 21 inch lift shall be located below the coil in the condensate pan with a built in safety alarm.
3. The 4-way supply air flow shall be able to be field modified to 3-way and 2-way airflow to accommodate various installation configurations including corner installations. Return air shall be through the concentric panel, which includes a resin net mold resistant filter.
4. Units shall be capable of fresh air intake.
5. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
6. The fan shall be direct-drive turbo fan type with statically and dynamically balanced impeller with high and low fans speeds available. Air flow rate shall be available in high and low settings. The fan motor shall be thermally protected.
7. The return filter shall be filtered means of a washable long-life filter with mildew proof resin.

8. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance. The coil shall be a 2-row cross fin copper evaporator coil with 17 FPI design completely factory tested. The refrigerant connections shall be flare connections and the condensate will be 1 -1/4 inch outside diameter PVC. A condensate pan shall be located under the coil. A thermistor will be located on the liquid and gas line.

2.4 CONTROLS:

- A. The controls shall be capable of supporting remote controllers, schedule timers, system controllers, centralized controllers, and system integration to the Building Management System (see specification section 25 55 00 - Automatic Temperature Controls).
- B. Physical Characteristics: The control system shall be a neutral color plastic material. Each control may have a Liquid Crystal Display (LCD).
- C. Electrical Characteristics: From each circuit board to the controls, the electrical voltage shall be 16 volts DC. Control wiring shall run from the indoor unit terminal block to the specific controller for that unit. The wire shall be a non-shielded, 2-core sheathed vinyl cord or cable, size AWG18-2.

D. INDIVIDUAL ZONE CONTROLLER

1. The wired navigation controller shall be provided for each system (do not daisy-chain systems), and shall be able to function as follows:
 - a. The controller shall have a maximum wiring length of 1,640 feet.
 - b. The controller shall have a self diagnosis function that constantly monitors the system for malfunctions (total of 80 components).
 - c. The controller shall be able to immediately display fault location and condition.
 - d. An LCD digital display will allow the temperature to be set in 1°F units.
 - e. The controller shall be equipped with a thermostat sensor in the controller making possible more comfortable room temperature control.
 - f. The controller shall monitor room temperature and preset temperature by microcomputer and can select cool/heat operation mode automatically.
 - g. The controller shall allow the user to select cool / heat / fan operation mode with indoor remote controller of choice without using the cool / heat selector.
2. The wired navigation controller shall have the following features:
 - a. Operation: Start/stop, operation mode, temperature setting, 60°F-90°F set point range, fan speed, and airflow direction.
 - b. Monitoring: Status, malfunction flashing, malfunction content, filter sign, operation mode, temperature setting, permit/prohibit selection, fan speed, airflow direction.
 - c. Scheduling: Occupied/Unoccupied with timed override and temporary temperature override.
 - d. Control Management: Field setting mode, group setting, auto-restart.

PART 3 - EXECUTION (BY INSTALLATION CONTRACTOR)

- 3.1 Suspend concealed ceiling ducted indoor units and ceiling mounted cassette units from threaded rods from floor or roof support structure as recommended the unit manufacturer. Provide spring vibration isolators at each hanger rod. Mount unit level by checking casing. Provide seismic sway

cables at each unit support and connect to floor or roof structure, leaving the allowable slack in the cable, per 2012 International Building Code.

- 3.2 Mount wall mounted units to the building wall structure per manufacturer's printed installation instructions, and support for seismic protection per the 2012 International Building Code.
- 3.3 Connect condensate drain and secondary drain connection to fan coil unit and pipe to condensate main as shown on drawings.
- 3.4 After construction is completed, including painting, clean exposed surfaces of units. Vacuum clean coils and inside of cabinets.
- 3.5 Provide flexible duct connections for supply and return air duct connections.
- 3.6 **EQUIPMENT RAILS**
 - A. Roof mounted equipment rails shall be RPS model ER-4A.
 - B. The rails shall be 18 gauge galvanized steel, monolithic construction, with integral base plate, continuous welded corner seams, factory installed 2 x 4 nailer and including and 18 gauge galvanized steel counter-flashing complete with screws.
- 3.7 See Pipe Penthouse detail on drawings.
- 3.8 **OUTDOOR UNIT INSTALLATION:**
 - A. Where shown on drawings, mount outdoor units on equipment rails on roof. Equipment rails shall be furnished and installed under Division 23. Equipment rail curbs shall be attached to roof decking in compliance with the seismic requirements of the 2012 International Building Code. Bolt units to equipment rails per the seismic requirements of the 2012 International Building Code.
 - B. Install all components in strict accordance with manufacturer's written installation instructions.
- 3.9 The Ductless Split System Heat Pumps shall be included in the Contractor's one year warranty, see WARRANTY paragraph in section 23 00 00 Mechanical, General.
- 3.10 Contractor shall receive the new Ductless Split System Heat Pumps as coordinated with the manufacturer's representative.

END OF SECTION 23 34 23

SECTION 23 81 43 - PACKAGED HEAT PUMPS

PART 1 - GENERAL (BY VENDOR)

- 1.1 Section 23 00 00 Mechanical, General applies to the work specified in this section of specifications.
- 1.2 Provide packaged heat pump units as shown on plans. Cooling and heating capacities shall be as listed on schedule on drawings. The unit shall be properly assembled and tested at the factory. It shall be designed for use with Refrigerant 410a.
- 1.3 Cooling capacity ratings shall be based on ARI standards.
- 1.4 Packaged heat pumps shall be tested in accordance with UL 559 or UL 1995.
- 1.5 Packaged heat pumps shall be Trane models listed on drawings or equal by Carrier or Johnson Controls (York), Lennox, or approved equal.
- 1.6 The Packaged Heat Pumps will be purchased by the Owner. The Vendor shall deliver the equipment to a location specified by the Installation Contractor. See Part 3 - Execution in this section of the specifications.

PART 2 - PRODUCT (BY VENDOR)

- 2.1 Provide horizontal packaged, one piece, air-to-air electric heat pumps designed to function as a year round air conditioning system. Units shall be completely assembled and tested complete with refrigerant charge and ready to operate. The total unit shall listed by U.L. and carry a U.L. label.
- 2.2 All wiring internal to the unit shall be colored and numbered for identification.
- 2.3 All units shall be provided with condenser coil guards.
- 2.4 Electric resistance heaters shall be internally wired nickel chromium elements with controls necessary for complete operation. Safety controls shall include primary high temperature and overcurrent protection. Heaters shall be U.L. listed and shall comply with N.E.C.
- 2.5 Unit compressors shall be welded fully hermetic reciprocating with crankcase heaters and suitable vibration isolators. Compressors shall be of same manufacturer as unit and shall be tested and designed in unit to operate down to -20°F outdoor air temperature on the heating cycle without shutting off. The standard unit shall be capable of operating down to 35°F outdoor air temperature on the cooling cycle. Compressors shall have a five year non-prorated warranty. Where noted in schedule on drawings, provide low ambient kits to allow cooling operation to 0°F.
- 2.6 Indoor and outdoor coils shall be aluminum plate fins mechanically bonded to seamless copper tubes.
- 2.7 Fans and Motors: Indoor air fan shall be forward curved, double width, double inlet, centrifugal type. Belt driven unit motor pulleys shall be adjustable pitch. Indoor fan motor shall have permanently lubricated bearings. Outdoor fans shall be propeller type with direct driven permanently lubricated motor. Fans shall discharge upward. Indoor and outdoor fans shall have internal thermal overload protection.

- 2.8 Unit cabinet shall be constructed of galvanized steel, phosphatized, and finished with an air-dry paint coating with removable access panels. Structural members shall be 16 gauge with access doors and removable panels of minimum 20 gauge. Cabinet interior shall be insulated with ½" thick neoprene-coated fiberglass. Cabinet panels shall be easily removable for service to all operating components. A condensate drain for the indoor coil shall be provided.
- 2.9 Safety Controls: The heat pump heating/cooling system shall be protected with high pressurestat, low pressurestats, loss-of-charge protection, indoor coil freezestats, and current and temperature sensitive overload devices. Each of these devices shall be wired to prevent compressor restart. Two-compressor units shall have separate and independent refrigeration and control systems designed to allow for standby operation of either compressor if one is locked out. Two-compressor units shall have 2-stage compressor heat and cool with built-in electric strip heat lock out to prevent resistance heat operation above 40°F ambient.
- 2.10 An outdoor coil defrost system shall be incorporated into the base unit to prevent frost accumulation during heating cycle. The defrost cycle shall function on the basis of time and coil temperature. A 90-minute timer shall actuate a defrost mode only if coil temperature is low enough to indicate a heavy frost condition. Defrost shall have a positive termination time of a maximum of 10 minutes or when the defrost thermostat is satisfied to prevent prolonged operation on a defrost cycle. Electric resistance heaters shall operate automatically during the defrost cycle.
- 2.11 Thermostats shall be provided under section 25 55 00, Automatic Temperature Controls.
- 2.12 Emergency heat control shall consist of emergency heat control box containing emergency heat relays and outdoor thermostats; and an emergency heat thermostat subbase (with warning light). Control shall allow for manual bypass of compressor and outdoor thermostats if compressor becomes inoperative, or for service. Outdoor thermostats shall provide for staging of electric resistance heat according to outdoor temperature. Thermostats shall be wired into the electric heater contactors and shall have an adjustable set point to provide economical resistance heat staging.
- 2.13 Time delay circuit to prevent compressor short cycling as a result of a rapid change in thermostat setting and automatically prevents compressor restart at least 5 minutes after shutdown.
- 2.14 Provide for each stage of electric heat on outdoor thermostat to lock out electric heat when outdoor temperature is below its setpoint. Provide emergency heat switch on thermostat to bring on heat if the compressor fails.
- 2.16 Provide unit with filter frames to accept 2" filters, MERV 8.
- 2.17 Provide 14 gauge galvanized all welded seismic curb for each unit. Curbs shall meet the seismic requirements of the 2012 International Building Code. Curb shall be 14" high or a minimum of 8" above the roof insulation. Curb shall be sloped so top of unit is level, verify roof slope prior to ordering curb.

PART 3 - EXECUTION (BY INSTALLATION CONTRACTOR)

- 3.1 Mount units on curb installed by a General Contractor. Curbs shall be attached to the concrete roof decking and supplemental steel as required to comply with the seismic requirements of the 2012 International Building Code. Install unit per manufacturer's written installation instructions.

- 3.2 Provide construction filters. Change to throwaway type MERV 8 after substantial completion.
- 3.3 Provide 3" deep PVC P-trap at connection to condensate drain. Pipe PVC condensate drain full size of equipment connection to nearest roof drain.
- 3.4 Set the minimum position of the outside air hood motorized damper at O.A. CFM listed in schedule on drawings.
- 3.5 The Packaged Heat Pumps shall be included in the Contractor's one year warranty, see WARRANTY paragraph in section 23 00 00 Mechanical, General.
- 3.6 Contractor shall receive the new Packaged Heat Pumps as coordinated with the manufacturer's representative.

END OF SECTION 23 81 43

SECTION 23 82 19 - SPLIT SYSTEM HEAT PUMPS

PART 1 - GENERAL (BY VENDOR)

- 1.1 Section 23 00 00 Mechanical, General applies to the work specified in this section of specifications.
- 1.2 Air handling unit shall be of the same manufacturer as outdoor section of heat pump. See schedule on drawings for capacities.
- 1.3 Provide an outdoor heat pump section as shown on plans. Cooling and heating capacities shall be as listed on schedule on drawings. The unit shall be properly assembled and tested at the factory. It shall be designed for use with Refrigerant 410A.
- 1.4 Equipment shall be Trane models listed on drawings or equal by Carrier, Johnson Controls, Lennox or approved equal.
- 1.5 **EQUIPMENT RAILS AND PIPE PENTHOUSES**

Contractor to provide all equipment submittals to equipment supplier for proper selection of equipment rails and pipe penthouses. Equipment rails and pipe penthouses shall be manufactured by Imperial Metals or Roof Product System or approved equal.
- 1.6 The Split System Heat Pumps will be purchased by the Owner. The Vendor shall deliver the equipment to a location specified by the Installation Contractor. See Part 3 - Execution in this section of the specifications. Equipment rails and pipe penthouses shall be purchased and provided by the Installation Contractor.

PART 2 - PRODUCT (BY VENDOR)

2.1 AIR HANDLING UNITS

- A. Provide direct-expansion fan coils in the location and manner shown on drawings. Air handling unit shall be equipped with supplementary electric heater as indicated on drawings.
- B. Coil shall be constructed with aluminum plate fins mechanically bonded to nonferrous tubing with all joints brazed. Coil shall have refrigerant metering device, check valve, and refrigerant line fittings. Unit shall have condensate drain pan with drain connections.
- C. Casings shall be insulated and constructed of cold-rolled steel, bonderized and finished with baked enamel. Provide unit with access panels.
- D. Fan for air handlers shall be forward curved with double inlet, mounted on motor shaft, dynamically and statically balanced. Fan motor shall be multi-speed with internal overload protection and be resiliently mounted. Fan-motor shall be removable.

2.2 HEAT PUMP UNITS

- A. Outdoor unit coil shall be of nonferrous construction. Coil shall have aluminum plate fins, mechanically bonded to seamless copper tubes. Coil shall be protected by a grille. Factory-installed coil refrigerant metering device shall be mounted on unit.

- B. Unit shall be furnished with direct-driven, propeller type fans. Condenser fan motors shall have inherent protection. Fan motors shall be permanently lubricated and resiliently mounted. Each fan shall have a safety guard. Controls shall be included for cycling fan(s) for intermediate season operation.
- C. Compressors shall be hermetically designed with internal spring isolators. Compressors shall have both thermal and current sensitive overload device. Compressor shall be equipped with a crankcase heater and have high-pressure protection. Compressor shall have a 5-year non-prorated warranty. Compressor shall be same manufacturer as unit.
- D. Safety devices shall consist of low pressure switches, pressure relief device and compressor overload devices. An automatic defrost control shall be included to accomplish defrosting of outdoor coil. Control wiring terminal board shall be designed to match indoor unit terminal board and accessory thermostat terminals for standardized point-to-point connectors.
- E. Accessories shall include condenser coil guard, outdoor thermostat, supplemental heat relay, liquid line filter-drier, and crankcase heater.
- F. Thermostats shall be furnished under section 25 55 00 Automatic Temperature Controls. Systems shall be furnished with conventional thermostat interface.

PART 3 - EXECUTION (BY INSTALLATION CONTRACTOR)

3.1 AIR HANDLING UNITS

- A. Provide auxiliary drain pan below air handlers located above ceilings with float switch to cut unit off if pan floods. Tie drain line from pan into primary drain line from air handler with a normally closed gate valve in drain line from pan. Drain auxiliary drain from air handler into auxiliary drain pan. (See detail)
- B. Provide flexible duct connectors at all supply and return connections at each air handling unit.
- C. Provide sway cables attached to the building structure and support points of the air handling for seismic protection per the 2012 International Building Code. Sway cables shall have the allowable slack to prevent transmission of vibration through the cables to the building structure.
- D. All units with refrigerant piping exceeding 80 linear feet shall be provided with expansion valves and accumulators. See section 23 21 13 Mechanical Piping.

3.2 See Pipe Penthouse detail on drawings.

3.3 HEAT PUMP UNITS

Mount units on existing equipment curbs. Bolt units to curbs per the seismic requirements of the 2012 International Building Code. Install units per manufacturer's written installation instructions.

3.4 The Ductless Split System Heat Pumps shall be included in the Contractor's one year warranty, see WARRANTY paragraph in section 23 00 00 Mechanical, General.

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3.5 Contractor shall receive the new Ductless Split System Heat Pumps as coordinated with the manufacturer's representative.

END OF SECTION 23 82 19

SPLIT SYSTEM HEAT PUMP SCHEDULE ①

AIR HANDLING UNIT						HEAT PUMP										
MARK	TRANE MODEL ②	CFM	O.A. CFM	FAN ESP.	HP.	AUX. HEAT KW (NET)	VOLT/ PHASE	MARK	TRANE MODEL ②	COOLING ③			HEATING • T/F ④		VOLT/ PHASE	
										TOTAL	GENS.	ENT AIR	SEER	CAPACITY		COP
AH-1	4TEC3F60	2,000	450	0.45"	10	11.53	208/3	HP-1	4TUA3060	56.6	40.1	80/6.1	13.0	34.4	2.0	208/3
AH-2	4TEC3F60	2,000	435	0.45"	10	11.53	208/3	HP-2	4TUA3060	56.6	40.1	80/6.1	13.0	34.4	2.0	208/3
AH-3	4TEC3F48	1,600	205	0.45"	1/2	11.53	208/3	HP-3	4TUA3048	46.0	33.1	80/6.1	13.0	24.8	2.0	208/3
AH-4	4TEC3F60	2,000	445	0.45"	10	11.53	208/3	HP-4	4TUA3060	56.6	40.1	80/6.1	13.0	34.4	2.0	208/3
AH-5	4TEC3F48	1,600	250	0.45"	1/2	11.53	208/3	HP-5	4TUA3048	46.0	33.1	80/6.1	13.0	24.8	2.0	208/3
AH-6	4TEC3F36	1,200	150	0.45"	1/3	12	208/1	HP-6	4TUA3036	34.0	24.8	80/6.1	13.25	17.6	2.0	208/3
AH-7	4TEC3F30	1,000	120	0.45"	1/3	5.16	208/1	HP-7	4TUA3030	28.2	20.5	80/6.1	13.25	15.5	2.0	208/3

① AIR HANDLING UNIT AND HEAT PUMP TO MATCH AVAILABLE ELECTRICAL SERVICE, SEE ELECTRICAL.
AIR HANDLING UNIT SHALL HAVE ONE POINT OF POWER CONNECTION.

② OR EQUAL BY CARRIER, JCI, OR APPROVED EQUAL.

③ BASED ON 95°F CONDENSER AIR TEMPERATURE.

④ BASED ON 10°F ENTERING AIR TEMPERATURE.

⑤ PROVIDE UNIT WITH LOW AMBIENT KIT.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE ①

AIR HANDLING UNIT						HEAT PUMP									
MARK	DAIKIN MODEL	CFM	H.P.	O.A. CFM	E.S.P.	VOLT/ PHASE	MARK	DAIKIN MODEL	COOLING ③			HEATING @ 47°F ④		VOLT/ PHASE	
									TOTAL	SENS.	ENT AIR	SEER	CAPACITY		HSPF
AH-8 ⑤	FCQ24	180	1/6	30	N/A	208/1	HP-8	RZQ24	24.0	18.9	80/67	16.8	21.0	9.7	208/1
AH-9 ⑤	FCQ24	180	1/6	30	N/A	208/1	HP-9	RZQ24	24.0	18.9	80/67	16.8	21.0	9.7	208/1
AH-10 ⑤	FCQ24	180	1/6	30	N/A	208/1	HP-10	RZQ24	24.0	18.9	80/67	16.8	21.0	9.7	208/1
AH-11 ⑤	FBCQ36	1130	1/3	N/A	0.45"	208/1	HP-11	RZQ36	36.0	27.2	80/67	17.5	40.0	9.1	208/1
AH-12 ⑤ ⑥	FCQ30	830	1/6	16.5	N/A	208/1	HP-12	RZQ30	30.0	22.4	80/67	15.8	34.0	9.7	208/1

- ① AIR HANDLING UNIT AND CONDENSING UNIT TO MATCH AVAILABLE ELECTRICAL SERVICE, SEE ELECTRICAL. AIR HANDLING UNIT SHALL HAVE ONE POINT OF POWER CONNECTION.
- ② OR EQUAL BY CARRIER, MITSUBISHI, SAMSUNG, PANASONIC, OR APPROVED EQUAL, SEE SPECIFICATIONS.
- ③ BASED ON 95°F CONDENSER AIR TEMPERATURE.
- ④ BASED ON 10°F ENTERING AIR TEMPERATURE.
- ⑤ PROVIDE WITH WIRED WALL THERMOSTAT (NO REMOTE CONTROL), LOW AMBIENT CONTROL, HARD START KIT, ANTI-SHORT CYCLING PROTECTION, AND FACTORY INSTALLED HIGH CAPACITY CONDENSATE PUMP.
- ⑥ PROVIDE FRESH AIR KIT

PACKAGED HEAT PUMP SCHEDULE ①⑥

MARK	TRANE ② MODEL	O.A. CFM	AUX. HEAT KW (NET)	INDOOR FAN				COOLING ③				HEATING @ 17°F ④		VOLT/ PHASE
				CFM	ESP.	H.P.	TOTAL	SENS.	ENT.AIR	SEER	TOTAL	COP		
RTU-1⑤	WSC060	500	13.1	2000	0.45"	10	63.4	47.2	80/67	13.0	34.4	2.3	208/3	
RTU-2	WSC036	160	9.0	1200	0.45"	10	38.0	27.3	80/67	13.0	20.6	2.1	208/3	
RTU-3	WSC036	100	9.0	1200	0.45"	10	38.0	27.3	80/67	13.0	20.6	2.1	208/3	
RTU-4	4WCC3042	125	9.0	1400	0.45"	1/2	40.5	29.1	80/67	13.0	24.9	2.3	208/1	
RTU-5	WSC036	120	9.0	1200	0.45"	10	38.0	27.3	80/67	13.0	20.6	2.1	208/3	
RTU-6	WSC036	125	9.0	1200	0.45"	10	38.0	27.3	80/67	13.0	20.6	2.1	208/3	
RTU-7	WSC048	190	9.0	1600	0.45"	10	50.1	37.6	80/67	13.0	24.8	2.1	208/3	

- ① ROOF TOP UNIT TO MATCH AVAILABLE ELECTRICAL SERVICE, SEE ELECTRICAL.
UNIT SHALL BE SINGLE POINT POWER CONNECTION.
- ② OR EQUAL BY CARRIER, DAIKIN, JCI, OR APPROVED EQUAL.
- ③ BASED ON 95°F CONDENSER AIR TEMPERATURE.
- ④ BASED ON 70°F ENTERING AIR TEMPERATURE.
- ⑤ PROVIDE DYNAMIC AIR CLEANER AIR FILTER WITH CARBON MESH SCREEN, ELECTROSTATIC FILTER PAD TO REMOVE PARTICULATES, GASES, AND ODORS. MEYRY 13 MINIMUM.
- ⑥ PROVIDE 12" HIGH SEISMIC CURB, SEISMICALLY ANCHORED TO CONCRETE DECK ON ROOF.