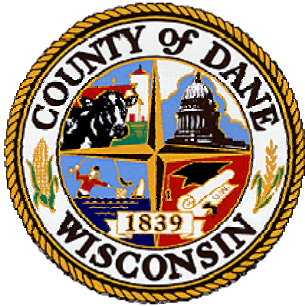


RFB NO. 310040



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. 310040 GR-3 ASBESTOS ABATEMENT & REINSULATION CITY COUNTY BUILDING 210 MARTIN LUTHER KING JR BLVD MADISON, WISCONSIN

Opening Date / Time: **TUESDAY, DECEMBER 21, 2010 / 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:

JOHN SCHRAUFNAGEL, P.E., PROJECT ENGINEER
DANE COUNTY DEPARTMENT OF PUBLIC WORKS,
HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713
TELEPHONE NO.: 608/266-4798
FAX NO.: 608/267-1533
E-MAIL: SCHRAUFNAGEL@CO.DANE.WI.US

DOCUMENT INDEX FOR RFB NO. 310040

PROCUREMENT AND CONTRACTING REQUIREMENTS

- Project Manual Cover Page
- Documents Index
- Invitation to Bid (Legal Notice)
- Instructions to Bidders
- Bid Form
- Fair Labor Practices Certification
- Best Value Contracting Application
- Sample Public Works Contract
- Sample Bid Bond
- Sample Performance Bond
- Sample Payment Bond
- Conditions of Contract
- Supplementary Conditions
 - Davis Bacon Wage Rates
 - Buy American Affidavit
- ARRA Reporting Requirements

DIVISION 01 - GENERAL REQUIREMENTS

- 01 00 00 - Basic Requirements
- 01 74 19 - Recycling

DIVISION 02 - EXISTING CONDITIONS

- 02 82 13 – Asbestos Abatement

DIVISION 23 - MECHANICAL

- 23 07 00 – Mechanical Insulation

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, DECEMBER 21, 2010

REQUEST FOR BIDS NO. 310040

**ROOM GR-3 ASBESTOS ABATEMENT & REINSULATION
CITY COUNTY BUILDING
MADISON, WISCONSIN**

Dane County is inviting Bids to remove and properly dispose of asbestos containing materials in the Mechanical Room GR-3, 210 Martin Luther King, Jr. Blvd., Madison, WI.

Request for Bids package may be obtained at Dane County Public Works, Highway & Transportation Dept., 1919 Alliant Energy Center Way, Madison, WI 53713, by calling 608-266-4018, or downloading it from www.danepurchasing.com/rfps.aspx. Please call John Schraufnagel, P.E., Project Engineer, at 608-266-4798, for any questions or additional information.

All Bidders must be a registered vendor with Dane County & pay an annual registration fee before award of Contract. Complete Vendor Registration Form at www.danepurchasing.com or obtain one by calling 608-266-4131.

A mandatory bidders facility tour will be held on Wednesday, December 15, 2010 at 9:00 A.M., City-County Building, 210 Martin Luther King Jr. Blvd, Madison, WI, starting in Room GA-8.

**PUBLISH: DECEMBER 7 & 14, 2010 - WISCONSIN STATE JOURNAL
 DECEMBER 7 & 14, 2010 - THE DAILY REPORTER**

INSTRUCTIONS TO BIDDERS

**GR-3 Asbestos Abatement & Reinsulation
City-County Building
210 Martin Luther King Jr Blvd
Madison, Wisconsin**

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
608/266-4018

or at:
www.countyofdane.com/pwht/bid
- B. If Construction Documents are obtained from the Dane County web site, Bidder is responsible to check back regularly at the web site for Addenda.
- C. Deposit for Drawings and Specifications is not required.

2. BID REQUIREMENTS

- A. Bidder shall submit lump sum bid for providing all labor, equipment, tools and materials necessary to perform all Work described in Construction Documents.
- B. Envelope containing Bid shall be clearly marked as for this project (note title at top of page). Bids shall be delivered to:
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way
Madison, Wisconsin 53713
- C. One (1) Bid Form shall be submitted with your Bid. Bid Form is provided with Construction Documents; no other form or letter shall be accepted.
- D. Bidders shall not add any conditions, escalator clauses or qualifying statements to Bid Form.
- E. Erasures or other changes to Bid must be explained or noted, and shall be accompanied by initials of bidder.
- F. Legally authorized official of bidder's organization shall sign Bids.
- G. Bidder's organization shall submit completed Fair Labor Practices Certification form, included in these Construction Documents.
- H. Bid Bond shall be made payable to Dane County in amount of five percent (5%) of bid amount. Bid Bond shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Wisconsin. Successful bidder's Bid Bond shall be retained until Contract is signed and required Performance / Payment Bond is submitted.

Bids shall be binding on bidder for one hundred twenty (120) days after Bid Opening. Bid Bond must be submitted with Bid.

- I. Successful bidder shall furnish and pay for Performance / Payment Bond as called for in Conditions of Contract.

3. INQUIRIES

- A. Written inquiries regarding intent of Construction Documents should be directed to:
John Schraufnagel, P.E., Project Engineer
Dane County Department of Public Works, Highway & Transportation
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Fax: 608/267-1533
Email: Schraufnagel@co.dane.wi.us
- B. Bidders shall bring questions, discrepancies, omissions, conflicts or doubt as to meaning of any part of Construction Documents to attention of Department of Public Works, Highway & Transportation at least ten (10) days before due date for Bids. Prompt clarification of intent of Construction Documents shall be made available to bidders in form of Addendum. Bidder shall acknowledge all Addenda on Bid Form.
- C. Failure to request clarification of interpretation of Construction Documents shall not relieve bidders of their responsibilities to perform Work.

4. EXAMINATION OF SITE

- A. A bidders facility tour will be held on Wednesday, Decmeber 15, 2010 at 9:00 AM, City-County Building, 210 Martin Luther King Jr. Blvd., Madison, WI, starting in Room GA - 8. Bidders are required to attend this mandatory tour in order to bid on the Work proposed.
 - a. A site tour will follow this meeting. Extra time will be allotted for contractors to tally quantities to be removed.

5. ALTERNATES

- A. Not used.

6. WITHDRAWAL OF BIDS

- A. Any bidder may withdraw their Bid any time prior to Bid Opening. Withdrawn Bids shall be returned unopened.

7. BID OPENING

- A. See Legal Notice (advertisement).

8. CONTINGENCY

- A. Contract amount will increase the lowest qualified bid, including Owner accepted alternates by an amount of ten (10) percent for the purpose of securing a project contingency fund through the Energy Efficiency & Conservation Block Grant (EECBG).
 - a. Contingency fund to be used at Owner's discretion to cover the costs of contract change orders due to unforeseen conditions, conflicts and omissions in Construction Documents, and Owner requested additional work.
 - b. Contractor is only entitled to the portion of the contingency fund in the amount equal to the sum of contract change orders. Any portion of contingency fund remaining at the end of the project shall be used by Dane County to fund other EECBG projects.

9. COMMENCEMENT AND COMPLETION OF WORK

- A. Work shall commence by January 26, 2011.
- B. Work shall be completed by March 15, 2011.
- C. Significant coordination and timing will be required to work with plumbers so as to have asbestos removed to facilitate their work. Pipe and fitting insulation will have to be applied immediately to keep room from over heating.

10. RESERVATION

- A. Dane County reserves the right to reject any or all Bids, to waive any informalities in the Bid, and to accept any Bid which shall be in the best interest of Dane County.

BID FORM

BID NO. 310040

**PROJECT: GR-3 ASBESTOS ABATEMENT & REINSULATION
CITY-COUNTY BUILDING
MADISON, WISCONSIN**

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

BASE BID – PHASE 1 – LUMP SUM:

Dane County is inviting Bids for construction services to remove and properly dispose of asbestos containing materials as identified with black paint & arrows as Phase 1 in the GR-3 Mechanical Room in the City County Building. No re-insulation will be required for Phase 1. 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 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

BASE BID – PHASE 2 – LUMP SUM:

Dane County is inviting Bids for construction services to remove and properly dispose of asbestos containing materials as identified as the balance of all the remaining pipe fittings, tanks, & miscellaneous asbestos as Phase 2 in the GR-3 Mechanical Room in the City County Building. Items identified as being removed will not require re-insulation. All other ACM fittings are to have insulation removed and reinsulated per insulation specifications. All open shaft & tunnel fittings up to the tunnel partition are to be removed & reinsulated as part of this bid. 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 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

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

Addendum No(s). _____ through _____

Dated _____

Dane County must have this project completed by March 15, 2011. Assuming this Work can be started by January 26, 2011, 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 opening of Bids to another bidder or competitor; that the above statement is accurate under penalty of perjury.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

BID CHECK LIST:

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

 Bid Form Bid Bond Fair Labor Practices Certification

THE FOLLOWING IS FOR BIDDERS' REFERENCE AND ARE REQUIRED BUT NEED NOT BE SUBMITTED WITH BID FORM:

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 one 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.co.dane.wi.us/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. For more information:

www.danepurchasing.com/partner_benefit.aspx

OBTAIN D-U-N-S NUMBER, CCR NUMBER AND REVIEW ALL ARRA REPORTING

In order to be selected as successful bidder, the contractor must obtain a free D-U-N-S number. A D-U-N-S number is a unique nine-digit sequence recognized as the universal standard for identifying and keeping track of a business. The D-U-N-S number may be obtained by the following link: http://www.dnb.com/us/duns_update/index.html.

Central Contractor Registration (CCR) is the primary registrant database for the U.S. Federal Government. CCR collects, validates, stores and disseminates data in support of agency acquisition missions. The CCR number may be obtained by the following link: <https://www.bpn.gov/CCR/default.aspx>.

The American Recovery and Reinvestment Act (ARRA) requires the contractor to provide information for monthly and quarterly reporting throughout the life of the project. Please review the attached ARRA reporting requirements before bidding.

DAVIS-BACON, EECBG, F.O.E., AND BUY AMERICAN PROVISIONS

All wages for all trades participating in this project are subject to the State of Wisconsin Prevailing Wage Rates or Federal Davis-Bacon Wage Rates, whichever is larger. The Davis-Bacon wage rates are provided in the Supplementary Conditions and may be modified prior to bid opening. (Except if modified within ten days of Bid Opening.)

This project is funded by the Energy Efficiency Conservation Block Grant (EECBG). Information about the EECBG can be found at: <http://www.eecbg.energy.gov/>.

Focus On Energy rebates will be applied for during this project. Information about F.O.E. can be found at: <http://www.focusonenergy.com/>.

All products used in this project will be required to meet Buy American Provisions. Guidance for meeting Buy American Provisions can be found at: http://www1.eere.energy.gov/recovery/buy_american_provision.html.

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 proposal, bid or application for a contract 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.



DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION

County Executive
Kathleen M. Falk

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 prequalification 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 15 days of any changes to its business or operations that are relevant to the prequalification application. Failure to do so could result in suspension, revocation of the contractor's prequalification, debarment from County contracts for up to three 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 or subcontractors of any tier attain prequalification status with Dane County if the contractor has current Executive Order 108 precertification status with the State of Wisconsin.
- Contractors who employ less than five (5) apprenticeable trade workers are not required to prequalify.
- 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, prequalified 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 and listed at: dwd.wisconsin.gov/apprenticeship/executive_order108.htm ? | Yes: <input type="checkbox"/> No: <input type="checkbox"/> |
| 16 | Is your firm exempt from being prequalified 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 prequalified with the County or become so ten days prior to commencing work? | 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:

CALEB BARTH

EMAIL: BARTH.CALEB@CO.DANE.WI.US

OFFICE: (608)266-4592, CELL: (608)219-2917, 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

COUNTY OF DANE

PUBLIC WORKS CONTRACT

Contract No. _____ Bid No. 310040

Authority: Res. _____, [2010-11]

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 Associate Public Works Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide GR-3 Asbestos Abatement & Reinsulation ("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, 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 Dane County Public Works, Highway & Transportation (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Document Index, 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 Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the 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) 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) 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:

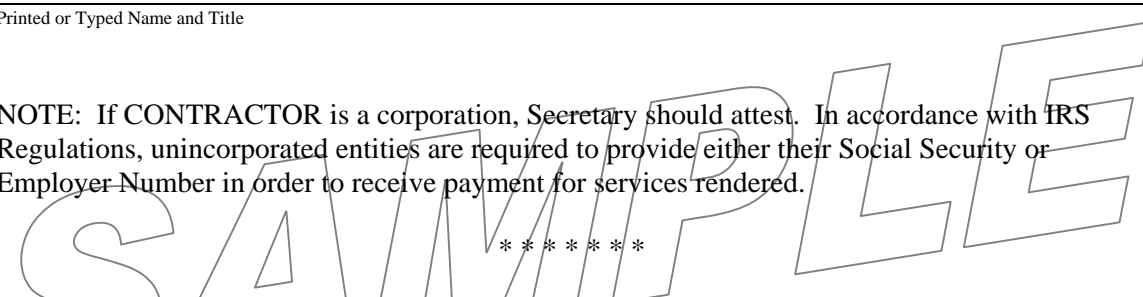
Signature Date

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 Associate Public Works Director.

FOR COUNTY:

Kathleen M. Falk, County Executive Date

Robert Ohlsen, County Clerk Date

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

Bond No.

KNOW ALL MEN BY THESE PRESENTS, that we (Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and (Here insert full name and address or legal title of Surety)

a corporation duly organized under the laws of the State of WI as Surety, hereinafter called the Surety, are held and firmly bound unto (Here insert full name and address or legal title of Owner)

as Obligee, hereinafter called Obligee, in the sum of () Percent of total amount bid Dollars (\$) Percent of attached bid.

For the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Project No.: (Here insert full name, address, and description of project)

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee 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.

Signed and sealed this day of , 20 .

(Principal) (Seal)
(Witness)
(Title)
(Surety) (Seal)
ATTORNEY-IN-FACT

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Performance Bond

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

CONTRACTOR (Name and Address): _____

SURETY (Name and Principal Place of Business): _____

OWNER (Name and Address): _____

CONSTRUCTION CONTRACT
Date: _____
Amount: \$ _____
Description (Name and Location): _____

BOND

Date (Not earlier than Construction Contract Date): _____

Amount: \$ _____

Modifications to this Bond: _____

None

See Page 3

CONTRACTOR AS PRINCIPAL
COMPANY: _____
(Corporate Seal)

SURETY COMPANY: _____
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:

Attorney-in-Fact

(Any additional signatures appear on page 3)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER: _____

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party): _____

1. The Contractor and the 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 to participate in conferences as provided in Subparagraph 3.1.

3. If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. 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; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

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

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

4.3 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 the 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 Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its rights 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, tender payment therefor to the Owner; or

2. Deny liability in whole or in part and notify the Owner citing reasons therefor.

5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen 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 Subparagraph 4.4, and the Owner refuses the payment tendered 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.

6. After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, 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. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 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 Paragraph 4; and

6.3 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.

7. 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, or successors.

8. 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.

9. 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 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.

10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11. 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 here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 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.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

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
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

THE AMERICAN INSTITUTE OF ARCHITECTS



Bond No. _____

AIA Document A312

Payment Bond

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

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

OWNER (Name and Address):

CONSTRUCTION CONTRACT
Date:
Amount: \$
Description (Name and Location):

BOND

Date (Not earlier than Construction Contract Date):

Amount: \$

Modifications to this Bond:

None

See Page 6

CONTRACTOR AS PRINCIPAL
COMPANY: (Corporate Seal)

SURETY COMPANY:
(Corporate Seal)

Signature: _____
Name and Title:

Signature: _____
Name and Title:
Attorney-in-Fact

(Any additional signatures appear on page 6)

FOR INFORMATION ONLY-Name, Address and Telephone
AGENT OR BROKER:

OWNER'S REPRESENTATIVE (Architect,
Engineer or other party):

1. The Contractor and the 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.

2. With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly, or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and
3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5. If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. 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 the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9. 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 payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

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. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, 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.

12. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

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. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor

shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 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 Contract. 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.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

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
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title:
Address:

Signature: _____
Name and Title:
Address:

CONDITIONS OF CONTRACT
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1. BIDS AND QUOTATIONS

- A. **Addressing of Bids.** Bids shall be addressed to the attention of Public Works Engineering Division and received at the Dane County Department of Public Works, Highway & Transportation, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before the local time and date specified herein for the Bid Opening. Seal all bids in envelopes and clearly mark the front with bid number and a reference to the specified contents of the bid. All uses of the term “County” in the Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of a bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on the firm’s letterhead only, additional data and information deemed advantageous to the County. The County shall hold optional the consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on the Dane County Department of Public Works, Highway & Transportation’s Bid Form. Obtain extra sets of Construction Documents from the Dane County Department of Public Works, Highway & Transportation. All uses of the term “Department” in the Construction Documents shall mean the Department of Public Works, Highway & Transportation, which is a unit of Dane County government.
- E. **Withdrawal or Late Bids.** The County will not accept formal bids, amendments thereto, or requests for withdrawal of a bid or any part thereof, after the time of Bid Opening.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by the County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with the Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided the substitute offered is, in the opinion of the Dane County Public Works

Project Engineer, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in the Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit the site(s) that will receive the intended work or installation, and in so doing, be held responsible for a job deemed satisfactory by the County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute a regular bid. This shall include:
 - 1. Completed Bid Form.
 - 2. Completed Fair Labor Practices Certification.
 - 3. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Opening date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in the Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors.. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve the bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** The bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** The Bid Opening is the time fixed for the opening of formal bids. The Bids' contents will be made public for the information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor shall pay applicable State and local sales taxes.

2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** A Bid Bond shall accompany Bids, which shall be either a flat sum or a percentage figure as shown on the Project Manual Cover. This Bid Bond shall serve as a warrant that the successful bidder will fulfill the terms of the bid within the time limit as indicated in the bid after notice of award by the Dane County. The Bid Bond may be a certified bank check (note: uncertified checks will not be acceptable), a cashier's check or a United State money order payable to the order of the Treasurer of Dane County; or on a Bid Bond with corporate surety authorized to do business in the State of Wisconsin and a warranty of attorney to confess judgment thereon attached thereto. The County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. The County shall return a check held from a Contractor after satisfactory completion of the Contract or after receipt

by the County of a Performance Bond from the Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish an acceptable Performance Bond (Article 2.C.) within twenty (20) days after receipt of notice of award shall render the guarantor liable to the County. Bids covered by certified check or bond such security shall become the absolute property of the County and shall be deposited with the County Treasurer for the benefit of the County as liquidated damages. The County shall forthwith proceed to collect on the Bid Bond.
- C. **Performance / Payment Bond.** When required, file a guarantee that the successful bidder will faithfully perform the obligations of the bid as accepted. Such guarantee must be a bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that the Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to the acceptance of the finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in the execution of the Work provided for in the Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of the successful bidder's failure to comply and perform the Work and complete the Contract in accordance with the Construction Documents; attach thereto a warrant of attorney authorizing the confession of judgment thereon for the benefit of the County.

3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Construction Documents.
- E. The Contractor shall review, approve and submit to the Public Works Project Engineer Shop Drawings, Product Data, Samples and similar submittals required by the Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the County or of separate contractors. Submittals made by the Contractor not required by the Construction Documents, may be returned without action.
- F. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the Public Works Project Engineer has approved the respective submittal. Such Work shall be in accordance with approved submittals.

- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Construction Documents.
- H. The Contractor shall not be relieved of responsibility for deviations from requirements of the Construction Documents by the Public Works Project Engineer's approval of Shop Drawings, Product Data, Samples and similar submittals unless the Contractor has specifically informed the Public Works Project Engineer in writing of such deviation at the time of submittal and the Public Works Project Engineer has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by the Public Works Project Engineer's approval thereof.
- I. The Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by the Architect / Engineer or the Public Works Project Engineer on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals 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.

4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to the lowest responsible bidder conforming to Construction Documents or on the most advantageous bid to the County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, the ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** The County reserves the right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. The County reserves also the right to waive technical defects when in its judgment the best interests of the County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to a bidder in the form of a Purchase Order or similar, mailed or delivered to the address shown on the Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, the decision of the County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration determining an award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, the County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.

- G. **Disqualification.** Awards will not be made to any person, firm or company in default of a Contract with the County, or to any bidder having as its sales agent or representative or as a member of the firm, any individual previously in default or guilty of misrepresentation.
- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting the County Purchasing Division Office Monday through Friday, between 7:45 a.m. and 4:30 p.m.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by the Public Works Project Engineer of a proposal for services shall constitute a Contract, which shall bind the bidder to perform the Work as detailed in the Construction Documents, for the bid amount and in accordance with all conditions of said accepted bid. A formal Contract containing all provisions of the Contract signed by both parties shall be used when required by the Public Works Project Engineer.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. The Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by the using agency and approval by the Dane County Public Works Project Engineer, and, where required by ordinances, approval by the Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of the value of all Work performed up to fifty percent (50%) of scheduled values less the total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by the County in consideration and elimination of the possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates the possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in the terms of a contract shall be valid or binding upon the County unless made in writing and signed by the Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of the Public Works Project Engineer.
- F. **Cancellations.** A contract may be canceled or voided by the Public Works Project Engineer upon non-performance or violation of contract provisions, and an award made to the next low bidder or articles specified may be purchased on the open market. In either event, the defaulting contractor (or their surety) shall be liable to Dane County for costs to the County in excess of the defaulting contractor's contract prices.
- G. **Right of the Department to Terminate Contract.**
 - 1. In the event that the Contractor or any subcontractors violate any of the provisions of this Contract, the County may serve written notice upon the Contractor and the Surety of its intention to terminate the Contract. Such notice to contain the reasons for such intention to terminate the Contract, and unless within ten (10) days after the serving of such notice upon the Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, the Contract shall, upon the expiration of said ten (10) days, cease and terminate.

2. In the event of any such termination, the County shall immediately serve notice thereof upon the Surety and the Contractor, and the Surety shall have the right to take over and perform the Contract subject to County's approval. However, if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the County may take over the Work and prosecute the same to completion by Contract or by force account for the account and at the expense of the Contractor. The Contractor and Surety shall be liable to the County for any excess cost occasioned the County thereby, and in such event the County may take possession of and utilize in completing the Work, such equipment, materials and / or supplies as may be on the site of the Work and therefore necessary.

H. **Non-Liability.** The Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is the result of fire, flood, strike, the transporting carrier, act of God, act of government, act of an alien enemy or by any other circumstances which, in the Public Works Project Engineer's opinion, is beyond the control of the Contractor. Under such circumstances, however, the Public Works Project Engineer may in the discretion, cancel the Contract.

I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at the direction of the County or the Agency to which the goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of the Contract, will be rejected. The Public Works Project Engineer shall direct all required laboratory tests. The decision of the Public Works Project Engineer on acceptance shall be final.

J. **Time for Completion.** The Contractor agrees that the Work shall be prosecuted regularly and diligently and complete the entire project as stated in the Construction Documents.

K. **Changes in the Work.**

1. Except in cases of emergency, no changes in the Work covered by the approved Construction Documents shall be made without having prior written approval of the Department. Charges or credits for the work covered by the approved change shall be determined by one of the following methods:
 - a) Unit bid prices previously approved.
 - b) An agreed lump sum based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work;
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.b) 2), there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit and any other general expense;
 - 8) On that portion of the work under K.1.b) 2) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and

- 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
- c) Cost-Plus Work, with a not-to-exceed dollar limit, based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) The ownership or rental cost of construction plant and equipment during the time of use on the extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);
 - 4) Power and consumable supplies for the operation of construction or power equipment;
 - 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To the cost under K.1.c) 3) there shall be added a fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of the actual cost of the Work performed with their own labor force; the fee shall be compensation to cover the cost of supervision, overhead, bond, profit, and any other general expense;
 - 8) On that portion of the work under K.1.c) 3) done under subcontract, the Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
 - 9) The Contractor shall keep and present in such form as directed, a correct amount of the cost together with such supporting vouchers as may be required by the Department.
2. If the Contractor claims that by any instructions given by the Architect / Engineer, the Department, by drawings or otherwise, regarding the performance of the Work or the furnishing of material under the Contract, involves extra cost, the Contractor shall give the Department written notice thereof within two weeks after the receipt of such instructions and in any event before proceeding to execute the work, unless delay in executing the work would endanger life or property.
3. No claim for extra work or cost shall be allowed unless the same was done in pursuance of a written order of the Architect / Engineer and approved by the Department, as previously mentioned, and the claim presented with the payment request submitted after the changed or extra work is completed.
4. Negotiation of cost for a change in the Work shall not be cause for the Contractor to delay prosecution of the Work if the Contractor has been authorized in writing by the Public Works Project Engineer to proceed.

L. Payments to Contractor.

1. The County will make partial payments to the Contractor for the value, proportionate to the amount of the Contract, of all labor and material incorporated in the work during the preceding calendar month upon receipt of approved Application and Certificate of Payment from the Architect / Engineer and approval of the Department.
2. The Contractor shall submit to the Architect / Engineer an Application and Certificate of Payment. The Architect / Engineer will review and approve this before sending it to the Public Works Project Engineer. Evidence may be required, and supplied on demand, that supports the request and the Contractor's right to the payment claimed.

3. Request for payment for preparatory work and materials delivered and suitably stored at the site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off the site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon the submission by the Contractor of bills of sale and such other procedures as will adequately protect the County's interest such as storage in a bonded warehouse with adequate coverage. If there is any error in a payment, the Contractor is obligated to notify the Department immediately, but no longer than ten (10) days from receipt of payment.
4. Payments by the County will be due within forty-five (45) days after receipt by the Department of a certified request.
5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by the Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at the site, the remaining payments will be made in full if the Architect / Engineer and Public Works Project Engineer find that the progress of the Work corresponds with the construction progress schedule. If the Architect / Engineer and Public Works Project Engineer find that the progress of the Work does not correspond with the construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become the sole property of the County. This provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the County to require the fulfillment of all of the terms of the Contract.
7. Final payment will be made within sixty (60) days after final completion of the Work, and will constitute acceptance thereof.
8. On completion and acceptance of each separate division of the Contract, on which the stated price is separated in the Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. 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.

M. Withholding of Payments.

1. The County, after having served written notice on the said Contractor, may either pay directly any unpaid bills of which the Department has written notice, or withhold from the Contractor's unpaid compensation a 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. Then payment to the Contractor shall be resumed

in accordance with the terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon the County to either the Contractor or the Contractor's Surety.

2. In paying any unpaid bills of the Contractor, the County shall be deemed the Agent of the Contractor, and any payment so made by the County, shall be considered as a payment made under the Contract by the County to the Contractor and the County shall not be liable to the Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of the lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the performance of this Contract.
4. At the Department's request, the Contractor shall furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived.

N. Acceptance of Final Payment as Release.

1. The making of final payment shall constitute a waiver of all claims by the County except those arising from:
 - a) Unsettled lien;
 - b) Faulty or defective work appearing after substantial completion;
 - c) Failure of the work to comply with the requirements of the Construction Documents;
or
 - d) Terms of any special guarantees required by the Construction Documents.
2. The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

O. Lien Waivers. The Contractor warrants that title to all work covered by an application for Payment will pass to the County no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all work for which Certificates for Payment have been previously issued and payments received from the County shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, subcontractor, material suppliers, or other persons or entities making a claim by reason of having provide labor, materials and equipment related to the Work.

P. Use and Occupancy Prior to Acceptance. The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Department, provided the Department:

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

Q. Correction of Work.

1. 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 the inspection of the Architect / Engineer and the Public Works Project Engineer who shall be the judge of the quality and suitability of the work, materials, and processes of manufacture for the purposes for which they are used. Should they fail to meet the Architect / Engineer's and the Public Works Project Engineer's approval they shall be reconstructed, made good, replaced or corrected, as the case may be, by the Contractor at the Contractor's expense. Rejected material shall immediately be removed from the site.
2. If the Contractor defaults or neglects to carry out the Work in accordance with the Construction Documents or fails to perform any provision of the Contract, the Department may, after ten (10) days written notice to the Contractor and without prejudice to any other remedy the County may have, make good such deficiencies. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including the cost of the Architect / Engineer's additional services made necessary by such default, neglect or failure.

6. GENERAL GUARANTEE

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

7. IDENTICAL BIDDING

- A. **Antitrust Laws.** All identical bids submitted to the County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total

amount shall be reported to the Attorney Generals of the United States and the State of Wisconsin for possible violation and enforcement of antitrust laws.

8. BINDING CONTRACTS

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on a successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

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

- A. **Affirmative Action Provisions.** During the term of its Contract, Contractor agrees not to discriminate on the basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether a recipient of services (actual or potential), an employee, or an applicant for employment. 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 or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. The listing of prohibited bases for discrimination shall no be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to the extent allowable in state or federal law.
- B. Contractor is subject to this paragraph 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 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) days of the effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of the Contract. During the term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to the County's Contract Compliance Office, and shall report annually the number of persons, by race, sex and handicap status, which apply for employment and, similarly classified, the number hired and the number rejected.
- C. Contact the 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.
- D. In all solicitations for employment placed on Contractor's behalf during the term of this Contract, Contractor shall include a statement to the effect the Contractor is an "Equal Opportunity Employer."
- E. 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 provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of the Dane County Code of Ordinances is the official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantage Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.

- G. The Contractor may utilize MBEs / WBEs / DBEs / ESBES as subcontractors or suppliers. A list of subcontractors will be required of the low bidder as stated in this Contract. The list shall indicate which subcontractors or suppliers are MBEs / WBEs / DBEs / ESBES and what percentage of subcontract is awarded, shown as a percentage of the total dollar amount of the bid.

10. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Officer, within ten (10) 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."

11. 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.

12. INSURANCE REQUIREMENTS

- A. 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 the 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 the loss of use resulting there from, and is caused in whole or in part by any act or omission of the 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 a part indemnified hereunder.
- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of the Contractor, any subcontractor,

anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Contract shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.

- C. The obligations of the Contractor under this Contract shall not extend to the liability of the Architect / Engineer, its agents or employees arising out of (1) the preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) the giving of or the failure to give directions or instruction by the Architect / Engineer, its agents or employees provided such giving or failure to give is the primary cause of the injury or damage.
- D. The County shall not be liable to the Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and the County, the Contractor shall not commence work under this Contract until obtaining all the required insurance and the County has approved such insurance. The Contractor shall not allow any subcontractor to commence work on the subcontract until the insurance required of the subcontractor has been so obtained and approved.
 - 1. **Worker's Compensation Insurance**
The Contractor shall procure and shall maintain during the life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at the site of the project under this Contract and, in case of such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
 - 2. **Contractor's Public Liability and Property Damage Insurance**
The Contractor shall procure and maintain during the life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
 - 3. **Auto Liability Insurance**
The Contractor shall procure and maintain during the life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as an "Additional Insured".
- F. Contractor either (1) shall require each subcontractors 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 that activities of subcontractors in their own policy.
- G. Contractor shall furnish the County with certificates showing type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also contain substantially this statement: "Insurance covered by this certificate will not be


canceled or materially altered, except after ten (10) days written notice has been received by the County.”

- H. **Builder’s Risk.** County shall provide Builder’s Risk policy. Terms of this policy will be made available by County’s Risk Manager upon Contractor’s request. By executing this Contract, Contractor warrants it is familiar with terms of said policy.

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 Public Works Project 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. Continuation Sheet, AIA Document G703, 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 (Column 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 less Line 5 Total)

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

8. CURRENT PAYMENT DUE \$ _____
(Line 7 less Line 6)

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 \$ _____
(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.

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

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Continuation Sheet

AIA Document G703, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.
 In tabulations below, amounts are stated in the nearest dollar.
 Use Column I on Contracts where variable retentage for line items may apply.

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

| A LINE NO. | B DESCRIPTION OF WORK | C SCHEDULED VALUE | D WORK COMPLETED | | F MATERIALS PRESENTLY STORED (NET/GR (DOLLARS)) | G TOTAL COMPLETED AND STORED TO DATE (DOLLARS) | H % (G ÷ C) | I BALANCE TO FINISH (C - I) | J RETENAGE (IF VARIABLE RATE) |
|---------------|--------------------------|----------------------|-----------------------------------|-------------|----------------------------------------------------|---------------------------------------------------|----------------|--------------------------------|----------------------------------|
| | | | FROM PREVIOUS APPLICATION (D + E) | THIS PERIOD | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

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 © 1993, 1995, 1997, 1970, 1976, 1982 and 1992 by The American Institute of Architects. All rights reserved. (AIA/INHS). 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.

2. DAVIS-BACON WAGE RATE DETERMINATION

- A. These supplements shall modify, delete, and / or add to Conditions of Contract. Where any article, paragraph, or subparagraph in Conditions of Contract is supplemented by one of these paragraphs, provisions of such article, paragraph, or subparagraph shall remain in effect and supplementary provisions shall be considered as added thereto. Where any article, paragraph, or subparagraph in Conditions of Contract is amended, voided, or superseded by any of these paragraphs, provisions of such article, paragraph, or subparagraph not so amended, voided, or superseded shall remain in effect.
 - 2. Conditions of Contract. Following Davis-Bacon Wage Rate Determination is added to Conditions of Contract.
- B. These Davis-Bacon forms, hereinafter set forth in this section, shall be filled out and submitted to Department of Public Works, Highway & Transportation:
 - 1. Certified Payroll Request (Form WH – 347),
<http://webapps.dol.gov/libraryforms/go-us-dol-form.asp?FormNumber=38>
 - 2. Statement of Compliance

3. PREVAILING WAGE RATE DETERMINATION

- A. These supplements shall modify, delete, and / or add to Conditions of Contract. Where any article, paragraph, or subparagraph in Conditions of Contract is supplemented by one of these paragraphs, provisions of such article, paragraph, or subparagraph shall remain in effect and supplementary provisions shall be considered as added thereto. Where any article, paragraph,

or subparagraph in Conditions of Contract is amended, voided, or superseded by any of these paragraphs, provisions of such article, paragraph, or subparagraph not so amended, voided, or superseded shall remain in effect.

2. The Prevailing Wage Rate Application has been submitted and the Determination will be submitted to bidders in a future addendum.

B. These State of Wisconsin forms, hereinafter set forth in this section, shall be filled out and submitted to Department of Public Works, Highway & Transportation:

1. Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination (ERD-5724)
2. Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination (ERD-10584)
3. Disclosure of Ownership (ERD-7777)
4. Request To Employ Subjourneyperson (ERD-10880)

Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination

NOTICE REQUIRED UNDER Section 15.04(1)(m), Wisconsin Statutes. Authorization for this form is provided under Sections, 66.0903(9)(b) and 103.49(4r)(9b) Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes. Personally identifiable information may be used for secondary purposes.

This form must **ONLY** be filed with the **Awarding Agency** indicated below.

| | | | |
|------------------------------------------------------------------------|---------------------------|--|----------------------|
| State Of))SS County Of) | Project Name | | |
| | Project Number | | Determination Number |
| | Date Determination Issued | | Date of Contract |
| | Awarding Agency | | |
| | Date Work Completed | | |

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below and have recently completed all of the work required under the terms and conditions of a contract with the above-named awarding agency and make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(c) or 103.49(4r)(c), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding agency.
- **I have** fully complied with all of the wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding agency indicated above.

| | | | | |
|-------------------------------------------------------------------|------|-------|-------------|---------------------------------|
| Name of Corporation, Partnership, Sole Proprietorship or Business | | | | |
| Street Address or P O Box | City | State | Zip Code | Telephone Number () - |
| Print Name of Authorized Officer | | | Date Signed | |
| Signature of Authorized Officer | | | | |

List of Agents and Subcontractors

| | | | | | |
|---------------------------|-------|----------|---------------------------|-------|----------|
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |
| Name | | | Name | | |
| Street Address | | | Street Address | | |
| City | State | Zip Code | City | State | Zip Code |
| Telephone Number () - | | | Telephone Number () - | | |

If you have any questions call (608) 266-0028

4. BUY AMERICAN PROVISIONS

- A. The Buy American provision in the American Recovery and Reinvestment Act of 2009 (section 1605 of Title XVI), provides that, unless one of three listed exceptions applies (nonavailability, unreasonable cost, and inconsistent with the public interest), and a waiver is granted, none of the funds appropriated or otherwise made available by the Act may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless all the iron, steel, and manufactured goods used are produced in the United States.
- B. To certify that a manufactured good meets the Buy American Act Requirements, fill out and submit the following Buy American Affidavit to Department of Public Works, Highway & Transportation. The Buy American Standards are further outlined in the ARRA Reporting Requirements section in Attachment A-2.

SAMPLE

General Decision Number: WI100005 12/03/2010 WI5

Superseded General Decision Number: WI20080005

State: Wisconsin

Construction Type: Building

County: Dane County in Wisconsin.

BUILDING CONSTRUCTION PROJECTS (does not include residential , construction consisting of single family homes and apartments up to and including 4 stories)

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 03/12/2010 |
| 1 | 04/02/2010 |
| 2 | 06/04/2010 |
| 3 | 07/02/2010 |
| 4 | 08/06/2010 |
| 5 | 08/13/2010 |
| 6 | 09/03/2010 |
| 7 | 11/05/2010 |
| 8 | 12/03/2010 |

ASBE0205-001 06/01/2001

| | Rates | Fringes |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|
| Asbestos Removal worker/hazardous material handler Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not..... | \$ 17.90 | 4.45 |

BOIL0107-001 07/01/2009

| | Rates | Fringes |
|------------------------------------------------|----------|---------|
| BOILERMAKER Boilermaker..... | \$ 33.64 | 19.27 |
| Small Boiler Repair (under 25,000 lbs/hr)..... | \$ 26.91 | 16.00 |

BRWI0013-001 06/01/2009

| | Rates | Fringes |
|-------------------------------|----------|---------|
| BRICKLAYER Bricklayer..... | \$ 31.46 | 15.15 |
| Terrazzo Finisher..... | \$ 25.73 | 13.45 |
| Terrazzo Worker..... | \$ 32.16 | 13.45 |
| Tile Finisher..... | \$ 22.93 | 13.45 |
| Tile Layer..... | \$ 28.66 | 13.45 |

 CARP0252-007 06/01/2010

| | Rates | Fringes |
|--------------------------------------------------------------------------------------|----------|---------|
| CARPENTER (Including Acoustical work and Drywall hanging; Excluding Batt Insulation) | | |
| CARPENTER & SOFT FLOOR LAYER..... | \$ 30.56 | 13.36 |
| MILLWRIGHT..... | \$ 32.16 | 13.36 |
| PILEDRIVERMAN..... | \$ 31.06 | 13.36 |

 ELEC0014-005 06/01/2010

| | Rates | Fringes |
|---------------------------|----------|---------|
| Teledata System Installer | | |
| Installer/Technician..... | \$ 21.26 | 11.70 |

Low voltage construction, installation, maintenance and removal of teledata facilities (voice, data, and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated systems digital network).

 ELEC0159-002 06/01/2009

| | Rates | Fringes |
|------------------|----------|----------|
| ELECTRICIAN..... | \$ 31.61 | 28%+8.95 |

 ELEV0132-001 01/01/2009

| | Rates | Fringes |
|------------------------|----------|---------|
| ELEVATOR MECHANIC..... | \$ 41.31 | 18.285 |

FOOTNOTE:

PAID VACATION: Employer contributes 8% of basic hourly rate as vacation pay for employees with more than 5 years or more of service, and 6% for less than 5 years of service.
 PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0139-002 06/01/2010

| | Rates | Fringes |
|---------------------------|----------|---------|
| OPERATOR: Power Equipment | | |
| Group 1..... | \$ 34.62 | 17.75 |
| Group 2..... | \$ 33.62 | 17.75 |
| Group 3..... | \$ 32.42 | 17.75 |
| Group 4..... | \$ 31.89 | 17.75 |
| Group 5..... | \$ 29.82 | 17.75 |
| Group 6..... | \$ 29.19 | 17.75 |

HAZARDOUS WASTE PREMIUMS:

EPA Level "A" Protection: \$3.00 per hour
EPA Level "B" Protection: \$2.00 per hour
EPA Level "C" Protection: \$1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of over 100 tons; Cranes, Tower Cranes, and Derricks with boom, leads and/or jib lengths 176 ft or longer.

GROUP 2: Backhoes (Excavators) weighing 130,000 lbs & over; Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of 100 tons or less; Cranes, Tower Cranes, and Derricks with boom, leads, and/or jib lengths 175 ft or less; Caisson Rigs; Pile Driver

GROUP 3: Backhoes (Excavators) weighing under 130,000 lbs; Travelling Crane (bridge type); Milling Machine; Concrete Paver over 27 E; Concrete Spreader and Distributor; Concrete Laser Screed; Concrete Grinder and Planing Machine; Slipform Curb and Gutter Machine; Boring Machine (Directional); Dredge Operator; Skid Rigs; Over 46 meter Concrete Pump.

GROUP 4: Hydraulic Backhoe (tractor or truck mounted); Hydraulic Crane, 10 tons or less; Tractor, Bulldozer, or End Loader (over 40 hp); Motor Patrol; Scraper Operator; Bituminous Plant and Paver Operator; Screed-Milling Machine; Roller over 5 tons; Concrete Pumps 46 meter & under; Grout Pumps; Rotec Type Machine; Hydro Blaster, 10,000 psi and over; Rotary Drill Operator; Percussion Drilling Machine; Air Track Drill with or without integral hammer; Blaster; Boring Machine (vertical or horizontal); Side Boom; Trencher, wheel type or chain type having 8 inch or larger bucket; Rail Leveling Machine (Railroad); Tie Placer; Tie Extractor; Tie Tamper; Stone Leveler; Straddle Carrier; Material Hoists; Stack Hoist; Man Hoists; Mechanic and Welder; Off Road Material Haulers

GROUP 5: Tractor, Bulldozer, or Endloader (under 40 hp); Tampers -Compactors, riding type; Stump Chipper, large; Roller, Rubber Tire; Backfiller; Trencher, chain type (bucket under 8 inch); Concrete Auto Breaker, large; Concrete Finishing Machine (road type); Concrete Batch Hopper; Concrete Conveyor Systems; Concrete Mixers, 14S or over; Pumps, Screw Type and Gypsum); Hydrohammers, small; Brooms and Sweepers; Lift Slab Machine; Roller under 5 tons; Industrial Locomotives; Fireman (Pile Drivers and Derricks); Pumps (well points); Hoists, automatic; A-Frames and Winch Trucks; Hoists (tuggers); Boats (Tug, Safety, Work Barges and Launches); Assistant Engineer

GROUP 6: Shouldering Machine Operator; Farm or Industrial Tractor mounted equipment; Post Hole Digger; Auger (vertical and horizontal); Skid Steer Loader with or without attachments; Robotic Tool Carrier with or without attachments; Power Pack Vibratory/Ultra Sound Driver and Extractor; Fireman (Asphalt Plants); Screed Operator; Stone Crushers and Screening Plants; Air, Electric, Hydraulic Jacks (Slip Form); Prestress Machines; Air Compressor, 400 CFM or over; Refrigeration Plant/Freeze Machine; Boiler Operators (temporary heat); Forklifts; Welding Machines;

Generators; Pumps over 3"; Compressors, under 400 CFM;
 Heaters, Mechanical; Combination small equipment operator;
 Winches, small electric; Oiler; Greaser; Rotary Drill
 Tender; Conveyor; Elevator Operator

 IRON0383-002 06/01/2010

| | Rates | Fringes |
|-----------------|----------|---------|
| IRONWORKER..... | \$ 30.90 | 19.13 |

 LABO0464-001 06/01/2009

| | Rates | Fringes |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|
| Laborer: Asbestos/hazardous material remover (Preparation, removal, and encapsulation of hazardous materials from non-mechanical systems)..... | \$ 23.06 | 12.38 |
| Laborers: (Excluding Blown Insulation; Including General Laborer, Carpenter Tender, Bottom Man, Brick Mason Tender, Cement Mason Tender, Formsetter, Pipelayer, Shoveler)..... | \$ 22.59 | 11.73 |

 PAIN0802-001 06/01/2009

| | Rates | Fringes |
|------------------------------------------|----------|---------|
| PAINTER Brush, Roller..... | \$ 25.65 | 13.10 |
| PREMIUM RATES [Add to Basic Hourly Rate] | | |
| Swing Work | \$0.25 | |
| Drywall Taper | \$0.30 | |
| Paperhanger | \$0.40 | |
| Steel, Spray | \$1.00 | |

 PAIN0941-001 06/01/2010

| | Rates | Fringes |
|--------------|----------|---------|
| GLAZIER..... | \$ 36.28 | 11.17 |

 PLAS0599-001 05/31/2010

| | Rates | Fringes |
|------------------------------------|----------|---------|
| CEMENT MASON/CONCRETE FINISHER.... | \$ 32.03 | 15.13 |
| PLASTERER..... | \$ 29.03 | 15.16 |

 PLUM0075-007 07/01/2010

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| PLUMBER (Including HVAC work).... | \$ 35.78 | 14.76 |

 * PLUM0601-007 10/01/2010

| | Rates | Fringes |
|---------------------------------------|----------|---------|
| PIPEFITTER (Including HVAC work)..... | \$ 39.00 | 15.49 |
| ----- | | |
| SFWI0669-002 04/01/2010 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| SPRINKLER FITTER..... | \$ 36.39 | 16.60 |
| ----- | | |
| SHEE0018-009 06/01/2010 | | |

| | Rates | Fringes |
|--------------------------------------------------------------------|----------|---------|
| Sheet Metal Worker (Including HVAC Duct work and Technicians)..... | \$ 33.23 | 19.57 |
| ----- | | |
| SUWI2002-011 01/23/2002 | | |

| | Rates | Fringes |
|-------------------------------------------------------------------|----------|---------|
| Asbestos Worker/Heat and Frost Insulator..... | \$ 25.36 | 8.37 |
| Laborers: | | |
| Concrete Worker..... | \$ 16.34 | 3.59 |
| Landscape..... | \$ 8.73 | 4.90 |
| ROOFER, Including Built Up, Composition and Single Ply Roofs..... | \$ 18.01 | 3.28 |
| Tile & Marble Finisher..... | \$ 13.89 | 7.58 |
| ----- | | |
| TEAM0039-004 05/01/2009 | | |

| | Rates | Fringes |
|----------------------|----------|---------|
| TRUCK DRIVER | | |
| 1 & 2 Axles..... | \$ 23.84 | 14.70 |
| 3 or more Axles..... | \$ 23.99 | 14.70 |
| ----- | | |

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
 Wage and Hour Division
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
 U.S. Department of Labor
 200 Constitution Avenue, N.W.
 Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

ARRA Reporting Requirements

Period of Performance:

This contract becomes effective on the date it is signed by the Dane County Executive.

An acknowledgment of Federal support and a disclaimer must appear in the publication of any material, whether copyrighted or not, based on or developed under this project, as follows:

Acknowledgment: "This material is based upon work supported by the Department of Energy under Award Number *DE-EE0000842*."

Disclaimer: "This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."

Reporting Requirements:

The American Recovery and Reinvestment Act require that the public be informed of how money is used for economic recovery. The law ensures accountability and transparency through a number of reporting requirements. Under the guidelines in the law, **The Contractor** will be required to:

- Report on the use of recovery funds in Wisconsin for this program;
- Ensure the funds are used appropriately as defined by the law;
- Provide the number of jobs that were created or saved by the funds.

The Contractor is responsible for supplying all required monthly and quarterly reporting for Contractor's work and for all sub-contractors' work.

Reporting requirements detailed below are subject to changes by U.S. DOE throughout the period of performance. Compliance with any changes to reporting is required.

MONTHLY:

The Contractor is required to submit to Dane County on the third of each month;

1. Information on vendors utilized (including, amount paid, complete address, DUNS and CCR identifiers); and
2. Metric Activities:
 - a. Energy Cost Savings
 - b. Renewable Energy Capacity and Generation
 - c. Job Creation/retained the prior month, as a direct result of ARRA funding.
 - d. Energy Savings
 - e. Emissions and Green House Gas Reductions
3. Prior monthly expenditures staff hours, and infrastructure requirements
4. Number of Public Buildings Retrofit
5. Square FT of Retrofit Work Completed

ARRA Reporting Requirements

6. Number of Renewable Energy Systems installed
7. Capacity of Renewable Energy Systems Installed

QUARTERLY:

The Contractor is required to submit quarterly reports via the following timeline, until December 31, 2013.

| Reporting Period | Report Due |
|-----------------------------------------------------|-------------------------|
| January 1 st – March 31 st | April 3 rd |
| April 1 st – June 30 th | July 3 rd |
| July 1 st – September 30 th | October 3 rd |
| October 1 st – December 31 st | January 3 rd |

Reports should contain information specific to each activity in the program, as well as each infrastructure project, if applicable. Specifically, the report should contain the following information:

1. Project Development/Status Information
2. Quarterly Activities/Project Description
3. Metric Activities:
 - a. Energy Cost Savings
 - b. Renewable Energy Capacity and Generation
 - c. Job Creation
 - d. Energy Savings
 - e. Emissions and Green House Gas Reductions
4. Major activities, significant results, major findings, and key outcomes.
5. Are you following the Plan? If not, describe the change in approach, and reasons for the change.
6. Actual or anticipated problems or delays and corrective action plan.
7. Products produced or technology transfer activities accomplished during the reporting period.
8. What you planned to accomplish this period.
9. Efficiency improvements (behavioral, simple adjustments)
10. Economic improvements
11. Environmental benefits achieved as a result of this program
12. Promotions and public education activities
13. Training activities
14. Lessons learned and continuous improvement efforts
15. If applicable, provide a listing of the manufacturers of the equipment purchased to perform activities funded by the Energy Efficiency Block Grant Program, in compliance with the Buy American (see Attachment A-2) requirements; and
16. If applicable, provide written assurance (i.e. payroll records) that all construction, laborers and mechanics on projects funded directly or assisted in whole or in part by and through this program are paid wages at

ARRA Reporting Requirements

rates not less than those prevailing on projects of a character similar in the locality as determined by the Davis-Bacon Act (see attachments A-3).

17. Contractor will use WasteCap for waste reuse and recycling. (see attachment A-4)

SPECIAL STATUS REPORTS:

A report is required (via email), as soon as possible, after any of the following events occur:

1. Developments that have a significant favorable impact on the project.
2. Problems, delays, or adverse conditions which materially impair the ability to meet the objectives of the award or which may require the Dane County or the U.S. DOE to respond to questions relating to such events from the public.

Report on any of the following incidents and include the anticipated impact and remedial action to be taken to correct or resolve the problem/condition:

- a. Any single fatality or injuries requiring hospitalization of five or more individuals.
- b. Any significant environmental permit violation.
- c. Any verbal or written Notice of Violation of any Environmental, Safety, and Health statutes.
- d. Any incident which causes a significant process or hazard control system failure.
- e. Any event which is anticipated to cause a significant schedule slippage or cost increase.
- f. Any damage to Government-owned equipment in excess of \$50,000.
- g. Any other incident that has the potential for high visibility in the media.

FINAL REPORT:

Provide all information for a final report that is due 60 days after the contract terminates.

ARRA Reporting Requirements

ATTACHMENT A-1

SPECIAL PROVISIONS RELATING TO WORK FUNDED UNDER AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

Preamble

The American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (Recovery Act) was enacted to preserve and create jobs and promote economic recovery, assist those most impacted by the recession, provide investments needed to increase economic efficiency by spurring technological advances in science and health, invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits, stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive State and local tax increases. Recipients shall use grant funds in a manner that maximizes job creation and economic benefit.

The Recipient shall comply with all terms and conditions in the Recovery Act relating generally to governance, accountability, transparency, data collection and resources as specified in Act itself and as discussed below.

Recipients should begin planning activities for obtaining a DUNS number (or updating the existing DUNS record), and registering with the Central Contractor Registration (CCR).

Be advised that Recovery Act funds can be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of the Recovery Act and related guidance. For projects funded by sources other than the Recovery Act, Contractors must keep separate records for Recovery Act funds and to ensure those records comply with the requirements of the Act.

The Government has not fully developed the implementing instructions of the Recovery Act, particularly concerning specific procedural requirements for the new reporting requirements. The Recipient will be provided these details as they become available. The Recipient must comply with all requirements of the Act. If the recipient believes there is any inconsistency between ARRA requirements and current award terms and conditions, the issues will be referred to the Contracting Officer for reconciliation.

ARRA Reporting Requirements

Definitions

For purposes of this clause, Covered Funds means funds expended or obligated from appropriations under the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5. Covered Funds will have special accounting codes and will be identified as Recovery Act funds in the grant, cooperative agreement or TIA and/or modification using Recovery Act funds. Covered Funds must be reimbursed by September 30, 2015.

Non-Federal employer means any employer with respect to covered funds – the contractor, subcontractor, grantee, or recipient, as the case may be, if the contractor, subcontractor, grantee, or recipient is an employer; and any professional membership organization, certification of other professional body, any agent or licensee of the Federal government, or any person acting directly or indirectly in the interest of an employer receiving covered funds; or with respect to covered funds received by a State or local government, the State or local government receiving the funds and any contractor or subcontractor receiving the funds and any contractor or subcontractor of the State or local government; and does not mean any department, agency, or other entity of the federal government.

Recipient means any entity that receives Recovery Act funds directly from the Federal government (including Recovery Act funds received through grant, loan, or contract) other than an individual and includes a State that receives Recovery Act Funds.

A. Flow Down Requirement

As required by the US Department of Energy, the Office of Energy Independence must include these special terms and conditions in any sub-recipient. All sub-recipients are held to the following special provisions and requirements as the main recipient.

b. Segregation of Costs

Recipients must segregate the obligations and expenditures related to funding under the Recovery Act. Financial and accounting systems should be revised as necessary to segregate, track and maintain these funds apart and separate from other revenue streams. No part of the funds from the Recovery Act shall be commingled with any other funds or used for a purpose other than that of making payments for costs allowable for Recovery Act projects.

C. Prohibition on Use of Funds

None of the funds provided under this agreement derived from the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, may be used by any State or local

ARRA Reporting Requirements

government, or any private entity, for any casino or other gambling establishment, aquarium, zoo, golf course, or swimming pool.

D. Access to Records

With respect to each financial assistance agreement awarded utilizing at least some of the funds appropriated or otherwise made available by the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, any representative of an appropriate inspector general appointed under section 3 or 8G of the Inspector General Act of 1988 (5 U.S.C. App.) or of the Comptroller General is authorized –

- (1) to examine any records of the contractor or grantee, any of its subcontractors or subgrantees, or any State or local agency administering such contract that pertain to, and involve transactions relation to, the subcontract, subcontract, grant, or subgrant; and
- (2) to interview any officer or employee of the contractor, grantee, subgrantee, or agency regarding such transactions.

E. Publication

An application may contain technical data and other data, including trade secrets and/or privileged or confidential information, which the applicant does not want disclosed to the public or used by the Government for any purpose other than the application. To protect such data, the applicant should specifically identify each page including each line or paragraph thereof containing the data to be protected and mark the cover sheet of the application with the following Notice as well as referring to the Notice on each page to which the Notice applies:

Notice of Restriction on Disclosure and Use of Data

The data contained in pages ---- of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data here to the extent provided in the award. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the applicant.

Information about this agreement will be published on the Internet and linked to the website www.recovery.gov, maintained by the Accountability and Transparency Board. The Board may exclude posting contractual or other information on the website on a case-by-case basis when necessary to protect national security or to protect information that is not subject to disclosure under sections 552 and 552a of title 5, United States Code.

F. Protecting State and Local Government and Contractor Whistleblowers.

The requirements of Section 1553 of the Act are summarized below. They include, but are not limited to:

ARRA Reporting Requirements

Prohibition on Reprisals: An employee of any non-Federal employer receiving covered funds under the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing, including a disclosure made in the ordinary course of an employee's duties, to the Accountability and Transparency Board, an inspector general, the Comptroller General, a member of Congress, a State or Federal regulatory or law enforcement agency, a person with supervisory authority over the employee (or other person working for the employer who has the authority to investigate, discover or terminate misconduct, a court or grant jury, the head of a Federal agency, or their representatives information that the employee believes is evidence of:

- gross management of an agency contract or grant relating to covered funds;
- a gross waste of covered funds
- a substantial and specific danger to public health or safety related to the implementation or use of covered funds;
- an abuse of authority related to the implementation or use of covered funds; or
- as violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to covered funds.

Agency Action: Not later than 30 days after receiving an inspector general report of an alleged reprisal, the head of the agency shall determine whether there is sufficient basis to conclude that the non-Federal employer has subjected the employee to a prohibited reprisal. The agency shall either issue an order denying relief in whole or in part or shall take one or more of the following actions:

- Order the employer to take affirmative action to abate the reprisal.
- Order the employer to reinstate the person to the position that the person held before the reprisal, together with compensation including back pay, compensatory damages, employment benefits, and other terms and conditions of employment that would apply to the person in that position if the reprisal had not been taken.
- Order the employer to pay the employee an amount equal to the aggregate amount of all costs and expenses (including attorneys' fees and expert witnesses' fees) that were reasonably incurred by the employee for or in connection with, bringing the complaint regarding the reprisal, as determined by the head of a court of competent jurisdiction.

Nonenforceability of Certain Provisions Waiving Rights and Remedies or Requiring Arbitration: Except as provided in a collective bargaining agreement, the rights and remedies provided to aggrieved employees by this section may not be waived by any agreement, policy, form, or condition of employment, including any predispute arbitration agreement. No predispute arbitration agreement shall be valid or enforceable if it requires arbitration of a dispute arising out of this section.

Requirement to Post Notice of Rights and Remedies: Any employer receiving covered funds under the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, shall post notice of the rights and remedies as required therein. (Refer to section 1553 of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, www.Recovery.gov, for specific requirements of this section and prescribed language for the notices.).

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G. RESERVED.

H. False Claims Act

Recipient and sub-recipients shall promptly refer to the DOE or other appropriate Inspector General any credible evidence that a principal, employee, agent, contractor, sub-grantee, subcontractor or other person has submitted a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict or interest, bribery, gratuity or similar misconduct involving those funds.

I. Information in supporting of Recovery Act Reporting

Recipient may be required to submit backup documentation for expenditures of funds under the Recovery Act including such items as timecards and invoices. Recipient shall provide copies of backup documentation at the request of the Contracting Officer or designee.

ATTACHMENT A-2

REQUIRED USE OF AMERICAN IRON, STEEL, AND MANUFACTURED GOODS -- SECTION 1605 OF THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

(a) Definitions. As used in this award term and condition--

(1) Manufactured good means a good brought to the construction site for incorporation into the building or work that has been--

(i) Processed into a specific form and shape; or

(ii) Combined with other raw material to create a material that has different properties than the properties of the individual raw materials.

(2) Public building and public work means a public building of, and a public work of, a governmental entity (the United States; the District of Columbia; commonwealths, territories, and minor outlying islands of the United States; State and local governments; and multi-State, regional, or interstate entities which have governmental functions). These buildings and works may include, without limitation, bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, power lines, pumping stations, heavy generators, railways, airports, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties,

ARRA Reporting Requirements

breakwaters, levees, and canals, and the construction, alteration, maintenance, or repair of such buildings and works.

(3) Steel means an alloy that includes at least 50 percent iron, between .02 and 2 percent carbon, and may include other elements.

(b) Domestic preference.

(1) This award term and condition implements Section 1605 of the American Recovery and Reinvestment Act of 2009 (Recovery Act) (Pub. L. 111--5), by requiring that all iron, steel, and manufactured goods used in the project are produced in the United States except as provided in paragraph (b)(3) and (b)(4) of this section and condition.

(2) This requirement does not apply to the material listed by the Federal Government as follows: none

(3) The award official may add other iron, steel, and/or manufactured goods to the list in paragraph (b)(2) of this section and condition if the Federal Government determines that--

(i) The cost of the domestic iron, steel, and/or manufactured goods would be unreasonable. The cost of domestic iron, steel, or manufactured goods used in the project is unreasonable when the cumulative cost of such material will increase the cost of the overall project by more than 25 percent;

(ii) The iron, steel, and/or manufactured good is not produced, or manufactured in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(iii) The application of the restriction of section 1605 of the Recovery Act would be inconsistent with the public interest.

(c) Request for determination of inapplicability of Section 1605 of the Recovery Act .

(1)(i) Any recipient request to use foreign iron, steel, and/or manufactured goods in accordance with paragraph (b)(3) of this section shall include adequate information for Federal Government evaluation of the request, including--

(A) A description of the foreign and domestic iron, steel, and/or manufactured goods;

(B) Unit of measure;

(C) Quantity;

(D) Cost;

ARRA Reporting Requirements

- (E) Time of delivery or availability;
- (F) Location of the project;
- (G) Name and address of the proposed supplier; and
- (H) A detailed justification of the reason for use of foreign iron, steel, and/or manufactured goods cited in accordance with paragraph (b)(3) of this section.
 - (ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed cost comparison table in the format in paragraph (d) of this section.
 - (iii) The cost of iron, steel, and/or manufactured goods material shall include all delivery costs to the construction site and any applicable duty.
 - (iv) Any recipient request for a determination submitted after Recovery Act funds have been obligated for a project for construction, alteration, maintenance, or repair shall explain why the recipient could not reasonably foresee the need for such determination and could not have requested the determination before the funds were obligated. If the recipient does not submit a satisfactory explanation, the award official need not make a determination.

(2) If the Federal Government determines after funds have been obligated for a project for construction, alteration, maintenance, or repair that an exception to section 1605 of the Recovery Act applies, the award official will amend the award to allow use of the foreign iron, steel, and/or relevant manufactured goods. When

the basis for the exception is nonavailability or public interest, the amended award shall reflect adjustment of the award amount, redistribution of budgeted funds, and/or other actions taken to cover costs associated with acquiring or using the foreign iron, steel, and/or relevant manufactured goods. When the basis for the exception is the unreasonable cost of the domestic iron, steel, or manufactured goods, the award official shall adjust the award amount or redistribute budgeted funds by at least the differential established in 2 CFR 176.110(a).

(3) Unless the Federal Government determines that an exception to section 1605 of the Recovery Act applies, use of foreign iron, steel, and/or manufactured goods is noncompliant with section 1605 of the American Recovery and Reinvestment Act.

(d) Data. To permit evaluation of requests under paragraph (b) of this section based on unreasonable cost, the Recipient shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Items Cost Comparison

ARRA Reporting Requirements

| Description | Unit of measure | Quantity |
|--------------------------------------------------|-----------------|----------|
| Cost(dollars)* | | |
| Item 1: | | |
| Foreign steel, iron, or manufactured good _____ | _____ | _____ |
| _____ | | |
| Domestic steel, iron, or manufactured good _____ | _____ | _____ |
| _____ | | |
| Item 2: | | |
| Foreign steel, iron, or manufactured good _____ | _____ | _____ |
| _____ | | |
| Domestic steel, iron, or manufactured good _____ | _____ | _____ |
| _____ | | |

[List name, address, telephone number, email address, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.] [Include other applicable supporting information.] [*Include all delivery costs to the construction site.]

ATTACHMENT A-3

DAVIS BACON ACT AND CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

WAGE RATE REQUIREMENTS UNDER SECTION 1606 OF THE RECOVERY ACT

(a) Section 1606 of the Recovery Act requires that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by and through the Federal Government pursuant to the Recovery Act shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code.

Pursuant to Reorganization Plan No. 14 and the Copeland Act, 40 U.S.C. 3145, the Department of Labor has issued regulations at 29 CFR parts 1, 3, and 5 to implement the Davis-Bacon and related Acts. Regulations in 29 CFR 5.5 instruct agencies concerning application of the standard Davis-Bacon contract clauses set forth in that section. Federal agencies providing grants, cooperative agreements, and loans under the Recovery Act shall ensure that the standard Davis-Bacon contract clauses found in 29 CFR 5.5(a) are incorporated in any resultant covered contracts that are in excess of \$2,000 for construction, alteration or repair (including painting and decorating).

(b) For additional guidance on the wage rate requirements of section 1606, contact your awarding agency. Recipients of grants, cooperative agreements and loans should direct their initial inquiries concerning the application of Davis-Bacon requirements to a

ARRA Reporting Requirements

particular federally assisted project to the Federal agency funding the project. The Secretary of Labor retains final coverage authority under Reorganization Plan Number 14.

Definitions: For purposes of this article, Davis Bacon Act and Contract Work Hours and Safety Standards Act, the following definitions are applicable:

(1) “Award” means any grant, cooperative agreement or technology investment agreement made with Recovery Act funds by the Department of Energy (DOE) to a Recipient. Such Award must require compliance with the labor standards clauses and wage rate requirements of the Davis-Bacon Act (DBA) for work performed by all laborers and mechanics employed by Recipients (other than a unit of State or local government whose own employees perform the construction) Subrecipients, Contractors and subcontractors.

(2) “Contractor” means an entity that enters into a Contract. For purposes of these clauses, Contractor shall include (as applicable) prime contractors, Recipients, Subrecipients, and Recipients’ or Subrecipients’ contractors, subcontractors, and lower-tier subcontractors. “Contractor” does not mean a unit of State or local government where construction is performed by its own employees.”

(3) “Contract” means a contract executed by a Recipient, Subrecipient, prime contractor or any tier subcontractor for construction, alteration, or repair. It may also mean (as applicable) (i) financial assistance instruments such as grants, cooperative agreements, technology investment agreements, and loans; and, (ii)

Sub awards, contracts and subcontracts issued under financial assistance agreements. “Contract” does not mean a financial assistance instrument with a unit of State or local government where construction is performed by its own employees.

(4) “Contracting Officer” means the DOE official authorized to execute an Award on behalf of DOE and who is responsible for the business management and non-program aspects of the financial assistance process.

(5) “Recipient” means any entity other than an individual that receives an Award of Federal funds in the form of a grant, cooperative agreement or technology investment agreement directly from the Federal Government and is financially accountable for the use of any DOE funds or property, and is legally responsible for carrying out the terms and conditions of the program and Award.

(6) “Subaward” means an award of financial assistance in the form of money, or property in lieu of money, made under an award by a Recipient to an eligible Subrecipient or by a Subrecipient to a lower- tier subrecipient. The term

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includes financial assistance when provided by any legal agreement, even if the agreement is called a contract, but does not include the Recipient's procurement of goods and services to carry out the program nor does it include any form of assistance which is excluded from the definition of "Award" above.

(7) "Subrecipient" means a non-Federal entity that expends Federal funds received from a Recipient to carry out a Federal program, but does not include an individual that is a beneficiary of such a program.

(a) Davis Bacon Act

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may

be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section;

also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon

ARRA Reporting Requirements

poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The Contracting Officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour

Division, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of

receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

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(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The Department of Energy or the Recipient or Subrecipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and

mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the Contract, the Department of Energy, Recipient, or Subrecipient, may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as

may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of

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the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) (A) The Contractor shall submit weekly for each week in which any Contract work is performed a copy of all payrolls to the Department of Energy if the agency is a party to the Contract, but if the agency is not such a party, the Contractor will submit the payrolls to the Recipient or Subrecipient (as applicable), applicant, sponsor, or owner, as the case may be, for transmission to the Department of Energy. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on

weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional

Form WH-347 is available for this purpose from the Wage and Hour Division Web site at

<http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall

maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Department of Energy if the agency is a party to the Contract, but if the agency is not such a party, the Contractor will submit them to the

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Recipient or Subrecipient (as applicable), applicant, sponsor, or owner, as the case may be, for transmission to the Department of Energy, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the Recipient or Subrecipient (as applicable), applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for

the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 3729 of title 31 of the United States Code.

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(iii) The Contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Department of Energy or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not

less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the

applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the

ARRA Reporting Requirements

apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the

Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize

trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the

ARRA Reporting Requirements

equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.

(6) Contracts and Subcontracts. The Recipient, Subrecipient, the Recipient's and Subrecipient's contractors and subcontractor shall insert in any Contracts the clauses contained herein in(a)(1) through (10) and such other clauses as the Department of Energy may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Recipient shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of the paragraphs in this clause.

(7) Contract termination: debarment. A breach of the Contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Recipient, Subrecipient, the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

ARRA Reporting Requirements

(b) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No Contractor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The Department of Energy or the Recipient or Subrecipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to

satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Contracts and Subcontracts. The Recipient, Subrecipient, and Recipient's and Subrecipient's contractor or subcontractor shall insert in any Contracts, the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier

subcontracts. The Recipient shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

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(5) The Contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the Contract for all laborers and mechanics, including guards and watchmen, working on the Contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Department of Energy and the Department of Labor, and the Contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

ATTACHMENT A-4

SECTION 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

ARRA Reporting Requirements

BASED ON DSF MASTER SPECIFICATION DATED 12/11/2007

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Part 1 - General

Description
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Recycling Goal
Submittals
Construction Waste Management Plan

Part 2 - Products

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Part 3 - Execution

Construction Waste Management Plan Implementation

PART 1 - GENERAL

DESCRIPTION

Applicable provisions of Division 01 shall govern all work under this Section.

This Section specifies requirements for salvaging, recycling and disposing of construction waste.

RELATED DOCUMENTS

The following related resource documents are available:

- i. Recycling Evaluation Tools
- ii. Construction Waste Management Appendix

PRECONSTRUCTION AND PREBID MEETINGS

The Pre-bid Conference (if conducted) and Preconstruction Conference will include discussion of construction waste management requirements. Prior to the commencement of the Work, the Lead Contractor should schedule and conduct a meeting with Dane County and the Architect to discuss the proposed Construction Waste Management Plan to develop a mutual understanding regarding details of construction waste management implementation.

WASTE MANAGEMENT GOALS

The recycling goal (including reuse) to be achieved at Substantial Completion of the Project shall be at least [70 percent] by weight or volume of total waste generated by the Project and includes reuse.

Reduce: The Project shall generate the least amount of waste and methods shall be used that minimize waste due to error, poor planning, breakage, mishandling, contamination, or similar factors. Promote the resourceful use of materials to the greatest extent possible.

Reuse: All Contractors and Subcontractors shall reuse materials to the greatest extent possible. Salvage reusable materials for resale, for reuse on this Project, or for storage

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for use on future projects. Return reusable items (e.g., pallets or unused products) to the material suppliers.

Recycle: As many of the waste materials not able to be eliminated in the first place or salvaged for reuse shall be recycled. Waste disposal in landfills shall be minimized to greatest extent possible.

SUBMITTALS

Construction Waste Management Plan: Prior to commencing demolition or construction activities, the Lead Contractor, with input from all Prime & Subcontractors, shall develop and submit a Construction Waste Management Plan to Dane County for approval within 15 working days after Contract award or prior to any waste removal. The construction waste management plan can be generated by WasteCapTRACE based on information entered by the Lead Contractor.

Summary of Waste Progress Reports: Throughout the duration of the Project, the Lead Contractor shall report to Dane County with their periodic Applications for Payment a Summary of Waste including the quantity of each material recycled, reused, or salvaged, the receiving party, and the applicable diversion rates. This reporting shall take place using WasteCapTRACE, an on-line documentation system. There is a fee, to be included in the bid, of .02 cents per gross square foot of the project for use of WasteCapTRACE. Lead Contractor and Prime Contractors shall maintain a record of related weight tickets, manifests, receipts, and invoices for review by Dane County on request.

Summary of Waste Final Documentation: At Substantial Completion of the Project, the Lead Contractor shall submit a final summary of reuse and recycling results for all Prime & Subcontractors, including the quantity of each material recycled, reused, or salvaged, the receiving party and the applicable diversion rates. The final report will be generated by WasteCapTRACE based on information entered throughout the project by the Lead Contractor.

CONSTRUCTION WASTE MANAGEMENT PLAN

The purpose of the Construction Waste Management Plan is to achieve successful reuse and recycling with the highest possible reuse and recycling rates. The Plan shall include the following:

A schedule identifying milestones and key reporting dates of Construction Waste Management.

A list of waste materials expected to be generated from the Project as debris.

A list of each material proposed to be salvaged, reused, recycled and discarded. Identify applicable markets for reuse and/or recycling. At a minimum, all materials required by State law to be recycled shall be recycled (e.g., cardboard, cans, bottles, office paper, fluorescent tubes, refrigerants, mercury, etc.) and scrap metal shall be recycled.

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Separation and Materials Handling Procedures: Description of how waste materials identified above will be separated, cleaned (if necessary) and protected from contamination.

Educational and Motivational Procedures: Meetings to be held and other proposed methods for educating construction personnel regarding waste reduction and recycling.

Waste Auditing Procedures: Methods of monitoring and enforcing the Plan.

Documentation Procedures: Methods of documenting materials leaving the Project site as waste, for reuse or recycling to allow Summary of Waste Progress Reports to be submitted with Applications for Payment.

The Lead Contractor shall distribute copies of the Construction Waste Management Plan to Dane County's Project Manager & Project Representative, each Prime Contractor, and the Architect.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

CONSTRUCTION WASTE MANAGEMENT PLAN IMPLEMENTATION

The Lead Contractor shall be responsible for coordinating the separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel. The Lead Contractor shall be responsible for reporting the results of the Construction Waste Management Plan. The Lead Contractor shall designate a "Waste Manager" who is responsible for instructing construction personnel and overseeing and documenting results of the Construction Waste Management Plan.

Instruction: The Lead Contractor shall provide on-site instruction regarding appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel throughout the duration of the Project.

Separation Facilities: The Lead Contractor shall lay out and identify a specific area on the Project site for separating materials for recycling, salvage, reuse, and return. The Lead Contractor shall provide waste bins and shall keep these bins & the recycling area neat, clean and clearly marked to avoid contamination of materials.

Sorting: The following sorting methods are acceptable:

Sorting recyclable materials at the Project site and transporting them to recycling markets directly from the Project site.

Employing haulers who make use of a materials-recovery facility or a transfer station where recyclable materials are sorted from the waste and recycled before disposing of the remainder. If using a hauler or recycling facility to sort out recyclables, verify that the hauler sorts out all construction waste loads and is not limited to those that are not acceptable at the landfill. Also,

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verify that the hauler or recycling facility recycles at least three types of materials.

Hazardous Waste: Hazardous waste shall be disposed of according to General Requirements Article 31 “Cleaning and Waste Disposal.” (Hazardous Waste is a separate category and not part of the basis on which the recycling percentage is calculated.)

Application for Payments: The Contractor shall submit the Summary of Waste with the Applications for Payment according to a schedule outlined in the Construction Waste Management Plan approved by Dane County. Failure to submit this information shall render the Application for Payment null and void, thereby delaying the Progress Payment.

The following resources are provided for information only, to aid the Contractor in managing the Project’s construction waste:

The Wisconsin DNR, Bureau of Waste Management
<http://www.dnr.state.wi.us/org/aw/wm/>

The UW-Extension’s Solid and Hazardous Waste Education Center
<http://www1.uwex.edu/ces/shwec/> , email shwec@uwm.edu or telephone: 608-262-0385.

WasteCap Resource Solutions, Inc.
<http://www.wastecap.org> or telephone: 414-961-1100 or 608-245-1100.

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Construction and Demolition Waste Management Appendix

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for the evaluation of recycling operations.

1.3 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, sealant (caulk), or the like.
- B. Construction Waste: Used as an umbrella term in the construction waste management specifications and evaluation tools to encompass construction waste, demolition waste and remodeling waste.
- C. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- D. Construction Waste Management Plan: A project-related plan for the collection, transportation, and disposal of waste generated at the construction site. The purpose of the plan is to reduce the amount of material being landfilled.
- E. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity.
- F. Landfill Tipping Fees: Monies paid for burying non-recyclable waste in the landfills.
- G. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity, or reactivity.
- H. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- I. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse.
- J. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse.
- K. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- L. Return: To give back reusable items or unused products to vendors for credit.
- M. Reuse: To reuse a construction waste material in some manner on the Project site.
- N. Scrap Revenue: Monies received by the hauler for recyclable materials.
- O. Sediment: Soil and other debris that has been eroded and transported by storm, or well production runoff water.
- P. Trash: A product or material unable to be reused, returned, recycled, or salvaged.
- Q. Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through out-gassing: Solvents in paints and other coatings, wood preservatives, strippers and household cleaners, adhesives in particleboard, fiberboard, and some plywoods, and foam insulation. When released, VOC's can contribute to the formation of

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smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.

- R. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 RECYCLING SERVICES AND EQUIPMENT

A. Recycling Service Options

- iii. Identify businesses that provide recycling services, determine which recycling services hauler(s) can provide, and identify other organizations that provide recycling or waste reduction services, such as education and documentation.
- iv. Option No. 1: Hire A Full-Service Recycling Contractor
 - a. Many or all source-separation and collection tasks are subcontracted to a recycling contractor. These contractors can provide training and on-site sorting services. Seek out the best service and the best fees (or prices) for materials targeted for recycling.
 - v. Option No. 2: Use A Hauler's Recycling Service
 - b. A hauler may offer recycling services. These services will generally be less complete than those of a full-service recycling contractor, but may be sufficient if the Contractor's own personnel can perform tasks the waste hauler does not. If the waste hauler does not provide re-sorting services or training to prevent future mis-sorting, establish an in-house training program to prevent mis-sorting. Mis-sorted materials will be treated as waste by the hauler, and recycling savings will be lost.
 - c. Ensure that the recycling goals are indicated in the Agreement made with the waste hauler. The Agreement shall include a list of materials intended to be recycled, the recycling markets to be used, the landfill that will be used for construction waste, acceptable contamination levels, a rate schedule, amount of time needed to respond to calls for pickup, and a requirement for monthly reports of quantities collected by volume and weight of each material, charges/revenues, and markets.
 - vi. Option No. 3: Operate An In-House Recycling Program
 - d. The Contractor shall be responsible for source-separation, collection, and the ordering of drop-offs and pick-ups. This option employs waste haulers that provide direct recycling services of certain recyclables and may include pick-up. Their services, fees, and/or rebates may vary depending on the material involved and other applicable factors. Other recycling services may be negotiated with the hauler.
 - vii. Recycling by Major Subcontractors
 - e. Major Subcontractors, (e.g., Mechanical and Electrical Subcontractors), may assume responsibility for their respective recycling and waste reduction programs, including but not limited to source separating, maintaining bins, and arranging drop-offs and pick-ups. These major Subcontractors may participate in any of the options listed above.
 - f. Subcontractors who do their own recycling shall report applicable recycling/waste amounts to the General Contractor monthly. The General Contractor shall be

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responsible for tabulating quantities and submitting the results to the Owner and Architect at **[Substantial]** **[Final]** Completion of the Project.

- B. Required Services and Equipment
1. Provide services and equipment necessary for successful recycling including the following, without limitation:
 - a. Materials sorting.
 - b. Bins.
 - c. Signs.
 - d. Education and training.
 - e. Monitoring.
 - f. Pick-ups.
 - g. Documentation.
 - viii. If an in-house recycling program using a waste hauler is used, identify materials intended to be recycled off-site and document all recycling accomplished.

1.5 APPLICATIONS FOR RECYCLED MATERIALS

- A. Reuse and Recycling Information: Agencies having information regarding applications and destinations for reuse and recycling construction and demolition waste materials include the following:
1. Construction Material Recycling Association. <http://www.cdrecycling.org>.
 2. Dane County Dept. of Public Works. <http://www.co.dane.wi.us/pubworks/recyc/markets.htm>.
 3. Habitat for Humanity. <http://www.restoredane.org>.
 4. Solid & Hazardous Waste Education Center, UW Extension. <http://www.uwex.edu/shwec>.
 5. WasteCap Wisconsin, Inc. www.wastecapwi.org.
 6. Wisconsin Department of Natural Resources, <http://www.dnr.state.wi.us/org/aw/wm/condemo/index.htm>
- B. Examples of materials and potential applications for recyclable materials include the following, without limitation:
1. Aluminum Cans, Straps, and Sheet: Recycle as a metal.
 2. Asphalt: Break up and transport asphalt-to-asphalt recycling facility or recycle on site.
 3. Brick: Can be reused if whole, crushed for use as landscape cover, sub-base material, or fill.
 4. Building Components And Fixtures: Windows, doors, cabinets, hardware, plumbing and electrical fixtures may be salvaged. Porcelain plumbing fixtures may be crushed for fill.
 5. Carpet and Carpet Pad: Store clean, dry carpet and pad in a closed container or trailer. Carpet may be able to be reused or recycled if sufficient quantities are generated.
 6. Ceiling Panels: If sufficient quantities are generated, sort by size, palletize, and shrink-wrap for shipment to and recycling by a ceiling tile manufacturer.
 7. Concrete: Can be crushed and graded for use as riprap, aggregate, sub-base material, or fill. Neutralize alkalinity if planting above. Remove reinforcement and other metals from concrete and sort with other metals.
 8. Concrete Block: Can be reused if whole, crushed for use as sub-base material or fill.
 9. Copper Pipe and Accessories: Recycle as a metal.
 10. Corrugated Cardboard and Paper: Separate for recycling into new paper products. Painted, waxed or muddy cardboard or paper is unsuitable for recycling and should be discarded.

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11. Dimensional Lumber, Oriented Strand Board, Plywood, Crates, and Pallets: Sort larger pieces for reuse. Wood unsuitable for reuse may be used to manufacture particleboard and other composite wood products. Chip or shred wood for use as animal bedding, landscape use, groundcover, mulch, compost, pulp, or process fuel. Do not chip or shred stained, painted or treated wood. Some recyclers have equipment to remove nails.
12. Doors and Hardware: If separated for reuse, brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
13. Glass Containers: Recycle as glass.
14. Gypsum Board: Gypsum wallboard to be processed and land spread must be new and clean construction scrap free of tape, joint compounds, paint, nails, screws, or other contaminants. Only regular ½” drywall, Type X drywall, and Plaster Base (standard blue board) may be used for a soil amendment. The following paper-faced gypsum panel can not be used as a soil amendment: WR (Green Board), Sheathing (Brown/Black Board), Mold Resistant Panels or Specialty Type X. These contain additives which may not be suitable as a soil amendment.
15. Land Clearing Debris: Can be chipped or shredded for use as ground cover, mulch, compost, pulp, or process fuel.
16. Lighting Fixtures: Separate lamps by type and protect from breakage. Fluorescent tubes must be recycled by law.
17. Miscellaneous Ferrous and Nonferrous Metals: Separate for recycling: banding, stud cut-offs, ceiling grid, ductwork, conduit, rebar, roofing, pipe, sheet metals, extruded metals, castings, miscellaneous steel shapes, and other metal parts.
18. Piping: If separated for reuse, reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinkler heads, and other components by type and size.
19. Precast Concrete Panels: May be able to be crushed and used for erosion control or landscape features.
20. Sheet Metal Scrap and Metal Duct Accessories: Recycle as a metal.
21. Structural Steel: Can be used in the manufacture of structural steel.
22. Vinyl: Siding, window extrusions, floor tiles, and sheet flooring may be able to be separated for recycling into new vinyl products.

END OF APPENDIX

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. Alternates
 6. Coordination
 7. Conferences
 8. Progress Meetings
 9. Quality Assurance / Quality Control of Installation
 10. References
 11. Protection of Installed Work
 12. Parking
 13. Staging Areas
 14. Occupancy During Construction and Conduct of Work
 15. Progress Cleaning
 16. Products
 17. Transportation, Handling, Storage and Protection
 18. Product Options
 19. Substitutions
 20. Contract Closeout Procedures
 21. Final Cleaning

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as specified and detailed in Construction Documents package. Work includes construction services to remove and properly dispose of asbestos containing insulation in the GR-3 Mechanical Room in the City County Building. The removed insulation will need to be replaced where specified.
- B. Work by Owner: None
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner. Owner would only need to access room GR-3 for emergency purposes.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit two (2) copies 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.

1.5 ALTERNATES

- A. Schedule of Alternates: there are no alternates proposed for this project.

1.6 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.

1.7 CONFERENCES

- A. Dane County Department Public Works, Highway & Transportation will schedule a preconstruction conference after Award of Contract for all affected parties.

1.8 PROGRESS MEETINGS

- A. Engineer shall schedule and administer meetings throughout progress of the Work when necessary.
- B. Engineer shall preside at meetings, record minutes, and distribute copies within two (2) days to those affected by decisions made.

1.9 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.

1.10 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 Engineer before proceeding.

1.11 PROTECTION OF INSTALLED WORK

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

1.12 PARKING

- A. Temporary parking areas to accommodate construction personnel will be available. One spot will be available in the City-County Building and parking will be available free of charge at the Dane County Parking Ramp.

1.13 STAGING AREAS

- A. Coordinate staging areas with Public Works Project Engineer prior to starting the Work.
- B. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.14 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours (7:45 am to 4:30 pm), 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. Coring of floor along with other noisy work may have to be done on second and third shifts.
- B. 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.
- C. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- D. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this contract is to be performed.
- E. 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.

- F. 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.

1.15 PROGRESS CLEANING

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

1.16 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.

1.17 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

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

1.18 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intention 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 Department of Public Works, Highway & Transportation for approval at least seven (7) days prior to Bid Opening.
- B. Products and materials that are not specified, but have been approved for use by Public Works Project Engineer shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Opening may be considered. Dane County reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.19 SUBSTITUTIONS

- A. Public Works Project Engineer shall consider requests for Substitutions only within fifteen (15) days after date of Public Works Contract.
- 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 Opening.

1.20 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 Engineer's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.21 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.
- D. HEPAVAC entire room GR-3, shaft, and tunnel and provide OSHA and EPA employee clearance testing.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

Construction and Demolition Waste Management Appendix

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section specifies administrative and procedural requirements for the evaluation of recycling operations.

1.3 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, sealant (caulk), or the like.
- B. Construction Waste: Used as an umbrella term in the construction waste management specifications and evaluation tools to encompass construction waste, demolition waste and remodeling waste.
- C. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- D. Construction Waste Management Plan: A project-related plan for the collection, transportation, and disposal of waste generated at the construction site. The purpose of the plan is to reduce the amount of material being landfilled.
- E. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity or reactivity.
- F. Landfill Tipping Fees: Monies paid for burying non-recyclable waste in the landfills.
- G. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosiveness, toxicity, or reactivity.
- H. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- I. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse.
- J. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse.
- K. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- L. Return: To give back reusable items or unused products to vendors for credit.
- M. Reuse: To reuse a construction waste material in some manner on the Project site.
- N. Scrap Revenue: Monies received by the hauler for recyclable materials.
- O. Sediment: Soil and other debris that has been eroded and transported by storm, or well production runoff water.
- P. Trash: A product or material unable to be reused, returned, recycled, or salvaged.
- Q. Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through out-gassing: Solvents in paints and other coatings, wood preservatives, strippers and household cleaners, adhesives in particleboard, fiberboard, and some plywoods, and foam insulation. When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.
- R. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 RECYCLING SERVICES AND EQUIPMENT

A. Recycling Service Options

1. Identify businesses that provide recycling services, determine which recycling services hauler(s) can provide, and identify other organizations that provide recycling or waste reduction services, such as education and documentation.
2. Option No. 1: Hire A Full-Service Recycling Contractor
 - a. Many or all source-separation and collection tasks are subcontracted to a recycling contractor. These contractors can provide training and on-site sorting services. Seek out the best service and the best fees (or prices) for materials targeted for recycling.
3. Option No. 2: Use A Hauler's Recycling Service
 - a. A hauler may offer recycling services. These services will generally be less complete than those of a full-service recycling contractor, but may be sufficient if the Contractor's own personnel can perform tasks the waste hauler does not. If the waste hauler does not provide re-sorting services or training to prevent future mis-sorting, establish an in-house training program to prevent mis-sorting. Mis-sorted materials will be treated as waste by the hauler, and recycling savings will be lost.
 - b. Ensure that the recycling goals are indicated in the Agreement made with the waste hauler. The Agreement shall include a list of materials intended to be recycled, the recycling markets to be used, the landfill that will be used for construction waste, acceptable contamination levels, a rate schedule, amount of time needed to respond to calls for pickup, and a requirement for monthly reports of quantities collected by volume and weight of each material, charges/revenues, and markets.
4. Option No. 3: Operate An In-House Recycling Program
 - a. The Contractor shall be responsible for source-separation, collection, and the ordering of drop-offs and pick-ups. This option employs waste haulers that provide direct recycling services of certain recyclables and may include pick-up. Their services, fees, and/or rebates may vary depending on the material involved and other applicable factors. Other recycling services may be negotiated with the hauler.
5. Recycling by Major Subcontractors
 - a. Major Subcontractors, (e.g., Mechanical and Electrical Subcontractors), may assume responsibility for their respective recycling and waste reduction programs, including but not limited to source separating, maintaining bins, and arranging drop-offs and pick-ups. These major Subcontractors may participate in any of the options listed above.
 - b. Subcontractors who do their own recycling shall report applicable recycling/waste amounts to the General Contractor monthly. The General Contractor shall be responsible for tabulating quantities and submitting the results to the Owner and Architect at **[Substantial]** **[Final]** Completion of the Project.

B. Required Services and Equipment

1. Provide services and equipment necessary for successful recycling including the following, without limitation:
 - a. Materials sorting.
 - b. Bins.
 - c. Signs.
 - d. Education and training.
 - e. Monitoring.
 - f. Pick-ups.
 - g. Documentation.
2. If an in-house recycling program using a waste hauler is used, identify materials intended to be recycled off-site and document all recycling accomplished.

1.5 APPLICATIONS FOR RECYCLED MATERIALS

- A. Reuse and Recycling Information: Agencies having information regarding applications and destinations for reuse and recycling construction and demolition waste materials include the following:
1. Construction Material Recycling Association. <http://www.cdrecycling.org>.
 2. Dane County Dept. of Public Works. <http://www.co.dane.wi.us/pubworks/recyc/markets.htm>.
 3. Habitat for Humanity. <http://www.restoredane.org>.
 4. Solid & Hazardous Waste Education Center, UW Extension. <http://www.uwex.edu/shwec>.
 5. WasteCap Wisconsin, Inc. www.wastecapwi.org.
 6. Wisconsin Department of Natural Resources, <http://www.dnr.state.wi.us/org/aw/wm/condemo/index.htm>
- B. Examples of materials and potential applications for recyclable materials include the following, without limitation:
1. Aluminum Cans, Straps, and Sheet: Recycle as a metal.
 2. Asphalt: Break up and transport asphalt-to-asphalt recycling facility or recycle on site.
 3. Brick: Can be reused if whole, crushed for use as landscape cover, sub-base material, or fill.
 4. Building Components And Fixtures: Windows, doors, cabinets, hardware, plumbing and electrical fixtures may be salvaged. Porcelain plumbing fixtures may be crushed for fill.
 5. Carpet and Carpet Pad: Store clean, dry carpet and pad in a closed container or trailer. Carpet may be able to be reused or recycled if sufficient quantities are generated.
 6. Ceiling Panels: If sufficient quantities are generated, sort by size, palletize, and shrink-wrap for shipment to and recycling by a ceiling tile manufacturer.
 7. Concrete: Can be crushed and graded for use as riprap, aggregate, sub-base material, or fill. Neutralize alkalinity if planting above. Remove reinforcement and other metals from concrete and sort with other metals.
 8. Concrete Block: Can be reused if whole, crushed for use as sub-base material or fill.
 9. Copper Pipe and Accessories: Recycle as a metal.
 10. Corrugated Cardboard and Paper: Separate for recycling into new paper products. Painted, waxed or muddy cardboard or paper is unsuitable for recycling and should be discarded.
 11. Dimensional Lumber, Oriented Strand Board, Plywood, Crates, and Pallets: Sort larger pieces for reuse. Wood unsuitable for reuse may be used to manufacture particleboard and other composite wood products. Chip or shred wood for use as animal bedding, landscape use, groundcover, mulch, compost, pulp, or process fuel. Do not chip or shred stained, painted or treated wood. Some recyclers have equipment to remove nails.
 12. Doors and Hardware: If separated for reuse, brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
 13. Glass Containers: Recycle as glass.
 14. Gypsum Board: Gypsum wallboard to be processed and land spread must be new and clean construction scrap free of tape, joint compounds, paint, nails, screws, or other contaminants. Only regular ½” drywall, Type X drywall, and Plaster Base (standard blue board) may be used for a soil amendment. The following paper-faced gypsum panel can not be used as a soil amendment: WR (Green Board), Sheathing (Brown/Black Board), Mold Resistant Panels or Specialty Type X. These contain additives which may not be suitable as a soil amendment.
 15. Land Clearing Debris: Can be chipped or shredded for use as ground cover, mulch, compost, pulp, or process fuel.
 16. Lighting Fixtures: Separate lamps by type and protect from breakage. Fluorescent tubes must be recycled by law.

17. Miscellaneous Ferrous and Nonferrous Metals: Separate for recycling: banding, stud cut-offs, ceiling grid, ductwork, conduit, rebar, roofing, pipe, sheet metals, extruded metals, castings, miscellaneous steel shapes, and other metal parts.
18. Piping: If separated for reuse, reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinkler heads, and other components by type and size.
19. Precast Concrete Panels: May be able to be crushed and used for erosion control or landscape features.
20. Sheet Metal Scrap and Metal Duct Accessories: Recycle as a metal.
21. Structural Steel: Can be used in the manufacture of structural steel.
22. Vinyl: Siding, window extrusions, floor tiles, and sheet flooring may be able to be separated for recycling into new vinyl products.

END OF APPENDIX

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
BASED ON DSF MASTER SPECIFICATION DATED 12/11/2007

INDEX:

Part 1 - General

- Description
- Related Documents
- Preconstruction and Prebid Meetings
- Recycling Goal
- Submittals
- Construction Waste Management Plan

Part 2 - Products

(Not Applicable)

Part 3 - Execution

Construction Waste Management Plan Implementation

PART 1 - GENERAL

DESCRIPTION

Applicable provisions of Division 01 shall govern all work under this Section.

This Section specifies requirements for salvaging, recycling and disposing of construction waste.

RELATED DOCUMENTS

The following related resource documents are available:

1. Recycling Evaluation Tools
2. Construction Waste Management Appendix

PRECONSTRUCTION AND PREBID MEETINGS

The Pre-bid Conference (if conducted) and Preconstruction Conference will include discussion of construction waste management requirements. Prior to the commencement of the Work, the Lead Contractor should schedule and conduct a meeting with Dane County and the Architect to discuss the proposed Construction Waste Management Plan to develop a mutual understanding regarding details of construction waste management implementation.

WASTE MANAGEMENT GOALS

The recycling goal (including reuse) to be achieved at Substantial Completion of the Project shall be at least [70 percent] by weight or volume of total waste generated by the Project and includes reuse.

Reduce: The Project shall generate the least amount of waste and methods shall be used that minimize waste due to error, poor planning, breakage, mishandling, contamination, or similar factors. Promote the resourceful use of materials to the greatest extent possible.

Reuse: All Contractors and Subcontractors shall reuse materials to the greatest extent possible. Salvage reusable materials for resale, for reuse on this Project, or for storage for use on future projects. Return reusable items (e.g., pallets or unused products) to the material suppliers.

Recycle: As many of the waste materials not able to be eliminated in the first place or salvaged for reuse shall be recycled. Waste disposal in landfills shall be minimized to greatest extent possible.

SUBMITTALS

Construction Waste Management Plan: Prior to commencing demolition or construction activities, the Lead Contractor, with input from all Prime & Subcontractors, shall develop and submit a Construction Waste Management Plan to Dane County for approval within 15 working days after Contract award or prior to any waste removal. The construction waste management plan can be generated by WasteCapTRACE based on information entered by the Lead Contractor.

Summary of Waste Progress Reports: Throughout the duration of the Project, the Lead Contractor shall report to Dane County with their periodic Applications for Payment a Summary of Waste including the quantity of each material recycled, reused, or salvaged, the receiving party, and the applicable diversion rates. This reporting shall take place using WasteCapTRACE, an on-line documentation system. There is a fee, to be included in the bid, of .02 cents per gross square foot of the project for use of WasteCapTRACE. Lead Contractor and Prime Contractors shall maintain a record of related weight tickets, manifests, receipts, and invoices for review by Dane County on request.

Summary of Waste Final Documentation: At Substantial Completion of the Project, the Lead Contractor shall submit a final summary of reuse and recycling results for all Prime & Subcontractors, including the quantity of each material recycled, reused, or salvaged, the receiving party and the applicable diversion rates. The final report will be generated by WasteCapTRACE based on information entered throughout the project by the Lead Contractor.

CONSTRUCTION WASTE MANAGEMENT PLAN

The purpose of the Construction Waste Management Plan is to achieve successful reuse and recycling with the highest possible reuse and recycling rates. The Plan shall include the following:

A schedule identifying milestones and key reporting dates of Construction Waste Management.

A list of waste materials expected to be generated from the Project as debris.

A list of each material proposed to be salvaged, reused, recycled and discarded. Identify applicable markets for reuse and/or recycling. At a minimum, all materials required by State law to be recycled shall be recycled (e.g., cardboard, cans, bottles, office paper, fluorescent tubes, refrigerants, mercury, etc.) and scrap metal shall be recycled.

Separation and Materials Handling Procedures: Description of how waste materials identified above will be separated, cleaned (if necessary) and protected from contamination.

Educational and Motivational Procedures: Meetings to be held and other proposed methods for educating construction personnel regarding waste reduction and recycling.

Waste Auditing Procedures: Methods of monitoring and enforcing the Plan.

Documentation Procedures: Methods of documenting materials leaving the Project site as waste, for reuse or recycling to allow Summary of Waste Progress Reports to be submitted with Applications for Payment.

The Lead Contractor shall distribute copies of the Construction Waste Management Plan to Dane County's Project Manager & Project Representative, each Prime Contractor, and the Architect.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

CONSTRUCTION WASTE MANAGEMENT PLAN IMPLEMENTATION

The Lead Contractor shall be responsible for coordinating the separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel. The Lead Contractor shall be responsible for reporting the results of the Construction Waste Management Plan. The Lead Contractor shall designate a “Waste Manager” who is responsible for instructing construction personnel and overseeing and documenting results of the Construction Waste Management Plan.

Instruction: The Lead Contractor shall provide on-site instruction regarding appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all construction personnel throughout the duration of the Project.

Separation Facilities: The Lead Contractor shall lay out and identify a specific area on the Project site for separating materials for recycling, salvage, reuse, and return. The Lead Contractor shall provide waste bins and shall keep these bins & the recycling area neat, clean and clearly marked to avoid contamination of materials.

Sorting: The following sorting methods are acceptable:

Sorting recyclable materials at the Project site and transporting them to recycling markets directly from the Project site.

Employing haulers who make use of a materials-recovery facility or a transfer station where recyclable materials are sorted from the waste and recycled before disposing of the remainder. If using a hauler or recycling facility to sort out recyclables, verify that the hauler sorts out all construction waste loads and is not limited to those that are not acceptable at the landfill. Also, verify that the hauler or recycling facility recycles at least three types of materials.

Hazardous Waste: Hazardous waste shall be disposed of according to General Requirements Article 31 “Cleaning and Waste Disposal.” (Hazardous Waste is a separate category and not part of the basis on which the recycling percentage is calculated.)

Application for Payments: The Contractor shall submit the Summary of Waste with the Applications for Payment according to a schedule outlined in the Construction Waste Management Plan approved by Dane County. Failure to submit this information shall render the Application for Payment null and void, thereby delaying the Progress Payment.

The following resources are provided for information only, to aid the Contractor in managing the Project’s construction waste:

The Wisconsin DNR, Bureau of Waste Management

<http://www.dnr.state.wi.us/org/aw/wm/>

The UW-Extension’s Solid and Hazardous Waste Education Center

<http://www1.uwex.edu/ces/shwec/> , email shwec@uwm.edu or telephone: 608-262-0385.

WasteCap Resource Solutions, Inc.

<http://www.wastecap.org> or telephone: 414-961-1100 or 608-245-1100.

* * *

Recycling Evaluation Tools

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for the evaluation of recycling operations.

1.3 CONSTRUCTION OR DEMOLITION WASTE MANAGEMENT PLAN FORM

- A. The purpose of the Construction Waste Management Plan Form is to identify construction waste reduction goals, identify targeted materials, and explain specific waste reduction actions to be taken, by whom, and when.

1.4 SITE MONITORING FORM

The most effective construction waste management programs include methods for providing feedback on how successful the program has worked. Tracking project costs may indicate whether money is being saved, but may not indicate why money is being saved. Furthermore, it cannot indicate whether the savings are the maximum possible. Waste audits, on the other hand, reveal opportunities for increased savings, such as significant amounts of recyclables ending up in waste bins, or non-recyclables ending up in bins designated for recyclables. Waste audits provide feedback throughout the duration of the Project.

- A. Allows the Contractor to quantify the amount of recyclables being discarded and to identify missed opportunities.
- B. Guides the Contractor through the removal and sorting process of materials.
- C. Provides a listing of potential categories of materials for sorting the waste dumpster.
- D. A photographic record taken during a waste audit of recyclables found in the waste dumpster can be very effective.
- E. Requires the Contractor to identify major subcontractors on site contributing to the waste stream.
- F. Takes approximately 15 minutes to fill out.
- G. Should be used weekly, or at a minimum, during major shifts in construction activities.
- H. Identifies specific items that may be hindering the recycling program and can be addressed for immediate results.
- I. Creates a record over time to show improvements in sorting or identifies phases of the Project that need extra attention.

1.5 MONITORING RESULTS

Waste audit results indicate whether a change in the Construction Waste Management Plan is necessary. An audit may indicate that more of a particular material waste is being generated than originally anticipated. If so, the material should be targeted for the remainder of the Project. The waste audit serves as a reminder to seek new recycling options that have become available since the commencement of the Project.

Construction or Demolition Waste Management Plan Form

Project Name: _____

Contractor: _____

Construction Waste Management Plan Manager (Contractor's Representative):

Project Location: _____

Estimated Construction Dates: _____

PROJECT SCOPE - indicate type of structure (e.g., steel, concrete, etc.), building size, project cost, space constraints, etc.

RECYCLING GOAL - To recycle _____ % of waste generated on the site by weight. (Minimum goal 50%)

Goals and Intent:

Reduce: The Project shall generate the least amount of waste and methods shall be used that minimize waste due to error, poor planning, breakage, mishandling, contamination, or similar factors. Promote the resourceful use of materials to the greatest extent possible.

Reuse: The Contractor and Subcontractors shall reuse materials to the greatest extent possible. Reuse includes the following:

1. Salvage reusable materials for resale, for reuse on this Project, or for storage for use on future projects.
2. Return reusable items (e.g., pallets or unused products) to the material suppliers.

Recycle: As many of the waste materials not able to be eliminated in the first place or salvaged for reuse shall be recycled. Waste disposal in landfills shall be minimized to greatest extent possible.

ANALYSIS OF ESTIMATED CONSTRUCTION WASTE TO BE GENERATED

A. Projected waste materials

- Asphalt
- Brick
- Cans and bottles
- Cardboard
- Carpet
- Carpet pad
- Ceiling tile scrap
- Concrete
- Glass
- Gypsum board
- Insulation scrap
- Land clearing wood
- Metal – wire, pipe cutoffs, etc.
- Pallets
- Paper
- Plastics including stretch wrap, plastic bags and Styrofoam
- Untreated wood, plywood, OSB, particleboard
- Structural steel
- Vinyl
- Other (specify) _____

- B. Produce a preliminary list of materials that may be targeted for reuse or recycling (based on size and type of construction and other relevant information). Complete the list based on the availability of recycling and waste reduction services and on feedback from key Subcontractors who will be working on the Project. Focus recycling efforts on high potential materials and practices. Select materials that are generated in greatest volume, that have the most market value, that can be easily separated and that are recycled locally.
- C. Estimated quantities of waste materials, by type (use Project estimates or commercial construction weight estimates below, compiled by WasteCap Wisconsin based on WI State Averages and commercial construction projects. Actual percentages will vary based on the project and type of construction.)

| Material | Estimated % (by weight) | Estimated Tons |
|------------------------|----------------------------|----------------|
| Total Estimated | | |
| Trash (25%) | | |
| Cans & Bottles (2%) | | |
| Cardboard (5%) | | |
| Concrete/masonry (21%) | | |
| Drywall (11%) | | |
| Metal (11%) | | |
| Wood (25%) | | |
| Reuse (0%) | | |
| Other | | |
| Total (100%) | | |

TYPE OF RECYCLING SERVICE PROVIDERS AND TARGETED MATERIALS
 (Refer to Construction Waste Management Appendix)
 Evaluate Cost and Services Offered Service Provider Agreements in Place

Company #1 _____
Company #2 _____
Company #3 _____

| Company # | Material | How and where waste is disposed or diverted |
|-----------|------------------|---------------------------------------------|
| | Trash | |
| | Cans & Bottles | |
| | Cardboard | |
| | Concrete/Masonry | |
| | Scrap Metal | |
| | Wood | |
| | Other | |
| | Other | |
| | Other | |

MATERIALS-HANDLING PROCEDURES
Contractors and Subcontractors will separate and handle materials as stated below.

Example: Cardboard: Separate and flatten clean cardboard and boxboard and place in designated containers on the Project site. Do not include waxed cardboard, tissue, paper plates or towels, pizza boxes or any item that is not paper. Separate plastic, Styrofoam and other items which may be stuck to the cardboard boxes. Staples may be left in cardboard. Cardboard that is over 50% covered in mud, paint or other contaminants should be disposed of as trash. The cardboard will be sorted, sold and made into new paper products.

RECYCLING OPERATIONS

| Action *** | Who |
|----------------------------------------------------------------|-----|
| Order dumpsters - oversee delivery _____ | |
| Site dumpsters/collection sites for optimum convenience _____ | |
| Educate Project site personnel on recycling requirements _____ | |
| Order signs for dumpsters and other recycling bins _____ | |
| Sort or process recyclables on site _____ | |
| Take trash and recyclables to the dumpsters _____ | |
| Schedule dumpster pickups/drop offs _____ | |
| Monitor dumpsters for contamination _____ | |
| Document recycling results _____ | |

*** Depending on the service option chosen, these may be the responsibility of the field personnel, construction waste manager, the hauler, a recycling contractor, or the Subcontractors.

EDUCATIONAL AND MOTIVATIONAL PLAN – Check all items intended to be used

Actions

- Complete Construction Waste Management Plan
- Hold Orientation/Kick Off Meeting
- Update & Progress in Weekly Project-Site Meetings
- Encourage Just-in-time deliveries
- Post Targeted Materials (signage)
- Distribute tip sheets to Project-site personnel
- Post goals/progress (signage)
- Use formal agreements committing subs to program
- Require those who contaminate dumpsters to re-sort
- Provide stickers, t-shirts, hats or other incentives
- Public recognition of participating subs
- Take photos to document progress and share
- At site visits, discuss waste management with Project-site personnel
- Conduct periodic presentations for Project-site personnel on waste issues
- _____

WASTE AUDITING PROCEDURES – Describe how the recycling program will be monitored so that recycling and trash containers are kept free of contamination. Include frequency of monitoring

DOCUMENTATION PROCEDURES

- | | |
|---------------------------------------------------------------------------------------|-----|
| | Who |
| <input type="checkbox"/> Perform monthly cost and materials tracking (required) _____ | |
| <input type="checkbox"/> Perform final evaluation (required) _____ | |

Site Waste and Recyclables Monitoring Form

Project Name: _____

Date/Time: _____

Monitor Name: _____

- 1. Are all containers (trash and recycling) together in one area? Yes No
- 2. Do all containers have clear signs for the materials that belong in them? Yes No
- 3. Are the signs clearly visible to workers who approach them? Yes No
- 4. Is there easy access to all containers? (Is there anything in the way?) Yes No
(If "No," describe measures to be taken to eliminate the obstructions)
- 5. Is the dumpster area dry and firm? Yes No
- 6. Is the dumpster area (check one):
 - Neat and tidy
 - Somewhat messy
 - Dirty (needs to be cleaned)

Comment: _____

7. Check individual dumpsters

TRASH

Contamination (Check all applicable items)

- | | |
|------------------------------------------|------------------------------------|
| <input type="checkbox"/> Auto batteries | <input type="checkbox"/> Paper |
| <input type="checkbox"/> Cans or bottles | <input type="checkbox"/> Tires |
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Waste Oil |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Wood |
| <input type="checkbox"/> Metal | |
| <input type="checkbox"/> Other _____ | |

Comments:

CARDBOARD

Contamination (Check all applicable items)

- | | |
|------------------------------------------------------------------------------|----------------------------------------------------------------|
| <input type="checkbox"/> Muddy or painted cardboard | <input type="checkbox"/> Boxes with trash or sweepings in them |
| <input type="checkbox"/> Oily cardboard | <input type="checkbox"/> Beverage containers |
| <input type="checkbox"/> Pizza boxes or other food containers | <input type="checkbox"/> Metal |
| <input type="checkbox"/> Waxed cardboard | <input type="checkbox"/> Plastic |
| <input type="checkbox"/> Mortar and cement bags | <input type="checkbox"/> Wood |
| <input type="checkbox"/> Boxes with plastic, wood, or other packing material | <input type="checkbox"/> Trash |
| <input type="checkbox"/> Other _____ | |

Does this container require cleaning? Yes No
(Note: Small amounts – up to 5% -- of these materials are acceptable)

Comments:

CONCRETE

Contamination (Check all applicable items)

- Dirt
- Organic materials (brush, grass, etc.)
- Wire mesh
- Other _____

Does this container require cleaning? Yes No

Comments:

METAL

Contamination (Check all applicable items)

- | | |
|--------------------------------------------------------|---------------------------------------------------------------|
| <input type="checkbox"/> Loose welding rods | <input type="checkbox"/> Aerosol cans |
| <input type="checkbox"/> Aluminum cans | <input type="checkbox"/> Batteries (any kind) |
| <input type="checkbox"/> Electrical ballast | <input type="checkbox"/> Freon bottles (or other gas bottles) |
| <input type="checkbox"/> Electrical capacitors | <input type="checkbox"/> Lead |
| <input type="checkbox"/> Insulated electric wire | <input type="checkbox"/> Barrels and drums |
| <input type="checkbox"/> Metal painted with lead paint | <input type="checkbox"/> Oil cans and filters |
| <input type="checkbox"/> Glass | <input type="checkbox"/> Paint cans |
| <input type="checkbox"/> Light bulbs | <input type="checkbox"/> Closed containers of any kind |
| <input type="checkbox"/> Other _____ | |

Does this container require cleaning? Yes No

Comments:

GYPSUM BOARD

Contamination (Check all applicable items)

- Painted gypsum board
- Cement board
- Moisture-resistant gypsum board (green board)
- Reinforced-type gypsum boards
- Other specialty gypsum board(s)
- Corner bead (or other metal strips)
- Nails, screws or other metal fasteners
- Does this container require cleaning? Yes No

Comments:

WOOD

Contamination: (Check all applicable items)

Very small amounts (about 2% or less) of the following materials are acceptable in the wood containers. Document their presence in writing.

- Cardboard
- Paper or paper cups
- Other _____

The following items, if present in the wood container, require immediate removal. Notify the Lead Contractor's representative.

- Treated lumber
- Painted or varnished lumber
- Metal strapping
- Reinforcing rod
- Pallets or wooden spools with bolts and fasteners 1/4-inch or larger
- Truss plates
- Any metal other than nails and staples
- Glass bottles

Try to determine where the contaminants came from and how they got in the dumpster. Possible source of contamination:

Does this container require cleaning? Yes No

Comments: _____

OTHER

Material being recycled: _____

Contamination (List contaminants) _____

Does this container require cleaning? Yes No

Comments: _____

8. Mark the areas that need attention to help meet the Project's recycling goals:

- Lack of space to place containers
- Subcontractors not knowledgeable of recycling requirements
- Subcontractors not cooperative
- Recycling bins are not provided
- Recycling markets are not available
- Dumpsters are not in fenced area
- Other _____

Final Construction Waste Management Plan Form

Project Name: _____
 Plan Manager: _____
 Representing: _____
 Location: _____
 Date: _____

Construction Waste Reduction Goals

To evaluate the quantitative success of your program summarize the data on your monthly tracking form, measured against goals set in your Construction Waste Management Plan.

Percent Reduction Goal: _____ Actual Percent Reduction: _____

Cost Savings Goal: _____ Actual Cost Savings: _____

Construction Waste Management Program Strengths and Weaknesses

Please evaluate the strengths and weaknesses of each aspect of the Construction Waste Management Plan in the charts below. Space is also provided to list any original ideas implemented and/or suggest improvements to the existing aspects and tools.

Methods to Reduce, Reuse and Recycle

| Strengths | Weaknesses | Suggested/implemented Improvements |
|-----------|------------|------------------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Communication and Motivation Tools

| Strengths | Weaknesses | Suggested/implemented Improvements |
|-----------|------------|------------------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

Evaluation Tools

| Strengths | Weaknesses | Suggested/implemented Improvements |
|-----------|------------|------------------------------------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
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SECTION 02 82 13
ASBESTOS ABATEMENT

PART 1 GENERAL

Applicable provisions of Division 0 and 1 shall govern work under this section.

SUMMARY

Perform all operations in connection with asbestos abatement, encapsulation, removal and related work as shown on drawings and/or specified herein.

Included are the following topics:

PART 1 - GENERAL

- Summary
- References
- Qualifications
- Definitions
- Submittals and Notices
- Site Security
- Emergency Planning
- Preconstruction Meeting
- Delivery, Storage and Handling

PART 2 - PRODUCTS

- Materials
- Equipment

PART 3 - EXECUTION

- General Compliance Measures
- Preparations of Regulated Area
- Decontamination Enclosure System
- Temporary Isolation Partitions
- Maintenance of Enclosure System
- Workplace Entry and Exit Procedures
- Waste Container Pass-Out Procedure
- Water Collection and disposal
- Wet Removal Procedure
- Ceiling System Removal
- Pipe Tunnel or Crawl Space Removal Work
- Small Scale - Short Duration Removal Procedure
- Encapsulation Procedures
- Enclosure Procedure
- Air Monitoring
- Cleanup Procedure
- Clearance Testing
- Disposal Procedures
- Reestablishment of Regulated Area

Description of Work;

Removal is required for:
All asbestos on tanks and fittings within the GR – 3 Mechanical Room.

Provide replacement materials for:
Insulate fittings immediately during Phase II. Type and thickness specified in insulation section.

Review with Owners Project Engineer before proceeding.

Encapsulation: None required

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Enclosure: Isolation, separation and negative air chambers as required by OSHA and EPA.

Special Precautions:

Coordinate with the Owners Project Engineer for the shutdown and isolation of all electrical circuits and air movement systems within the regulated area from that of the rest of the facility to prevent any inconvenience to building occupants and contamination outside of the regulated area. Refer to Article entitled: "Preparation of Regulated area," of this section relative to shutdown of mechanical and electrical systems.

Equipment that must remain in operation while abatement work is in progress consists of the following:

- Security System
- Electrical System
- Plumbing System
- Fire & Safety System
- Food Service Equipment
- Laundry Equipment

Special Circumstances: Refer to Divisions O and 1, also standing operating procedures and security issues.

Restoration: Contractor is responsible for restoring all existing finish surfaces to their original state, which were damaged as a result of abatement activities.

REFERENCES

General Reference:

All work under this contract shall be done in strict accordance with all applicable General and State regulations, standards and codes governing asbestos abatement and any other trade work done in conjunction with the abatement.

The most recent edition of any relevant regulation in force at the time of bid opening shall be in effect. Where conflict among the laws, rules, regulations or with these specifications exists the most stringent requirements shall be utilized.

The Contractor shall make available, in the clean change area of the worker decontamination system, copies of this specification and all standards, regulations, and codes listed hereinafter.

Specific Reference:

- Occupational Safety and Health Administration (OSHA):
 - Title 29 Code of Federal Regulations, Section 1910.134(d) - air Quality.
 - Title 29 Code of Federal Regulations, Section 1926.58 - Construction Industry, including the mandatory appendices;
 - Appendix A - OSHA Reference Method.
 - Appendix C - Qualitative and Quantitative Fit Testing Procedures.
 - Appendix D - Medical Questionnaires.

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Appendix E - Interpretation and Classification of Chest Roentgenograms.

Nonmandatory appendices:

Appendix B - Detailed Procedures for Asbestos, Tremolite, Anthrophyllite, and Actinolite Sampling and Analysis.

Appendix F - Work Practices and Engineering Controls for Major Asbestos Removal, Renovation, and Demolition Operations.

Appendix G - Work Practices and Engineering Controls for Small Scale, Short Duration Asbestos Renovation and Maintenance Activities.

Appendix H - Substance Technical Information for Asbestos.

Appendix I - Medical Surveillance Guidelines for Asbestos, Tremolite, Anthrophyllite, and Actinolite.

Title 29 Code of Federal Regulations, Section 1926.59 - Hazard Communication Standard. Requires employers to inform their workers of the hazards of any chemicals used on the project and to train their employes in proper safeguards.

Environmental Protection Agency (EPA): Title 40 Code of Federal Regulations (CFR) Part 763 Subpart G - Asbestos Abatement Projects; worker Protection (effective March 27, 1987).

Environmental Protection Agency (EPA) Title 40 Code of Federal Regulations (CFR) Part 61 - National Emission Standards for Hazardous Air c) Pollutants; Asbestos NESHAP Revision; Final Rule effective November 20, 1990.

Department of Health and Social Services (H & SS) State of Wisconsin Administrative Rule, Chapter HSS 159, Asbestos Certification and Training.

Department of Natural Resources (DNR) State of Wisconsin Administrative Rule, Chapter NR 447, procedures for preventing emissions of particulate asbestos material to outside air, warning signs and waste disposal of asbestos materials.

Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".

QUALIFICATIONS

The prospective Contractor who is proposed to actually perform the asbestos abatement work, shall submit to the Owners Project Engineer the data hereinafter requested within ten (10) days after Bid Opening. The proposed asbestos abatement Contractor will be awarded a Contract, only if data submitted is determined to be favorable in all instances, by the Owners Project Engineer, and the prospective Contractor further meets the qualifications requirements specified in the Instructions to Bidders.

The proposed asbestos abatement Contractor shall, if requested:

Demonstrate prior experience on asbestos abatement projects of similar nature and scope of that being bid, through the submission of letters of reference from building owners including the name, address, and telephone numbers of the contact persons who are specifically familiar with the referenced projects. At least three previous users of this service shall be submitted. Include descriptions of projects and records of all air monitoring data that was generated during the projects.

Submit a description of all major Asbestos Abatement Equipment owned by the prospective Contractor which is available for use on this project such as:

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- Respiratory protection equipment.
- HEPA vacuum equipment.
- Negative air pressure equipment.
- Spray equipment for amended water.
- Equipment used for shower facilities in decontamination enclosure system.

Submit a list of names, work responsibilities and evidence of certification for all employes that will be assigned to this project:

At least one firm principal, the firm's "competent person" and any other personnel performing supervisory duties must be certified by the Wisconsin Department of Health and Social Services as having successfully completed a comprehensive 4-day course for Asbestos Abatement Contractors and Supervisors in conformance with s. 140.06 Wis. Stats.

Contractor's employes who perform asbestos abatement activities must be certified by the Wisconsin Department of Health and Social Services as having successfully completed a comprehensive 3-day course for Asbestos Abatement Workers in conformance with s. 140.06 Wis. Stats.

DEFINITIONS

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

Action Level: Means an airborne concentration of asbestos of 0.1 fiber per cubic centimeter (f/cc) of air, calculated as an eight (8) - hour time - weighted average.

Air Monitoring: The process of measuring the fiber content of a known volume of air collected during a specific period of time shall conform with Appendix A to OSHA 29 CFR 1926.58. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method 7400 for Asbestos in Air. For clearance air monitoring, electron microscopy methods may be utilized for lower detectability limit and specific fiber identification.

Air Sampling Professional: The Professional contacted or employed by the Division to supervise and conduct air monitoring and analysis schemes. This individual shall not be affiliated in any way other than through this contact with the Contractor performing the abatement work.

ANSI: American National standards Institute

Asbestos: Means the asbestiform varieties of chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite-grunerite); tremolite; anthrophyllite, and actinolite.

Asbestos Containing Material (ACM): Material composed of asbestos of any type and in an amount greater than 1% by area, either alone or mixed with other fibrous or nonfibrous materials.

Asbestos Containing Waste Material: Asbestos containing material or asbestos contaminated objects requiring disposal.

ASTM: American Society for Testing and Materials

Authorized Visitor: The Building Owner (and designated representatives) and any representative of a regulatory agency having jurisdiction over the project.

1 Certified Industrial Hygienist (CIH): An industrial hygienist certified in Comprehensive Practice by the
2 American Board of Industrial Hygiene.
3
4 Competent Person: Means one who is capable of identifying existing asbestos hazards in the workplace
5 and who has the authority to take prompt corrective measures to eliminate them.
6
7 Decontamination Enclosure: A decontamination system consisting of a clean room, a shower room, and an
8 equipment room separated from each other and from the regulated area by airlocks. This system is used for
9 all workers to enter and exit the regulated area and may also serve as equipment and waste pass out on
10 small jobs.
11
12 Department of Natural Resources (DNR): A Wisconsin state agency.
13
14 Encapsulation: The application of a bridging or penetrating liquid material to asbestos containing materials
15 to control the release of asbestos fibers into the air. The bridging liquid material creates a membrane over
16 the surface and the penetrating liquid material seeps through the surface and binds all components together.
17
18 Enclosure: The construction of an airtight, impermeable, permanent barrier around asbestos containing
19 material to control the release of asbestos fibers into the air.
20
21 EPA: U. S. Environmental Protection Agency
22
23 Glovebag Technique: A method with limited applications for removing small amounts of friable asbestos-
24 containing material from ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces in a
25 noncontained (plasticized) regulated area. The glovebag is constructed and installed in such a manner that
26 it surrounds the object or material to be removed and contains all asbestos fibers released during the
27 process.
28
29 HEPA Filter: A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter
30 with 99.9% efficiency.
31
32 HEPA Vacuum: A vacuum system equipped with HEPA filtration.
33
34 NESHAPS The National Institute for Occupational Safety and Health
35
36 OSHA: The Occupational Safety and Health Administration
37
38 Permissible Exposure Limits (PELS): No personnel associated with asbestos abatement work shall be
39 exposed to an airborne concentration of asbestos in excess of the following limits, as determined by the
40 method prescribed in Appendix A to OSHA 29 CFR 1926.58, or by an equivalent method:
41
42 P.E.L. is 0.1 fiber per cubic centimeter of air as an eight (8) - hour time-weighted average.
43
44 Excursion Limit (EL) 1.0 fiber per cubic centimeter of air as averaged over a sampling period of
45 thirty (30) minutes.
46
47 Regulated Area: An area identified by specific boundaries where airborne concentrations of asbestos
48 exceed, or can reasonably be expected to exceed the P.E.L. and/or Excursion Limit. The regulated area
49 may take the form of:
50
51 A temporary negative-pressure enclosure, or
52
53 An area specifically identified and segregated in any manner that minimizes the number of
54 employes exposed to asbestos.
55
56 Surfactant: A chemical wetting agent added to water to improve penetration.
57
58 Visible Emissions: Any emissions containing particulate asbestos material that is visually detectable
59 without the aid of instruments. This does not include condensed uncombined water vapor.
60

1 Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by
2 using cloths, mops, or other cleaning utensils which have been dampened with water and afterwards
3 thoroughly decontaminated or disposed of as asbestos contaminated waste.

4
5 **SUBMITTALS AND NOTICES**

6 Prior to Commencement of Work, Contractor shall:

7
8 File a "Notice of Intent Form" with the parties named hereinafter, at least 10 days prior to
9 commencement of any demolition or renovation project involving any asbestos-containing
10 material or covering. A copy of the form is appended to this section for reproducing number of
11 copies required.

12
13 Air Management Asbestos Coordinator
14 Department of Natural Resources
15 P.O. Box 7921
16 Madison WI 53707

17
18 Appropriate Wisconsin DNR Office.
19 See reverse side of "Notice of Intent
20 Form".

21
22 Air Compliance Branch (5 AC-26)
23 U.S. EPA, Region 5
24 230 South Dearborn
25 Chicago, IL 60604

26
27 Owners Project Engineer
28 John Schraufnagel
29 Dane County Public Works Engineering
30 1919 Alliant Energy Center Way
31 Madison, WI 53713
32

33
34 Submit the following documentation to the Owners Project Engineer:

35
36 Occupancy protection plan to be posted.

37
38 Required permits, site location and arrangements for transport and disposal of asbestos containing
39 waste materials. Contractor should be aware of increased fees as of 1-1-11 and include them in
40 the bid.

41
42 Documentation that all employees or agents who may be exposed to airborne asbestos in excess of
43 action level have been medically determined to be physically capable of working while wearing
44 the respirator required without suffering adverse health effects.

45
46 Shop drawings for layout and construction of decontamination enclosure systems and barriers for
47 isolation of the regulated area as detailed in this specification and required by applicable
48 regulations. If work is to be phased, a phasing schedule shall also be submitted.

49
50 Manufacturer's certification that HEPA vacuums, negative pressure ventilation units and other
51 local exhaust ventilation equipment conform to ANSI Z9.2-79. Also, submit manufacturer's
52 information on water filtration unit(s) to be used.

53
54 Written notification of rental equipment to be used in abatement areas or to transport asbestos
55 contaminated waste must be provided to the rental agency with a copy submitted to the
56 Construction Representative.

57
58 Document NIOSH approvals for all respiratory protective devices utilized on site. Include
59 manufacturer certification of HEPA filtration capabilities for all cartridges and filters.
60

1 Documentation of respirator fit-testing for all Contractor employes and agents who must enter the
2 regulated area. This fit-testing shall be in accordance with procedures as detailed in Title 29 CFR
3 1926.58, Appendix C, Qualitative and Quantitative Fit Testing procedures.

4
5 A written hazard communication program indicating how the contractor plans to meet the
6 requirements of OSHA 29 CFR 1926.59 relative to labeling, handling of material safety data
7 sheets and training of employes.

8
9 Written emergency plan - (See details on following page).

10
11 All approved documents will be on file with the Owners Project Engineer.

12
13 During Abatement Activities, Contractor shall submit to the Owners Project Engineer:

14
15 Weekly (or as required) job progress reports detailing abatement activities. Include review of
16 major problems and action taken, injury reports, equipment breakdown.

17
18 Copies of all completed "Transportation and Disposal Manifest" forms for all asbestos waste
19 materials removed from the regulated area during the abatement process.

20
21 Copies of daily work site entry log books with information on worker and visitor access.

22
23 Logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation
24 units, local exhaust ventilation systems, and other engineering controls.

25
26 Any new asbestos abatement employee hired, who has not been previously reported, complete
27 data must be submitted, consisting of: experience, certification, assigned job responsibilities,
28 respirator test fitting, physicians determination of employee's ability to work while wearing
29 respirator and evidence of medical monitoring.

30
31 Contractor shall post at the entrance to the regulated area a list containing the names, addresses,
32 and telephone numbers of the Contractor, Fire Department and any other personnel who may be
33 required to be contracted during abatement activities.

34
35 **SITE SECURITY**

36 Contractor shall be responsible for the security of the regulated area(s) during abatement operations in
37 order to protect work efforts and equipment.

38
39 The regulated area shall be restricted to only authorized, trained, and protected personnel. These may
40 include the Contractor's employees, employees of subcontractors, state representatives, and any other
41 designated individuals. A list of authorized personnel shall be established prior to job start and posted in
42 the clean room of the decontamination facility.

43
44 Contractor shall immediately decontaminate (if required) and evict any unauthorized individual entering
45 the regulated area and notify the Construction Representative of action taken and identity of the
46 unauthorized individual.

47
48 A log book shall be maintained in the clean room area of the decontamination system. Anyone who enters
49 the regulated area must record name, affiliation, time in, and time out for each entry.

50
51 Access to the regulated area shall be through a single decontamination system located where shown on
52 approved Shop Drawings. All other means of access (doors, windows, hallways, etc.) shall be blocked or
53 locked so as to prevent entry to or exit from the regulated area. The only exceptions to this rule are the
54 waste pass-out air lock which shall be sealed except during the removal of containerized asbestos waste
55 from the regulated area, and emergency exits in case of fire or accident. Emergency exits shall not be
56 locked from the inside, however, they shall be sealed with polyethylene sheeting and tape until needed.

57
58 **EMERGENCY PLANNING**

1 Written emergency plan shall be submitted through the Owners Project Engineer and approved by the
2 Architect/Engineer prior to the initiation of abatement activities.

3
4 Emergency procedures shall be in written form and prominently posted in the clean change area and
5 equipment room of the worker decontamination area. Everyone prior to entering the regulated area must
6 read and sign these procedures to acknowledge receipt and understanding of work site layout, location of
7 emergency exits and emergency procedures.

8
9 Emergency planning shall include notification of police, fire and emergency medical personnel of planned
10 abatement activities, work schedule and layout of regulated area, particularly barriers that may affect
11 response capabilities.

12
13 Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards,
14 slips, trips and falls, confined spaces and heat related injury. Written procedures shall be developed and
15 employee training in procedures shall be provided.

16
17 Employees shall be trained in evacuation procedures in the event of workplace emergencies under the
18 following conditions:

19
20 For nonlife-threatening situations, employees injured or otherwise incapacitated shall
21 decontaminate following normal procedures with assistance from fellow workers if necessary,
22 before exiting the workplace to obtain proper medical treatment.

23
24 For life-threatening injury or illness, worker decontamination shall take least priority, after
25 measures to stabilize the injured worker, remove the worker from the workplace and secure proper
26 medical treatment.

27
28 Telephone numbers of all emergency response personnel shall be prominently posted in the clean change
29 area and equipment room, along with the location of the nearest telephone.

30
31 **PRECONSTRUCTION MEETING**

32 The Contractor shall attend a preconstruction meeting to be conducted at a time and place designated by
33 the Owners Project Engineer.

34
35 The Contractor, Contractor's competent person and other supervisory personnel who will provide on-site
36 direction of the abatement activities must attend.

37
38 At this meeting the Contractor shall provide all documentation as required by Article entitled: "Submittals
39 and Notices," herein. In addition, the Contractor shall be prepared to provide detailed information
40 concerning:

41
42 Preparation of regulated area.

43
44 Personal protective equipment including respiratory protection and protective clothing.

45
46 Employees who will participate in the project, including delineation of experience, training,
47 certification, and assigned responsibilities during the project.

48
49 Decontamination procedures for personnel, regulated area and equipment.

50
51 Abatement methods and procedures to be utilized.

52
53 Required air monitoring procedures.

1 Procedures for handling and disposing of waste materials.

2

3 Procedures for final decontamination and cleanup.

4

5 A sequence of work and performance schedule.

6

7 Procedures for dealing with heat stress.

8

9 Emergency procedures.

10

11 Methods of adhering plastic sheeting to the surfaces to be covered.

12

13 **DELIVERY, STORAGE AND HANDLING**

14 Deliver all materials in the original packages, containers or bundles bearing the name of the manufacturer
15 and the brand name.

16

17 Damaged, deteriorating or previously used materials shall not be used and shall be removed from the work
18 site and disposed of properly.

19

20

21

PART 2 PRODUCTS

22

23 **MATERIALS**

24 Polyethylene sheeting for walls and stationary objects shall be a minimum of six (6) mil thick. For floors
25 and all other uses sheeting of at least six (6) mil thickness shall be used in widths selected to minimize the
26 frequency of joints.

27

28 Polyethylene sheeting utilized for decontamination enclosure shall be opaque white or black in color.

29

30 Hardboard or plywood, minimum 1/4 inch thick shall be furnished to protect finished floor surfaces such as
31 carpet or hardwood floors to prevent damage from scaffolds or falling objects. Such protection shall also
32 be provided for polyethylene sheeting under the scaffold area if the material being removed has sharp
33 projections which could readily puncture the enclosure material.

34

35 Disposal bags shall be of six (6) mil polyethylene, preprinted with labels as required by OSHA
36 Requirement 29 CFR 1926.58 (k) (2).

37

38 Disposal drums for transporting disposal bags shall be metal or fiberboard with locking ring tops.

39

40 Stick-on labels as per EPA, OSHA or DNR requirements for disposal drums.

41

42 Surfactant (Wetting Agent):

43

44 For use with materials containing asbestos identified as "Amosite", shall be a 50/50 mixture of
45 polyoxyethylene ether and polyoxyethylene ester, mixed in a proportion of one (1) fluid ounce to
46 five (5) gallons of water or as specified by manufacturer.

47

48 For all materials containing asbestos identified as "chrysotile", "crocidolite", or types other than
49 Amosite, shall consist of soapy water mixed in a proportion of two (2) fluid ounces of liquid soap
50 to five (5) gallons of water.

51

52 Where regulated area temperature may cause freezing of the amended water solution, the addition
53 of ethylene glycol in amounts sufficient to prevent freezing is permitted.

54

55 Asbestos Removal Encapsulant (substitute for surfactant): In lieu of using a wetting agent in water to
56 control airborne fibers, and asbestos removal encapsulant may be used. Products that meet these needs are:
57 Serpiflex Shield manufactured by International Protective Coatings Carol 725 Carol Ave., Ocean, NJ
58 07710; and BWE 5000, by Better Working Environments, Inc., 3716 Scripps Way, Las Vegas, NV 89103;
59 or an approved equal.

1
2 Surfaces exposed as a result of removing asbestos containing material shall be coated with a nonpermanent
3 sodium silicate material which shall act as a temporary sealant, pending application of a finish material by
4 others.

5
6 Encapsulating Material:

7
8 Bridging type encapsulant (for sealing masonry and concrete walls, barrier surfaces during
9 cleanup phase and asbestos containing surfaces to remain in place) shall be capable of being
10 applied with airless spray equipment, able to withstand light impact or abrasion without releasing
11 fibers, water insoluble when cured, and must retain sufficient integrity after six (6) years to allow
12 recoating. Products that meet these requirements are: Cable Coating No. 2B by American
13 Coating Corporation and Decadix Fire Check by Pentagon Plastics.

14
15 Penetrating type encapsulant (for sealing scratch coat plaster, wood grounds and wood blocking
16 which have been in contact with asbestos containing material and also exposed ends of pipe
17 insulation) shall not be noxious or toxic to applicator or subsequent occupants, shall have high
18 flame retardance and low toxic fume and smoke emission ratings, shall have some permeability to
19 water vapor to prevent condensation accumulation. Acceptable products are Cafco-Bond-Seal by
20 U.S.I Mineral, Protector Sealant (32-20 and 32-21) by H.B. Fuller Co., and SK-13 Emulsion by
21 National Cellulose.

22
23 **EQUIPMENT**

24 Negative Pressure Ventilation Units:

25
26 A sufficient quantity of negative pressure ventilation units equipped with HEPA filtration and
27 operated in accordance with ANSI Z9.2-79 (local exhaust ventilation requirements) and EPA
28 guidance document EPA 560/5-83-002 Guidance for Controlling Friable Asbestos-Containing
29 Material in Buildings Appendix F: Recommended Specifications and Operating Procedures for
30 the Use of Negative Pressure Systems for Asbestos Abatement shall be utilized so as to provide
31 one workplace air change every 15 minutes.

32
33 To calculate total air flow requirement:

34
35
$$\text{Total Ft}^3/\text{Min.} = \frac{\text{Volume of Regulated area (in Ft}^3\text{)}}{15 \text{ Min.}}$$

36
37
38 To calculate the number of units needed for the abatement:

39
40
$$\text{Number of Units Needed} = \frac{\text{Total Ft}^3/\text{Min.}}{0.75(\text{Capacity of Unit in Ft}^3/\text{Min.})}$$

41
42
43 The air filtering equipment shall be capable of filtering asbestos fibers at 0.3 um at 99.9 percent
44 efficiency. Prefilters, which protect the final filter by removing the larger particles, are required to
45 prolong the operating life of the HEPA filter. Two stages of prefiltration are required. The first-
46 stage prefilter shall be a low efficiency type (e.g., for particles 10 um and larger). The second-
47 stage (or intermediate) filter shall have a medium efficiency (e.g., effective for particles down to 5
48 um). Prefilters and intermediate filters shall be installed either on or in the intake grid of the unit
49 and held in place with special housings or clamps.

50
51 Exhaust air from the regulated area shall maintain a negative pressure of 0.02 inches of water
52 (head). The ventilation shall operate on a 24 hours basis throughout the abatement process until
53 final clearance has been approved.

54
55 Air Purifying Respirators:

56
57 Respirator bodies shall be of half face or full face type with removable cartridges. Single use,
58 disposable or quarter face respirators shall not be used. Full face respirators shall be equipped
59 with a nose cup or other anti fogging devices as would be appropriate for use in air temperatures
60 less than 32 degrees F.

1 Filter cartridges shall, at a minimum, be HEPA type filters labeled with NIOSH and MSHA
2 Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-
3 Containing dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In
4 addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this
5 case, each section of the combination canister shall be labeled with the appropriate color code and
6 NIOSH/MSHA Certification.

7
8 **Supplied Air Respirator System:**
9

10 The equipment used shall be capable of producing air of the quality and volume required by
11 OSHA Standard (29 CFR 1910) Section 1910.134 and Compressed Gas Association, Inc., New
12 York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1
13 "Commodity Specification for Air", applied to the job site conditions and crew size. The
14 standards above shall be augmented by provisions of this specification with the more stringent
15 standard governing.

16
17 Face piece and hose shall be by same manufacturer and shall be certified by NIOSH/MSHA as an
18 approved Type "C" respirator assembly for continuous flow or pressure demand with a positive
19 pressure facepiece.
20

21 Backup air supply shall be provided that is adequate to allow a minimum of one-half hour escape
22 time for each six man crew. The one-half hour shall be based upon all connections to the backup
23 air supply being in use by an average sized adult male engaged in moderately strenuous activity or
24 by the air requirements of the particular respirator in use is greater.
25

26 Warning device shall be located in the regulated area which will be clearly audible in all parts of
27 the regulated area and can be heard above the noise level produced by equipment and work
28 procedures in use. This warning device shall warn of:
29

30 Compressor shutdown or other fault requiring use of backup air supply.

31
32 Carbon Monoxide (CO) levels in excess of 50 PPM/V over 8 hours.

33
34 Carbon Monoxide (C) levels shall be continually monitored and recorded. This monitor shall be
35 placed in the air line between backup air supply and workers and shall also sound an alarm as
36 specified under "Warning Devices".
37

38 The compressor shall automatically be shutdown and the alarms sounded if any of the following
39 occur:
40

41 Carbon Monoxide (CO) concentrations exceed 500 PPM/V in the air line between the
42 filter bank and backup air supply.

43
44 Compressor temperature exceeds normal operating range.
45

46 Compressor motor shall be an electric motor. Compressors driven by gas or diesel engines shall
47 not be used.
48

49 An after cooler shall be provided at the entry to the filter system which is capable of reducing
50 temperatures to outside ambient air temperatures.
51

52 System configuration shall permit the recharging of 1/2 hours 2260 PSI SCBA cylinders.
53

54 Compressed air systems shall be designed to provide air volumes and pressures to accommodate respirator
55 manufacturer's specifications. The compressed air systems shall have a receiver of adequate capacity to

1 allow escape of all respirator wearers from contaminated areas in the event of compressor failure.
2 Compressors must meet the requirements of 29 CFR 1910.134 (d). Compressors must have an in-line
3 carbon monoxide monitor; periodic inspection of the carbon monoxide monitor must be evidenced.
4 Documentation of adequacy of compressed air systems/respiratory protection system must be retained on
5 site. This documentation will include a list of compatible components with the maximum number and type
6 of respirators that may be used with the system. Periodic testing of compressed air shall insure that
7 systems provide air of sufficient quality (Grade D breathing air as described in Compressed Gas
8 Association Commodity Specifications G-7.1).

9
10 Full body disposable protective clothing, including head, body and foot coverings consisting of material
11 impenetrable by asbestos fibers (Tyvek^R or equivalent) shall be provided to all workers and authorized
12 visitors in sizes adequate to accommodate movement without tearing.

13
14 Additional safety equipment, such as hard hats meeting the requirements of ANSI Standard Z89.1-1981,
15 eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes meeting the
16 requirements of ANSI Standard Z41.1-1967, disposable PVC gloves, as necessary, shall be provided to all
17 workers and authorized visitors.

18
19 Nonskid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately
20 sealed to the footwear to prevent body contamination.

21
22 Provide sufficient supply of disposable mops, rags and sponges for work area decontamination.

23
24 Provide scaffolds, ladders, lifts and hand tools such as scrapers, wire cutters, brushes, utility knives, wire
25 saws, as the work requires.

26
27 Sprayers with pumps capable of providing 14-15 pounds per square inch (psi) at the nozzle tip at a flow
28 rate of 2 gallons per minute for spraying amended water.

29
30 Rubber dust pans and rubber squeegees shall be provided for cleanup.

31
32 Brushes utilized for removing loose asbestos containing material shall have nylon or fiber bristles, not
33 metal.

34
35 A sufficient supply of HEPA filtered vacuum systems shall be available during cleanup.

36
37 Airless spray equipment with an adjustable low pressure nozzle shall be provided for spraying
38 encapsulants. Nozzle tip size and pressure adjustment shall conform to encapsulant manufacturers written
39 recommendations.

40
41 Heavy duty power cables for temporary electrical service and a portable electric generator for maintaining
42 negative pressure in the work area in case of power failure.

43
44 Warning Signs and Labels: As required OSHA Regulation 29 CFR 1925.58(k).

45
46 Other equipment the Contractor deems necessary for asbestos abatement work shall be submitted to the
47 Owners Project Engineer for approval prior to their use.

48
49
50 **PART 3 EXECUTION**

51
52 **GENERAL COMPLIANCE MEASURES**

53 Mandatory Protection Conditions: Contractor's employes shall wear appropriate respiratory protection and
54 protective clothing under the following conditions:

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During installation or implementation of engineering work practices and control measures.

During maintenance and repair activities for which control measures, hereinafter described, are not feasible.

Whenever the control measures are not yet sufficient to reduce exposure below the Permissible Exposure Limits (TWA and/or Excursion Limits).

Whenever emergency conditions exist.

Control Measures: The Contractor shall use one or any combination of the following control methods to achieve compliance with the "Permissible Exposure Limits" defined hereinbefore:

Local exhaust ventilation equipped with HEPA filter dust collection systems.

General dilution ventilation equipped with HEPA filtration systems on both exhaust and return air.

Vacuum cleaners equipped with HEPA filters.

Enclosure or isolation of processes producing airborne asbestos fibers and dust.

Use of wet methods, wetting agents or removal encapsulants to control employe exposures during their performance of asbestos abatement activities.

Prompt disposal of wastes contaminated with asbestos in leak-tight containers.

Supplement to Control Measures: Whenever the control measures described above are not sufficient to reduce the employe exposure to or below the "Permissible Exposure Limits" (TWA and/or Excursion Limit), the Contractor shall continue to use the control measures to maintain the employe exposure to the lowest levels attainable and supplement them with the use of appropriate respiratory protection and protective clothing.

Negative-Pressure Enclosure: A negative-pressure enclosure shall be employed whenever feasible, prior to commencing removal, demolition and renovation operations involving asbestos containing materials.

Types of Respiratory Protection: The following Table represents the minimum respiratory protection required for given airborne concentrations of asbestos:

Airborne Concentration of Asbestos, Tremolite, Anthophyllite, Actinolite, or a Combination of These Minerals

Required Respirator

Not in excess of 2 f/cc (10 X PEL)

1. Half-mask air purifying respirator equipped with high-efficiency filters.

Not in excess of 10 f/cc (50 X PEL)

1. Full faceplate air purifying respirator equipped with high-efficiency filters.

Not in excess of 20 f/cc (100 X PEL)

1. Any powered air purifying respirator equipped with high efficiency filters.

2. Any supplied air respirator operated in continuous flow mode.

Not in excess of 200 f/cc (1000 X PEL)

1. Full facepiece supplied air respirator operated in pressure demand mode.

Greater than 200 f/cc (1,000 X PEL) or unknown concentration

1. Full facepiece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.

1 NOTE: Respirators assigned for higher environmental concentrations may be used at lower
2 concentrations.

3
4 A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-
5 dispersed particles of 0.3 micrometers in diameter or larger.
6

7 Employee Rotation: The Contractor shall not use employee rotation as a means of compliance with
8 Permissible Exposure Limits (TWA and/or Excursion Limit).
9

10 Supervision: The Contractor shall have a project supervisor on site at all times that only supervises the
11 project and is responsible to assure contract and regulatory compliance.
12

13 **PREPARATION OF REGULATED AREA**

14 Post warning signs at all approaches to a regulated area. Signs shall be posted at a distance sufficiently far
15 enough away from the regulated area to permit any person to read the sign and take the necessary
16 protective measures to avoid exposure.
17

18 Shutdown and lock out all heating, cooling and air conditioning system (HVAC) components that are in,
19 supply or pass through the regulated area. Appropriate equipment and control measures shall be utilized to
20 prevent contamination of building spaces. Seal all intake and exhaust vents in the work area with tape and
21 6 mil polyethylene. Also seal any seams in system components that pass through the regulated area.
22

23 Preclean all movable objects within the regulated area using a HEPA filtered vacuum or wet cleaning
24 methods as appropriate. After cleaning, these objects shall be removed from the regulated area and
25 carefully stored in an uncontaminated location.
26

27 Preclean all fixed objects in the regulated area using HEPA filtered vacuums or wet cleaning techniques as
28 appropriate, if contamination is visibly covering them. Careful attention must be paid to machinery and
29 behind grills or gratings where access may be difficult but contamination significant. Also pay particular
30 attention to wall, floor and ceiling penetrations behind fixed items. After precleaning, enclose fixed
31 objects in four (4) mil polyethylene sheeting and seal securely in place with tape.
32

1 Preclean all surfaces in the regulated area using HEPA filtered vacuums and/or wet cleaning methods as
2 appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with
3 equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the
4 precleaning phase.

5
6 Seal off all windows, doorways, elevator openings, corridors, tunnels, entrances, drains, ducts, grills,
7 grates, diffusers, skylights and any other openings between the regulated area and uncontaminated areas
8 outside of the regulated area (including the outside of the building, tunnels and crawl spaces) with four (4)
9 mil polyethylene sheeting and tape.

10
11 Wall Covering:

12
13 Walls shall be covered with two (2) layers of four (4) mil polyethylene sheeting, starting at top of wall and
14 extending down and across the floor area until it meets in the center of the floor. Here the covering sheets
15 shall be taped together to form a monolithic covering which completely encases the regulated area.

16
17 Polyethylene sheets shall be sized to minimize seams. Seams shall be staggered and separated by a
18 distance of at least six (6) feet.

19
20 Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This may require
21 additional support/attachment when negative pressure ventilation systems are utilized.

22
23 Floor Covering:

24
25 The floor area which has previously been covered with sheeting extended from the walls, shall be covered
26 with one additional layer of six (6) mil (minimum) sheeting. Provide additional protection such as
27 plywood, canvas, or extra plastic sheeting for floors requiring special protection such as carpeting,
28 hardwood flooring and tile floors which may be damaged by water leakage, ladder feet or scaffold wheels.
29 Additional layers of sheeting may be utilized as drop cloths to aid in cleanup of bulk materials.

30
31 Polyethylene sheets shall be sized to minimize seams. If the floor area necessitates seams, those on
32 successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring
33 material. A distance of at least six (6) feet between seams is sufficient. Do not locate any parallel seams at
34 wall/floor joints.

35
36 Floor sheeting shall extend at least 24" up the side walls of the work area.

37
38 **DECONTAMINATION ENCLOSURE SYSTEM**

39 A decontamination enclosure system shall be provided at each location where workers will enter or exit a
40 regulated area.

41
42 Plans for construction, including materials and layout, shall be submitted as shop drawings and approved
43 by the Architect/Engineer prior to work initiation. Decontamination enclosure systems constructed at the
44 work site shall utilize six (6) mil opaque black or white polyethylene sheeting or other acceptable materials
45 for privacy. Detailed descriptions of portable, prefabricated units, if used, must be submitted for the
46 Architect/Engineer's approval. Plans must include floor plan with dimensions, materials, size, thickness,
47 plumbing and electrical utilities.

48
49 The decontamination enclosure system shall consist of at least a clean room, a shower room, and an
50 equipment room, each separated from each other and from the regulated area by air locks.

51
52 Entry to and exit from all airlocks and decontamination enclosure system chambers shall be through
53 curtained doorways consisting of two sheets of overlapping six (6) mil polyethylene sheeting. The curtain
54 doorway sheets shall be secured at the top and one side opposite each other. All curtains shall have

1 weights attached to the bottom to insure that they hang straight and maintain a seal over the doorway when
2 not in use. Doorway designs, providing equivalent protection and acceptable to the Architect/Engineer
3 may be utilized.
4

5 Access between any two rooms in the decontamination enclosure system shall be through an airlock with at
6 least three (3) feet separating each curtained doorway. Pathways into (from clean to contaminated) and out
7 from (contaminated to clean) the regulated area shall be clearly designated.
8

9 Clean room shall be sized to adequately accommodate the work crew. Clean disposable clothing,
10 replacement filters for respirators, disposable towels and other necessary items shall be provided in
11 adequate supply at the clean room. A location for postings shall also be provided in this area. Whenever
12 possible, a lockable door shall be used to permit access into the clean room from outside the regulated area.
13

14 Shower room shall contain one or more shower heads as necessary to adequately accommodate workers.
15 Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure
16 shall be constructed to insure against leakage of any kind. An adequate supply of soap and disposable
17 towels shall be supplied by the Contractor and available at all times. Shower water shall be drained,
18 collected and filtered as specified in the Article entitled: "Water Collection and Disposal," herein.
19

20 The equipment room shall be used for storage of equipment and tools at the end of a shift after workers
21 have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate.
22 Replacement filters (in sealed containers until used) for HEPA vacuums and negative pressure ventilation
23 equipment, extra tools, containers or surfactant and other materials and equipment that may be required
24 during the abatement may also be stored here as needed. A walk-off pan (a small children's swimming
25 pool or equivalent filled with water) shall be located in the regulated area just outside the equipment room
26 for workers to clean off foot coverings after leaving the regulated area and prevent excessive
27 contamination of the worker decontamination enclosure system. A drum lined with a labeled six (6) mil
28 polyethylene bag for collection of disposable clothing shall be located in this room. Contaminated rubber
29 boots or other reusable footwear shall be stored in this area for reuse the following workday.
30

31 **Waste Container Pass-Out Airlock:**
32

33 The waste container pass-out airlock shall be constructed at some location away from the worker
34 decontamination enclosure system. Wherever possible, this shall be located where there is direct access
35 from the regulated area to the outside of the building.
36

37 This airlock system shall consist of an airlock, a container staging area, and another airlock with access to
38 outside the regulated area.
39

40 The waste container pass-out airlock shall be constructed in similar fashion to the worker decontamination
41 enclosure system using similar materials and airlock and curtain doorway designs.
42

43 This airlock system shall not be used to enter or exit the regulated area. The airlock system shall be tightly
44 sealed when not in use.
45

46 Emergency exits shall be established and clearly marked with duct tape arrows or other effective
47 designations to permit easy location from anywhere within the regulated area. They shall be secured to
48 prevent access from uncontaminated areas, but still permit emergency exiting. These exits shall be
49 properly sealed with polyethylene sheeting which can be cut to permit egress if needed. These exits may
50 be through the decontamination enclosure, the waste pass-out airlock, other alternative exits satisfactory to
51 fire officials.
52

53
54 **TEMPORARY ISOLATION PARTITIONS**

1 Large rooms or open areas that require temporary air tight barriers to separate a contaminated regulated
2 area from an uncontaminated area shall be provided with temporary partitions, constructed in the following
3 manner:

4
5 Walls shall be constructed of wood or metal framing to support barriers in all openings larger than 4' x 8'.

6
7 A sheathing material (plywood, drywall) of at least 3/8" thickness shall be applied to work side of barrier.

8
9 Cover the work side of partition with a double layer of four (4) mil polyethylene sheeting with staggered
10 joints and seal in place.

11
12 Provide at least one (12" x 12") window in the barrier system, where feasible, for the purpose of viewing
13 into the regulated area. The window shall consist of heavy gauge plastic or clear safety glass. Panes shall
14 be framed into the barrier system and completely sealed to prevent any leakage of air through the unit.

15
16 **MAINTENANCE OF ENCLOSURE SYSTEM**

17 Following completion of the construction of all polyethylene barriers and decontamination system
18 enclosures, initiate negative pressure system and allow overnight settling to insure that barriers will remain
19 intact and secured to walls and fixtures before beginning actual abatement activities.

20
21 All polyethylene barriers and decontamination enclosure systems shall be inspected at least twice daily by
22 the Contractor's competent person prior to the start of each day's abatement activities and following the
23 completion of the day's abatement activities. Document inspections and observations in the daily project
24 log.

25
26 Damage and defects in the enclosure system are to be repaired immediately upon discovery.

27
28 Use smoke tubes to test the effectiveness of the barrier system when directed by Owners Project
29 Representative.

30
31 Anytime during the abatement activities, if visible construction related dust or debris is observed outside of
32 the regulated area or if damage occurs to barriers, work shall immediately stop, repairs shall be made to
33 barriers, and debris/residue cleaned up using appropriate HEPA vacuuming and wet mopping procedures.

34
35 Openings made in the enclosure system to accommodate negative air pressure system shall be made airtight
36 with tape and caulking as needed. If more than one unit is installed, they should be turned on one at a time,
37 checking the integrity of wall barriers for secure attachment and need for additional reinforcement. Insure
38 that adequate power supply is available to satisfy the requirements of the ventilating and exhaust units.
39 Negative pressure units shall be exhausted to the outside of the building. They shall not be exhausted into
40 occupied areas of the building. Careful installation and daily inspections shall be done to insure that the
41 ducting does not release fibers into uncontaminated building areas.

42
43 Use of enclosure system shall not commence until the following has been accomplished:

44
45 Enclosure systems have been constructed, inspected, and tested.

46
47 Negative pressure systems are functioning adequately.

48
49 All preabatement submissions, notifications, postings and permits have been provided and approved by the
50 Architect/Engineer, or Construction Representative, as applicable.

51
52 All equipment for abatement, cleanup and disposal are on hand.

53
54 All worker training is completed.

1
2 Contractor has received written notice to commence abatement work from the Division, based on
3 recommendation of the Owners Project Representative.

4
5 **WORKPLACE ENTRY AND EXIT PROCEDURES**

6 All workers and authorized personnel shall enter the regulated area through the decontamination enclosure
7 system.

8
9 All personnel who enter the regulated area must sign the registration log, located in the clean room, both
10 upon entry and exiting the area.

11
12 All personnel shall proceed first to the clean room, remove all street clothes, and appropriately don
13 respiratory protection (as approved for the job conditions) and disposable coveralls, head covering and foot
14 covering. Hard hats, eye protection and gloves shall also be utilized if required. Clean respirators and
15 protective clothing shall be provided and utilized by each person for each separate entry into the regulated
16 area.

17
18 Personnel wearing designated personal protective equipment shall proceed from the clean room through
19 the decontamination enclosure system to the regulated area.

20
21 Before leaving the regulated area all personnel shall remove gross contamination from the outside of
22 respirators and protective clothing by brushing or wet wiping procedures. (Small HEPA vacuums with
23 brush attachments may be utilized for this purpose.) Each person shall clean bottoms of protective
24 footwear in the walk-off pan just prior to entering the equipment room.

25
26 Personnel shall proceed to equipment room where they remove all protective equipment except respirators.
27 Deposit disposable clothing into appropriately labeled containers for disposal.

28
29 Reusable, contaminated footwear shall be stored in the equipment room when not in use in the regulated
30 area. Upon completion of abatement it shall be disposed of as asbestos contaminated waste. Rubber boots
31 may be decontaminated at the completion of the abatement for reuse.

32
33 Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators
34 and the exposed face area under running water prior to removal of respirator and shower and shampoo to
35 remove residual asbestos contamination. Various types of respirators will require slight modification of
36 these procedures. An airline respirator with HEPA filtered disconnect protection may be disconnected in
37 the equipment room and worn into the shower. A powered air purifying respirator facepiece will have to
38 be disconnected from the filter/power pack assembly which is not waterproof, upon entering the shower.
39 Cartridges must be in place for each new entry into the regulated area.

40
41 After showering and drying off, proceed to the clean room and don street clothing even though there will
42 be later reentry into the regulated area or street clothes if it is the end of the work shift.

43
44 Workers shall NOT eat, drink, smoke, chew gum or tobacco in the regulated area. To eat, drink or smoke,
45 workers shall follow the procedure described above, then dress in street clothes before entering the
46 nonregulated areas of the building.

47
48 **Abatement Contractor will be directed to do minor maintenance work within the confined space so**
49 **maintenance staff will not have to enter area. This would be less than one hour of time. Examples of**
50 **this work would be to read a gauge or take a sample as directed by maintenance staff.**

51
52 These procedures shall be posted in the clean room and equipment room.

53
54

1 **WASTE CONTAINER PASS-OUT PROCEDURE**

2 Asbestos contaminated waste that has been containerized shall be transported out of the regulated area
3 through the waste container pass-out airlock (or through the decontamination enclosure if a separate airlock
4 has not been constructed).

5
6 The inside team wearing protective clothing and respirators appropriate for the contaminated regulated area
7 shall clean the entire surface, including bottoms, of properly labeled bags, using HEPA vacuums and wet
8 wiping techniques and transport them into the waste container pass-out airlock where they will be placed
9 into another properly labeled bag. No worker from the inside team shall further exit the regulated area
10 through this airlock.

11
12 Workers from outside the regulated area wearing appropriately assigned respirators, shall enter the airlock
13 from outside the regulated area. No worker from the outside team shall further enter the regulated area
14 through this airlock.

15
16 The exit from this airlock shall be secured to prevent unauthorized entry.

17
18 **WATER COLLECTION AND DISPOSAL**

19 All water resulting from precleaning operation, excess from floor of regulated area and the final cleaning
20 operation shall be collected and placed in sealed containers for disposal as contaminated material.

21
22 Water from the decontamination shower shall be collected in a holding tank and filtered to remove
23 particles of 0.5 microns or larger size before draining water into sanitary sewer system. The drainage and
24 filtering system shall consist of the following:

25
26 A centrifugal pump capable of pumping at least 25 gallons/minute.

27
28 Two filter cartridge housings, one serving as a prefilter, utilizing at least 6 cylindrical 100 micron filters
29 (reusable type) and the other serving as final filter with 6 cylindrical 0.5 micron filters.

30
31 Maintain two sets (6 cylinders per set) of 100 micron filters, to allow one set to be cleaned while the other
32 set is in use.

33
34 A common garden hose may be connected to final filter housing to drain water to sanitary sewer system.

35
36 **WET REMOVAL PROCEDURE**

37 Wet all asbestos containing material with an amended water solution, or removal encapsulant, using
38 equipment capable of providing a fine spray mist, in order to reduce airborne fiber concentrations when the
39 material is disturbed. Saturate the material to the substrate. Keep all removed material wet to prevent fiber
40 release until it can be containerized for disposal. If regulated area temperatures are below 32°F. and
41 amended water is subject to freezing, modify as specified for surfactant in Article entitled: "Materials,"
42 herein. Maintain a high humidity in the regulated area by misting or spraying to assist in fiber settling and
43 reduce airborne concentrations.

44
45 Saturated asbestos containing material shall be removed in manageable sections. Removed material should
46 be containerized before moving to a new location for continuance of work. Surrounding areas shall be
47 periodically sprayed and maintained in a wet condition until visible material is cleaned up.

48
49 Material removed from building structures or components shall not be dropped or thrown to the floor.
50 Material should be removed as intact sections or components whenever possible and carefully lowered to
51 the floor. If this cannot be done for materials greater than 50 feet above the floor, a dust-tight chute shall
52 be constructed to transport the material to containers on the floor or the material may be containerized at
53 elevated levels (e.g. on scaffolds) and carefully lowered to the ground by mechanical means. For materials

1 between 15 and 50 feet above the ground they may be containerized at elevated levels or dropped onto
2 inclined chutes or scaffolding for subsequent collection and containerization.

3
4 Bags shall be considered full when half their capacity have been filled. They should be securely sealed to
5 prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in
6 gooseneck fashion. Do not seal bags with wire or cord.

7
8 Large components removed intact may be wrapped in two (2) layers of six (6) mil polyethylene sheeting
9 secured with tape for transport to the approved disposal site.

10
11 Asbestos containing waste with sharp edged components (e.g., nails, screws, metal lath, tin sheeting) shall
12 be placed into drums for disposal in lieu of polyethylene bags. Drums shall be marked to differential
13 contents from those drums containing bagged material.

14
15 After completion of all stripping work, surfaces from which asbestos containing materials have been
16 removed such as plaster base coat or metal deck, etc., the surfaces shall be wet brushed and sponged to
17 remove all visible residue.

18
19 **CEILING SYSTEM REMOVAL**

20 Ceiling systems that are removed will not be reused. Removal is to be done by demolition contractor in
21 phases.

22
23 When removal of ceiling grid suspension system is not necessary for accessibility, to the asbestos
24 containing materials leave the system in place and clean properly following completion of abatement, as
25 specified in the Article of this section entitled: "Cleanup Procedure."

26
27 Remove plaster/drywall ceilings including lath, furring channel system, wire mesh, ties, clips, screws, nails
28 and other accessory items as necessary and dispose of them as asbestos contaminated waste material. As
29 work progresses, spray ceiling materials and debris with amended water to keep wet until containerized for
30 disposal.

31
32 **PIPE TUNNEL REMOVAL WORK**

33 A decontamination enclosure shall be provided at the entrance to the pipe tunnel. All requirements for
34 regulated area entry and exit procedures and waste container pass-out procedures, as hereinbefore
35 specified, shall apply to this work.

36
37 All openings within the pipe tunnel shall be sealed with six (6) mil polyethylene and tape. The existing
38 surfaces within the space will not be required to be covered with polyethylene sheeting.

39
40 A negative pressure system shall be required to maintain the security of the work space and the integrated
41 decontamination enclosure.

42
43 All loose and fallen asbestos-containing material shall be very carefully cleaned up with an industrial
44 vacuum equipped with HEPA filter.

45
46 After asbestos abatement work has been completed in the pipe tunnel, all ceiling, wall and floor surfaces
47 shall be cleaned with the HEPA equipped vacuum. All cleaned surfaces shall be sealed with an approved
48 encapsulant.

49
50 **SMALL SCALE - SHORT DURATION REMOVAL PROCEDURE**

51 Glovebag Method:

52
53 All workers who are permitted to use the glovebag technique must be trained, experienced and skilled in
54 this method.

1
2 All tools and materials that will be required during the removal procedure, shall be placed into the tool
3 pouch.
4
5 Glovebag shall be installed so that it completely encompassed the surface where removal work will take
6 place. The side seams of the glovebag shall be cut the appropriate length to accommodate a size that will
7 fit over the removal area. The bag shall be placed in position, the edges of the bag shall be folded together
8 and sealed with tape. All openings in the bag shall be sealed with duct tape (or equivalent material). The
9 bottom seam of the bag must also be sealed with tape to prevent leakage.
10
11 Workers performing asbestos removal with glovebag shall wear (as a minimum) half mask dual--cartridge
12 HEPA--equipped respirator, and full protective clothing to protect against the possibility of accidental
13 leakage.
14
15 All material removed within the glovebag shall be thoroughly wetted with wetting agent, or removal
16 encapsulant, applied with airless sprayer through the side port provided in the bag. After asbestos
17 containing material has been removed, the exposed base surface must be thoroughly cleaned and wet wiped
18 until all traces of asbestos-containing material is removed.
19
20 Create constant negative pressure by running a HEPA vacuum hose into bag.
21
22 Any exposed edges of asbestos-containing that will remain after bag is removed, shall be encapsulated with
23 a bridging encapsulant to seal the material from releasing fibers to the atmosphere.
24
25 In all glovebag removal settings, all doors, windows and other openings to the functional space must be
26 sealed with a minimum of four (4) mil polyethylene sheeting. The HVAC system must be shut down.
27 Once the area is completely sealed off, negative air pressure must be introduced to the entire functional
28 space.
29
30 In glove bag settings which involve small scale short duration removal the immediate area shall be
31 prepared using the following techniques; polyethylene drop cloths (minimum 6 mil) on floor and walls in a
32 12 foot perimeter of the removal area, negative air machine present and running in the immediate area.
33 Glove bag must be placed under variable negative pressure during removal stages. A centralized five stage
34 decontamination system must be established in the building for this method of glovebag removal.
35
36 Mini-Enclosure Method:
37
38 A mini-enclosure may be built around an area which is too large for glovebag method, but is of small-scale
39 and short duration work and would not warrant large enclosure.
40
41 The mini-enclosure can be small enough to restrict the space to use by one worker. A small change room
42 shall be contiguous to the mini-enclosure. The change room shall be a minimum of three (3) feet square.
43
44 The mini-enclosure shall be constructed by affixing plastic sheeting to existing walls and covering the floor
45 with plastic sheeting which shall extend up walls at least 24 inches and sealed with tape. If existing walls
46 are not available, a 2 x 4 wood frame shall be constructed and two (2) layers of six (6) mil polyethylene
47 sheeting applied to the interior side of frame to allow clean "take-down," at completion. Sheeting shall be
48 sealed with tape.
49
50 The change room shall be constructed of 2 x 4 wood framing to which shall be applied two (2) layers of six
51 (6) mil polyethylene sheeting to interior side of frame and sealed with tape. The change room shall be
52 provided with double six (6) mil polyethylene curtains at the exit and the entrance to the mini work
53 enclosure. Both curtains in each opening shall be secured at the top and one side opposite from the other.
54

1 A hose from a HEPA vacuum shall be extended through the wall of the Mini-Enclosure and the opening
2 around the hose shall be sealed with tape. The HEPA vacuum shall run continuously during the time
3 asbestos abatement work is taking place.

4
5 All abatement work shall be conducted using the wet removal method and all debris from such work shall
6 be bagged and disposed of as contaminated material. Upon completion, the interior surfaces of the
7 regulated area shall be cleaned and sprayed with an encapsulant.

8
9 Worker using the mini-enclosure method shall wear two (2) Tyvek^R or equivalent disposable work suit
10 and the appropriate HEPA filtered dual cartridge respiratory protection. Upon completion of the work and
11 before leaving the change area, worker shall remove outer work suit and then proceed to a shower that is
12 not contiguous with the work area.

13
14 The polyethylene enclosure, comprising the regulated area and the change room, shall be collapsed
15 inwardly, bagged and disposed of as contaminated material.

16
17 **ENCAPSULATION PROCEDURES**

18 Clean and isolate the regulated area as specified in Article entitled: "Preparation of Regulated Area",
19 hereinbefore.

20
21 Repair damaged and missing areas of existing materials with nonasbestos-containing substitutes. Material
22 must adhere adequately to existing surfaces and provide an adequate base for application of encapsulating
23 agents. Filler material shall be applied in accordance with manufacturer's recommended specifications.

24
25 Spray apply with airless equipment with low nozzle pressure to all surfaces where asbestos is removed or
26 surfaces containing asbestos that are to remain in place. Spray must completely encapsulate any remaining
27 asbestos, permanently locking it in place.

28
29 Apply a minimum of one (1) coat with coverage in strict accordance with manufacturer's
30 recommendations. Surfaces must be dry and free of dirt, oil and dust.

31
32 **ENCLOSURE PROCEDURE**

33 Clean and isolate the regulated area as specified in Article entitled: "Preparation of Regulated Area"
34 hereinbefore.

35
36 Spray areas that will be disturbed during the installation of hangers or other support/framing materials for
37 the enclosure with water containing the specified surfactant. Keep these areas damp to reduce airborne
38 fiber concentrations.

39
40 Remove loose or hanging asbestos containing materials.

41
42 After installation of hangers and other fixing devices and before installation of enclosure, repair damaged
43 areas of fireproofing/thermal insulation materials as required using a nonasbestos-containing replacement
44 material. Prepare surfaces and apply replacement material in accordance with manufacturer's
45 recommendations.

46
47 **AIR MONITORING**

48 Air samples shall be taken with a high volume pump having a capacity of 10 to 16 liters per minute. This
49 does not include breathing zone pump.

50
51 All sample collection procedures and evaluation to determine employee exposure levels shall conform with
52 the requirements of Appendix A to OSHA Standard 29 CFR 1926.58. Clearance testing will be performed
53 by the Contractor's Sampling Professional. Three (3) periodic tests must be performed by the
54 Contractor's Air Sampling Professional as directed by the Owners Project Engineer.

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All samples collected shall be analyzed by a laboratory accredited by the American Industrial Hygiene Association and the results of each analysis shall be submitted to the Owners Project Engineer for the record.

Documentation requirements must include the following, as a minimum:

Air Sampling Procedures: Sampling times; sampling locations (with appropriate diagrams); evidence of periodic inspection of sampling equipment; documentation of pre and post calibration of equipment; detailed description of work conditions; description of worker protective devices; and a description of any atypical environmental conditions.

Air Sampling Analysis: Sample identification; sample duration; sample flow rate; total air volume; total fibers counted; total fields counted; blank filter analysis; reticule field area; and fiber concentration in fibers per cubic centimeter.

The concentration of fibers shall be determined by the membrane filter method at 400-450X (magnification) (4 millimeter objective) with phase contrast illumination.

Minimum testing required for the project shall consist of the following:

Three (3) periodic tests as directed by Owners Project Engineer.

OSHA P.E.L. Compliance Testing as ref. 1910.28. Within the breathing zone of each worker category (i.e., wetter, receiver, bagger) 25% of the crew or one per job category.

Three (3) periodic determinations of employee exposure shall be made by collecting one or more breathing zone samples that are representative of the 8-hour TWA, full-shift exposure for each employee in each regulated area; and one or more breathing zone air samples that are representative of 30-minute exposures associated with operations that are most likely to produce exposures above the excursion limit for employees in each regulated area.

Periodic testing may be dispensed with if employees are equipped with supplied-air respirators operated in a positive-pressure mode while performing abatement work.

The Owners Project Engineer has the authority to stop the abatement work under the provisions of the General Conditions of this contract at anytime the Owners Project Engineer determines either personally or through the services of the air sampling professional that conditions are not in compliance with the specifications and applicable regulations. The stoppage of work shall continue until conditions have been corrected and corrective steps have been taken to the satisfaction of the Owners Project Engineer. Standby time required to resolve violations shall be at the Contractor's expense.

CLEANUP PROCEDURE

Remove and containerize all visible accumulations of asbestos containing material and asbestos contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor sheeting.

Wet clean all surfaces in the regulated area using rags, mops and sponges as appropriate. (Note: Some HEPA vacuums might not be wet-dry vacuums.)

Prior to removing the inner layer of plastic sheeting, the sheeting shall be sprayed with an encapsulant, so that any residue remaining will be adhered to the plastic sheeting.

1 Remove the cleaned inner layer of plastic sheeting from walls and floors. Windows, doors, HVAC system
2 vents and all other openings shall remain sealed. The negative pressure ventilation units shall remain in
3 continuous operation. Decontamination enclosure systems shall remain in place and be utilized.

4

5 Remove all containerized waste from the regulated area and waste container pass-out airlock.

6

7 The Owners Project Engineer, DNR Representative and the Contractor shall inspect the regulated area for
8 visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos and the
9 cleaning cycle shall be repeated.

10

11 After cleaning the regulated area the Contractor may either spray the remaining barrier material with
12 encapsulant or, wait at least 24 hours to allow fibers to settle and HEPA vacuum and wet clean all objects
13 and surfaces in the regulated area again.

14

15 Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.

16

17 The regulated area shall be cleaned until it is in compliance with clearance testing specified in Article
18 entitled: "Clearance Testing," hereinafter.

19

20 Following the satisfactory completion of clearance air testing remaining barriers may be removed and
21 properly disposed of. All fixed objects within the area, which were covered with polyethylene prior to
22 abatement work, shall be uncovered and thoroughly cleaned. A final visual inspection by the Owners
23 Project Engineer, DNR Representative and the Contractor shall insure that no contamination remains in the
24 regulated area. Unsatisfactory conditions shall require additional cleaning and air testing.

25

26 **CLEARANCE TESTING - PHASE CONTRAST MICROSCOPY (PCM)**

27 Clearance sampling and analysis shall be performed only after the asbestos abatement work area has been
28 completely cleaned and visually inspected.

29

30 Air sampling by the Asbestos Abatement Contractor for final clearance shall be conducted using collection
31 procedures in accordance with NIOSH Standard Analytical Method 7400. Air volumes shall be sufficient
32 to provide reliable results down to a concentration of 0.01 fibers per cubic centimeter of air (f/cc) or lower.
33 Minimum air volumes of 1,200 liters shall be collected on a 25 mm filter.

34

35 A minimum of three (3) samples shall be taken for each 1,000 square feet of enclosed area or as
36 determined otherwise by the Owners Project Engineer. The specific locations where samples shall be
37 taken shall be established by the Owner's Project Engineer.

38

39 Aggressive sampling shall be performed with portable fans circulating air in the work area to simulate
40 actual use conditions. Negative pressure ventilation units shall not be used for this purpose.

41

42 Air samples shall be analyzed by Phase Contrast Microscopy.

43

44 All samples analyzed shall indicate concentrations of airborne fibers less than 0.01 f/cc, or less than the
45 average of the fiber count established by Base Testing for outside containment air, whichever is greater.
46 Areas exceeding this level shall require the area to be recleaned using procedures specified in article
47 entitled, "Cleanup Procedure", and retested until satisfactory levels are obtained. Only when tests meet the
48 acceptable level, can the protective barriers of the regulated area be removed.

49

50 The cost of any testing and retesting, necessitated as a result of failure to meet requirements for clearance,
51 shall be borne by the Contractor.

52

53 **CLEARANCE TESTING - TRANSMISSION ELECTRON MICROSCOPY (TEM)**

1 Clearance sampling and analysis shall be performed only after the asbestos abatement work area has been
2 completely cleaned and visually inspected.

3
4 Simultaneously, five samples shall be collected within the enclosed work area and five additional samples
5 shall be collected outside the enclosure for the purpose of comparison. The volume of air drawn for each
6 sample collected shall be equal to or greater than 1200 liters of air using a 25 mm filter, or 2800 liters of air
7 using a 37 mm filter. An additional three samples (referred to as field blanks) shall be provided. Two
8 samples shall be taken by removing the cap for 30 seconds and replacing it. These samples shall be made
9 at entrance to enclosure and at an ambient site. The third sample shall remain sealed and kept with the
10 other samples.

11
12 The sample collected from the enclosed work area shall be analyzed first, using the TEM method specified
13 in EPA regulation 40 CFR Part 763, Appendix A to Subpart E. If the average concentration of asbestos in
14 the five samples does not exceed the filter background level of 70 structures per square millimeter, then the
15 area may be declared clear of asbestos.

16
17 Should the analysis in Paragraph C. (herein) fail the background level, then a comparison of the ten
18 samples shall be made to determine if the average of the enclosure samples is not significantly larger than
19 the average of the outside samples and the three field blanks. A statistical comparison using the Z-test
20 found in Appendix A to Subpart E shall be used to determine if the two averages are significantly different.
21 Should the test indicate no significant difference, the area will be considered clear of asbestos. If a
22 significant difference is noted, the cleaning procedure shall be repeated and retesting shall be required at
23 the Contractor's expense.

24
25 **DISPOSAL PROCEDURES**

26 As the work progresses, to prevent exceeding available storage capacity on site, sealed and labeled
27 containers of asbestos containing waste shall be removed and transported directly to the Dane County
28 Rodefild. Use of intermediate storage locations is not an accepted disposal procedure.

29
30 The Contractor shall provide documentation in the form of a transportation and disposal manifest that will
31 provide a chain-of-custody record of all asbestos-containing waste from project site to the disposal site.
32 An example of the form to be used is appended to this document. All asbestos-containing waste generated
33 must be accounted for by these records and copies of all such records shall be delivered to the Construction
34 Representative.

35
36 Transportation to the Landfill:

37
38 Once bags have been removed from the regulated area, they shall be loaded into an enclosed truck
39 for transportation.

40
41 The enclosed cargo area of the truck shall be free of debris and lined with six (6) mil polyethylene
42 sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be
43 installed first and extend up the side walls. Wall sheeting shall be overlapped and taped into
44 place.

45
46 Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent
47 shifting and tipping. Large components shall be secured to prevent shifting and bags placed on
48 top. Do not throw containers into truck cargo area.

49
50 Personnel loading asbestos containing waste shall be protected by disposable clothing including
51 head, body and foot protection and at a minimum, half-facepiece, air-purifying, dual cartridge
52 respirators equipped with HEP filters.

53

1 Any debris or residue observed on containers or surfaces outside of the regulated area resulting
2 from cleanup or disposal activities shall be immediately cleaned up using HEPA filtered vacuum
3 equipment and/or wet methods.
4

5 Disposal at the Landfill:
6

7 Upon reaching the landfill, trucks are to approach the dump location as closely as possible for
8 unloading of the asbestos containing waste.
9

10 Bags, drums and components shall be inspected as they are off-loaded at the disposal site.
11 Damaged containers shall be very carefully taped shut and repacked into drums or bags as
12 applicable.
13

14 Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of
15 trucks (weight of wet material could rupture bags).
16

17 Personnel off-loading containers at the disposal site shall wear protective equipment consisting of
18 disposable head, body and foot protection and, at a minimum, half-facepiece, air-purifying, dual
19 cartridge respirators equipped with HEPA filters.
20

21 Following the removal of all containerized waste, the truck cargo area shall be decontaminated
22 using HEPA vacuums and wet methods to meet the no visible residue criteria. Polyethylene
23 sheeting shall be removed and discarded along with contaminated cleaning materials and
24 protective clothing, in bags or drums at the disposal site.
25

26 **REESTABLISHMENT OF REGULATED AREA**

27 Reestablishment of the regulated area shall only occur following the completion of cleanup procedures and
28 after clearance air monitoring has been performed and documented to the satisfaction of the Owners
29 Project Engineer.
30

31 Resecure mounted objects removed from their former positions during area preparation activities.
32

33 Resecure and relocate objects that were removed to temporary locations back to their original positions.
34

35 Reestablish HVAC and mechanical systems in proper working order. Remove potentially contaminated
36 HVAC system filters and dispose of as asbestos contaminated waste. Decontaminate filter assembly using
37 HEPA vacuums and wet cleaning techniques.
38

39

40
41

END OF SECTION

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SECTION 23 07 00
MECHANICAL INSULATION

PART 1 - GENERAL

SCOPE

This section includes insulation specifications for plumbing piping, steam piping, and equipment.

REFERENCE STANDARDS

| | |
|------------|----------------------------------------------------------------------------------|
| ASTM C165 | Test Method for Compressive Properties of Thermal Insulations |
| ASTM C177 | Heat Flux and Thermal Transmission Properties |
| ASTM C195 | Mineral Fiber Thermal Insulation Cement |
| ASTM C302 | Density of Preformed Pipe Insulation |
| ASTM C355 | Test Methods for Test for Water Vapor Transmission of Thick Materials |
| ASTM C449 | Mineral Fiber Hydraulic Setting Thermal Insulation Cement |
| ASTM C518 | Heat Flux and Thermal Transmission Properties |
| ASTM C547 | Mineral Fiber Preformed Pipe Insulation |
| ASTM C612 | Mineral Fiber Block and Board Thermal Insulation |
| ASTM C921 | Properties of Jacketing Materials for Thermal Insulation |
| ASTM C1136 | Flexible Low Permeance Vapor Retarders for Thermal Insulation |
| ASTM D412 | Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension |
| ASTM E84 | Surface Burning Characteristics of Building Materials |
| MICA | National Commercial & Industrial Insulation Standards |
| NFPA 225 | Surface Burning Characteristics of Building Materials |
| UL 723 | Surface Burning Characteristics of Building Materials |

QUALITY ASSURANCE

Label all insulating products delivered to the construction site with the manufacturer's name and description of materials.

Insulation systems shall be applied by contractor with a minimum of 5 years in the business.

DESCRIPTION

Furnish and install all insulating materials and accessories as specified or as required for a complete installation. The following types of insulation are specified in this section:

- Fitting Insulation
- Equipment, tanks & miscellaneous

All of the existing pipe insulation will remain & all fitting insulation shall be replaced and tie in with existing in order to create a tight and sealed joint. Patch existing pipe insulation where damaged from testing. Plumbing Contractor shall insulate all new pipe & fittings & any insulation damaged during plumbing work.

Install all insulation in accordance with the latest edition of MICA (Midwest Insulation Contractors Association) Standard and manufacturer's installation instructions.

DEFINITIONS

Concealed: shafts, furred spaces, space above finished ceilings, and crawl spaces. All other areas, including walk-through tunnels, shall be considered as exposed.

SHOP DRAWINGS

Submit a schedule of all insulating materials to be used on the project, including adhesives, fastening methods, fitting materials along with material safety data sheets and intended use of each material. Include manufacturer's technical data sheets indicating density, thermal characteristics, jacket type, and manufacturer's installation instructions.

ENVIRONMENTAL REQUIREMENTS

Do not store insulation materials on grade or where they are at risk of becoming wet. Do not install insulation products that have been exposed to water.

Protect installed insulation work with PVC jacket as specified in Part 2 Products, Line 39-48.

1
2
3 **PART 2 - PRODUCTS**

4 **MATERIALS**

5 Manufacturers: Certainteed, Manson, Childers, Dow, H.B. Fuller, Imcoa, Johns Manville, Knauf, Owens-
6 Corning, VentureTape or approved equal.

7 Materials or accessories containing asbestos will not be accepted.

8
9 Use composite insulation systems (insulation, jackets, sealants, mastics, and adhesives) that have a flame
10 spread rating of 25 or less and smoke developed rating of 50 or less, with the following exceptions:

11
12 Pipe insulation which is not located in an air plenum may have a flame spread rating not over 25 and a
13 smoke developed rating no higher than 450 when tested in accordance with UL 723 and ASTM E84.

14
15 **INSULATION TYPES**

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

18
19 **RIGID FIBERGLASS INSULATION:**

20 Minimum nominal density of 3 lbs. per cu. ft., and thermal conductivity of not more than 0.23 at 75
21 degrees F, minimum compressive strength of 25 PSF at 10% deformation, rated for service to 450 degrees
22 F.

23
24 **JACKETS**

25
26 **SEMI-RIGID FIBERGLASS INSULATION:**

27 Minimum nominal density of 3 lbs. per cu. ft., thermal conductivity of not more than 0.28 at 75 degrees F,
28 minimum compressive strength of 125 PSF at 10% deformation, rated for service to 450 degrees F.
29 Insulation fibers perpendicular to jacket and scored for wrapping cylindrical surfaces.

30
31 White kraft reinforced foil vapor barrier all service jacket, factory applied to insulation with a maximum
32 permeance of .02 perms and minimum beach puncture resistance of 50 units.

33
34 **FIREPROOFING INSULATION:**

35 Mineral fiber with nominal density of 8 lbs. per cu. ft., flame spread index of 15, fuel contribution index of
36 0, and smoke developed index of 0, thermal conductivity of not more than 0.23 at 75 degrees F.

37
38 Jacket material shall be the same as jacket for adjacent insulation.

39
40 **PVC FITTING COVERS AND JACKETS (PFJ):**

41 White PVC film, gloss finish one side, semi-gloss other side, FS LP-535D, Composition A, Type II, Grade
42 GU. Ultraviolet inhibited indoor/outdoor grade to be used where exposed to high humidity, ultraviolet
43 radiation, in kitchens or food processing areas or installed outdoors. Jacket thickness to be minimum .02"
44 indoors/.03" outdoors for piping 12" and smaller, .03" indoors/.04" outdoors for piping 15" and larger.

45
46 **ALL SERVICE JACKETS (ASJ):**

47 Heavy duty, fire retardant material with white kraft reinforced foil vapor barrier, factory applied to
48 insulation with a self-sealing pressure sensitive adhesive lap, maximum permeance of .02 perms and
49 minimum beach puncture resistance of 50 units.

50
51 **INSULATION INSERTS AND PIPE SHIELDS**

52 Manufacturers: B-Line, Pipe Shields, Value Engineered Products

53
54 Construct inserts with calcium silicate or polyisocyanurate (service temperatures below 300 degrees F
55 only), minimum 140 psi compressive strength. Piping 12" and larger, supplement with high density 600 psi
56 structural calcium silicate insert. Provide galvanized steel shield. Insert and shield to be minimum 180
57 degree coverage on bottom supported piping and full 360 degree coverage on clamped piping. On roller
58 mounted piping and piping designed to slide on support, provide additional load distribution steel plate.

59
60 Where contractor proposes shop/site fabricated inserts and shields, submit schedule of materials,
61 thicknesses, gauges and lengths for each pipe size to demonstrate equivalency to
62 preengineered/premanufactured product described above. On low temperature systems, high density rigid

1 polyisocyanurate may be substituted for calcium silicate provided insert and shield length and shield gauge
2 are increased to compensate for lower insulation compressive strength.

3
4 Precompressed 20# density molded fiberglass blocks, Hamfab or equal, of the same thickness as adjacent
5 insulation may be substituted for calcium silicate inserts with one 1"x6" block for piping through 2-1/2"
6 and three 1"x6" blocks for piping through 4". Submit shield schedule to demonstrate equivalency to
7 preengineered/premanufactured product described above.

8
9 Wood blocks will not be accepted.

10 **ACCESSORIES**

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

13
14 Adhesives, sealants, and protective finishes shall be as recommended by insulation manufacturer for
15 applications specified.

16
17 Insulation bands to be 3/4 inch wide, constructed of aluminum or stainless steel. Minimum thickness to be
18 .015 inch for aluminum and .010 inch for stainless steel.

19
20 Tack fasteners to be stainless steel ring grooved shank tacks.

21
22 Staples to be clinch style.

23
24 Insulating cement to be ANSI/ASTM C195, hydraulic setting mineral wool.

25
26 Finishing cement to be ASTM C449.

27
28 Fibrous glass or canvas fabric reinforcing shall have a minimum untreated weight of 6 oz./sq. yd.

29
30 Bedding compounds to be non-shrinking and permanently flexible.

31
32 Vapor barrier coatings to have maximum applied water vapor permeance of .05 perms.

33
34 Fungicidal water base coating (Foster 40-20 or equal) to be compatible with vapor barrier coating.

35 **PART 3 - EXECUTION**

36 **EXAMINATION**

37 Verify that all surfaces are clean, dry and without foreign material before applying insulation materials.

38 **INSTALLATION**

39 All materials shall be installed by skilled labor regularly engaged in this type of work. All materials shall
40 be installed in strict accordance with manufacturer's recommendations, building codes, and industry
41 standards. Do not install products when the ambient temperature or conditions are not consistent with the
42 manufacturer's recommendations. Surfaces to be insulated must be clean and dry.

43
44 Locate insulation and cover seams in the least visible location. All surface finishes shall be extended in
45 such a manner as to protect all raw edges, ends and surfaces of insulation.

46
47 Install insulation with smooth and even surfaces. Poorly fitted joints or use of filler in voids will not be
48 accepted. Provide neatly beveled and coated terminations at all nameplates, uninsulated fittings, or at other
49 locations where insulation terminates.

50
51 Install fabric reinforcing without wrinkles. Overlap seams a minimum of 2 inches.

52
53 Use full length material (as delivered from manufacturer) wherever possible. Scrap piecing of insulation or
54 pieces cut undersize and stretched to fit will not be accepted.

55
56 All pipe insulation shall be continuous through walls, ceiling or floor openings and through sleeves except
57 where firestop or firesafing materials are required. Vapor barriers shall be maintained continuous through
58 all penetrations.

1 Provide a complete vapor barrier for insulation on the following systems:

- 2 • Cold water
- 3 • Equipment piping with a surface temperature below 65 degrees F

4
5 **PROTECTIVE JACKET INSTALLATION**

6 **PVC FITTING COVERS AND JACKETS (PFJ):**

7 Lap seams and joints a minimum of 2 inches and continuously seal PVC with welding solvent
8 recommended by jacket manufacturer. Lap slip joint ends 4" without fasteners where required to absorb
9 expansion and contraction. For sections where vapor barrier is not required and jacket requires routine
10 removal, tack fasteners may be used. Secure PVC fitting covers with tack fasteners. For systems requiring
11 a vapor barrier, apply a 1-1/2" band of mastic over ends, throat, seams and penetrations.

12
13 **ALL SERVICE JACKETS (ASJ):**

14 Heavy duty, fire retardant material with white kraft reinforced foil vapor barrier, factory applied to
15 insulation with a self-sealing pressure sensitive adhesive lap, maximum permeance of .02 perms and
16 minimum beach puncture resistance of 50 units.

17
18 **PIPING, VALVE, AND FITTING INSULATION**

19 **GENERAL:**

20 Install insulation with butt joints and longitudinal seams closed tightly. Provide minimum 2" lap on jacket
21 seams and 2" tape on butt joints, firmly cemented with lap adhesive unless otherwise noted. Additionally
22 secure with staples along seams and butt joints. Coat staples, longitudinal and transverse seams with vapor
23 barrier mastic on systems requiring vapor barrier.

24
25 Water supply piping insulation shall be continuous throughout the building and installed adjacent to and
26 within building walls to a point directly behind the fixture that is being supplied.

27
28 Install insulation continuous through pipe hangers and supports with hangers and supports on the exterior
29 of insulation. Where a vapor barrier is not required or where roller hangers are not being used, hangers and
30 supports may be attached directly to piping with insulation completely covering hanger or support and
31 jacket sealed at support rod penetration. Where riser clamps are required to be attached directly to piping
32 requiring vapor barrier, extend insulation and vapor barrier jacketing/coating around riser clamp.

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

38
39 Fully insulate all reheat coil piping, fittings and valves (with the exception of unions) up to coil connection
40 to prevent condensation when coil is inactive during cooling season. Provide a vapor proof seal between
41 the pipe insulation and the insulated coil casing.

42
43 **INSULATION INSERTS AND PIPE SHIELDS:**

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

48
49 Provide insulation inserts and pipe shields at all hanger and support locations. Inserts may be omitted on
50 3/4" and smaller copper piping provided 12" long 22 gauge pipe shields are used.

51
52 **FITTINGS AND VALVES:**

53 Fittings, valves, unions, flanges, couplings and specialties may be insulated with factory molded or built up
54 insulation of the same thickness as adjoining insulation. Where the ambient temperature exceeds 150
55 degrees F, cover insulation with fabric reinforcing and mastic. Where the ambient temperatures do not
56 exceed 150 degrees, furnish and install PVC fitting covers.

57
58 **PIPE INSULATION SCHEDULE:**

59 Provide insulation on new and existing remodeled piping as indicated in the following schedule:
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| <u>Service</u> | <u>Insulation</u> | <u>Jacket</u> | <u>Insulation Thickness by Pipe Size</u> | | | |
|--------------------|-------------------|---------------|------------------------------------------|--------|-----------|----------|
| | | | $\leq 1\text{-}1/4''$ | 1-1/2" | 2" to <4" | 4" to 6" |
| Low Pressure Steam | Rigid Fiberglass | ASJ | 1.5" | 2" | 3" | 3" |
| Low Pressure Cond. | Rigid Fiberglass | ASJ | 1.5" | 1.5" | 2" | 2" |

- The following piping and fittings are not to be insulated:
- Steam Traps
 - Piping unions for systems not requiring a vapor barrier

| <u>Service</u> | <u>Insulation Types</u> | <u>Insulation Thickness by Pipe Size</u> | | | | |
|-----------------------|-------------------------|------------------------------------------|--------------|--------------|----------|---------------|
| | | 1" and smaller | 1-1/4" to 2" | 2-1/2" to 4" | 5" to 6" | 8" and larger |
| Hot Water Supply | Rigid Fiberglass | 1.5" | 1.5" | 1.5" | 1.5" | 1.5" |
| Hot Water Circulating | Rigid Fiberglass | 1" | 1" | 1.5" | | |
| Cold Water | Rigid Fiberglass | 0.5" | 0.5" | 1" | 1" | 1" |

EQUIPMENT INSULATION

Do not insulate over equipment access manholes, fittings, nameplates or ASME stamps. Bevel and seal insulation at these locations.

SEMI-RIGID FIBERGLASS:

Apply insulation to equipment shells using weld pins, bonding adhesive, banded and wired in place. Fill all joints, seams and depressions with insulating cement to a smooth, even surface. Cover with reinforcing fabric and 2 coats of mastic. . Use vapor barrier mastic on systems requiring a vapor barrier.

EQUIPMENT INSULATION SCHEDULE:

Provide equipment insulation as follows:

| Equipment | Insulation Type | Thickness | Remarks |
|------------------|------------------------|------------------|----------------|
| Storage Tanks | Semi-Rigid Fiberglass | 2" | |

END OF SECTION

END OF SECTION