

RFB NO. 317020



CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY AND TRANSPORTATION

PUBLIC WORKS ENGINEERING DIVISION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

REQUEST FOR BIDS NO. 317020 HVAC EQUIPMENT REPLACEMENT CONSOLIDATED FOOD SERVICE 1000 EAST VERONA ROAD VERONA, WISCONSIN

Due Date / Time: **TUESDAY, AUGUST 15, 2017 / 2:00 P.M.**

Location: **PUBLIC WORKS OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

SCOTT CARLSON, PROJECT MANAGER
TELEPHONE NO.: 608/266-4179
FAX NO.: 608/267-1533
E-MAIL: CARLSON.SCOTT@COUNTYOFDANE.COM

Page Intentionally Left Blank

TABLE OF CONTENTS FOR RFB NO. 317020

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

- Project Manual Cover Page
- Table of Contents
- Advertisement for Bids (Legal Notice)
- Best Value Contracting Application
- Instructions to Bidders
- Bid Form
- Fair Labor Practices Certification
- Sample Public Works Contract
- Sample Bid Bond
- Sample Performance Bond
- Sample Payment Bond
- Equal Benefits Compliance Payment Certification Form
- General Conditions of Contract
- Supplementary Conditions

DIVISION 01 - GENERAL REQUIREMENTS

- 01 00 00 – Basic Requirements
- 01 74 19 – Construction Waste Management, Disposal & Recycling

DIVISION 03 - CONCRETE

This (these) Section(s) to be added by Addendum

DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING (HVAC)

- 23 05 00 – Common Work Results for HVAC
- 23 05 29 – Hangers and Supports for HVAC Piping and Equipment
- 23 05 93 – Testing, Adjusting and Balancing for HVAC
- 23 07 00 – HVAC Insulation
- 23 09 14 – Controls for HVAC
- 23 23 00 – Refrigerant Piping and Accessories
- 23 62 13 – Packaged Air-Cooled Refrigerant Compressor and Condensing Units
- 23 73 12 – Air Handling Unit Coils

DRAWINGS

Plot drawings on 24" x 36" (ARCH D) paper for correct scale or size.

- T100 – Title Sheet
- H100 – Partial Lower Level and First Floor Demolition Plans
- H101 – Partial Lower Level and First Floor New Work Plans
- H200 – HVAC Schedules, Details and Pictures

LEGAL NOTICE

INVITATION TO BID

Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, AUGUST 15, 2017

REQUEST FOR BIDS NO. 317020
HVAC EQUIPMENT REPLACEMENT
CONSOLIDATED FOOD SERVICE
1000 EAST VERONA ROAD
VERONA, WISCONSIN

Dane County is inviting Bids for construction services for the replacement of two air cooled condensing units and modification of an existing air handling unit. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids document & submit Bids.

Request for Bids document may be obtained after **2:00 p.m. on July 25, 2017** by downloading it from bids-pwht.countyofdane.com/. Please call Scott Carlson, Project Manager, at 608/266-4179, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be a registered vendor with Dane County & pay an annual registration fee & must be pre-qualified as a Best Value Contractor before award of Contract. Complete Vendor Registration Form at danepurchasing.com/Account/Login? or obtain one by calling 608/266-4131. Complete Pre-qualification Application for Contractors at countyofdane.com/pwht/BVC_Application.aspx or obtain one by calling 608/266-4029.

A pre-bid facility tour will be held August 3, 2017 at 1:00 p.m. at Consolidated Food Service, starting in the parking lot east of the building. Bidders are strongly encouraged to attend this tour.

PUBLISH: JULY 25 & AUGUST 1, 2017 - WISCONSIN STATE JOURNAL
JULY 25 & AUGUST 1, 2017 - THE DAILY REPORTER



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Joseph T. Parisi

1919 Alliant Energy Center Way • Madison, Wisconsin 53713
Phone: (608) 266-4018 • FAX: (608) 267-1533

Commissioner / Director
Gerald J. Mandli

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

The Dane County Department of Public Works requires all contractors to be pre-qualified as a best value contractor with the County prior to being awarded a contract. In addition, the County pre-qualifies potential contractors and sub-contractors who wish to work on County contracts. Subcontractors must become pre-qualified ten (10) days prior to commencing work under any Dane County Public Works Contract. Potential subcontractors are urged to become pre-qualified as early as possible. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain pre-qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the pre-qualification application. Failure to do so could result in suspension, revocation of the contractor's pre-qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: dwd.wisconsin.gov/apprenticeship/.

EXEMPTIONS

- Contractors who employ less than five (5) apprenticeable trade workers are not required to pre-qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area;
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

| SEC. | PROOF OF RESPONSIBILITY | CHECK IF APPLICABLE |
|------|---|--|
| 1 | Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, pre-qualified subcontractors? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 2 | Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 3 | Will your firm meet all bonding requirements as required by applicable law or contract specifications? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 4 | Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 5 | Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 6 | Does your firm acknowledge that it must pay all craft employees on public works projects the wage rates and benefits required under Section 66.0903 of the Wisconsin Statutes? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 7 | Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 8 | In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 9 | In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 10 | In the past three (3) years, has your firm been debarred by any federal, state or local government agency? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 11 | In the past three (3) years, has your firm defaulted or failed to complete any contract? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 12 | In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority. | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 13 | In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details. |
| 14 | Is your firm Executive Order 108 precertified with the State of Wisconsin? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 15 | Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 16 | Is your firm exempt from being pre-qualified with Dane County? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption. |
| 17 | Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also pre-qualified with the County or become so ten days prior to commencing work? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 18 | Contractor has been in business less than one year? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 19 | Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 20 | Not applicable. My firm does not intend to work on Best Value Contracts. Note: Best Value Contracting is required to bid on most Public Works Contracts (if unclear, please call Jan Neitzel Knox 608-266-4029). | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature

Date

Printed or Typed Name and Title

| NAME AND ADDRESS OF CONTRACTOR | |
|--------------------------------|--|
| Name of Firm: | |
| Address: | |
| City, State, Zip: | |
| Telephone Number: | |
| Fax Number: | |
| E-mail Address: | |

REMEMBER!

Return all to forms and attachments, or questions to:

**JAN NEITZEL KNOX
EMAIL: NEITZEL-KNOX@COUNTYOFDANE.COM
OFFICE: (608)266-4029, FAX: (608)267-1533**

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES

Bricklayer
Carpenter
Cement Mason (Concrete Finisher)
Cement Mason (Heavy Highway)
Construction Craft Laborer
Data Communications Installer
Electrician
Elevator Mechanic / Technician
Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
Glazier
Heavy Equipment Operator / Operating Engineer
Insulation Worker (Heat & Frost)
Iron Worker (Assembler, Metal Buildings)
Painter / Decorator
Plasterer
Plumber
Roofer / Waterproofer
Sheet Metal Worker
Sprinkler Fitter
Steamfitter (Service & Refrigeration)
Taper & Finisher
Telecommunications (Voice, Data & Video) Installer / Technician
Tile Setter

INSTRUCTIONS TO BIDDERS

TABLE OF CONTENTS

| | |
|---|----|
| 1. GENERAL..... | 1 |
| 2. DRAWINGS AND SPECIFICATIONS | 2 |
| 3. INTERPRETATION..... | 2 |
| 4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR) | 2 |
| 5. BID GUARANTEE..... | 3 |
| 6. WITHDRAWAL OF BIDS..... | 3 |
| 7. CONTRACT FORM | 3 |
| 8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS | 4 |
| 9. EMERGING SMALL BUSINESS PROVISIONS | 4 |
| 10. METHOD OF AWARD - RESERVATIONS..... | 6 |
| 11. SECURITY FOR PERFORMANCE AND PAYMENTS | 6 |
| 12. TAXES..... | 6 |
| 13. SUBMISSION OF BIDS | 7 |
| 14. SUBCONTRACTOR LISTING..... | 8 |
| 15. ALTERNATE BIDS | 8 |
| 16. INFORMATIONAL BIDS..... | 8 |
| 17. UNIT PRICES..... | 8 |
| 18. COMMENCEMENT AND COMPLETION | 8 |
| 19. WORK BY OWNER | 8 |
| 20. SPECIAL HAZARDS COVERAGE..... | 9 |
| FORM A..... | 10 |
| FORM B..... | 11 |
| FORM C..... | 12 |
| FORM D | 13 |

1. GENERAL

- A. Before submitting Bid, bidder shall thoroughly examine all Construction Documents. Successful Bidder shall be required to provide all the Work that is shown on Drawings, set forth in Specifications, or reasonably implied as necessary to complete Contract for this project.
- B. Bidder shall visit site to become acquainted with adjacent areas, means of approach to site, conditions of actual site and facilities for delivering, storing, placing, and handling of materials and equipment.
- C. Pre-bid meeting is scheduled on August 3, 2017 at 1:00 p.m. at Consolidated Food Service 1000 East Verona Ave., Verona, WI, starting in the parking lot east of the facility. Attendance by all bidders is optional, however bidders and subcontractors are strongly encouraged to attend.
- D. Failure to visit site or failure to examine any and all Construction Documents will in no way relieve successful Bidder from necessity of furnishing any necessary materials or equipment, or performing any work, that may be required to complete the Work in accordance with Drawings and Specifications. Neglect of above requirements will not be accepted as reason for delay in the Work or additional compensation.

2. DRAWINGS AND SPECIFICATIONS

- A. Drawings and Specifications that form part of this Contract, as stated in Article 1 of General Conditions of Contract, are enumerated in Document Index of these Construction Documents.
- B. Complete sets of Drawings and Specifications for all trades will be available to all Bidders, irrespective of category of work to be bid on, in order that all Bidders may be familiar with work of other trades as they affect their bid.

3. INTERPRETATION

- A. No verbal explanation or instructions will be given in regard to meaning of Drawings or Specifications before Bid Due Date. Bidders shall bring inadequacies, omissions or conflicts to Owner or Architect / Engineer's attention at least ten (10) calendar days before Bid Due Date. Prompt clarification will be available to all bidders by Addendum.
- B. Failure to so request clarification or interpretation of Drawings and Specifications will not relieve successful Bidder of responsibility. Signing of Contract will be considered as implicitly denoting that Contractor has thorough understanding of scope of the Work and comprehension of Construction Documents.
- C. Owner or Architect / Engineer will not be responsible for verbal instructions.

4. QUALIFICATIONS OF BIDDER (CONTRACTOR AND SUBCONTRACTOR)

- A. Before award of Contract can be approved, Owner shall be satisfied that Bidder involved meets following requirements:
 - 1. Has completed at least five (5) projects of at least fifty percent (50%) of size or value of Division of work being bid and type of work completed is similar to that being bid. If greater magnitude of experience is deemed necessary, other than size or value of work, such requirements will be described in appropriate section of Specifications.
 - 2. Maintains permanent place of business.
 - 3. Can be bonded for terms of proposed Contract.
 - 4. Has record of satisfactorily completing past projects. Criteria which will be considered in determining satisfactory completion of projects by bidder will include:
 - a. Completed contracts in accordance with drawings and specifications.
 - b. Diligently pursued execution of work and completed contracts according to established time schedule unless Owner grants extensions.
 - c. Fulfilled guarantee requirements of construction documents.
 - d. Is not presently on ineligible list maintained by County's Department of Administration for noncompliance with equal employment opportunities and affirmative action requirements.
 - e. Authorized to conduct business in Wisconsin. By submitting Bid, bidder warrants that it has: complied with all necessary requirements to do business in State of Wisconsin; that persons executing contract on its behalf are authorized to do so; and, if corporation, that name and address of bidder's registered agent are as set forth in Contract. Bidder shall notify Owner immediately, in writing, of any change in its

registered agent, their address, and bidder's legal status. For partnership, term "registered agent" shall mean general partner.

- B. County's Public Works Project Engineer will make such investigations as are deemed necessary to determine ability of bidder to perform the Work, and bidder shall furnish to County's Public Works Project Engineer or designee all such information and data for this purpose as County's Public Works Project Engineer may request. Owner reserves right to reject Bid if evidence submitted by, or investigation of, bidder fails to satisfy Owner that bidder is responsible and qualified to carry out obligations of Contract and to complete the Work contemplated therein.

5. BID GUARANTEE

- A. Bank certified check, cashier's check or Bid Bond, payable to County in amount not less than five percent (5%) of maximum bid, shall accompany each Bid as guarantee that if Bid is accepted, Bidder will execute and return proposed Contract and Performance and Payment Bonds within ten (10) business days after being notified of acceptance of Bid. Company issuing bonds must be licensed to do business in Wisconsin.
- B. Any bid, which is not accompanied by bid guarantee, will be considered "No Bid" and will not be read at Bid Due Date.
- C. If successful Bidder so delivers Contract, Certificate of Insurance, and Performance and Payment Bonds, check will be returned to Bidder. In case Bidder fails to deliver such Contract, insurance, and bond, amount of bid guarantee will be forfeited to County as liquidated damages.
- D. All checks tendered as bid guarantee, except those of three (3) lowest qualified, responsible bidders, will be returned to their makers within three (3) business days after Bid Due Date. All such retained checks will be returned immediately upon signing of Contract and Performance and Payment Bonds by successful Bidder.

6. WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by written request received from bidder or authorized representative thereof prior to time fixed for Bid Due Date, without prejudice to right of bidder to file new Bid. Withdrawn Bids will be returned unopened. Negligence on part of bidder in preparing their Bid confers no right for withdrawal of Bid after it has been opened.
- B. No Bid may be withdrawn for period of sixty (60) calendar days after Bid Due Date.
- C. If Bid contains error, omission or mistake, bidder may limit liability to amount of bidder's guarantee by giving written Notice of Intent not to execute Contract to Owner within seventy-two (72) hours of Bid Due Date.

7. CONTRACT FORM

- A. Sample copy of contract that successful Bidder will be required to enter into is included in these Construction Documents and bidders are required to familiarize themselves with all conditions contained therein.

8. CONTRACT INTERESTS BY COUNTY PUBLIC OFFICIALS

- A. In accordance with Wisconsin Statute 946.13, county official may not bid for or enter into any contract involving receipts or disbursements of more than \$15,000.00 in a year, in which they have private pecuniary interest, direct or indirect if at same time they are authorized to take official action with respect to making of this Contract. Any contract entered into in violation of this Statute is void and County incurs no liability thereon. This subsection does not affect application and enforcement of Wisconsin Statute 946.13 by state prosecutors in criminal courts of this state.

9. EMERGING SMALL BUSINESS PROVISIONS

- A. **Emerging Small Business Definition.** For purposes of this provision, ESB is defined as:
1. Independent business concern that has been in business minimum of one year;
 2. Business located in State of Wisconsin;
 3. Business comprised of less than twenty-five (25) employees;
 4. Business must not have gross sales in excess of three million dollars (\$3,000,000.00) over past three years; and
 5. Business does not have history of failing to complete projects.
- B. **Emerging Small Business (ESB) Involvement.** Bidder shall make good faith effort to award minimum of ten percent (10%) of the Work to ESBs. Bidder shall submit report to Dane County Contract Compliance Officer within ten (10) business days of Bid Due Date demonstrating such efforts. Good faith efforts means significant contact with ESBs for purposes of soliciting bids from them. Failure to make or demonstrate good faith efforts will be grounds for disqualification.
- C. **Emerging Small Business Report.** Emerging Small Business Enterprise Report is to be submitted by Bidder in separate envelope marked "Emerging Small Business Report". This report is due by 2:00 p.m. following specified ten (10) business days after Bid Due Date. Bidder who fails to submit Emerging Small Business Report shall be deemed not responsive.
- D. **ESB Goal.** Goal of this project is ten percent (10%) ESB participation. ESB utilizations are shown as percentage of total Bid. If Bidder meets or exceeds specified goal, Bidder is only required to submit Form A - Certification, and Form B - Involvement. Goal shall be met if Bidder qualifies as ESB.
- E. **Report Contents.** Following award of Contract, Bidder shall submit copies of executed contracts for all Emerging Small Businesses. Emerging Small Business Report shall consist of these:
1. Form A - Certification;
 2. Form B - Involvement;
 3. Form C - Contacts;
 4. Form D - Certification Statement (if appropriate); and

5. Supportive documentation (i.e., copies of correspondence, telephone logs, copies of advertisements).
- F. **ESB Listing.** Bidders may solicit bids from this ESB listing:
pdf.countyofdane.com/commissions/2013-2015_Targeted_Business_Directory.pdf.
- G. **ESB Certification.** All contractors, subcontractors and suppliers seeking ESB certification must complete and submit Emerging Small Business Report to Dane County Contract Compliance Program.
- H. **Certification Statement.** If ESB firm has not been certified by County as ESB prior to submittal of this Bid, ESB Report cannot be used to fulfill ESB goal for this project unless firm provides "Form D - Certification Statement". Certification statement must be completed and signed by ESB firm.
- I. **Questions.** Questions concerning Emerging Small Business provisions shall be directed to:
- Dane County Contract Compliance Officer
City-County Building, Room 421
210 Martin Luther King, Jr. Blvd.
Madison, WI 53703
608/266-5623
- J. **Substituting ESBs.** In event of any significant changes in subcontract arrangements or if need arises to substitute ESBs, Bidder shall report such proposed changes to Contract Compliance Officer to making any official changes and request authorization to substitute ESB firm. Bidder further agrees to make every possible effort to replace ESB firm with another qualified ESB firm.
- K. **Good Faith Efforts.** Good faith efforts can be demonstrated by meeting all of these obligations:
1. Selecting portions of the Work to be performed by ESBs in order to increase likelihood of meeting ESB goal including, where appropriate, breaking down Contract into smaller units to facilitate ESB participation.
 2. Advertising in general circulation, trade associations and women / minority focus media concerning subcontracting opportunities.
 3. Providing written notices to reasonable number of specific ESBs that their interest in Contract was being solicited in sufficient time to allow ESBs to participate effectively.
 4. Following up on initial solicitations of interest by contacting ESBs within five (5) business days prior to Bid Due Date to determine with certainty whether ESB were interested, to allow ESBs to prepare bids.
 5. Providing interested ESB with adequate information about Drawings, Specifications and requirements of Contract.
 6. Using services of available minority, women and small business organizations and other organizations that provide assistance in recruitment of MBEs / WBEs / ESBs.
 7. Negotiating in good faith with interested ESBs, not rejecting ESBs as unqualified without sound reason based on thorough investigation of their capabilities.

8. Submitting required project reports and accompanying documents to County's Contract Compliance Officer within twenty-four (24) hours after Bid Due Date.

L. **Appeals Disqualification of Bid.** Bidder who is disqualified may appeal to Public Works & Transportation Committee and Equal Opportunity Commission.

10. METHOD OF AWARD - RESERVATIONS

A. Following will be basis of award of Contract, providing cost does not exceed amount of funds then estimated by County as available to finance Contract(s):

1. Lowest dollar amount submitted by qualified responsible bidder on Base Bid for all work comprising project, combined with such additive Owner accepted alternates.
2. Owner reserves right to reject all bids or any bid, to waive any informality in any bid, and to accept any bid that will best serve interests of County.
3. Unit Prices and Informational Bids will not be considered in establishing low bidder.

11. SECURITY FOR PERFORMANCE AND PAYMENTS

A. Simultaneous with delivery of signed Contract, Bidder shall be required to furnish Performance and Payment Bonds as specified in Article 29 of General Conditions of Contract, "Contract Security". Surety Company shall be licensed to do business in Wisconsin. Performance and Payment Bonds must be dated same date or subsequent to date of Contract. Performance and Payment Bonds must emulate information in Sample Performance and Payment Bonds in Construction Documents.

B. Provide certified copy of power of attorney from Surety Company showing that agent who signs Bond has power of attorney to sign for Surety Company. Secretary or Assistant Secretary of company must sign this certification, not attorney-in-fact. Certification must bear same or later date as Bond. Power of Attorney must emulate model power of attorney information detailed in Sample Performance and Payment Bonds.

C. If Bidder is partnership or joint venture, State certified list, providing names of individuals constituting partnership or joint venture must be furnished. Contract itself may be signed by one partner of partnership, or one partner of each firm comprising joint venture, but Performance and Payment Bonds must be signed by all partners.

D. If Bidder is corporation, it is necessary that current certified copy of resolution or other official act of directors of corporation be submitted showing that person who signs Contract is authorized to sign contracts for corporation. It is also necessary that corporate seal be affixed to resolution, contract, and performance and payment bonds. If your corporation has no seal, it is required that above documents include statement or notation to effect that corporation has no seal.

12. TAXES

A. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways,

streets or roads. Any other Sales, Consumer, Use & other similar taxes or fees required by law shall be included in Bid.

- B. In accordance with Wisconsin Statute 71.80(16)(a), successful nonresident bidder, whether incorporated or not, and not otherwise regularly engaged in business in this state, shall file surety bond with State of Wisconsin Department of Revenue payable to Department of Revenue, to guarantee payment of income taxes, required unemployment compensation contributions, sales and use taxes and income taxes withheld from wages of employees, together with any penalties and interest thereon. Amount of bond shall be three percent (3%) of Contract or subcontract price on all contracts of \$50,000 or more.

13. SUBMISSION OF BIDS

- A. All Bids shall be submitted on standard Bid Form bound herein and only Bids that are made on this Bid Form will be considered. Entire Bid Form and other supporting documents, if any, shall be removed or copied from Construction Documents, filled out, and submitted in manner specified hereinafter. Submit completed Bid Bond with Bid as well.
- B. No bids for any subdivision or any sub-classification of this Work, except as indicated, will be accepted. Any conditional Bid, amendment to Bid Form or appended item thereto, or inclusion of any correspondence, written or printed matter, or details of any nature other than that specifically called for, which would alter any essential provision of Construction Documents, or require consideration of unsolicited material or data in determining award of Contract, will disqualify Bid. Telecommunication alterations to Bid will not be accepted.
- C. Bidders must submit single Bid for all the Work.
- D. Bid amounts shall be inserted in words and in figures in spaces provided on Bid Form; in case of conflict, written word amounts will govern.
- E. Addenda issued after Bid Letting shall become part of Construction Documents. Bidders shall acknowledge receipt of such addenda in appropriate space provided on Bid Form. Bid may be rejected if receipt of any particular addendum applicable to award of Contract has not been acknowledged on Bid Form.
- F. Bids shall be signed, placed in envelope, sealed and delivered before due time to place designated in Invitation to Bid, and identified with project name, bid number, location, category of work being bid upon, Bid Due Date, name and address of bidder.
- G. Bidder shall be responsible for sealed Bid being delivered to place designated for Bid Due Date on or before date and time specified. Bids received after time of closing will be rejected and returned to bidder unopened.
- H. Bid will be considered invalid and will be rejected if bidder has not signed it.
- I. Faxed or emailed Bids will not be accepted.
- J. Bidder's organization shall submit completed with Bid, Fair Labor Practices Certification form, included in these Construction Documents.

14. SUBCONTRACTOR LISTING

- A. Bidders shall be required to submit list of major subcontractors for General Construction, Plumbing, HVAC, and Electrical work proposed for this project to include committed prices for each subcontractor. List shall be placed in separate sealed envelope that must be clearly identified as “Major Subcontractor List”, for named project and name of Bidder submitting it. County must receive envelope no later than date by which successful Bidder is required to submit his or her signed Contract, as established in Construction Documents.

15. ALTERNATE BIDS

- A. Bidder shall carefully read requests for Alternate Bids, and thoroughly examine Drawings and Specifications to determine extent various changes and conditions will affect Bid.
- B. Space is provided in Bid Form for requested Alternate Bids. Failure to submit bid for any requested Alternate Bids may result in rejection of entire Bid.
- C. Bidder shall state amount to be added / subtracted to Base Bid for providing alternates, including all incidentals, omissions, additions, and adjustments as may be necessary or required by such changes. If there is no difference in price, Bidder shall state, “No Change”.
- D. Descriptions of requested Alternate Bids are as set forth in Construction Documents.

16. INFORMATIONAL BIDS

- A. Not Applicable.

17. UNIT PRICES

- A. Not Applicable.

18. COMMENCEMENT AND COMPLETION

- A. Successful Bidder shall commence work when schedule and weather permit, but no later than stated in Bid Form. Contractor shall pursue the Work regularly and continuously at reasonable rate to insure completion of the Work within time stated in Bid.
- B. Should it be found impossible to complete the Work on or before time specified for completion, written request may be submitted for extension of time setting forth reasons believed to justify granting of such request. Refer to Article 20 of General Conditions of Contract, titled “Time for Completion”.

19. WORK BY OWNER

- A. This work will be accomplished by Owner or will be let under separate contracts and will not be included under this Contract:
 - 1. Evacuate & reclaim of refrigerant from existing air conditioning system.
 - 2. Replace air handling unit’s existing filters with MERV 13 type filters before test & balance work begins.

- B. Coordinate these work items with Owner at least two (2) weeks in advance of their needing to be complete.

20. SPECIAL HAZARDS COVERAGE

- A. Not Applicable.

FORM A

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION**

In accordance with General Conditions of Contract, submit this Emerging Small Business Report within ten (10) days after Bid Due Date.

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

BIDDER INFORMATION

COMPANY NAME: _____

ADDRESS: _____

TELEPHONE NO.: _____

CONTACT PERSON: _____

EMAIL ADDRESS: _____

FORM B

Page ___ of ___

DANE COUNTY

(Copy this Form as necessary to provide complete information)

EMERGING SMALL BUSINESS REPORT - INVOLVEMENT

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

ESB NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

PHONE NO & EMAIL.: _____

Indicate percentage of financial commitment to this ESB: _____ % Amount: \$ _____

FORM C

Page ___ of ___

DANE COUNTY

(Copy this Form as necessary to provide complete information)

EMERGING SMALL BUSINESS REPORT - CONTACTS

COMPANY NAME: _____

PROJECT NAME: _____

BID NO.: _____ BID DUE DATE: _____

| | <u>ESB FIRM NAME CONTACTED</u> | <u>DATE</u> | <u>PERSON CONTACTED</u> | <u>DID ESB BID?</u> | <u>ACC- EPT BID?</u> | <u>REASON FOR REJECTION</u> |
|----|------------------------------------|-------------|-----------------------------|-----------------------------|------------------------------|---------------------------------|
| 1) | _____ | _____ | _____ | _____ | _____ | _____ |
| 2) | _____ | _____ | _____ | _____ | _____ | _____ |
| 3) | _____ | _____ | _____ | _____ | _____ | _____ |
| 4) | _____ | _____ | _____ | _____ | _____ | _____ |
| 5) | _____ | _____ | _____ | _____ | _____ | _____ |
| 6) | _____ | _____ | _____ | _____ | _____ | _____ |
| 7) | _____ | _____ | _____ | _____ | _____ | _____ |
| 8) | _____ | _____ | _____ | _____ | _____ | _____ |

FORM D

**DANE COUNTY
EMERGING SMALL BUSINESS REPORT - CERTIFICATION STATEMENT**

I, _____, _____ of
Name Title

_____ certify to best of my knowledge and
Company

belief that this business meets Emerging Small Business definition as indicated in Article 9 and
that information contained in this Emerging Small Business Report is true and correct.

Bidder's Signature

Date

Page Intentionally Left Blank

Name of Bidding Firm: _____

BID FORM

BID NO. 317020

**PROJECT: HVAC EQUIPMENT REPLACEMENT
CONSOLIDATED FOOD SERVICE**

**TO: DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY &
TRANSPORTATION PROJECT MANAGER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

**NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON
THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.**

BASE BID - LUMP SUM:

Dane County is inviting Bids for the replacement of two air cooled condensing units and modification of the existing air handling unit at the Consolidated Food Service facility. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Public Works, Highway & Transportation hereby agrees to provide all expertise, labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price

The undersigned agrees to add the alternate(s) portion of the Work as described, for the following addition(s) to or subtraction(s) from the Base Bid, as stipulated below.

ALTERNATE BID 1 - LUMP SUM:

Add price for providing 18" concrete knee wall to perimeter of ground level outside air intake on the east side of the building.

_____ and _____ /100 Dollars
Written Price

\$ _____
Numeric Price (circle: Add or Deduct)

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Department of Administration must have this project completed by November 17, 2017. Assuming this Work can be started by October 16, 2017, what dates can you commence and complete this job?

Commencement Date: _____ Completion Date: _____
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

- 1. A corporation organized and existing under the laws of the State of _____, or
- 2. A partnership consisting of _____, or
- 3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned further agrees to honor the Base Bid and the Alternate Bid(s) for sixty (60) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

THIS PAGE IS FOR BIDDERS' REFERENCE AND NEED NOT BE SUBMITTED WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

Bid Form

Bid Bond

Fair Labor Practices Certification

BIDDERS SHOULD BE AWARE OF THE FOLLOWING:

DANE COUNTY VENDOR REGISTRATION PROGRAM

Any person bidding on any County contract must be registered with the Dane County Purchasing Division & pay an annual registration fee. A contract will not be awarded to an unregistered vendor. Obtain a *Vendor Registration Form* by calling 608/266-4131 or complete a new form or renewal online at:

www.danepurchasing.com/registration

DANE COUNTY BEST VALUE CONTRACTING PRE-QUALIFICATION

Contractors must be pre-qualified as a Best Value Contractor with the Dane County Public Works Engineering Division before the award of contract. Obtain a *Best Value Contracting Application* by calling 608/266-4018 or complete one online at:

www.countyofdane.com/pwht/BVC_Application.aspx

EQUAL BENEFITS REQUIREMENT

By submitting a Bid, the contractor acknowledges that a condition of this contract is to provide equal benefits as required by Dane County Code of Ordinances Chapter 25.016. Contractor shall provide equal benefits as required by that Ordinance to all required employees during the term of the contract. Equal Benefits Compliance Payment Certification shall be submitted with final pay request. For more information:

www.danepurchasing.com/partner_benefit.aspx

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has submitted a bid, application or proposal for a contract or agreement with the county of Dane.

B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature

Date

Printed or Typed Name and Title

Printed or Typed Business Name

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.11(28)(a) is as follows:

(28) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The purchasing manager shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.

Include this completed Certification with your bid, application or proposal.

Page Intentionally Left Blank

COUNTY OF DANE

PUBLIC WORKS CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 317020

Authority: 2017 RES - _____

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Assistant Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide HVAC Equipment Replacement at Consolidated Food Service [including Alternate Bid[s] X, Y & Z (if applicable)] ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Construction Documents;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$ _____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, General Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Engineering 370, LLC (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the General Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the General Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force

or any other reserve component of the military forces of the United States, or political beliefs. Such equal opportunity shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Officer in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Contract Compliance Office, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

6. CONTRACTOR agrees to comply with provisions of Chapter 25.016 of the Dane County Code of Ordinances, which pertains to domestic partnership benefits.

7. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Officer as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

8. CONTRACTOR agrees that all persons employed by CONTRACTOR or any subcontractor shall be paid no less than the minimum wage established under Chapter 40, Subchapter II, Dane County Code of Ordinances. CONTRACTOR agrees to abide by and comply with the provisions of Chapter 40, Subchapter II of the Dane County Code of Ordinances, and said Subchapter is fully incorporated herein by reference.

9. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

10. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

11. CONTRACTOR must be pre-qualified as a Best Value Contractor with Dane County Public Works Engineering Division before award of Contract. Subcontractors must be pre-qualified ten (10) business days prior to commencing Work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Assistant Public Works Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:**PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this _____ day of _____

| | | | |
|-----------|---------------------------|-------|----------|
| _____ | (Contractor as Principal) | _____ | (Seal) |
| (Witness) | | _____ | (Title) |
| | | _____ | (Surety) |
| _____ | | _____ | (Seal) |
| (Witness) | | _____ | (Title) |

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____
Name and Title: _____
Address _____

Signature: _____
Name and Title: _____
Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

EQUAL BENEFITS COMPLIANCE PAYMENT CERTIFICATION FORM

PURPOSE

25.016(8) of the Dane County Ordinance requires that each contractor receiving payment for contracted services must certify that he or she has complied fully with the requirements of Chapter 25.016 “Equal Benefits Requirement” of the Dane County Ordinances. Such certification must be submitted prior to the final payment on the contract.

This form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

CERTIFICATION

I, _____ certify that
Printed or Typed Name and Title

Printed or Typed Name of Contractor

has complied fully with the requirements of Chapter 25.016 of the Dane County Ordinances “Equal Benefits Requirements”.

Signed _____

Date _____

For questions on this form, please contact Chuck Hicklin at 608-266-4109 or your contract representative at Dane County.

Page Intentionally Left Blank

GENERAL CONDITIONS OF CONTRACT

TABLE OF CONTENTS

| | |
|---|----|
| 1. CONSTRUCTION DOCUMENTS | 2 |
| 2. DEFINITIONS..... | 2 |
| 3. ADDITIONAL INSTRUCTIONS AND DRAWINGS | 2 |
| 4. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES..... | 3 |
| 5. CUTTING AND PATCHING..... | 4 |
| 6. CLEANING UP | 4 |
| 7. USE OF SITE | 4 |
| 8. MATERIALS AND WORKMANSHIP..... | 5 |
| 9. CONTRACTOR'S TITLE TO MATERIALS..... | 5 |
| 10. "OR EQUAL" CLAUSE..... | 5 |
| 11. PATENTS AND ROYALTIES..... | 6 |
| 12. SURVEYS, PERMITS, REGULATIONS AND TAXES | 7 |
| 13. CONTRACTOR'S OBLIGATIONS AND SUPERINTENDENCE | 7 |
| 14. WEATHER CONDITIONS | 8 |
| 15. PROTECTION OF WORK AND PROPERTY | 8 |
| 16. INSPECTION AND TESTING OF MATERIALS | 8 |
| 17. REPORTS, RECORDS AND DATA | 9 |
| 18. CHANGES IN THE WORK | 9 |
| 19. EXTRAS | 10 |
| 20. TIME FOR COMPLETION..... | 10 |
| 21. CORRECTION OF WORK | 10 |
| 22. SUBSURFACE CONDITIONS FOUND DIFFERENT | 11 |
| 23. RIGHT OF DEPARTMENT TO TERMINATE CONTRACT..... | 11 |
| 24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES | 11 |
| 25. PAYMENTS TO CONTRACTOR | 12 |
| 26. WITHHOLDING OF PAYMENTS | 14 |
| 27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE..... | 14 |
| 28. PAYMENTS BY CONTRACTOR..... | 14 |
| 29. CONTRACT SECURITY | 15 |
| 30. ASSIGNMENTS..... | 15 |
| 31. MUTUAL RESPONSIBILITY OF CONTRACTORS | 15 |
| 32. SEPARATE CONTRACTS | 15 |
| 33. SUBCONTRACTS | 16 |
| 34. PUBLIC WORKS PROJECT MANAGER'S AUTHORITY | 16 |
| 35. ARCHITECT / ENGINEER'S AUTHORITY | 16 |
| 36. STATED ALLOWANCES | 17 |
| 37. ESTIMATES OF QUANTITIES | 17 |
| 38. LANDS AND RIGHTS-OF-WAY..... | 17 |
| 39. GENERAL GUARANTEE | 18 |
| 40. CONFLICTING CONDITIONS | 18 |
| 41. NOTICE AND SERVICE THEREOF | 18 |
| 42. PROTECTION OF LIVES AND HEALTH | 19 |
| 43. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES | 19 |
| 44. COMPLIANCE WITH FAIR LABOR STANDARDS..... | 20 |
| 45. DOMESTIC PARTNERSHIP BENEFITS | 20 |
| 46. USE AND OCCUPANCY PRIOR TO ACCEPTANCE | 20 |
| 47. MINIMUM WAGES | 21 |
| 48. CLAIMS | 21 |
| 49. ANTITRUST AGREEMENT | 21 |
| 50. INSURANCE..... | 22 |
| 51. WISCONSIN LAW CONTROLLING..... | 24 |

1. CONSTRUCTION DOCUMENTS

- A. Construction Documents, listed in Table of Contents of this Specification volume shall form part of this Contract and provisions of Construction Documents shall be as binding upon parties as if they were fully set forth in Contract itself.
- B. These shall also be considered as part of Construction Documents: Addenda, including additions and modifications incorporated in such addenda before execution of Contract; requests for information; construction bulletins; change orders; and written interpretations by Architect / Engineer or Public Works Project Manager that are made after execution of Contract.
- C. Construction Documents are complementary, and what is required by one shall be as binding as if required by all. Intent of Construction Documents is to include all labor, materials and equipment necessary for proper execution of the Work.

2. DEFINITIONS

- A. These terms as used in this Contract are respectively defined as follows:
 - 1. All uses of term “County” in Construction Documents shall mean Dane County.
 - 2. All uses of term “Department” in Construction Documents shall mean Department of Public Works, Highway & Transportation, which is a unit of Dane County government. Department is County agency overseeing Contract with Contractor.
 - 3. Public Works Project Manager is appointed by and responsible to Department. Public Works Project Manager has authority to act on behalf of Department and will sign change orders, payment requests and other administrative matters related to projects.
 - 4. Public Works Project Manager is responsible for supervision, administration and management of field operations involved in construction phase of this Work.
 - 5. Term “Work” includes all labor, equipment and materials necessary to produce project required by Construction Documents.
 - 6. Term “Substantial Completion” is date when project or specified area of project is certified by Architect / Engineer that construction is sufficiently completed, in accordance with Construction Documents, and as modified by any subsequent changes agreed to by parties, so that County may occupy project or specified area of project for use for which it was intended subject to permit approval for occupancy.
 - 7. Contractor is person, firm, or corporation with whom County makes Contract. Though multiple contracts may be involved, Construction Documents treat them throughout as if each were of singular number.

3. ADDITIONAL INSTRUCTIONS AND DRAWINGS

- A. Contractor may be furnished additional instructions and detail drawings as necessary to carry out the Work included in Contract. Additional drawings and instructions thus supplied to Contractor will coordinate with Construction Documents and will be so prepared that they can be reasonably interpreted as part thereof. Contractor shall carry out the Work in accordance with additional detail drawings and instructions.

4. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Unless otherwise specified, Contractor shall submit three (3) copies of all Shop Drawings for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.
- B. Contractor shall submit, on an on-going basis and as directed, Product Data such as brochures that shall contain catalog cuts and specifications of all furnished mechanical and electrical equipment. After Architect / Engineer's approval, one (1) copy shall remain in Architect / Engineer's file, one (1) kept at Department's office and one (1) kept at job site by Contractor for reference purposes.
- C. Samples shall consist of physical examples furnished by Contractor in sufficient size and quantity to illustrate materials, equipment or workmanship, and to establish standards to compare the Work.
 - 1. Submit Samples in sufficient quantity (minimum of two (2)) to permit Architect / Engineer to make all necessary tests and of adequate size showing quality, type, color range, finish, and texture. Label each Sample stating material, type, color, thickness, size, project name, and Contractor's name.
 - 2. Submit transmittal letter requesting approval, and prepay transportation charges to Architect / Engineer's office on samples forwarded.
 - 3. Materials installed shall match approved Samples.
- D. Contractor shall review Shop Drawings and place their dated stamp thereon to evidence their review and approval and shall submit with reasonable promptness and in orderly sequence to cause no delay in the Work or in work of any other contractor. At time of submission, Contractor shall inform Architect / Engineer in writing of any deviation in Shop Drawings or Samples from requirements of Construction Documents. Architect / Engineer will not consider partial lists.
- E. Architect / Engineer will review and approve or reject Shop Drawings with reasonable promptness to cause no delay. Architect / Engineer's approval shall not relieve Contractor from responsibility for errors or omissions in Shop Drawings.
- F. Contractor shall not commence any work requiring Shop Drawing, Product Data or Sample submission until Architect / Engineer has approved submission. All such work shall be in accordance with approved Shop Drawings, Product Data and Samples.
- G. Contractor shall keep on site of the Work, approved or conformed copy of Shop Drawings and shall at all time give Department access thereto.
- H. By stamping and submitting Shop Drawings, Product Data and Samples, Contractor thereby represents that he or she has or will determine and verify all field measurements, field construction criteria, materials, catalog numbers, and similar data and that he or she has checked and coordinated each Shop Drawing, Product Data and Sample with requirements of the Work and of Construction Documents. Architect / Engineer shall return without examination, Shop Drawings, Product Data and Samples not so noted.
- I. All Shop Drawings from any one Contractor should be numbered consecutively and on cover sheet shall bear name and location of project, name of Contractor, date of submittal and date of each correction or revision and associated Specification section and page number.

5. CUTTING AND PATCHING

- A. Contractor shall be responsible for all cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
- B. Contractor shall not damage or endanger portion of the Work or fully or partially completed construction of County or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. Contractor shall not cut or otherwise alter such construction by County or separate contractor except with written consent of County and of such separate contractor; such consent shall not be unreasonably withheld. Contractor shall not withhold unreasonably from County or separate contractor, Contractor's consent to cutting or otherwise altering the Work.

6. CLEANING UP

- A. Contractor shall keep premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under Contract. Contractor shall remove from and about the Work waste materials, rubbish, Contractor's tools, construction equipment, machinery, and surplus materials at completion of the Work. Contractor shall maintain streets and sidewalks around the Work site in clean condition. Contractor shall remove all spillage and prevent tracking of spillage arising from performance of the Work, into, out of, and within the Work site. Contractor shall establish regular maintenance program of sweeping, vacuuming and / or hosing to minimize accumulation of dirt and dust upon such areas.
- B. If Contractor fails to clean up as directed in Construction Documents, County may do so and shall charge Contractor cost thereof.
- C. Contractor shall be responsible for broken windows and glass, and at completion of the Work shall replace such damaged or broken windows and glass. After replacing damaged or broken windows and glass, Contractor shall remove all labels, wash and polish both sides of all windows and glass.
- D. In addition to general cleaning (sweeping, vacuuming and / or hosing, as is appropriate to work surface), Contractor shall perform following final cleaning for all trades at completion of the Work:
 - 1. Remove temporary protections;
 - 2. Remove marks, stains, fingerprints and other soil or dirt from painted, decorated and finished woodwork and wall surfaces;
 - 3. Remove spots, plaster, soil and paint from ceramic tile, marble and other finished materials, and wash or wipe clean;
 - 4. Clean fixtures, cabinet work and equipment, removing stains, paint, dirt and dust, and leave same in undamaged, new condition;
 - 5. Clean aluminum in accordance with recommendations of manufacturer; and
 - 6. Clean resilient floors thoroughly with well-rinsed mop containing only enough moisture to clean off any surface dirt or dust and buff dry by machine to bring surfaces to sheen.

7. USE OF SITE

- A. Contractor shall provide County and Architect / Engineer access to the Work under all circumstances.

- B. Contractor shall confine operations at site to areas permitted by County, law, ordinance, permits and Construction Documents and shall not unreasonably encumber site with materials or equipment. Contractor shall assure free, convenient, unencumbered, direct and safe access to all properties adjacent to the Work for County, its employees, invitees and guests.

8. MATERIALS AND WORKMANSHIP

- A. Contractor shall perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, necessary to complete the Work required by this Contract, within time specified, in accordance with provisions of Construction Documents.
- B. All equipment and materials incorporated in the Work covered by this Contract are to be new; use recycled and / or recovered materials to extent that such use is technically and economically feasible. Recovered materials are products recovered from solid waste in form identical to original form for use that is same as, or similar to original use. Recycled materials are products manufactured from solid waste.
- C. If requested, Contractor shall furnish satisfactory evidence as to kind and quality of construction materials proposed or used. Contractor shall furnish to Architect / Engineer, for approval, manufacturer name and model, performance capacities and other pertinent information of machinery, mechanical, electrical or other types of equipment, which Contractor plans to install.
- D. If not otherwise provided, materials and labor called for in this Contract shall be provided and performed in accordance with established practice and standards recognized by Architects, Engineers, Department, and construction industry.
- E. Reference to “Standard” specifications of any association or manufacturer, or codes of County authorities, intends most recent printed edition or catalog in effect on date that corresponds with date of Construction Documents.
- F. Whenever reference is made in Specifications that work shall be “performed”, “applied”, in accordance with “manufacturer’s directions or instructions”, Contractor to whom those instructions are directed shall furnish three (3) printed copies of such instructions to Architect / Engineer before execution of the Work.

9. CONTRACTOR’S TITLE TO MATERIALS

- A. Contractor or any subcontractor shall not purchase materials or supplies for the Work subject to any chattel mortgage or under conditional sale contract or other agreement by which seller retains interest. Contractor warrants that all materials and supplies used in the Work are free from all liens, claims or encumbrances and Contractor has good title to them.

10. “OR EQUAL” CLAUSE

- A. Whenever equipment or materials are identified on Drawings or in Specifications by reference to manufacturer’s or vendor’s name, trade name, catalog number, and other identifying information, it is intended to establish standards; and any equipment or material of other manufacturers and vendors which will perform adequately duties imposed by

general design will be considered equally accepted provided equipment or material so proposed is, in opinion of Architect / Engineer, of equal substance and function. Architect / Engineer and Department shall provide written approval before Contractor may purchase or install it.

- B. Equipment or materials of manufacturers, other than those named, may be used only upon following conditions:
1. That, in opinion of Architect / Engineer and Department, proposed material or equipment item is fully equal or superior (in design, materials, construction, workmanship, performance, finish, etc.) to named item. No compromise in quality level, however small, is acceptable.
 2. That, in substituting materials or equipment, Contractor assumes responsibility for any changes in system or for modifications required in adjacent or related work to accommodate such substitution despite Architect / Engineer's and Department's approval, and all costs growing out of approval of "or equal" items shall be responsibility of Contractor. No extra costs resulting from such approval shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
 3. It shall be understood that use of materials or equipment other than those specified, or approved equal by Architect / Engineer and Department, shall constitute violation of Contract, and that Architect / Engineer and Department shall have right to require removal of such materials or equipment and their replacement with specified materials or equipment at Contractor's expense.
 4. Product and manufacturer named first in Specifications or on information shown on Drawings is basis of selection of manufactured items and equipment, particularly mechanical equipment. In using other than first named products or manufacturers, including those specified as additionally approved or acceptable, Contractor assumes responsibility for any changes in system and for modifications in any work required to accommodate them. Architect / Engineer's approval of such additionally acceptable products or manufacturers, either in Specifications or in Addendum, does not relieve Contractor from obligation to coordinate such optional products with other Contractors, whose work may be affected by them, and to pay all additional costs resulting from their inclusion into the Work. Contractor's liability shall include payment of Architect / Engineer's fees for any additional services made necessary by or directly connected to such product changes. No extra costs resulting from such changes shall become responsibility of Department, Architect / Engineer or any other separate Contractor.
- C. No request for approval of "or equal" materials will be entertained except from Contractor. Identify any request for substitution as substitution on Contractor's letter of transmittal and give reasons for substitution. Department may in its sole discretion allow substitutions of materials.

11. PATENTS AND ROYALTIES

- A. If Contractor uses any design, device or material covered by letters, patent or copyright, it is mutually agreed and understood, that, without exception, contract prices shall include all royalties or costs arising from use of such design, device or materials, in any way involved in the Work.
- B. Contractor shall indemnify and save harmless County from any and all claims for infringement by reason of use of such patent or copyright in connection with the Work agreed to be performed under this Contract, and shall indemnify County for any cost,

expense or damage which it may be obliged to pay by reason of such infringement at any time during prosecution of the Work or after completion of the Work.

12. SURVEYS, PERMITS, REGULATIONS AND TAXES

- A. Department will furnish to Contractor all site, topography and property surveys necessary for execution of the Work.
- B. Contractor shall procure all permits, licenses and approvals necessary for execution of this Contract.
- C. Contractor shall give all notices and comply with all State of Wisconsin, Federal and local laws, codes, rules and regulations relating to performance of the Work, protection of adjacent property, and maintenance of passageways, guard fences or other protective facilities.
- D. Contractor shall pay all Sales, Consumer, Use and other similar taxes required by law.
- E. Contractor shall promptly notify Architect / Engineer of any variances of Drawings or Specifications with that of any State of Wisconsin, federal or local law, code, rule or regulation. Upon such notification, Architect / Engineer will require correction of variance to comply with applicable law, code, rule or regulation at no additional cost to Contractor.
- F. Work under this Contract shall comply with all applicable State of Wisconsin, Federal and local laws, codes and regulations.
- G. Contractor shall pay charges for water, sewer and other utility connections made by municipalities where required by Specifications.

13. CONTRACTOR'S OBLIGATIONS AND SUPERINTENDENCE

- A. Contractor shall provide and pay for all materials, labor, tools, equipment, transportation and superintendence necessary to execute, complete and deliver the Work within specified time. Contractor agrees to secure at their own expense all personnel necessary to carry out the Work. Such personnel shall not be deemed County employees nor shall they have or be deemed to have any direct contractual relationship with County.
- B. Performance of any work necessary after regular working hours, on Sundays or Legal Holidays shall be without additional expense to County. Performance of any work at site at other than normal working hours must be coordinated with Public Works Project Manager.
- C. Contractor shall furnish, erect, maintain and remove such temporary works as may be required.
- D. Contractor shall observe, comply with, and be subject to all terms, conditions, requirements and limitations of Construction Documents.
- E. At the Work site, Contractor shall give personal superintendence to the Work or shall employ construction superintendent or foreman, experienced in character of work covered by Contract, who shall have full authority to act for Contractor. Understand that such superintendent or foreman shall be acceptable to Architect / Engineer and Department.

- F. Remove from project or take other corrective action upon notice from Architect / Engineer or Department for Contractor's employees whose work is considered by Architect / Engineer or Department to be unsatisfactory, careless, incompetent, unskilled or otherwise objectionable.
- G. Contractor and subcontractors shall be required to conform to Labor Laws of State of Wisconsin and various acts amendatory and supplementary thereto and to other laws, ordinances and legal requirements applicable to the Work.
- H. Presence and observation of the Work by Architect / Engineer or Public Works Project Manager shall not relieve Contractor of any obligations.

14. WEATHER CONDITIONS

- A. In event of temporary suspension of work, or during inclement weather, or whenever Architect / Engineer shall direct, Contractor shall, and shall cause subcontractors to protect carefully all work and materials against damage or injury from weather. If, in opinion of Architect / Engineer or Department, any work or materials that have been damaged or injured due to failure on part of Contractor or any subcontractors so to protect the Work, such materials shall be removed and replaced at expense of Contractor.

15. PROTECTION OF WORK AND PROPERTY

- A. Contractor shall at all times safely guard County's property from injury or loss in connection with this Contract. Contractor shall at all times safely guard and protect the Work, and adjacent property, from damage. Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in Contract, or by County, or County's duly authorized representative.
- B. Contractor may act diligently, without previous instructions from Architect / Engineer and / or Department, in emergency that threatens loss or injury of property, or safety of life. Contractor shall notify Architect / Engineer and / or Department immediately thereafter. Promptly submit any claim for compensation by Contractor due to such extra work to Architect / Engineer and / or Department for approval as provided for in Article 18 herein.

16. INSPECTION AND TESTING OF MATERIALS

- A. Authorized representatives and agents of County government shall have access at all times to the Work wherever it is in preparation or progress and Contractor shall provide facilities for such access and for inspection.
- B. Should it be considered necessary or advisable at any time before final acceptance of the Work to make examination of work already completed, by removing or tearing out same, Contractor shall upon request, promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any aspect, due to fault of Contractor or subcontractors thereof, Contractor shall assume all expenses of such examination and of satisfactory reconstruction. Contractor will be reimbursed for such examination and replacement in accordance with Article 18 - A.3., of these General Conditions of Contract if such work is found to meet requirements of Contract.
- C. If Specifications, Architect / Engineer's, or Public Works Project Manager's instructions require any work to be specially tested or approved, Contractor shall give Architect /

Engineer and Public Works Project Manager timely notice of its readiness for testing or inspection. Test all materials and equipment requiring testing in accordance with accepted or specified standards, as applicable. Architect / Engineer shall recommend laboratory or inspection agency and Department will select and pay for all initial laboratory inspection services. Should retesting be required, due to failure of initial testing, cost of such retesting shall be borne by Contractor.

- D. Cost of any testing performed by manufacturers or Contractor for substantiating acceptability of proposed substitution of materials and equipment, or necessary conformance testing in conjunction with manufacturing processes or factory assemblage, shall be borne by Contractor or manufacturer responsible.

17. REPORTS, RECORDS AND DATA

- A. Contractor shall submit to Architect / Engineer and Public Works Project Manager such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, invoices, records and other data as either may request concerning work performed or to be performed under this Contract.

18. CHANGES IN THE WORK

- A. Make no changes, except in cases of emergency, in the Work covered by approved Construction Documents without having prior written approval of Department. Charges or credits for the Work covered by approved change shall be determined by one of these methods:
 - 1. Unit bid prices previously approved.
 - 2. Agreed lump sum based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.
 - c) Ownership or rental cost of construction tools and equipment during time of use on extra work.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) Add to cost under (2), fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense.
 - h) On that portion of the Work under (2) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense.
 - i) Department may require correct amount of costs with supporting vouchers; Contractor shall keep and present in such form as directed.
 - 3. Cost-plus work, with not-to-exceed dollar limit, based on actual cost of:
 - a) Labor, including foremen, and all fringe benefits that are associated with their wages.
 - b) Materials entering permanently into the Work.

- c) Ownership or rental cost of construction tools and equipment during time of use on extra work. Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment.
 - d) Power and consumable supplies for operation of power equipment.
 - e) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance.
 - f) Social Security and old age and unemployment contributions.
 - g) To cost under (3), there shall be added fixed fee to be agreed upon but not to exceed fifteen percent (15%) of actual cost of work performed with their own labor force. Fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense.
 - h) On that portion of the Work under (3) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense.
 - i) Contractor shall keep and present, in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
- B. If Contractor claims that by any instructions given by Architect / Engineer, Department, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice of cost thereof within two (2) weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
- C. No claim for extra work or cost shall be allowed unless it was done in pursuance of written Change Order from Architect / Engineer and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
- D. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Public Works Project Manager to proceed.

19. EXTRAS

- A. Without invalidating Contract, Department may order extra work or make changes by altering, adding to or deducting from the Work, contract sum being adjusted in accordance with Article 18 herein.

20. TIME FOR COMPLETION

- A. Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the Work as stated in Construction Documents.

21. CORRECTION OF WORK

- A. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Architect / Engineer and Public Works Project Manager who shall be judge of quality and suitability of the Work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Architect / Engineer's and Public Works Project Manager's approval they shall

be reconstructed, made good, replaced or corrected, by Contractor at Contractor's expense. Immediately remove all rejected material from site.

- B. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days' written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from Contractor's payments then or thereafter, cost of correcting such deficiencies, including cost of Architect / Engineer's additional services made necessary by such default, neglect or failure.

22. SUBSURFACE CONDITIONS FOUND DIFFERENT

- A. If Contractor encounters subsurface or latent conditions at site materially differing from those shown on Drawings or indicated in Specifications, Contractor shall immediately give notice to Architect / Engineer and Public Works Project Manager of such conditions before they are disturbed. Architect / Engineer will thereupon promptly investigate conditions, and if Architect / Engineer finds that they materially differ from those shown on Drawings or indicated in Specifications, Architect / Engineer will at once make such changes as necessary, any increase or decrease of cost resulting from such changes to be adjusted in manner provided in above Article 18 entitled "Changes in the Work".

23. RIGHT OF DEPARTMENT TO TERMINATE CONTRACT

- A. In event that any provisions of this Contract are violated by Contractor or by any subcontractors, County may serve written notice upon Contractor and Surety of its intention to terminate Contract, such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
- B. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract subject to County's approval; provided, however, that if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by contract, or by force account, at expense of Contractor; Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such materials and equipment as may be on the Work site and therefore necessary.

24. CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES

- A. Contractor shall be responsible for Construction Schedule and coordination. Immediately after execution and delivery of Contract and before making first payment, Contractor shall notify all subcontractors to furnish all required information to develop Construction Schedule. Contractor and all subcontractors associated with the Work shall furnish following information from each Division of Specifications:
 - 1. List of construction activities;
 - 2. Start, finish and time required for completion of each activity;
 - 3. Sequential relationships between activities;

4. Identify all long lead-time items, key events, meetings or activities such as required submittals, fabrication and delivery, procurement of materials, installation and testing;
 5. Weekly definition of extent of work and areas of activity for each trade or Subcontract; and
 6. Other information as determined by Public Works Project Manager.
- B. In addition to above requested items, Contractor shall request delivery dates for all County-furnished equipment, materials or labor. This shall include any work handled by Department under separate contracts such as asbestos abatement, air and water balancing, etc. Indicate on Construction Schedule these associated delivery and installation dates.
- C. Progress Reporting:
1. Contractor shall update and publish Construction Schedule on monthly basis. Revisions to Schedule shall be by Contractor and made in same detail as original Schedule and accompanied by explanation of reasons for revision; and shall be subject to approval by Department.
 2. Failure of Contractor to keep Schedule in updated format shall result in County hiring firm specializing in construction schedule development and deducting those costs associated with updating process from payments due Contractor.
 3. Contractor shall submit show actual percentage of each activity completed, estimated future progress, and anticipated completion time.
- D. Responsibility for timely completion requires:
1. Contractor and subcontractors understand that performance of each is interdependent upon performance of others.
 2. Whenever it becomes apparent from current schedule, that phasing or progress completion dates will not be met, Contractor must take some or all following actions at no additional cost to County:
 - a) Increase construction labor in such quantities and crafts as will eliminate backlog of work.
 - b) Increase number of working hours per shift, shifts per working day, working days per week, amount of construction equipment, or any combination of foregoing to eliminate backlog of work.
 - c) Reschedule work (yet remain in conformance with Drawings and Specifications).
 3. Prior to proceeding with any of above actions, Contractor shall notify Public Works Project Manager.
- E. Maintain current Construction Schedule at all times. Revise Construction Schedule in same detail as original and accompany with explanation of reasons for revision. Schedule shall be subject to approval by Architect / Engineer and Public Works Project Manager.

25. PAYMENTS TO CONTRACTOR

- A. Contractor shall provide:
1. Detailed estimate giving complete breakdown of contract price by Specification Division; and
 2. Periodic itemized estimates of work done for purpose of making partial payments thereon.
- B. Submit these estimates for approval first to Architect / Engineer, then to Public Works Project Manager. Costs employed in making up any of these schedules are for determining

basis of partial payments and not considered as fixing basis for additions to or deductions from Contract price.

- C. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt of Application and Certificate for Payment form from Architect / Engineer and approval of Department.
- D. Contractor shall submit for approval first to Architect / Engineer, and then to Public Works Project Manager all Application and Certificate for Payment forms. If requested, Application and Certificate for Payment shall be supported by such additional evidence as may be required, showing Contractor's right to payment claimed.
- E. Application and Certificate for Payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requesting payment for materials stored off site, may be rejected, however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered, conditional upon submission by Contractor of bills of sale, photographs and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.
- F. Payments by County will be due within forty-five (45) business days after receipt by Department of Application and Certificate for Payment.
- G. County will retain five percent (5%) of each Application and Certificate for Payment until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, County will make remaining payments in full if Architect / Engineer and Public Works Project Manager find that progress of the Work corresponds with Construction Schedule. If Architect / Engineer and Public Works Project Manager find that progress of the Work does not correspond with Construction Schedule, County may retain up to ten percent (10%) of each Application and Certificate for Payment for the Work completed.
- H. All material and work covered by partial payments made shall become sole property of County, but this provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made, or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
- I. County will make final payment within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof. Submit Equal Benefits Compliance Payment Certification with final pay request. Payment may be denied if Certification is not included.
- J. County may make payment in full, including retained percentages and less authorized deductions, upon completion and acceptance of each Division where price is stated separately in Contract.
- K. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all

debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County. If Wisconsin Prevailing Wage Rate Determination is required for this Work, use “Prime Contractor Affidavit of Compliance with Prevailing Wage Rate Determination” and “Agent or Subcontractor Affidavit of Compliance with Prevailing Wage Rate Determination” (if applicable). If Wisconsin Prevailing Wage Rate Determination is not required for this Work, use “Dane County, Wisconsin Contractor Wage Affidavit”. Forms of such affidavits are included in Supplementary Conditions.

26. WITHHOLDING OF PAYMENTS

- A. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor’s unpaid compensation sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged; whereupon, payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor’s Surety.
- B. In paying any unpaid bills of Contractor, County shall be deemed agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
- C. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workers, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.
- D. At Department’s request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

27. ACCEPTANCE OF FINAL PAYMENT AS RELEASE

- A. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - 1. Unsettled lien;
 - 2. Faulty or defective work appearing after substantial completion;
 - 3. Failure of the Work to comply with requirements of Construction Documents; or
 - 4. Terms of any special guarantees required by Construction Documents.
- B. Acceptance of final payment shall constitute waiver of all claims by Contractor.

28. PAYMENTS BY CONTRACTOR

- A. Contractor shall pay following not later than fifth (5th) business day following each payment received from County:
 - 1. All transportation and utility services rendered;

2. All materials, tools, and other expendable equipment that have been delivered at site of the Work to extent of ninety percent (90%) of cost thereof, and balance of cost thereof when said balance is paid to Contractor; and
3. Each subcontractor, respective amount allowed Contractor because of work performed by subcontractor to extent of subcontractor's interest therein.

29. CONTRACT SECURITY

- A. Contractor shall furnish Performance and Payment Bonds in amount at least equal to one hundred percent (100%) of Contract price as security for faithful performance of this Contract and payment of all persons performing labor on project under this Contract and furnishing materials in connection with this Contract.
- B. Sample Performance and Payment Bonds that Contractor will be required to execute is bound into these Construction Documents. Before construction Contract is consummated, completed Performance and Payment Bonds must be approved by Department.

30. ASSIGNMENTS

- A. Contractor shall not assign whole or any part of this Contract or any moneys due or to become due hereunder without written consent of Department. In case Contractor assigns all or any part of any moneys due or to become due under this Contract, instrument of assignment shall contain clause substantially to effect that it is agreed that right of assignee in and to any moneys due or to become due to Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for performance of the Work called for in this Contract.

31. MUTUAL RESPONSIBILITY OF CONTRACTORS

- A. If, through acts of neglect on part of Contractor or any subcontractor shall suffer loss or damage on the Work, Contractor agrees to settle with such subcontractor by agreement or arbitration if such other subcontractor will so settle. If such subcontractor shall assert any claim against County on account of any damage alleged to have been sustained, Department shall notify Contractor, who shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives against any such claim.

32. SEPARATE CONTRACTS

- A. Department may award other contracts for the Work and all Contractors shall fully cooperate with each other and carefully adjust their work to that provided under other contracts as may be directed by Department. No Contractor shall commit or permit any act that will interfere with performance of the Work by any other Contractor.
- B. Contractor shall coordinate the Work with those of other Contractors. Cooperation will be required in arrangement for storage of materials and in detailed execution of the Work. Contractor, including subcontractors, shall keep informed of progress and detail work of others and shall notify Architect / Engineer or Department immediately of lack of progress or defective workmanship on part of others. Failure of Contractor to keep informed of the Work progressing on site and failure to give notice of lack of progress or defective

workmanship by others shall be construed as acceptance by Contractor of status of the Work as being satisfactory for proper coordination with Contractor's own work.

33. SUBCONTRACTS

- A. Contractor may use services of specialty subcontractors on those parts of the Work that, under normal contracting practices, are performed by specialty subcontractors.
- B. Contractor shall not award any work to any subcontractor without prior approval of Department. Qualifications of subcontractors shall be same as qualifications of Contractor. Request for subcontractor approval shall be submitted to Department fifteen (15) business days before start of subcontractor's work. If subcontractors are changed or added, Contractor shall notify Department in writing.
- C. Contractor shall be as fully responsible to County for acts and omissions of subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for acts and omissions of persons directly employed by Contractor.
- D. Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to Contractor by terms of General Conditions of Contract and other Construction Documents insofar as applicable to work of subcontractors and to give Contractor same power as regards terminating any subcontract that Department may exercise over Contractor under any provision of Construction Documents.
- E. Nothing contained in this Contract shall create any contractual relation between any subcontractor and County.
- F. Contractor shall insert in all subcontracts, Articles 26, 33, 43 and 45, respectively entitled: "Withholding of Payments", "Subcontracts", "Affirmative Action Provision and Minority / Women / Disadvantaged Business Enterprises", and "Minimum Wages", and shall further require all subcontractors to incorporate physically these same Articles in all subcontracts.

34. PUBLIC WORKS PROJECT MANAGER'S AUTHORITY

- A. Public Works Project Manager shall:
 - 1. Administer and ensure compliance with Construction Documents;
 - 2. Provide responsible on-site observations of construction and have authority to request work and to stop work whenever necessary to insure proper enforcement of Construction Documents;
 - 3. Convene and chair project meetings and foreman's coordination meetings when necessary to coordinate resolution of conflicts between Contractors, Architects, Engineers, Consultants, and Department; and
 - 4. Check and inspect material, equipment and installation procedures of all trades for proper workmanship and for compliance with Drawings, Specifications and Shop Drawings, permit no material on project site that is not satisfactory and reject work not in compliance with Construction Documents.

35. ARCHITECT / ENGINEER'S AUTHORITY

- A. Architect / Engineer is retained by, and is responsible to Department acting for County.

- B. Architect / Engineer shall determine amount, quality, acceptability, and fitness of several kinds of work and materials that are provided under this Contract and shall decide all questions that may arise in relation to said work and construction thereof.
- C. Architect / Engineer shall decide meaning and intent of any portion of Specifications and of any Drawings where they may be found obscure or be in dispute.
- D. Architect / Engineer shall provide responsible observation of construction. Architect / Engineer has authority to stop the Work whenever such stoppage may be necessary to insure proper execution of Construction Documents.
- E. Architect / Engineer shall be interpreter of conditions of Construction Documents and judge of its performance.
- F. Within reasonable time, Architect / Engineer shall make decisions on all matters relating to progress of the Work or interpretation of Construction Documents.
- G. Architect / Engineer's decisions are subject to review by Public Works Project Manager.

36. STATED ALLOWANCES

- A. Stated allowances enumerated in Instructions to Bidders shall cover net cost of materials or equipment, and all applicable taxes. Contractor's cost of delivery and unloading at site, handling costs on site, labor, installation costs, overhead, profit and any other incidental costs shall be included in Contractor's bid, but not as part of cash allowance.
- B. Department will solicit at least two (2) bids on materials or equipment for which allowance is stated and select on basis of lowest qualified responsible bid. Contractor will then be instructed to purchase "Allowed Materials". If actual price for purchasing "Allowed Materials", including taxes, is more or less than "Cash Allowance", Contract price shall be adjusted accordingly. Adjustment in Contract price shall not contain any cost items excluded from cash allowance.

37. ESTIMATES OF QUANTITIES

- A. Whenever estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of Construction Documents, they are given for use in comparing bids and right is especially reserved to increase or diminish them as they may be deemed reasonably necessary or desirable by Department to complete the Work included in this Contract, and cost for such increase or diminution shall be adjusted in manner provided for in General Conditions of Contract Article 18 entitled "Changes in the Work".

38. LANDS AND RIGHTS-OF-WAY

- A. Prior to start of construction, County shall furnish all land and rights-of-way necessary for carrying out and completion of the Work to be performed under this Contract.

39. GENERAL GUARANTEE

- A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.
 - 1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting there from, which appear within period of one (1) year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Architect / Engineer and Public Works Project Manager.
- D. Where guarantees or warranties are required in sections of Specifications for periods in excess of one (1) year, such longer terms shall apply; however, Contractor's Performance and Payment Bonds shall not apply to any guarantee or warranty period in excess of one (1) year.

40. CONFLICTING CONDITIONS

- A. Any provision in any of Construction Documents which may be in conflict or inconsistent with any Articles in these General Conditions of Contract or Supplementary Conditions shall be void to extent of such conflict or inconsistency.
- B. In case of ambiguity or conflict between Drawings and Specifications, Specifications shall govern.
- C. Printed dimensions shall be followed in preference to measurements by scale. Large-scale drawings take precedence over small-scale drawings. Dimensions on Drawings and details are subject to field measurements of adjacent work.

41. NOTICE AND SERVICE THEREOF

- A. Any notice to Contractor from Department relative to any part of this Contract shall be in writing and considered delivered and service thereof completed, when said notice is posted, by certified or registered mail, to Contractor at Contractor's last given address, or delivered in person to said Contractor, or Contractor's authorized representative on the Work.

42. PROTECTION OF LIVES AND HEALTH

- A. In order to protect lives and health of Contractor's employees under Contract, Contractor shall comply with all pertinent provisions of Wisconsin Administrative Code, Rules of Department of Commerce, relating to Safety and Health.
- B. Contractor alone shall be responsible for safety, efficiency and adequacy of Contractor's tools, equipment and methods, and for any damage that may result from their failure or their improper construction, maintenance or operation.

43. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. Affirmative Action Provisions.
 - 1. During term of their Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, these affirmative action standards so as to be visible to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.
 - 2. Contractor is subject to this Article only if Contractor has ten (10) or more employees and receives \$10,000.00 or more in annual aggregate contracts with County. Contractor shall file and Affirmative Action Plan with Dane County Contract Compliance Officer in accord with Chapter 19 of Dane County Code of Ordinances. Such plan must be filed within fifteen (15) business days of effective date of this Contract and failure to do so by said date shall constitute ground for immediate termination of Contract by County. Contractor shall also, during term of this Contract, provide copies of all announcements of employment opportunities to County's Contract Compliance Office, and shall report annually number of persons, by race, sex and handicap status, who apply for employment, and, similarly classified, number hired and number rejected.
 - 3. Contact Dane County Contract Compliance Officer at Dane County Contract Compliance Office, 210 Martin Luther King, Jr. Blvd., Room 421, Madison, WI 53703, 608/266-4114.
 - 4. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to affect Contractor is "Equal Opportunity Employer". Contractor agrees to furnish all information and reports required by County's Contract Compliance Officer as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.
- B. Minority / Women / Disadvantaged / Emerging Small Business Enterprises.
 - 1. Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County regarding utilization of, to fullest extent of, Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs) Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs).

2. Contractor may utilize MBEs / WBEs / DBEs / ESBEs as subcontractors or suppliers. List of subcontractors will be required of low bidder as stated in this Contract. List shall indicate which are MBEs / WBEs / DBEs / ESBEs and percentage of subcontract awarded, shown as percentage of total dollar amount of bid.

44. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Officer results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Officer as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

45. DOMESTIC PARTNERSHIP BENEFITS

- A. Contractor agrees to provide same economic benefits to all of its employees with domestic partners as it does to employees with spouses, or cash equivalent if such benefit cannot reasonably be provided. Contractor agrees to make available for County inspection Contractor's payroll records relating to employees providing services on or under this Contract or subcontract. If any payroll records of Contractor contain any false, misleading or fraudulent information, or if Contractor fails to comply with provisions of Chapter 25.016, Dane County Ordinances, contract compliance officer may withhold payments on Contract; terminate, cancel or suspend Contract in whole or in part; or, after due process hearing, deny Contractor right to participate in bidding on future County contracts for period of one year after first violation is found and for period of three years after second or subsequent violation is found.

46. USE AND OCCUPANCY PRIOR TO ACCEPTANCE

- A. Contractor agrees to use and occupancy of portion or unit of the Work before formal acceptance by Department, provided Department:
 1. Secures written consent of Contractor; except when in opinion of Public Works Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements.
 2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of the Work during remaining period of construction, or, secures consent of Surety.
 3. Assumes all costs and maintenance of heat, electricity and water.
 4. Accepts all work completed within that portion or unit of the Work to be occupied, at time of occupancy.

47. MINIMUM WAGES

- A. Contractor shall post, at appropriate conspicuous point on site of project, schedule showing all determined minimum wage rates for various classes of laborers and mechanics to be engaged in the Work under this Contract and all deductions, if any, required by law to be made from unpaid wages actually earned by laborers and mechanics so engaged.
- B. Supplementary Conditions section in Construction Documents lists wage determinations required by State Law.
- C. If, after award of Contract, it becomes necessary to employ any person in trade or occupation not classified in wage determinations, such person shall be paid at not less than such rate as shall be determined by Wisconsin Department of Workforce Development. Such approved minimum rate shall be retroactive to time of initial employment of such person in such trade or occupation. Contractor shall notify Department of Contractor's intention to employ persons in trades or occupations not so classified in sufficient time for Department to obtain approved rates for such trades or occupations.
- D. Specified wage rates are minimum rates only, and Department will not consider any claims for additional compensation made by Contractor because of payment by Contractor of any wage rate in excess of applicable rate contained in this Contract. Contractor shall adjust any disputes in regard to payment of wages in excess of those specified in this Contract.
- E. Submit required affidavit(s) to Department of Public Works, Highway & Transportation, as requested and with final application for payment for work under said contract. Affidavit(s) shall clearly indicate name, trade or occupation, and paid wages of every laborer, worker or mechanic employed by Contractor and all subcontractors during billing period including accurate record of number of hours worked by each employee and actual wages paid as stipulated in Wisconsin Statute 66.0903. If Wisconsin Prevailing Wage Rate Determination is required for this Work, use "Prime Contractor Affidavit of Compliance with Prevailing Wage Rate Determination" and "Agent or Subcontractor Affidavit of Compliance with Prevailing Wage Rate Determination" (if applicable). If Wisconsin Prevailing Wage Rate Determination is not required for this Work, use "Dane County, Wisconsin Contractor Wage Affidavit". Forms of such affidavits are included in Supplementary Conditions.

48. CLAIMS

- A. No claim may be made until Department's Assistant Public Works Director has reviewed Architect / Engineer's decision as provided for in Article 35 of General Conditions of Contract. If any claim remains unresolved after such review by Department's Assistant Public Works Director the claim may be filed under Wisconsin Statute 893.80. Work shall progress during period of any dispute or claim. Unless specifically agreed between parties, venue will be in Dane County, Wisconsin.

49. ANTITRUST AGREEMENT

- A. Contractor and County recognize that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by County. Therefore, Contractor hereby assigns to County any and all claims for such overcharges as to goods and materials purchased in connection with this Contract, except as to overcharges which result from

antitrust violations commencing after price is established under this Contract and any change order thereto.

50. INSURANCE

A. Contractor Carried Insurance:

1. Contractor shall not commence work under this Contract until Contractor has obtained all insurance required under this Article and has provided evidence of such insurance to Risk Manager, 425 City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI 53703. Contractor shall not allow any subcontractor to commence work until insurance required of subcontractor has been so obtained and approved. Company providing insurance must be licensed to do business in Wisconsin.
2. Worker's Compensation Insurance:
 - a) Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of Contractor's employees engaged in work at site of project under this Contract and, in case of any such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
 - b) If any claim of employees engaged in hazardous work on project under this Contract is not protected under Worker's Compensation Statute, Contractor shall provide and shall cause each subcontractor to provide adequate Employer's Liability Insurance for protection of such of Contractor's employees as are not otherwise protected.
3. Contractor's Public Liability and Property Damage Insurance:
 - a) Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000 bodily injury, including accidental death, to any one person, and subject to same limit for each person, in amount not less than \$1,000,000 on account of one accident, and Contractor's Property Damage Insurance in amount not less than \$1,000,000 or combined single limit of at least \$1,000,000 with excess coverage over and above general liability in amount not less than \$5,000,000. Contractor shall add "Dane County" as additional insured for each project.
 - b) Contractor's Public Liability and Property Damage Insurance shall include Products, Completed Operation, and Contractual Liability under Insurance Contract. "Contractor shall in all instances save, defend, indemnify and hold harmless County and Architect / Engineer against all claims, demands, liabilities, damages or any other costs which may accrue in prosecution of the Work and that Contractor will save, defend, indemnify and hold harmless County and Architect / Engineer from all damages caused by or as result of Contractor's operations" and each shall be listed as additional insured on Contractor's and sub-contractors' insurance policies.
 - c) Obligations of Contractor under Article 50.A.2.b) shall not extend to liability of Architect / Engineer, agents or employees thereof, arising out of:
 - 1) Preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
 - 2) Giving of or failure to give directions or instructions by Architect / Engineer, agents or employees thereof provided such giving or failure to give is primary cause of injury or damage.
 - d) Contractor shall procure and shall maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000 each accident single limit,

bodily injury and property damage combined with excess coverage over and above general liability in amount not less than \$5,000,000.

- e) Contractor shall either:
 - 1) Require each subcontractor to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or
 - 2) Insure activities of subcontractors in Contractor's own policy.
- 4. Scope of Insurance and Special Hazards: Insurance required under Article 50.A.2 & 50.A.3. hereof shall provide adequate protection for Contractor and subcontractors, respectively, against damage claims which may arise from operations under this Contract, whether such operation be by insured or by anyone directly or indirectly employed by insured and also against any of special hazards which may be encountered in performance of this Contract as enumerated in Supplementary Conditions.
- 5. Proof of Carriage of Insurance: Contractor shall furnish Risk Manager with certificates showing type, amount, class of operations covered, effective dates, dates of expiration of policies and "Dane County" listed as additional insured. Such certificates shall also contain (substantially) following statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by Risk Manager."

B. Builder's Risk:

- 1. County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$500,000 or less. Therefore, if project completed value is more than \$500,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

C. Indemnification / Hold Harmless:

- 1. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, and is caused in whole or in part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by part indemnified hereunder.
- 2. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- 3. Obligations of Contractor under this Contract shall not extend to liability of Architect / Engineer, its agents or employees arising out of:
 - a) Preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or

- b) Giving of or failure to give directions or instruction by Architect / Engineer, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
- 4. Dane County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.


51. WISCONSIN LAW CONTROLLING

- A. It is expressly understood and agreed to by parties hereto that in event of any disagreement or controversy between parties, Wisconsin law shall be controlling.

SUPPLEMENTARY CONDITIONS

1. APPLICATION & CERTIFICATE FOR PAYMENT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit partial and final Application & Certificate for Payment for work under said contract. Form shall provide similar information as shown on AIA G702™ and G703™ forms (samples shown below). Forms shall be submitted to project Architect / Engineer for approval.


AIA Document G702™ – 1992

Application and Certificate for Payment

| | | | |
|------------------|----------------|-----------------|-------------------------------------|
| TO OWNER: | PROJECT: | APPLICATION NO: | Distribution to: |
| | | PERIOD TO: | OWNER <input type="checkbox"/> |
| | | CONTRACT FOR: | ARCHITECT <input type="checkbox"/> |
| FROM CONTRACTOR: | VIA ARCHITECT: | CONTRACT DATE: | CONTRACTOR <input type="checkbox"/> |
| | | PROJECT NOS: | FIELD <input type="checkbox"/> |
| | | | OTHER <input type="checkbox"/> |

CONTRACTOR'S APPLICATION FOR PAYMENT
 Application is made for payment, as shown below, in connection with the Contract.
 AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM \$ _____

2. NET CHANGE BY CHANGE ORDERS \$ _____

3. CONTRACT SUM TO DATE (Line 1 + 2) \$ _____

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ _____

5. RETAINAGE:

a. _____ % of Completed Work
 (Columns D + E on G703) \$ _____

b. _____ % of Stored Material
 (Column F on G703) \$ _____

Total Retainage (Lines 5a + 5b, or Total in Column I of G703) \$ _____

6. TOTAL EARNED LESS RETAINAGE \$ _____
 (Line 4 minus Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT \$ _____
 (Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE \$ _____

9. BALANCE TO FINISH, INCLUDING RETAINAGE
 (Line 3 minus Line 6) \$ _____

| CHANGE ORDER SUMMARY | ADDITIONS | DEDUCTIONS |
|--|-----------------|-----------------|
| Total changes approved in previous months by Owner | \$ _____ | \$ _____ |
| Total approved this month | \$ _____ | \$ _____ |
| TOTAL | \$ _____ | \$ _____ |
| NET CHANGES by Change Order | \$ _____ | \$ _____ |

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:
 By: _____ Date: _____
 State of: _____
 County of: _____
 Subscribed and sworn to before me this _____ day of _____

Notary Public:
 My commission expires: _____

ARCHITECT'S CERTIFICATE FOR PAYMENT
 In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED \$ _____
 (Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:
 By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.
 AIA Document G702™ – 1992. Copyright © 1953, 1963, 1965, 1971, 1978, 1983 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org. 010711-0224

Continuation Sheet

AIA Document G702™-1992, Application and Certificate for Payment, or G732™-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached. In tabulations below, amounts are in US dollars. Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

| A ITEM NO. | B DESCRIPTION OF WORK | C SCHEDULED VALUE | D WORK COMPLETED | | F MATERIALS PRESENTLY STORED <i>(Not in D or E)</i> | G TOTAL COMPLETED AND STORED TO DATE <i>(D+E+F)</i> | H BALANCE TO FINISH <i>(C-G)</i> | I RETAINAGE <i>(if variable rate)</i> |
|---------------|--------------------------|----------------------|--|------------------|---|---|--|---|
| | | | D FROM PREVIOUS APPLICATION <i>(D-E)</i> | E THIS PERIOD | | | | |
| GRAND TOTAL | | | | | | | | |

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA Document G703™ – 1992. Copyright © 1963, 1965, 1966, 1967, 1970, 1978, 1993 and 1992 by The American Institute of Architects. All rights reserved. WARNING: This AIA™ Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA™ Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. Purchasers are permitted to reproduce ten (10) copies of this document when completed. To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org. 10-1204504

2. CONTRACTOR WAGE AFFIDAVIT

- A. Every contractor engaged in performance of any contract for Department of Public Works, Highway & Transportation shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit in form as hereinafter set forth in this section. Affidavit affirms that all persons employed by contractor or by any of contractor's subcontractors on such contract have been paid no less than minimum wages established under Dane County Ordinances, Chapter 40, Subchapter II (Minimum Wage Ordinance) and in effect at date of execution of contract, that full payment of wages earned has been made, and that no rebates either directly or indirectly have been made. Form of such affidavit is included in this section.
- B. Form should be included with a copy of the final contract invoice forwarded to your contract representative at Dane County.

Page Intentionally Left Blank

SECTION 01 00 00
BASIC REQUIREMENTS

PART 1 GENERAL

1.1 SECTION SUMMARY

- A. Section Includes:
1. Section Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Change Procedures
 6. Alternates
 7. Coordination
 8. Cutting and Patching
 9. Conferences
 10. Progress Meetings
 11. Job Site Administration
 12. Submittal Procedures
 13. Proposed Products List
 14. Shop Drawings
 15. Product Data
 16. Samples
 17. Manufacturers' Instructions
 18. Manufacturers' Certificates
 19. Quality Assurance / Quality Control of Installation
 20. References
 21. Interior Enclosures
 22. Protection of Installed Work
 23. Parking
 24. Staging Areas
 25. Occupancy During Construction and Conduct of Work
 26. Protection
 27. Progress Cleaning
 28. Products
 29. Transportation, Handling, Storage and Protection
 30. Product Options
 31. Substitutions
 32. Starting Systems
 33. Demonstration and Instructions
 34. Contract Closeout Procedures
 35. Final Cleaning
 36. Adjusting
 37. Operation and Maintenance Data
 38. Spare Parts and Maintenance Materials
 39. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as specified and detailed in Construction Documents package. Contractor to provide replacement of two outside ground level air cooled condensing units, direct expansion cooling coils in existing basement packaged air handling unit & associated refrigeration line sets between this equipment.
- B. Work by Owner:
 - 1. Evacuate & reclaim of refrigerant from existing air conditioning system.
 - 2. Replace air handling unit's existing filters with MERV 13 type filters before test & balance work begins.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.
- D. Diggers Hotline:
 - 1. It is General Contractor's responsibility to contact Diggers Hotline to have all utility locations marked prior to excavation and planning an excavation in a timely manner so as not to delay the Work.
 - 2. Diggers Hotline shall also be used to obtain information on safe working clearances from overhead lines.
 - 3. Completely comply with all requirements of each affected utility company.
 - 4. It is General Contractor's responsibility to contact & hire private utility locating services if necessary.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner.
- B. Coordinate utility outages and shutdowns with Owner.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit two (2) original copies with "wet" signatures of each application on AIA G702™ and G703™ forms or approved contractors invoice form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Architect / Engineer for initial approval. Architect / Engineer will forward approved copies to Owner who will also approve & process for payment.

1.5 CHANGE PROCEDURES

- A. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates:
 - 1. Add Knee Wall to Outside Air Intake.
 - a. Provide 18" concrete knee wall to perimeter of ground level outside air intake on building's east side.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.
- D. Refer to Drawings for recommended work sequence and duration.
- E. Contractor shall provide Public Works Project Engineer with work plan that ensures the Work will be completed within required time of completion.
- F. Public Works Project Manager may choose to photograph or videotape site or workers as the Work progresses.

1.8 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

D. Refinish surfaces to match adjacent finishes.

1.9 CONFERENCES

- A. There will be pre-bid conference for this project; see Instructions to Bidders.
- B. Owner will schedule a pre-construction conference after Award of Contract for all affected parties.
- C. Contractor shall submit Construction Schedule at pre-construction meeting.
- D. When required in individual Specification section, convene a pre-installation conference at project site prior to commencing work of Section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at minimum of one (1) per week, at a time agreed upon by with Public Works Project Manager.
- B. Preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- C. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- D. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.
- E. Day & time of progress meetings to be determined at pre-construction meeting.

1.11 JOB SITE ADMINISTRATION

- A. Contractor shall have project superintendent on site minimum of eight (8) hours per week during progress of the Work.
- B. Architect / Engineer shall have representative on site regularly during progress of the Work.

1.12 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.

- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.13 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

1.14 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.

1.15 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Public Works Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

1.16 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Public Works Project Manager's selection.

1.17 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.18 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Public Works Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.19 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.20 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Public Works Project Manager before proceeding.

1.21 INTERIOR ENCLOSURES

- A. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent distribution of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.22 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.23 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel. Parking shall be available at the Work site.
- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.24 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Manager prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.25 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. All construction material and salvage material shall be removed from facility or secured at day's end.
- B. Contractors are asked to not work at facility if they are ill with something contagious.
- C. Smoking is prohibited on Dane County property.
- D. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- E. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.
- F. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours (4:00 a.m. to 8:30 p.m.), but confer with Owner, schedule work and store materials so as to interfere as little as possible with normal use of premises. Notify Owner when coring or similar noise making work is to be done and obtain Owner's written approval of schedule. If schedule is not convenient for Owner, reschedule and resubmit new times for Owner approval.
- G. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.
- H. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- I. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this Contract is to be performed.
- J. Each Contractor shall arrange with Owner to make necessary alterations, do new work, make connections to all utilities, etc., at such times as will not cause interruption of utility services to facility. Contractor doing this work shall protect, cap, cut off and / or replace and relocate existing pipes, electrical work and other active utilities encountered which may interfere with new construction work.
- K. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.

L. Contractor is not responsible for providing & maintaining temporary toilet facilities.

1.26 PROTECTION

- A. Contractor shall protect from damage / injury all trees, shrubs, hedges, plantings, grass, mechanical, electrical & plumbing equipment, walks and driveways and pay for any damage to same resulting from insufficient or improper protection.
- B. Contractor shall provide and maintain barricades & signage to prohibit public access to construction site.

1.27 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.28 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.29 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.30 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to Public Works Project Manager for approval at least seven (7) business days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by Public Works Project Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date may be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.31 SUBSTITUTIONS

- A. Public Works Project Manager shall consider requests for Substitutions only up to seven (7) business days prior to date of Bid Due Date.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.32 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.33 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of final inspection.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- C. Owner may choose to photograph or videotape demonstration session; demonstration and demonstrator shall be to level of satisfaction of Owner.

1.34 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Public Works Project Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.35 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.

- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.36 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.37 OPERATION AND MAINTENANCE MANUAL

- A. Provide two (2) bound, hard-copy operation and maintenance manuals that include all systems, materials, products, equipment, mechanical and electrical equipment and systems supplied and installed in the Work. Provide electronic version of operation and maintenance manual also.

1.38 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to the Work site and place in location as directed.

1.39 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Architect / Engineer with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are project As-Built Drawings & Specifications.
- B. Architect / Engineer shall update original Construction Documents to include all Addendums & any other changes including those provided by Contractor in As-Built Drawings & Specifications. These updates are project Record Drawings & Specifications.
- C. Architect / Engineer shall furnish Public Works Project Manager with Record Drawings as detailed in Professional Services Agreement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. Waste Management Plan Form

- B. Related Sections:
 - 1. Section 01 00 00 - Basic Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in Dane County Green Building Policy, Resolution 299, 1999-2000.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling must go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.

B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen (15) business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.5 REUSE

A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.6 RECYCLING

A. These materials must be recycled at Dane County Construction & Demolition Recycling Facility:

1. Wood.
2. Wood Pallets.
3. PVC Plastic (pipe, siding, etc.).
4. Asphalt & Concrete.
5. Bricks & Masonry.
6. Cardboard.
7. Metal.
8. Unpainted Gypsum Drywall.

B. These materials can be recycled elsewhere in Dane County area:

1. Fluorescent Lamps.
2. Foam Insulation & Packaging (extruded and expanded).
3. Barrels & Drums.

C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 MATERIALS SORTING AND STORAGE ON SITE

A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.

B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.

C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Hackner at 608/266-4990, or local city, village, town recycling staff listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

| MATERIAL | ESTIMATED QUANTITY | DISPOSAL METHOD (CHECK ONE) | | RECYCLING / REUSE COMPANY OR DISPOSAL SITE |
|--------------------------------------|------------------------------|-----------------------------|--------------|--|
| Salvaged & reused building materials | _____ cu. yds. _____ tons | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Wood | _____ cu. yds. _____ tons | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Wood Pallets | _____ units | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| PVC Plastic | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Asphalt & Concrete | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Bricks & Masonry | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Cardboard | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Metals | _____ cu. yds. _____ tons | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Unpainted Gypsum / Drywall | _____ cu. yds. _____ tons | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Fluorescent Lamps | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Foam Insulation | _____ cu. ft. _____ lbs. | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Barrels & Drums | _____ units | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Glass | _____ cu. yds. _____ tons | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Other | _____ | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |
| Other | _____ | _____ Recycled | _____ Reused | Name: _____ |
| | | _____ Landfilled | _____ Other | |

Page Intentionally Left Blank

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

SECTION 23 05 00
COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

SCOPE

This section includes information common to two or more technical specification sections or items that are of a general nature, not conveniently fitting into other technical sections.

The project includes:

Refer to specific specification sections and key plan notes for additional information on the specifics of the work required.

In general with work of the HVAC Contractor includes but not limited to:

- Demolition/removal of existing and installation of two new 50 ton air cooled compressor/condensing units.
- Removal of refrigerant piping between the ACCU's and the facility air handling unit.
- Removal of existing refrigerant cooling coils in the air handling unit.
- Installation of new refrigerant cooling coils in the air handling unit.
- Installation of new refrigerant piping.
- Control work required for provide the specified sequence of control of the new ACCU's is part of the HVAC work.
- Electrical work associated with the replacement of the ACCU's is part of the HVAC work.
- General construction work required for enclosure of a portion of the refrigerant piping.
- Air testing and balancing of the air handling unit to set the design air flow.

RELATED WORK

Section 23 07 00 - HVAC Insulation

Section 23 09 14 - Controls

Section 23 23 00 - Refrigerant Piping

Section 23 62 13 - Packaged Air Cooled Refrigerant Compressor and Condensing Units

Section 23 73 12 - Air Handling Unit Coils

REFERENCE

Applicable provisions of Division 1 govern work under this section.

REFERENCE STANDARDS

Abbreviations of standards organizations referenced in other sections are as follows:

| | |
|----------|--|
| ANSI | American National Standards Institute |
| ARI | Air-Conditioning and Refrigeration Institute |
| ASHRAE | American Society of Heating, Refrigerating and Air Conditioning Engineers |
| ASME | American Society of Mechanical Engineers |
| ASTM | American Society for Testing and Materials |
| EPA | Environmental Protection Agency |
| IEEE | Institute of Electrical and Electronics Engineers |
| MCA | Mechanical Contractors Association |
| MICA | Midwest Insulation Contractors Association |
| NEBB | National Environmental Balancing Bureau |
| NEC | National Electric Code |
| NEMA | National Electrical Manufacturers Association |
| NFPA | National Fire Protection Association |
| SMACNA | Sheet Metal and Air Conditioning Contractors' National Association. Inc. |
| UL | Underwriters Laboratories Inc. |
| ASTM E84 | Standard Test Method for Surface Burning Characteristics of Building Materials |

QUALITY ASSURANCE

Refer to Division 1, General Conditions of Contract, "OR Equal" Clause and Division 1 Basic Requirements, Substitutions.

1
2 Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or
3 engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs
4 involved in integrating the equipment or accessories into the system and for obtaining the performance from the
5 system into which these items are placed.
6

7 **CONTINUITY OF EXISTING SERVICES**

8 Do not interrupt or change existing services without prior approval from the Owners Project Representative. When
9 interruption is required, coordinate the down-time with the user to minimize disruption to their activities.
10

11 **SEALING AND FIRE STOPPING**

12 Sealing of sleeves/openings between piping, etc. and the assembly opening, structural or partition opening shall be
13 the responsibility of the contractor whose work penetrates the opening.
14

15 **SUBMITTALS**

16 Refer to Division 1, General Conditions of Contract, Shop Drawings, Product Data, and Samples and Division 1,
17 Basic Requirements, Submittal Procedure.
18

19 Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal
20 with that specification section number. Mark general catalog sheets and drawings to indicate specific items being
21 submitted and proper identification of equipment by name and/or number, as indicated in the contract documents.
22

23 Include wiring diagrams of electrically powered equipment.
24

25 Submit sufficient quantities of shop drawings to allow the following distribution:

- 26 • Operating and Maintenance Manuals (2 copies)
- 27

28 **CERTIFICATES AND INSPECTIONS**

29 Refer also to Division 1, General Conditions of Contract, Surveys, Permits, Regulations and Taxes.
30

31 Obtain and pay for all required State or Local Municipal installation inspections except those provided by the
32 Architect/Engineer in accordance with code. Deliver originals of these certificates to the Owners Project Manager.
33 Include copies of the certificates in the Operating and Maintenance Instructions.
34

35 **OPERATION AND MAINTENANCE DATA**

36 All operations and maintenance data shall comply with the submission and content requirements specified under
37 section Basic Requirements.
38

39 **TRAINING OF OWNER PERSONNEL**

40 Instruct user personnel in the proper operation and maintenance of systems and equipment provided. Include not less
41 than one hour of instruction. Demonstrate startup and shutdown procedures for all equipment.
42

43 **RECORD DRAWINGS**

44 Refer to Division 1, Basic Requirements, Record Drawings.
45

46 In addition to the data indicated in the Basic Requirements, maintain temperature control modifications record
47 drawings on originals prepared by the installing contractor/subcontractor. Include copies of these record drawings
48 with the Operating and Maintenance manuals.
49
50
51

1 **PART 2 - PRODUCTS**

2
3 **SEALING AND FIRE STOPPING**

4 **MANUFACTURERS:**

5 Systems listed by approved testing agencies may be used providing they conform to the construction type, penetrant
6 type, annular space requirements, and fire rating required for each separate instance.

7
8 Subject to compliance with requirements, provide products by one of the following manufacturers:

9 3M Fire Protection Products, HILTI, Inc., ProSet Systems, Inc., Specified Technologies, Inc., Tremco
10 Construction Division.

11
12 **PENETRATION FIRE STOPPING**

13 Penetrations in Fire-Resistance-Rated Walls: Provide penetration fire stopping with the following ratings determined
14 per ASTM E 814 or UL 1479:

15 Fire-resistance-rated walls include fire walls and fire-barrier walls.

16 F-Rating: Not less than the fire-resistance rating of constructions penetrated.

17
18 **NON-RATED PENETRATIONS:**

19 **Pipe Penetrations:**

20 At pipe penetrations of non-rated interior walls, floors and exterior walls above grade, use urethane caulk in annular
21 space between pipe insulation and sleeve. For non-rated drywall, plaster or wood walls where sleeve is not required
22 use urethane caulk in annular space between pipe insulation and wall material.

23
24
25 **PART 3 - EXECUTION**

26
27 **DEMOLITION**

28 All equipment, pipe, wiring and associated conduit, insulation, and similar items demolished, abandoned, or
29 deactivated are to be removed from the site by the Contractor. All piping specialties are to be removed from the site
30 by the Contractor. .

31
32 **CUTTING AND PATCHING**

33 Complete cutting and patching required for installation of new equipment, piping and control wiring

34
35 **EQUIPMENT ACCESS**

36 Install all piping, conduit, and accessories to permit access to equipment for maintenance and service. Maintain
37 manufacturer's required service access

38
39 **COORDINATION**

40 Coordinate all work with other contractors prior to installation.

41
42 **LUBRICATION**

43 Lubricate all bearings with lubricant as recommended by the manufacturer before the equipment is operated for any
44 reason. Once the equipment has been run, maintain lubrication in accordance with the manufacturer's instructions
45 until the work is accepted by the Owner's Project Manager. Maintain a log of all lubricants used and frequency of
46 lubrication; include this information in the Operating and Maintenance Manuals at the completion of the project.

47
48 **SEALING AND FIRE STOPPING**

49 **NON-RATED PENETRATIONS:**

50 At all interior walls and exterior walls, pipe penetrations are required to be sealed. Apply sealant to both sides of the
51 penetration in such a manner that the annular space between the pipe sleeve or cored opening and the pipe or
52 insulation is completely blocked.

53
54
55 **END OF SECTION**

1 **SECTION 23 05 29**
2 **HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT**

3
4 **PART 1 - GENERAL**

5
6 **SCOPE**

7 This section includes specifications for supports of all HVAC equipment and materials as well as piping system
8 anchors.

9
10 **RELATED WORK**

11 Section 23 07 00 - HVAC Insulation
12 Section 23 23 00 - Refrigerant Piping and Accessories

13
14 **REFERENCE**

15 Applicable provisions of Division 1 shall govern work under this section.

16
17 **REFERENCE STANDARDS**

18 MSS SP-58 Materials, Design, Manufacture, Selection, Application, and Installation

19
20 **QUALITY ASSURANCE**

21 Refer to Division 1, General Conditions of Contract, "OR Equal" Clause and Division 1 Basic Requirements,
22 Substitutions.

23
24 **DESCRIPTION**

25 Provide all supporting devices as required for the installation of mechanical equipment and materials. All supports
26 and installation procedures are to conform to the latest requirements of the ANSI Code for pressure piping.

27
28 Protect insulation at all hanger points; see Related Work above.

29
30 **SHOP DRAWINGS**

31 Refer to Division 1, General Conditions of Contract, Shop Drawings, Product Data, and Samples and Division 1,
32 Basic Requirements, Shop Drawings.

33
34 Schedule of all hanger and support devices indicating shields, attachment methods, and type of device for each pipe
35 size and type of service. Reference section 23 05 00.

36
37 **DESIGN CRITERIA**

38 Materials and application of pipe hangers and supports shall be in accordance with MSS Standard Practice SP-58
39 unless noted otherwise.

40
41 Fasteners depending on soft lead for holding power or requiring powder actuation will not be accepted.

42
43 Allow sufficient space between adjacent pipes and ducts for insulation, valve operation, routine maintenance, etc.

44
45 **PART 2 - PRODUCTS**

46
47 **PIPE HANGER AND SUPPORT MANUFACTURERS**

48 Anvil, B-Line, Fee and Mason, Kindorf, Michigan Hanger, Unistrut, or approved equal. Anvil figure numbers are
49 listed below; equivalent material by other manufacturers is acceptable.

50
51 **WALL SUPPORT:**

52 Welded steel bracket with hanger. B-Line 3068 Series, Anvil 194 Series.

53
54 Perforated epoxy painted finish, 16-12 gauge min., steel channels securely anchored to wall structure with
55 interlocking, split type, bolt secured, galvanized pipe/tubing clamps. B-Line type S channel with B-2000 series

1 clamps, Anvil type AS200 H with AS 1200 clamps. When copper piping is being supported, provide flexible
2 elastomeric/thermoplastic isolation cushion material to completely encircle the piping and avoid contact with the
3 channel or clamp, equal to B-Line B1999 Vibra Cushion or provide manufacturers clamp and cushion assemblies,
4 B-Line BVT series, Anvil cushion clamp assembly.

5
6 **COPPER PIPE SUPPORT:**

7 Carbon steel ring, adjustable, copper plated or polyvinylchloride coated.

8
9 **INSULATION PROTECTION SHIELDS:**

10 Galvanized carbon steel of not less than 18 gauge for use on insulated pipe 2-1/2 inch and larger. Minimum shield
11 length is 12 inches. Equal to Anvil figure 167.

12
13 **STEEL HANGER RODS:**

14 Threaded both ends, threaded one end, or continuous threaded, black finish.

15
16 Size rods for individual hangers and trapeze support as indicated in the following schedule.

17
18 Total weight of equipment, including valves, fittings, pipe, pipe content, and insulation, are not to exceed the limits
19 indicated.

20
21

| Maximum Load (Lbs.) (650°F Maximum Temp.) | Rod Diameter (inches) |
|--|--------------------------|
| 610 | 3/8 |
| 1130 | 1/2 |

23
24
25

26 Provide rods complete with adjusting and lock nuts.

27
28 **CONCRETE INSERTS**

29 Carbon steel expansion anchors, vibration resistant, with ASTM B633 zinc plating. Use drill bit of same
30 manufacturer as anchor. Hilti, Rawl, Redhead.

31
32 **PART 3 - EXECUTION**

33
34 **INSTALLATION**

35 Install supports to provide for free expansion of the piping and duct system. Support all piping from the structure
36 using concrete inserts, beam clamps, ceiling plates, wall brackets, or floor stands. Fasten ceiling plates and wall
37 brackets securely to the structure and test to demonstrate the adequacy of the fastening.

38
39 Piping shall be supported independently from ductwork and all other trades.

40
41 Where piping can be conveniently grouped to allow the use of trapeze type supports, use standard structural shapes
42 for the supporting steel.

43
44 **HANGER AND SUPPORT SPACING**

45 Place a hanger within 12 inches of each horizontal elbow, valve, strainer, or similar piping specialty item.

46
47 Where several pipes can be installed in parallel and at the same elevation, provide multiple or trapeze hangers.

48
49 Space hangers for pipe as follows:

50

| Pipe Material | Pipe Size | Max. Spacing |
|---------------|---------------------|--------------|
| Copper | 1/2" through 1-1/4" | 5'-0" |
| Copper | 1-1/2" and larger | 8'-0" |

52
53
54
55

56 **END OF SECTION**

1
2 Summary: Provide summary sheet describing any mechanical system deficiencies. Provide recommendations for
3 correcting unsatisfactory performance. List instrumentation used during testing, adjusting and balancing procedures.
4

5 The remainder of the report to contain the appropriate standard NEBB, AABC, or TABB forms for each respective
6 item and system. Fill out forms completely. Where information cannot be obtained or is not applicable indicate
7 same.
8
9

10 **PART 2 - PRODUCTS**

11 **INSTRUMENTATION**

12 Provide all required instrumentation to obtain proper measurements. Application of instruments and accuracy of
13 instruments and measurements to be in accordance with the requirements of NEBB, AABC, or TABB Standards and
14 instrument manufacturer's specifications.
15

16 All instruments used for measurements shall be accurate, and calibration histories for each instrument to be available
17 for examination by Owners Project Manager upon request. Calibration and maintenance of all instruments to be in
18 accordance with the requirements of NEBB, AABC, or TABB Standards
19
20
21

22 **PART 3 - EXECUTION**

23 **PRELIMINARY PROCEDURES**

24 Check filters for cleanliness, dampers and valves for correct positioning, equipment for proper rotation and belt
25 tension, temperature controls for completion of installation and hydronic systems for proper charge and purging of
26 air.
27
28

29 **PERFORMING TESTING, ADJUSTING AND BALANCING**

30 Perform testing, adjusting and balancing procedures on the air handling unit identified, in accordance with the
31 detailed procedures outlined in the referenced standards except as may be modified below.
32

33 Unless specifically instructed in writing, all work in this specification section is to be performed during the normal
34 workday.
35

36 In air systems employing filters, blank off sufficient filter area to simulate a pressure drop that is midway between
37 that of a clean filter and that of a dirty filter.
38

39 Measure and record system measurements at the fan to determine total flow.
40

41 Measure and record static air pressure conditions across fans, and filters. Indicate in report if cooling coil
42 measurements were made on a wet or dry coil and if filter measurements were made on a clean or dirty filter.
43

44 Adjust outside air, return air and relief air dampers for design conditions at both the minimum and maximum
45 settings and record both sets of data. Balance modulating dampers at extreme conditions and record both sets of
46 data.
47

48 Provide fan and motor drive sheave adjustments necessary to obtain design performance. Provide drive changes
49 specifically noted on drawings, if any. If work of this section indicates that any drive or motor is inadequate for the
50 application, advise the owner's project representative by giving the representative properly sized motor/drive
51 information (in accordance with manufacturers original service factor and installed motor horsepower
52 requirements); submitted to owner's project representative. Prior authorization is needed before this work is started.
53

54 **Final air system measurements to be within the following range of specified cfm:**

| | | | |
|-------------|-------------------|--------------------------------|-------------------|
| Fans | 0% to +10% | Design Maximum Air Flow | 20,400 CFM |
|-------------|-------------------|--------------------------------|-------------------|

1
2 Contact the Contractor and control Contractor for assistance in operation and adjustment of controls during testing,
3 adjusting and balancing procedures to provide maximum VAV system by opening all VAV boxes to maximum air
4 flow. Cycle controls and verify proper operation and set points. Include in report description of temperature control
5 operation and any deficiencies found.

6
7 Leave systems in proper working order, replacing belt guards, closing access doors and electrical boxes, and
8 restoring temperature controls to normal operating settings.

9
10 **DEFICIENCIES**

11 Deficiencies found by the test and balance agency that were specified and/or shown on the Contract Documents
12 shall be reported by the Test and balance agency to the Owners Project Representative for determination in method
13 of correction of the deficiencies. Retest mechanical systems, equipment, and devices once corrective work is
14 complete as specified.

15
16
17
18
19

END OF SECTION

1
2
3 **PART 2 - PRODUCTS**
4

5 **MATERIALS**

6 Manufacturers: Armacell, Childers, Dow, Extol, Fibrex, Halstead, Foster, Imcoa, or approved equal.
7

8 Materials or accessories containing asbestos will not be accepted.
9

10 Use composite insulation systems (insulation, jackets, sealants, mastics, and adhesives) that have a flame spread
11 rating of 25 or less and smoke developed rating of 50 or less, with the following exceptions:
12

13 Pipe insulation which is not located in an air plenum may have a flame spread rating not over 25 and a smoke
14 developed rating no higher than 450 when tested in accordance with UL 723 and ASTM E84.
15

16 **INSULATION TYPES**

17 Insulating materials shall be fire retardant, moisture and mildew resistant, and vermin proof. Insulation shall be
18 suitable to receive jackets, adhesives and coatings as indicated.
19

20 **ELASTOMERIC INSULATION:**

21 Flexible closed cell, minimum nominal density of 5.5 lbs. per cu. ft., thermal conductivity of not more than 0.27 at
22 75 degrees F, minimum compressive strength of 4.5 psi at 25% deformation, maximum water vapor permeability of
23 0.17 perm inch, maximum water absorption of 6% by weight, rated for service range of -20 degrees F to 220 degrees
24 F on piping and 180 degrees F where adhered to equipment.
25

26 **POLYOLEFIN INSULATION:**

27 Flexible closed cell, minimum nominal density of 1.5 lbs. per cu. ft., thermal conductivity of not more than 0.24 at
28 75 degrees F, minimum compressive strength of 5 psi at 25% deformation, maximum water vapor permeability of
29 0.0 perm inch, maximum water absorption of 0% by weight and volume, rated for service range of -165 degrees F to
30 210 degrees F.
31

32 **ADHESIVES, MASTIC, SEALANTS, AND REINFORCING MATERIALS**

33 Products shall be compatible with surfaces and materials on which they are applied, and shall be suitable for use at
34 operating temperatures of systems to which they are applied.
35

36 **VAPOR RETARDING MASTIC:**

37 Below ambient equipment/piping insulation, mastic water vapor permeance shall be less than 0.03 perms at 45 mils
38 dry film thickness per ASTM E 96: Foster 30-65 Vapor Fas, Childers CP-34,
39 Vimasco 749.
40

41 **WEATHER BARRIER BREATHER MASTIC:**

42 Above ambient equipment/piping. permeance shall be greater than 1.0 perms at 1/16" dry film thickness per ASTM
43 E96. Foster 46-50 Weatherite, Childers Vi-Cryl CP-10/CP-11, Vimasco WC-5.
44

45 **INSULATION JOINT SEALANT: (cellular glass, polyisocyanurate, phenolic)**

46 Used on all below ambient piping to prevent moisture ingress. Foster 95-50 Flextra, Childers CP-76 Chil-Byl,
47 Pittsburgh Corning CW Sealant.
48

49 **INSULATION INSERTS AND PIPE SHIELDS**

50 Manufacturers: B-Line, Pipe Shields, Value Engineered Products.
51

52 Construct inserts with calcium silicate or polyisocyanurate (service temperatures below 300 degrees F only),
53 minimum 140 psi compressive strength. Piping 12" and larger, supplement with high density 600 psi structural
54 calcium silicate insert. Provide galvanized steel shield. Insert and shield to be minimum 180 degree coverage on

1 bottom supported piping and full 360 degree coverage on clamped piping. On roller mounted piping and piping
2 designed to slide on support, provide additional load distribution steel plate.
3

4 Where contractor proposes shop/site fabricated inserts and shields, submit schedule of materials, thicknesses, gauges
5 and lengths for each pipe size to demonstrate equivalency to pre-engineered/premanufactured product described
6 above. On low temperature systems, high density rigid polyisocyanurate may be substituted for calcium silicate
7 provided insert and shield length and shield gauge are increased to compensate for lower insulation compressive
8 strength.
9

10 Precompressed 20# density molded fiberglass blocks, Hamfab or equal, of the same thickness as adjacent insulation
11 may be substituted for calcium silicate inserts with one 1"x6" block for piping through 2-1/2" and three 1"x6"
12 blocks for piping through 4". Submit shield schedule to demonstrate equivalency to pre-engineered/premanufactured
13 product described above.
14

15 **ACCESSORIES**

16 All products shall be compatible with surfaces and materials on which they are applied, and be suitable for use at
17 operating temperatures of the systems to which they are applied.
18

19 Adhesives, sealants, and protective finishes shall be as recommended by insulation manufacturer for applications
20 specified.
21

22 Insulation bands to be 3/4 inch wide, constructed of aluminum or stainless steel. Minimum thickness to be 0.015
23 inch for aluminum and 0.010 inch for stainless steel.
24

25 Tack fasteners to be stainless steel ring grooved shank tacks.
26

27 Staples to be clinch style.
28

29 Insulating cement to be ANSI/ASTM C195, hydraulic setting mineral wool.
30

31 Finishing cement to be ASTM C449.
32

33 Fibrous glass or canvas fabric reinforcing used with lagging adhesive shall have a minimum untreated weight of 6
34 oz./sq. yd.
35

36 Joint sealants and metal jacketing sealants to be non-shrinking and permanently flexible.
37

38 Vapor retarding coatings to have maximum applied water vapor permeance of 0.03 perms or less at 45 °F, dry as
39 tested by ASTM E96.
40

41 Fungicidal water base duct liner coating (Foster 40-20 or equal) to be compatible with vapor retarding coating. This
42 product must be EPA registered to be used inside HVAC ducts. Coating must comply with ASTM D 5590 with 0
43 growth rating.
44
45

46 **PART 3 - EXECUTION**

47 **EXAMINATION**

48 Verify that all piping, is tested and approved prior to installing insulation. Do not insulate systems until testing and
49 inspection procedures are completed. Verify that all surfaces are clean, dry and without foreign material before
50 applying insulation materials.
51
52

53 **INSTALLATION**

54 All materials shall be installed by skilled labor regularly engaged in this type of work. All materials shall be
55 installed in strict accordance with manufacturer's recommendations, building codes, and industry standards. Do not

1 install products when the ambient temperature or conditions are not consistent with the manufacturer's
2 recommendations. Surfaces to be insulated must be clean and dry.

3
4 Install insulation with smooth and even surfaces. Poorly fitted joints or use of filler in voids will not be accepted.
5 Provide neatly beveled and coated terminations at all nameplates, uninsulated fittings, or at other locations where
6 insulation terminates.

7
8 Use full length material (as delivered from manufacturer) wherever possible. Scrap piecing of insulation or pieces
9 cut undersize and stretched to fit will not be accepted.

10
11 All pipe insulation shall be continuous through walls, ceiling or floor openings and through sleeves except where
12 firestop or firesafing materials are required. Vapor retarding jacket shall be maintained continuous through all
13 penetrations.

14
15 Provide a continuous unbroken moisture vapor retarding jacket on insulation applied to systems noted below.
16 Attachments to cold surfaces shall be insulated and vapor sealed to prevent condensation.

17
18 Provide a complete vapor retarding jacket for insulation on the following systems:

- 19 • Refrigerant

20 21 **PIPING, VALVE, AND FITTING INSULATION**

22 **GENERAL:**

23 Install insulation with butt joints and longitudinal seams closed tightly.

24
25 On systems requiring a vapor retarding jacket, seal off all raw ends of insulation and butt joints with vapor retarding
26 mastic at intervals of not more than 20 feet on piping.

27
28 Install insulation continuous through pipe hangers and supports with hangers and supports on the exterior of
29 insulation.

30
31 Where insulated piping is installed on hangers and supports, the insulation shall be installed continuous through the
32 hangers and supports. High density inserts shall be provided as required to prevent the weight of the piping from
33 crushing the insulation. Pipe shields are required at all support locations. The insulation shall not be notched or cut
34 to accommodate the supporting channels.

35 36 **INSULATION INSERTS AND PIPE SHIELDS:**

37 Provide pipe shields at all hanger and support locations. Rigid insulation inserts shall be installed between the pipe
38 and the insulation shields. Quantity and placement of inserts shall be according to the manufacturer's installation
39 instructions, however the inserts shall be no less than 12" in length. Inserts shall be of equal thickness to the adjacent
40 insulation and shall be vapor sealed as required for system.

41
42 Provide insulation inserts and pipe shields at all hanger and support locations. Inserts may be omitted on 3/4" and
43 smaller copper piping provided 12" long 22 gauge pipe shields are used.

44 45 **ELASTOMERIC AND POLYOLEFIN:**

46 Where practical, slip insulation on piping during pipe installation when pipe ends are open. Miter cut fittings
47 allowing sufficient length to prevent stretching. Completely seal seams and joints for vapor tight installation. For
48 elastomeric insulation, apply full bed of adhesive to both surfaces. For polyolefin, seal factory preglued seams with
49 roller and field seams and joints with full bed of hot melt polyolefin glue to both surfaces. Cover elastomeric
50 insulation on systems operating below 40 degrees F with vapor retarding mastic.

51 52 **EXTRUDED POLYSTYRENE AND POLYISOCYANURATE:**

53 Fittings, valves, unions, flanges, couplings and specialties shall be insulated with factory molded insulation of the
54 same thickness as adjoining insulation. Secure insulation sections with two wraps of nylon filament tape 9"-12" on
55 center. On single insulation layer systems and on the outer layer of double insulation layer systems, apply a thin coat
56 of elastomeric joint sealant rated for system operating temperatures to all longitudinal and butt insulation joints

1 covering entire face of joint. Allow sealant to fully cure before applying protective covering. For piping service
 2 below 0°F, use two layers of insulation with inner and outer butt and longitudinal joints staggered and offset 90
 3 degrees. Where two layers of insulation are used, do not use sealant on the inner layer or adhere the inner layer to
 4 the outer layer. Apply vapor stop bead of joint sealant between pipe and insulation on both sides of valves,
 5 expansion/contraction joints, flanges, thermometers/gauges, attached vent and drain lines. Insulate attached non-
 6 circulated lines, control lines, vents, etc. for a minimum distance of 6" from pipe. Cover insulation with a protective
 7 jacket as specified below. Do not penetrate protective covering or insulation with mechanical fasteners.

8
 9 **PIPE INSULATION SCHEDULE:**

10 Provide insulation on new and existing remodeled piping as indicated in the following schedule:
 11

| Service | Insulation | Insulation Thickness by Pipe Size | | |
|---------------------|------------------------|-----------------------------------|---------------|----------------|
| | | ≤ 1.0" | 1.25" to 2.0" | 2-1/2" to 4.0" |
| Refrigerant Suction | | | | |
| > 40°F | Elastomeric/Polyolefin | 0.5" | 1.0" | 1.0" |
| 40°F to 20°F | Elastomeric/Polyolefin | 1.0" | 1.5" | 1.5" |

12
 13
 14 END OF SECTION
 15
 16

1 All operations and maintenance data shall comply with the submission and content requirements specified under
2 section Basic Requirements.

3
4 In addition to the general content specified under Basic Requirements supply the following additional
5 documentation:

- 6 1. A complete set of record control drawings.

7 8 **MATERIAL DELIVERY AND STORAGE**

9 Provide factory shipping cartons for each piece of equipment and control device. This contractor is responsible for
10 storage of equipment and materials inside and protected from the weather.

11 12 13 **PART 2 - PRODUCTS**

14
15 Provide new controls required to provide the specified control of the compressor condensing units. Existing controls
16 may be reused. If existing control devices are reused the control contractor shall check all devices for condition and
17 operation. If existing devices are not serviceable they shall not be used.

18 19 20 **PART 3 - EXECUTION**

21 22 **INSTALLATION**

23 Install all control equipment, accessories, wiring, in a neat and workmanlike manner. All control devices must be
24 installed in accessible locations. This contractor shall verify that all control devices furnished under this Section are
25 functional and operating the mechanical equipment as specified.

26
27 Mounting of electrical or electronic devices shall be protected from weather.

28
29 Provide all electrical relays and wiring, line and low voltage, for control systems, devices and components. Install
30 all high voltage and low voltage wiring (includes low voltage cable) in metal conduit, Electrical Non-metallic
31 Tubing (ENT), or Electrical Metallic Tubing (EMT), as scheduled below and hereafter referred to generically as
32 conduit except above accessible ceilings as noted below.

33
34 Minimum low voltage wiring gauge to be 18 AWG for outputs and 20 AWG for inputs. All low voltage wiring to
35 be stranded.

36
37 Low voltage wiring can be run without conduit above accessible lay-in tile ceilings. All wiring in mechanical
38 rooms, above inaccessible hard ceilings, exterior locations, and in any exposed areas, and in all other locations shall
39 be in conduit. Wire for wall sensors shall be run in conduit. Wiring for radiation valves shall be run in conduit
40 where routed through walls.

41 42 **TRAINING**

43 Contractor to provide factory authorized representative and/or field personnel knowledgeable with the operations,
44 maintenance and troubleshooting of the system and/or components defined within this section for a minimum period
45 of 0.5 hours.

46 47 48 **PART 4 - COMPRESSOR AND CONDENSING UNIT CONTROLS**

49 50 Existing Control Sequence.

51 On a call for cooling from the air handling unit controls to provide cooling to maintain the cooling supply air set
52 point ACCU-1 is enabled and is controlled through the unit's stages to provide the cooling capacity to maintain the
53 AHU supply air setpoint. If ACCU-1 cannot provide the required cooling ACCU-2 is enabled, through ACCU-1
54 controls, and controlled through the units stages as required to provide the cooling capacity to maintain the AHU
55 supply air setpoint.

1
2
3
4
5
6
7
8
9
10
11
12
13

Revised Control Sequence.

The Building Automation System shall alternate the lead ACCU unit on a seven day rotation (adjustable).. On a call for cooling from the air handling unit controls to provide cooling to maintain the cooling supply air set point the lead ACCU shall be enabled and controlled through the unit's stages to provide the cooling capacity to maintain the AHU supply air setpoint. If the lead ACCU cannot provide the required cooling the lag ACCU shall be enabled and controlled through the units stages as required to provide the cooling capacity to maintain the AHU supply air setpoint.

END OF SECTION

1 Where ASTM B88, type L hard temper copper tubing is specified, ASTM B88, type K hard temper copper tubing
2 may be substituted at Contractor's option.
3
4

5 **PART 2 - PRODUCTS**

6 **REFRIGERANT PIPING**

7 ASTM B88 type L hard drawn copper tube, cleaned and capped in accordance with ASTM B280, and marked
8 "ACR", with ANSI B16.22 wrought copper or forged brass solder-type fittings.
9

10 **REFRIGERANT PIPING ACCESSORIES**

11 Provide all refrigerant piping specialties with a maximum working pressure of full vacuum to 450 psig and a
12 maximum working temperature of 225 deg F. For systems using R-410A, provide all refrigerant piping specialties
13 with a maximum working pressure of full vacuum to 850 psig and a maximum working temperature of 225 deg F.
14

15 Flexible pipe connectors: Double braided bronze hose flexible pipe connectors with solder end connections.
16

17 Filter Dryers: For circuits 15 tons and over provide angle pattern filter dryers with replaceable core. For circuits
18 below 15 tons provide straight pattern filter dryers without replaceable core.
19

20 Sight glasses: Two piece brass construction with solder end connections. Include color indicator for sensing
21 moisture.
22

23 Solenoid Valves: Two way normally closed with two piece brass body, full port, stainless steel plug, stainless steel
24 spring, teflon diaphragm and solder end connections. Provide replaceable coil assembly.
25

26 Thermostatic Expansion Valves: Brass body, bronze disc, neoprene seat, bronze bonnet, stainless steel spring and
27 solder end connections.
28

29 Charging Valves: Provide 1/4" SAE brass male flare access ports with finger tight, quick seal caps. Provide 2-inch
30 long copper extension sections.
31

32 Check valves: Spring loaded type with bronze body, bronze disc, neoprene seat, bronze bonnet, stainless steel spring
33 and solder end connections.
34
35
36

37 **PART 3 - EXECUTION**

38 **PREPARATION**

39 Remove all foreign material from interior and exterior of pipe and fittings.
40

41 **ERECTION**

42 Install all piping parallel to building walls and ceilings and at heights which do not obstruct any portion of a
43 window, doorway, stairway, or passageway. Where interferences develop in the field, offset or reroute piping as
44 required to clear such interferences. In all cases, consult drawings for exact location of pipe spaces, ceiling heights,
45 door and window openings, or other architectural details before installing piping.
46

47 Install all valves and piping specialties, including items furnished by others, as specified and/or detailed. Make
48 connections to all equipment installed by others where that equipment requires the piping services indicated in this
49 section.
50

51 **REFRIGERANT PIPING**

52 Refrigeration piping to be installed by firms who are experienced in installation of such piping and in accordance
53 with the requirements of the International Mechanical Code, Chapter 11 and the Wisconsin Administrative Code
54 Chapter SPS 345.
55

1
2 All brazing filler metals shall have a melting temperature above 1400 degrees F and contain a minimum of 6%
3 silver.

4
5 Tubing to be new and delivered to the job site with the original mill end caps in place. Clean and polish all joints
6 before brazing. Avoid prolonged heating and burning during brazing. Purge all lines with nitrogen during brazing.
7 Provide manual shut-off and check valves as required.

8
9 No refrigerant is to be vented directly to the atmosphere except that which may escape through leaks in the system
10 during leak testing. During evacuation procedures, use equipment designed to recover and allow recycling of the
11 refrigerant.

12
13 Leak test the system by charging the system to a pressure of 10 psig with an HFC refrigerant, with the compressor
14 suction and discharge valves closed and with all other system valves open. Increase pressure to 300 psig with dry
15 nitrogen. Rap all joints with a mallet and check for leaks with an electric leak detector having a certified sensitivity
16 of at least one ounce per year. Seal any leaks that may be found and retest.

17
18 After completion of the leak test, evacuate the system with a vacuum pump to an absolute pressure not exceeding
19 1500 microns while the system ambient temperature is above 60°F. Break the vacuum to 2 psig with the refrigerant
20 to be used in the system. Repeat the evacuation process, again breaking the vacuum with refrigerant. Install a drier
21 of the required size in the liquid line, open the compressor suction and discharge valves, and evacuate to an absolute
22 pressure not exceeding 500 microns. Leave the vacuum pump running for not less than two hours without
23 interruption. Raise the system pressure to 2 psig with refrigerant and remove the vacuum pump.

24
25 Charge refrigerant directly from original drums through a combination filter-drier. Each drier may be used for a
26 maximum of three cylinders of refrigerant and then must be replaced with a fresh drier. Charge the system by means
27 of a charging fitting in the liquid line. Weigh the refrigerant drum before charging so that an accurate record can be
28 kept of the weight of refrigerant put in the system. If refrigerant is added to the system through the suction side of
29 the compressor, charge in vapor form only.

30
31 **REFRIGERANT PIPING ACCESSORIES**

32 Install accessories in accordance with the manufacturer's written instructions and recommendations.

33
34
35 **END OF SECTION**

36
37

SECTION 23 62 13
PACKAGED AIR-COOLED REFRIGERANT COMPRESSOR AND CONDENSING UNITS

PART 1 - GENERAL

SCOPE

This section includes specifications for air cooled condensing units for use with split system type air conditioning.

RELATED WORK

Section 23 05 00 - Common Work Results for HVAC

Section 23 09 14 Controls for HVAC

Section 23 23 23 - Refrigerant Piping and Accessories

Section 23 73 12 - Air Handling Unit Coils

REFERENCE

Applicable provisions of Division 1 shall govern work under this section.

REFERENCE STANDARDS

ARI 210/240 Unitary Air Conditioning and Heat Pump Equipment

ARI 365 Commercial and Industrial Unitary Air Conditioning Condensing Units

ASHRAE 15 Safety Standard for Refrigeration Systems

ASHRAE 90.1 (2004 edition)Energy Standard for Buildings Except Low Rise Residential Buildings

NEC National Electrical Code

ASTM B117 Standard Practice for Operating Salt Spray (fog) Apparatus

UL Underwriters Laboratory

QUALITY ASSURANCE

Refer to Division 1, General Conditions of Contract, "OR Equal" Clause and Division 1 Basic Requirements, Substitutions.

Unit Energy Efficiency Ratio (EER), Coefficient of Performance (COP) and Integrated Part Load Value (IPLV) shall meet the minimum applicable requirements of ASHRAE 90.1(2004 edition).

Rate unit performance in accordance with the latest edition of ARI Standard 365 or ARI Standard 210/240, whichever is applicable for the equipment.

Construct units in accordance with ASHRAE 15, UL standards and the NEC. Units shall carry the UL label.

Factory run test units to see that each control device operates properly. Pressure test, evacuate, charge with holding charge of refrigerant and full oil charge prior to shipping from the factory.

SUBMITTALS

Refer to Division 1, General Conditions of Contract, Shop Drawings, Product Data, and Samples and Division 1, Basic Requirements, Submittal Procedure.

Submit air cooled condensing unit shop drawings including the following information: specific manufacturer and model numbers, dimensional and weight data, required clearances, materials of construction, capacities and ratings, stages of unloading capacity achievable without hot gas bypass, refrigerant type and charge, component information, size and location of piping connections, electrical connections, wiring diagrams and information for all specialties and accessories.

Submit manufacturer's installation and start-up instructions, maintenance data, troubleshooting guide, parts lists, controls and accessories.

At substantial completion, submit warranty certificate and copy of start-up report.

OPERATION AND MAINTENANCE DATA

All operations and maintenance data shall comply with the submission and content requirements specified under section Basic Requirements.

DELIVERY, STORAGE AND HANDLING

Comply with manufacturer's instructions for storing, rigging, unloading, and transporting units. Protect units from physical damage. Leave factory-shipping covers in place until installation.

Ship units to jobsite fully assembled

WARRANTY

Provide a one year parts and labor warranty on the entire unit beginning upon substantial completion of project.

Provide a five year parts warranty on the compressor(s) beginning upon substantial completion of project.

PART 2 - PRODUCTS

UNITS 15 TONS AND LARGER

Manufacturers: Carrier, Trane, McQuay or approved equal.

For units greater than 240 MBtu/h (20 tons), the performance shall be a minimum of 10.1 EER and an 11.2 IPLV at standard ARI conditions.

Provide factory assembled, outdoor mounted, air-cooled condensing unit suitable for on grade or rooftop installation. Include compressors, air cooled condenser, refrigerant, lubrication system, interconnecting wiring, safety and operating controls, motor starting components and additional features as specified herein or required for safe, automatic operation. Capacities, number of refrigeration circuits, steps of unloading and minimum capacity without hot gas bypass shall be as indicated in the equipment schedule. Refrigerant is to be R-410A.

CABINET

Construct cabinet of heavy gauge, galvanized steel coated with paint. Cabinet must meet the 500-hour salt spray exposure test in accordance with ASTM B117. Provide lifting holes to facilitate rigging and hinged access panels to facilitate access to all-internal areas of unit that require service or repair.

COMPRESSORS

Provide rotary scroll hermetic type compressors.

Scroll compressors: Direct drive suction cooled motor. Include operating oil charge and a crankcase heater control oil dilution. Provide oil level sight glass, suction service valve, liquid line shut off valve with charging port for each compressor circuit.

Staging of compressors shall provide unloading capability.

Compressors shall be mounter on vibration isolators.

CONDENSER

Condenser coils shall be air cooled microchannel heat exchanger with aluminum alloy fins, flat aluminum tubes and aluminum manifolds, included with integral sub-cooler. Construct coils with design working pressure suitable for refrigerant selected. Condenser coils shall be leak tested, pressure tested

Provide direct-drive statically and dynamically balance propeller type fans with vertical discharge. Fan motors shall be totally enclosed 3 phase with permanently lubricated bearings. Fan safety guards to be constructed of heavy gage PVC coated or galvanized steel.

Provide motors with built in current protection and permanently lubricated sealed ball bearings.

POWER

Provide factory installed 24-volt control circuit with fusing, control power transformer and all associated internal wiring. Provide a single point power connection to the units. Provide factory installed magnetic contactors for compressor and condenser motors, three-leg compressor overload protection and single phasing condition protection with manual reset. Electrical characteristics shall be as indicated in the equipment schedule.

CONTROLS

Provide a terminal strip for external control of compressor stages for field provided controls.

Controls shall include:

- Scrolling marquee display module used for accessing condensing unit information, reading sensor values, and testing the condensing unit.
- Control with standard pressure transducer, discharge pressure transducer and suction temperature thermistors.
- Current alarm list and alarm history list on display.
- Automatic compressor lead/lag control.
- Service run test capability.
- Compressor minimum run time (3 minutes) and minimum off time (3 minutes).
- Service diagnostic mode.
- Self-contained low voltage control circuit.
- Cycle condenser fans to maintain proper head pressure control.
- Capacity control with staging compressors.
- Alarm relay output to indicate when unit is in alarm condition.

Minimum unit safety devices shall include:

- Solid-state compressor lockout to provide optional reset capability Building Automation System if any of the following safety devices trip and shut off compressors.
 - Compressor lockout protection for internal or external overload.
 - Low pressure protection.
 - High pressure protection (high pressure switch or internal).
 - Compressor reverse rotation protection.
 - Loss of charge protection.
 - Low suction superheat protection.
 - Short cycle protection.
 - Suction and discharge pressure transducers.
 - Circuit breakers or fuses for short circuit protection of compressors.

Unit must be capable of operating down to ambient temperature of 45 deg F. Provide low ambient lockout to prevent compressor from operating below 45 degrees.

REFRIGERATION COMPONENTS

Include liquid line temperature relief device, pressure transducers, liquid line shutoff valve, suction shutoff valve, suction line accumulators, long liquid line check valve kit. Provide for each refrigerant circuit.

REFRIGERANT PIPING SIZING

The unit manufacturer shall verify the final refrigeration pipe sizing process to insure conformance to specific unit requirements such as max lengths, refrigerant velocities, unloading considerations and proper oil return. This contractor shall provide refrigeration piping drawings from the field which details the way the piping will actually be installed.

REFRIGERANT PIPING ACCESSORIES

Provide all refrigerant piping specialties with a maximum working pressure of full vacuum to 450 psig and a maximum working temperature of 225 deg F. For systems using R-410A, provide all refrigerant piping specialties with a maximum working pressure of full vacuum to 850 psig and a maximum working temperature of 225 deg F.

Flexible pipe connectors: Double braided bronze hose flexible pipe connectors with solder end connections.

Filter Dryers: For circuits 15 tons and over provide angle pattern filter dryers with replaceable core. For circuits below 15 tons provide straight pattern filter dryers without replaceable core.

Solenoid Valves: Two way normally closed with two piece brass body, full port, stainless steel plug, stainless steel spring, teflon diaphragm and solder end connections. Provide replaceable coil assembly.

Thermostatic Expansion Valves: Brass body, bronze disc, neoprene seat, bronze bonnet, stainless steel spring and solder end connections.

Charging Valves: Provide 1/4" SAE brass male flare access ports with finger tight, quick seal caps. Provide 2-inch long copper extension sections.

Check valves: Spring loaded type with bronze body, bronze disc, neoprene seat, bronze bonnet, stainless steel spring and solder end connections.

Long Line Kit: Long live valve kit consisting of a liquid line check valve and a bypass check valve.

PART 3 - EXECUTION

INSTALLATION

Install units, piping and accessories in accordance with the manufacturer's written instructions and recommendations.

Mount unit(s) on existing concrete pad on grade as indicated on the drawings.

Install long line kit check valve and bypass check valve in liquid line near the condensing unit as detailed and in compliance with the manufacturer's requirements.

Maintain adequate service access and airflow clearances for all components as recommended by the manufacturer and as indicated on the drawings.

Charge unit(s) with full oil charge and refrigerant charge based on the entire refrigeration system pipe size and length.

Provide all control wiring in conduit

Coordinate power wiring requirements with the electrical trade sub-contractor.

STARTUP

Adjust units for maximum operating efficiency, adjust all controls to required final settings and demonstrate that all components are functioning properly. Submit four copies of a written startup report following the initial startup. Include in the report: work done to the system, all readings taken, a statement certifying that the refrigeration system(s) are leak free and a statement certifying that the unit(s) have been placed in proper running condition as recommended by the manufacturer and as intended in the drawings and specifications.

TRAINING

Contractor to provide factory authorized representative and/or field personnel knowledgeable with the operations, maintenance and troubleshooting of the system and/or components defined within this section for a minimum period of 0.5 hours.

END OF SECTION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

SECTION 23 73 12
AIR HANDLING UNIT COILS

PART 1 - GENERAL

SCOPE

This section contains specifications for coils used in all air handling units.

Provide coils with capacity specified.

Field verify size required for installation in existing air handling unit.

RELATED WORK

Section 23 23 00 - Refrigerant Piping and Accessories

Section 23 82 13 - Packaged Air Cooled Refrigerant Compressor and Condensing Units

REFERENCE

Applicable provisions of Division 1 govern work under this section.

REFERENCE STANDARDS

ARI 410 Forced Circulation Air-Cooling and Air-Heating Coils

QUALITY ASSURANCE

Refer to Division 1, General Conditions of Contract, "OR Equal" Clause and Division 1 Basic Requirements, Substitutions

SUBMITTALS

Refer to Division 1, General Conditions of Contract, Shop Drawings, Product Data, and Samples and Division 1, Basic Requirements, Submittal Procedure.

Including data concerning dimensions, capacities, flow rate, pressure drop, materials of construction, ratings, weights, and appropriate identification at the same time that the air handling equipment in which the coils will be located are submitted.

OPERATION AND MAINTENANCE DATA

All operations and maintenance data shall comply with the submission and content requirements specified under section Basic Requirements.

DESIGN CRITERIA

Select coil sizes, capacities, configuration, and operating characteristics as shown on the plans and/or as scheduled. Coil capacity ratings shall be ARI 410 certified.

PART 2 - PRODUCTS

REFRIGERANT COILS

Use galvanized steel casing, end supports, top channel, and bottom channel to produce a rigid frame with allowance for expansion and contraction of the finned tube section.

Construct coils of minimum 1/2" outside diameter, 0.017 wall copper tubes with aluminum fins. Test at 250 psig, dehydrate, purge with inert gas, and seal prior to shipment.

Coils to be dual circuit intertwined configuration.

1 Construct suction header of seamless copper tubing. Use a low pressure drop venturi type distributor to distribute
2 refrigeration equally to multiple circuits.

3
4 Coil fins shall be the continuous serpentine or plate fin type.

5
6 The existing air handling unit is:

- 7 • Carrier 39NXH39 installed in 1994

8
9 Contractor shall verify the coil size required for the air handling unit.

10
11
12 **PART 3 - EXECUTION**

13
14 **REFRIGERANT COILS**

15 Remove existing refrigerant cooling coils from air handling units to receive new coils

16
17 Install new coils in existing air handling unit casings making allowance for pitching as recommended by the
18 manufacturer.

19
20 Comb bent or crushed fins after installation. Clean dust and debris from each coil to ensure its cleanliness.

21
22 Install refrigerant specialties as detailed and in accordance with manufacturer's instructions. Provide offsets in
23 piping to facilitate coil removal.

24
25 Install condensate drain trap with proper depth from each cooling coil condensate drain to the nearest drain location.

26
27
28 **END OF SECTION**