

**THE HOUSING AUTHORITY OF  
CLACKAMAS COUNTY**

P.O. BOX 1510; 13900 S. GAIN STREET; OREGON CITY, OREGON  
97045

**Invitation for Bids**

**ASBESTOS PROJECT MANAGER & AIR  
MONITORING SERVICES - 2021**

Project No. 21007

Funded under the Capital Fund Program

provided by the  
U.S. Department of Housing and Urban Development

Prepared by:  
The Housing Authority of Clackamas County  
P.O. Box 1510  
Oregon City, Oregon 97045  
503-650-3143

October 14, 2021

## **BID PACKAGE INDEX**

- 1.0 Invitation for Bids**
- 2.0 Form HUD-5369-B, Instructions to Bidders for Contracts, Public and Indian Housing Programs**
- 3.0 Form HUD-5369-C, Representations, Certifications, and Other Statements of Bidders, Public and Indian Housing Programs**
- 4.0 Form HUD-5370-C, General Contract Conditions Non-Construction**
- 5.0 Form of Contract**
- 6.0 Special Conditions**
- 7.0 Certification Form - Economic Opportunities for Low and Very Low Income Persons (Section 3)**
- 8.0 Bid Form**
- 9.0 Detailed Specifications, as follows:**

**SECTION 01001 – BASIC REQUIREMENTS**  
**SECTION 01002 – ASBESTOS ABATEMENT**

## **1.0 Invitation for Bids**

**INVITATION for BIDS**

**Project # 21007**  
**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES - 2021**  
**for the**  
**Housing Authority of Clackamas County**  
**P.O. Box 1510, 13900 S. Gain**  
**Oregon City, Oregon 97045**

**funded under**  
**the Department of Housing and Urban Development (HUD)**  
**Capital Fund Program (CFP)**

**Project Name: Asbestos Project Manager & Air Monitoring Services - 2021**  
**Project No.: 21007**

**Bid Due Date: November 09, 2021 at 10:00 am.**

Notice is hereby given, bids for professional Asbestos Project Manager & Air Monitoring Services specified will be received by the Housing Authority of Clackamas County (HACC) at the above specified location, until the time and date cited. Bids received by the established time and date will be opened at that time. There will be a public opening of bids.

Bids must be in the actual possession of the HACC on or prior to the exact time and date indicated above. Late Bids will not be considered.

Submit all Bids with the offeror's name and address clearly indicated on the envelope. All bids must be legibly completed in ink or typewritten and shall be a complete bid.

**Designated Agency:** **Housing Authority of Clackamas County**  
**Contact Person:** **Josh Teigen**  
**Service:** **Professional Asbestos Project Management and Air Monitoring Services**

### **DESCRIPTION OF WORK**

Provide professional Asbestos Project Management & Air Monitoring Services for a period up to two calendar years (730 days) and for a **minimum of 10 testing days** and a **maximum of 75 testing days** (based on an 8 hour day). Provide all services in compliance with all applicable laws, codes, regulations, and ordinances and in compliance with the Specifications as used by the Housing Authority of Clackamas County (HACC) (a sample of the specifications is attached and will be made a part of the contract)

Asbestos Project Manager shall be on the site of the abatement activity at all times when abatement work is being conducted by the asbestos abatement contractor.

Asbestos Project Manager shall coordinate work with the asbestos abatement contractor and HACC. Asbestos Project Manager will be sufficiently available so as to not delay the work of the abatement contractor. At the end of each abatement project the Asbestos Project Manager shall submit:

1. A written statement stating that the contracted asbestos abatement is complete and that the work area is clear and ready for occupancy.
2. The Air Monitoring Test results with interpretation.

### **AWARD OF CONTRACT: REJECTION OF BIDS**

1. HACC will evaluate the competitors based on price, and then select the responsible firm whose bid is most advantageous to the HACC.
2. The Housing Authority reserves the right to reject any and all bids and to waive any informality in bids received whenever such rejection or waiver is in the interest of the Housing Authority.
3. The successful firm shall sign and file with the HACC all documents necessary to the successful execution of the contract within twenty-one working days after the Notice of Award.
4. The Housing Authority reserves the right to reject the bid of any firm or individual who has previously failed to perform properly, or to complete on time, contracts of a similar nature; who is not in a position to perform the contract, or who has habitually and without just cause neglected the payment of bills or otherwise disregarded their obligations to subcontractors, material suppliers, or employees.

### **ERRORS / OMISSIONS AND WITHDRAWAL OF BID**

1. Bids submitted early may be modified or withdrawn by notice to the party receiving bids at the place and prior to the time designated for receipt of bids. No bids may be withdrawn after the time designated for receipt of bids. Bids shall be open for acceptance for a period of not less than 60 days after the time designated for receipt of bids.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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2. The Housing Authority is not responsible for any error or omission in the bids submitted. Errors and omissions in preparing the bid confer no right to the bidder of withdrawal after the time designated for receipt of bids.
3. The bid shall be submitted in a sealed envelope.
4. The words "**BID FOR ASBESTOS PROJECT MANAGER AND AIR MONITORING SERVICES - 2021**" shall appear on the front of the envelope containing the bid. Also, the **DATE AND TIME** designated for the receipt of bids shall be clearly written on the envelope.
5. The Housing Authority assumes **NO** responsibility for the timely delivery of the bids to the location designated in the notice.

**BID DUE DATE AND TIME**

Bids are due no later than **November 09, 2021 at 10:00 a.m.** Local Time at the office of the Housing Authority of Clackamas County. Send all mailed bids to the following address:

Josh Teigen, Capital Improvement Coordinator  
The Housing Authority of Clackamas County  
P.O. Box 1510  
Oregon City, Oregon 97045

or deliver bids to the following address:

Josh Teigen, Capital Improvement Coordinator  
The Housing Authority of Clackamas County  
13900 S. Gain Street  
Oregon City, Oregon 97045

## **2.0 Form HUD-5369-B, Instructions to Bidders for Contracts, Public and Indian Housing Programs**

# Instructions to Offerors Non-Construction

U.S. Department of Housing  
and Urban Development  
Office of Public and Indian Housing



- 03291 -

## 1. Preparation of Offers

(a) Offerors are expected to examine the statement of work, the proposed contract terms and conditions, and all instructions. Failure to do so will be at the offeror's risk.

(b) Each offeror shall furnish the information required by the solicitation. The offeror shall sign the offer and print or type its name on the cover sheet and each continuation sheet on which it makes an entry. Erasures or other changes must be initialed by the person signing the offer. Offers signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the HA.

(c) Offers for services other than those specified will not be considered.

## 2. Submission of Offers

(a) Offers and modifications thereof shall be submitted in sealed envelopes or packages (1) addressed to the office specified in the solicitation, and (2) showing the time specified for receipt, the solicitation number, and the name and address of the offeror.

(b) Telegraphic offers will not be considered unless authorized by the solicitation; however, offers may be modified by written or telegraphic notice.

(c) Facsimile offers, modifications or withdrawals will not be considered unless authorized by the solicitation.

## 3. Amendments to Solicitations

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Offerors shall acknowledge receipt of any amendments to this solicitation by

- (1) signing and returning the amendment;
- (2) identifying the amendment number and date in the space provided for this purpose on the form for submitting an offer,
- (3) letter or telegram, or
- (4) facsimile, if facsimile offers are authorized in the solicitation. The HA/HUD must receive the acknowledgment by the time specified for receipt of offers.

## 4. Explanation to Prospective Offerors

Any prospective offeror desiring an explanation or interpretation of the solicitation, statement of work, etc., must request it in writing soon enough to allow a reply to reach all prospective offerors before the submission of their offers. Oral explanations or instructions given before the award of the contract will not be binding. Any information given to a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an amendment of the solicitation, if that information is necessary in submitting offers or if the lack of it would be prejudicial to any other prospective offerors.

## 5. Responsibility of Prospective Contractor

(a) The HA shall award a contract only to a responsible prospective contractor who is able to perform successfully under the terms and conditions of the proposed contract. To be determined responsible, a prospective contractor must -

- (1) Have adequate financial resources to perform the contract, or the ability to obtain them;

- (2) Have a satisfactory performance record;
- (3) Have a satisfactory record of integrity and business ethics;
- (4) Have a satisfactory record of compliance with public policy (e.g., Equal Employment Opportunity); and
- (5) Not have been suspended, debarred, or otherwise determined to be ineligible for award of contracts by the Department of Housing and Urban Development or any other agency of the U.S. Government. Current lists of ineligible contractors are available for inspection at the HA/HUD.

(b) Before an offer is considered for award, the offeror may be requested by the HA to submit a statement or other documentation regarding any of the foregoing requirements. Failure by the offeror to provide such additional information may render the offeror ineligible for award.

## 6. Late Submissions, Modifications, and Withdrawal of Offers

(a) Any offer received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it -

- (1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);
- (2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the HA/ HUD that the late receipt was due solely to mishandling by the HA/ HUD after receipt at the HA;
- (3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and U.S. Federal holidays; or
- (4) Is the only offer received.

(b) Any modification of an offer, except a modification resulting from the HA's request for "best and final" offer (if this solicitation is a request for proposals), is subject to the same conditions as in subparagraphs (a)(1), (2), and (3) of this provision.

(c) A modification resulting from the HA's request for "best and final" offer received after the time and date specified in the request will not be considered unless received before award and the late receipt is due solely to mishandling by the HA after receipt at the HA.

(d) The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the offer, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(e) The only acceptable evidence to establish the time of receipt at the HA is the time/date stamp of HA on the offer wrapper or other documentary evidence of receipt maintained by the HA.



(f) The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, offerors should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(g) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful offer that makes its terms more favorable to the HA will be considered at any time it is received and may be accepted.

(h) If this solicitation is a request for proposals, proposals may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before award. Proposals may be withdrawn in person by a offeror or its authorized representative if the identity of the person requesting withdrawal is established and the person signs a receipt for the offer before award. If this solicitation is an invitation for bids, bids may be withdrawn at any time prior to bid opening.

#### **7. Contract Award**

(a) The HA will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the HA, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The HA may

- (1) reject any or all offers if such action is in the HA's interest,
- (2) accept other than the lowest offer,
- (3) waive informalities and minor irregularities in offers received, and (4) award more than one contract for all or part of the requirements stated.

(c) If this solicitation is a request for proposals, the HA may award a contract on the basis of initial offers received, without discussions. Therefore, each initial offer should contain the offeror's best terms from a cost or price and technical standpoint.

(d) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. If this solicitation is a request for proposals, before the offer's specified expiration time, the HA may accept an offer, whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the HA.

(e) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract.

#### **8. Service of Protest**

Any protest against the award of a contract pursuant to this solicitation shall be served on the HA by obtaining written and dated acknowledgment of receipt from the HA at the address shown on the cover of this solicitation. The determination of the HA with regard to such protest or to proceed to award notwithstanding such protest shall be final unless appealed by the protestor.

#### **9. Offer Submission**

Offers shall be submitted as follows and shall be enclosed in a sealed envelope and addressed to the office specified in the solicitation. The proposal shall show **the hour and date specified in the solicitation for receipt, the solicitation number, and the name and address of the offeror, on the face of the envelope.**

It is very important that the offer be properly identified on the face of the envelope as set forth above in order to insure that the date and time of receipt is stamped on the face of the offer envelope. Receiving procedures are: date and time stamp those envelopes identified as proposals and deliver them immediately to the appropriate contracting official, and only date stamp those envelopes which do not contain identification of the contents and deliver them to the appropriate procuring activity only through the routine mail delivery procedure.

[Describe bid or proposal preparation instructions here:]

**3.0 Form HUD-5369-C,  
Representations, Certifications, and  
Other Statements of Bidders, Public  
and Indian Housing Programs**

# Certifications and Representations of Offerors

## Non-Construction Contract

Public reporting burden for this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

This form includes clauses required by OMB's common rule on bidding/offering procedures, implemented by HUD in 24 CFR 85.36, and those requirements set forth in Executive Order 11625 for small, minority, women-owned businesses, and certifications for independent price determination, and conflict of interest. The form is required for nonconstruction contracts awarded by Housing Agencies (HAs). The form is used by bidders/offerors to certify to the HA's Contracting Officer for contract compliance. If the form were not used, HAs would be unable to enforce their contracts. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

### 1. Contingent Fee Representation and Agreement

(a) The bidder/offeror represents and certifies as part of its bid/offer that, except for full-time bona fide employees working solely for the bidder/offeror, the bidder/offeror:

- (1)  has,  has not employed or retained any person or company to solicit or obtain this contract; and
- (2)  has,  has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) If the answer to either (a)(1) or (a) (2) above is affirmative, the bidder/offeror shall make an immediate and full written disclosure to the PHA Contracting Officer.

(c) Any misrepresentation by the bidder/offeror shall give the PHA the right to (1) terminate the resultant contract; (2) at its discretion, to deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

### 2. Small, Minority, Women-Owned Business Concern Representation

The bidder/offeror represents and certifies as part of its bid/offer that it:

- (a)  is,  is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.
- (b)  is,  is not a women-owned small business concern. "Women-owned," as used in this provision, means a small business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.
- (c)  is,  is not a minority enterprise which, pursuant to Executive Order 11625, is defined as a business which is at least 51 percent owned by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals.

For the purpose of this definition, minority group members are:

(Check the block applicable to you)

- |   |   |
|---|---|
| <input type="checkbox"/> Black Americans    | <input type="checkbox"/> Asian Pacific Americans  |
| <input type="checkbox"/> Hispanic Americans | <input type="checkbox"/> Asian Indian Americans   |
| <input type="checkbox"/> Native Americans   | <input type="checkbox"/> Hasidic Jewish Americans |

### 3. Certificate of Independent Price Determination

(a) The bidder/offeror certifies that—

- (1) The prices in this bid/offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder/offeror or competitor relating to (i) those prices, (ii) the intention to submit a bid/offer, or (iii) the methods or factors used to calculate the prices offered;
- (2) The prices in this bid/offer have not been and will not be knowingly disclosed by the bidder/offeror, directly or indirectly, to any other bidder/offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
- (3) No attempt has been made or will be made by the bidder/offeror to induce any other concern to submit or not to submit a bid/offer for the purpose of restricting competition.

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

- (1) Is the person in the bidder/offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or
- (2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above (insert full name of person(s) in the bidder/offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder/offeror's organization);  
(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

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

(c) If the bidder/offeror deletes or modifies subparagraph (a)2 above, the bidder/offeror must furnish with its bid/offer a signed statement setting forth in detail the circumstances of the disclosure.

#### 4. Organizational Conflicts of Interest Certification

(a) The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under a proposed contract and a prospective contractor's organizational, financial, contractual or other interest are such that:

(i) Award of the contract may result in an unfair competitive advantage;

(ii) The Contractor's objectivity in performing the contract work may be impaired; or

(iii) That the Contractor has disclosed all relevant information and requested the HA to make a determination with respect to this Contract.

(b) The Contractor agrees that if after award he or she discovers an organizational conflict of interest with respect to this contract, he or she shall make an immediate and full disclosure in writing to the HA which shall include a description of the action which the Contractor has taken or intends to eliminate or neutralize the conflict. The HA may, however, terminate the Contract for the convenience of HA if it would be in the best interest of HA.

(c) In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the HA, the HA may terminate the Contract for default.

(d) The Contractor shall require a disclosure or representation from subcontractors and consultants who may be in a position to influence the advice or assistance rendered to the HA and shall include any necessary provisions to eliminate or neutralize conflicts of interest in consultant agreements or subcontracts involving performance or work under this Contract.

#### 5. Authorized Negotiators (RFPs only)

The offeror represents that the following persons are authorized to negotiate on its behalf with the PHA in connection with this request for proposals: (list names, titles, and telephone numbers of the authorized negotiators):

#### 6. Conflict of Interest

In the absence of any actual or apparent conflict, the offeror, by submission of a proposal, hereby warrants that to the best of its knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement, as described in the clause in this solicitation titled "Organizational Conflict of Interest."

#### 7. Offeror's Signature

The offeror hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

\_\_\_\_\_  
Signature & Date:

\_\_\_\_\_  
Typed or Printed Name:

\_\_\_\_\_  
Title:

**4.0 Form HUD-5370-C General  
Contract Conditions Non-  
Construction**

# General Conditions for Non-Construction Contracts

## Section II – (With Maintenance Work)

### U.S. Department of Housing and Urban Development

Office of Public and Indian Housing

Office of Labor Relations

OMB Approval No. 2577-0157 (exp. 11/30/2023)

Public Reporting Burden for this collection of information is estimated to average one hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number.

**Applicability. This form HUD-5370C has 2 Sections. These Sections must be inserted into non-construction contracts as described below:**

- 1) Non-construction contracts (*without* maintenance) greater than \$150,000 - use Section I;
- 2) Maintenance contracts (including nonroutine maintenance as defined at 24 CFR 905.200) greater than \$2,000 but not more than \$150,000 - use Section II; and
- 3) Maintenance contracts (including nonroutine maintenance), greater than \$150,000 – use Sections I and II.

### Section II – Labor Standard Provisions for all Maintenance Contracts greater than \$2,000

#### 1. Minimum Wages

- (a) All maintenance laborers and mechanics employed under this Contract in the operation of the project(s) shall be paid unconditionally and not less often than semi-monthly, and without subsequent deduction (except as otherwise provided by law or regulations), the full amount of wages due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Housing and Urban Development which is attached hereto and made a part hereof. Such laborers and mechanics shall be paid the appropriate wage rate on the wage determination for the classification of work actually performed, without regard to skill. 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 classifications and wage rates approved by HUD under subparagraph 1(b), 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.
- (b) (i) Any class of laborers or mechanics 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. HUD shall approve an additional classification and wage rate only when the following criteria have been met:
  - (1) The work to be performed by the classification required is not performed by a classification in the wage determination;
  - (2) The classification is utilized in the area by the industry; and
  - (3) The proposed wage rate bears a reasonable relationship to the wage rates contained in the wage determination.
- (ii) The wage rate determined pursuant to this paragraph 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.

#### 2. Withholding of funds

The Contracting Officer, upon his/her own action or upon request of HUD, shall withhold or cause to be withheld from the Contractor under this Contract or any other contract subject to HUD-determined wage rates, with the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the Contractor or any subcontractor the full amount of wages required by this clause. In the event of failure to pay any laborer or mechanic employed under this Contract all or part of the wages required under this Contract, the Contracting Officer or HUD may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment or advance until such violations have ceased. The Public Housing Agency or HUD may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

#### 3. Records

- (a) The Contractor and each subcontractor shall make and maintain for three (3) years from the completion of the work records containing the following for each laborer and mechanic:
  - (i) Name, address and Social Security Number;
  - (ii) Correct work classification or classifications;
  - (iii) Hourly rate or rates of monetary wages paid;
  - (iv) Rate or rates of any fringe benefits provided;
  - (v) Number of daily and weekly hours worked;
  - (vi) Gross wages earned;
  - (vii) Any deductions made; and
  - (viii) Actual wages paid.
- (b) The Contractor and each subcontractor shall make the records required under paragraph 3(a) available for inspection, copying, or transcription by authorized representatives of HUD or the HA and shall permit such representatives to interview employees during working hours on the job. If the Contractor or any subcontractor fails to make the required records available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance or guarantee of funds.

#### 4. Apprentices and Trainees

- (a) Apprentices and trainees will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in:
  - (i) A bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration (ETA), Office of

Apprenticeship Training, Employer and Labor Services (OATELS), or with a state apprenticeship agency recognized by OATELS, or if a person is employed in his/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 OATELS or a state apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice; A

(ii) trainee program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, ETA; or

(iii) A training/trainee program that has received prior approval by HUD.

- (b) Each apprentice or trainee must be paid at not less than the rate specified in the registered or approved program for the apprentice's/trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices and trainees shall be paid fringe benefits in accordance with the provisions of the registered or approved program. If the program does not specify fringe benefits, apprentices/trainees must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification.
- (c) The allowable ratio of apprentices or trainees to journeyman on the job site in any craft classification shall not be greater than the ratio permitted to the employer as to the entire work force under the approved program.
- (d) Any worker employed at an apprentice or trainee wage rate who is not registered in an approved program, and any apprentice or trainee performing work on the job site in excess of the ratio permitted under the approved program, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.
- (e) In the event OATELS, a state apprenticeship agency recognized by OATELS or ETA, or HUD, withdraws approval of an apprenticeship or trainee program, the employer will no longer be permitted to utilize apprentices/trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

## 5. Disputes concerning labor standards

- (a) Disputes arising out of the labor standards provisions contained in Section II of this form HUD-5370-C, other than those in Paragraph 6, shall be subject to the following procedures. Disputes within the meaning of this paragraph include disputes between the Contractor (or any of its subcontractors) and the HA, or HUD, or the employees or their representatives, concerning payment of prevailing wage rates or proper classification. The procedures in this section may be initiated upon HUD's own motion, upon referral of the HA, or upon request of the Contractor or subcontractor(s).
- (i) A Contractor and/or subcontractor or other interested party desiring reconsideration of findings of violation by the HA or HUD relating to the payment of straight-time prevailing wages or classification of work shall request such reconsideration by letter postmarked within 30 calendar days of the date of notice of findings issued by the HA or HUD. The request shall set

forth those findings that are in dispute and the reasons, including any affirmative defenses, with respect to the violations. The request shall be directed to the appropriate HA or HUD official in accordance with instructions contained in the notice of findings or, if the notice does not specify to whom a request should be made, to the Regional Labor Relations Officer (HUD). The HA or HUD official shall, within 60 days (unless otherwise indicated in the notice of findings) after receipt of a timely request for reconsideration, issue a written decision on the findings of violation. The written decision on reconsideration shall contain instructions that any appeal of the decision shall be addressed to the Regional Labor Relations Officer by letter postmarked within 30 calendar days after the date of the decision. In the event that the Regional Labor Relations Officer was the deciding official on reconsideration, the appeal shall be directed to the Director, Office of Labor Relations (HUD). Any appeal must set forth the aspects of the decision that are in dispute and the reasons, including any affirmative defenses, with respect to the violations. The Regional Labor Relations Officer shall, within 60 days (unless otherwise indicated in the decision on reconsideration) after receipt of a timely appeal, issue a written decision on the findings. A decision of the Regional Labor Relations Officer may be appealed to the Director, Office of Labor Relations, by letter postmarked within 30 days of the Regional Labor Relations Officer's decision. Any appeal to the Director must set forth the aspects of the prior decision(s) that are in dispute and the reasons. The decision of the Director, Office of Labor Relations, shall be final.

- (b) Disputes arising out of the labor standards provisions of paragraph 6 shall not be subject to paragraph 5(a) of this form HUD-5370C. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this paragraph 5(b) include disputes between the Contractor (or any of its subcontractors) and the HA, HUD, the U.S. Department of Labor, or the employees or their representatives.

## 6. Contract Work Hours and Safety Standards Act

The provisions of this paragraph 6 are applicable only where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" includes watchmen and guards.

- (a) **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 40 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 40 hours in such workweek.
- (b) **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the provisions set forth in paragraph 6(a), the Contractor and any

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subcontractor responsible therefor 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 the 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 provisions set forth in paragraph (a) of this clause, 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 40 hours without payment of the overtime wages required by provisions set forth in paragraph (a) of this clause.

- (c) **Withholding for unpaid wages and liquidated damages.** HUD or its designee shall upon its own action or upon written request of an authorized representative of the U.S. 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 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 provisions set forth in paragraph (b) of this clause.

## **7. Subcontracts**

The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this Section II and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the provisions contained in these clauses.

## **8. Non-Federal Prevailing Wage Rates**

Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under state law to be prevailing, with respect to any employee in any trade or position employed under the Contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate, exclusive of any fringe benefits, exceeds the applicable wage rate determined by the Secretary of HUD to be prevailing in the locality with respect to such trade or position.



## **5.0 Form of Contract**

**FORM OF CONTRACT**  
**PROJECT #21007**

THIS CONTRACT, effective upon signature of both parties, is made by and between **(Contractor)**, a business entity authorized to do business in the State of Oregon, hereinafter called the "Contractor," and **the Housing Authority of Clackamas County** hereinafter call the "PHA."

WITNESSETH, that the Contractor and the PHA for the consideration stated herein mutually agreed as follows:

**ARTICLE 1. Statement of Work.** The Contractor shall furnish all labor, material, equipment and services, and perform and complete all work ("Work") described in the Contract Documents, defined below, or reasonably inferred therefrom, as required for completion of the **ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES - 2021, #21007**. Work shall be performed in strict accordance with this Contract and all Contract Documents, defined below, including the Scope of Work, HUD General Conditions, and any Addenda.

**ARTICLE 2. The Contract Price.** The PHA shall pay the Contractor for the performance of the Contract, in current funds, subject to additions and deductions as provided in the Scope of Work, a sum not to exceed. (**\$ \_\_\_\_\_**).

**ARTICLE 3. Contract Dates.** The following critical dates are hereby set for the ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES - 2021. Time is of the essence.

- A. START DATE: November 29, 2021
- B. SUBSTANTIAL COMPLETION DATE: N/A
- C. FINAL COMPLETION DATE: November 29, 2023

**ARTICLE 4. Contract Documents.** The Contract shall consist of the following component parts:

- a. This Agreement
- b. Bid Documents
- c. HUD General Conditions
- d. Addendum(s), if any
- e. Special Conditions
- f. Scope of Work

This instrument, together with the other documents enumerated in this Article 4, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, form the Contract. In the event that any provision in any component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this Article 4 shall govern, except as otherwise specifically stated. The various provisions in Addenda shall be construed in the order of preference of the component part of the Contract which each modifies.

**ARTICLE 5. Responsibility for Damages/Indemnity.** Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under the Contract, or from any act, omission or neglect of the Contractor, its subcontractors, employees, guests, visitors, invitees and agents.

To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by PHA) and hold harmless the PHA and its elected officials, officers, directors, agents, and employees (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses, demands and actions of any nature whatsoever which arise out of, result from or are related to: (a) any damage, injury, loss, expense, inconvenience or delay described in this Article 5; (b) any accident or occurrence which happens or is alleged to have happened in or about the project site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects; (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract; (d) the negligent acts or omissions of the Contractor, a subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140); and (e) any lien filed upon the project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Article 5.

In claims against any person or entity indemnified under this Article 5 by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Article 5 shall not be limited on amount or type of damages, compensation or benefits payable by or for the Contractor or a subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

**ARTICLE 6.** No person shall be employed for more than 10 hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency, or where the public policy absolutely requires it, and in such cases, except in cases of contracts for personal services as described in ORS 279C.100, the employee shall be paid at least time and a half pay for (1) all overtime in excess of eight hours in any one day or 40 hours in any one week if the work week is five consecutive days, Monday through Friday or (2) all overtime in excess of 10 hours in any one day or 40 hours in any one week if the work week is four consecutive days, Monday through Friday; and all work the employee performs on Saturday and on any legal holiday specified in ORS 279C.540. All subject employers working under this contract are either employers that will comply with ORS 656.017 or employers that are exempt under ORS 656.126. Contractor shall comply with the prohibition set forth in ORS 652.220, compliance of which is a material element of the Contract and a failure to comply is a breach entitling PHA to terminate the Contract for cause.

**ARTICLE 7.** Under the provisions of ORS 279C.515, if the Contractor fails, neglects, or refuses to make prompt payment of any claim for labor or services furnished to the Contractor or a subcontractor by any person in connection with this contract as the claim becomes due, the proper officer representing the PHA may pay such claim to the person furnishing the labor or services and charge the amount of the payment against the funds due or to become due the Contractor by reason of the contract.

If the Contractor or a first-tier subcontractor fails, neglects or refuses to pay a person that provides labor or materials in connection with the public improvement contract within 30 days after receiving payment from the contracting agency or a contractor, the Contractor or first-tier subcontractor owes the person the amount due plus interest charges that begin at the end of the 10-day period within which payment is due under ORS 279C.580 (4) and that end upon final

payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest on the amount due is nine percent per annum. The amount of interest may not be waived.

If the Contractor or a subcontractor fails, neglects or refuses to make payment to a person furnishing labor or materials in connection with the public contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

**ARTICLE 8.** The Contractor agrees to pay daily, weekly, weekend and holiday overtime as required by ORS 279C.520.

**ARTICLE 9.** The Contractor agrees that all employees/workers working on this project, whether employed by the Contractor or any subcontractor, shall be given written notice of the number of hours per day and days per week they may be required to work.

**ARTICLE 10.** The Contractor shall promptly, as due, make payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or other needed care and attention, incident to sickness or injury, to the employees of the contractor, of all sums that the contractor agrees to pay for the services and all moneys and sums that the contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services.

**ARTICLE 11.** The Contractors agrees to pay no less than the applicable state or federal prevailing wage rate, whichever is higher per ORS 279C.830(1)(b).

**ARTICLE 12.** The Contractor agrees to have a performance bond and payment bond in place before starting any work on the project per ORS 279C.380. The Contractor agrees to have filed a public works bond with the Construction Contractors Board before starting any work on the project.

**ARTICLE 13.** The Contractor agrees that every subcontract shall include a provision requiring all subcontractors to have a public works bond filed with the Construction Contractors Board before starting any work on the project per ORS 279C.830.

**ARTICLE 14.** Contractor certifies that both it and any of its subcontractors are (1) Registered to conduct business in the state of Oregon; (2) are actively licensed with the Oregon Construction Contractors Board; (3) are bonded and insured in amounts that meet or exceed the county's minimal requirements.

**ARTICLE 15.** CONTRACTOR shall:

- (1) Make payment promptly, as due, to all persons supplying to such contractor labor or material for the prosecution of the work provided for in such contract.
- (2) Pay all contributions or amounts due the State Industrial Accident Fund from such contractor or subcontractor incurred in the performance of the contract.
- (3) Not permit any lien or claim to be filed or prosecuted against the state, county, school district, municipality, municipal corporation or subdivision thereof, on account of any labor or material furnished.

(4) Pay to the Revenue Department all sums withheld from the employees pursuant to ORS 316.167.

(5) Demonstrate that an employee drug testing program is in place.

**ARTICLE 16.** The Contractor shall include in each subcontract those provisions required under ORS 279C.580.

**ARTICLE 17.** For demolition tasks, if any, the Contractor shall salvage or recycle construction and demolition debris, if feasible and cost-effective.

**ARTICLE 18.** Tax Laws.

**18.1** The Contractor represents and warrants that, for a period of no fewer than six calendar years preceding the effective date of this Agreement, has faithfully complied with:

- a) All tax laws of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318;
- b) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, to Contractor's property, operations, receipts, or income, or to Contractor's performance of or compensation for any work performed by Contractor;
- c) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, or to goods, services, or property, whether tangible or intangible, provided by Contractor; and
- d) Any rules, regulations, charter provisions, or ordinances that implemented or enforced any of the foregoing tax laws or provisions.

**18.2** Contractor represents and warrants that, throughout the duration of this Agreement and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. Any violation of this section shall constitute a material breach of this Agreement. Further, any violation of Contractor's warranty in this Agreement that Contractor has complied with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a material breach of this Agreement. Any violation shall entitle PHA to terminate this Agreement, to pursue and recover any and all damages that arise from the breach and the termination of this Agreement, and to pursue any or all of the remedies available under this Agreement, at law, or in equity, including but not limited to:

- a. Termination of this agreement, in whole or in part;
- b. Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to PHA's setoff right, without penalty; and
- c. Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. PHA shall be entitled to recover any and all damages suffered as the result of PHA's breach of this Agreement, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing replacement performance.

These remedies are cumulative to the extent the remedies are not inconsistent, and PHA may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

**ARTICLE 19. Liquidated damages**

The Contractor acknowledges that PHA will sustain damages as a result of the Contractor's failure to substantially complete the work authorized under this Contract and in accordance with the Contract Documents. These damages may include, but are not limited to delays in completion, use of the project, and costs associated with Contract administration and use of temporary facilities.

- 19.1** Liquidated Damages shall be as follows if the actual Final Completion exceeds the required date of Final Completion:  
**19.1.1.** \$0.00 per each Calendar day after the set Final Completion date.

**ARTICLE 20. Additional Terms**

- (1) Execution and Counterparts.** This Contract may be executed in several counterparts, each of which shall be an original, all of which shall constitute one and the same instrument.
- (2) Integration.** The Contract Documents constitute the entire agreement between the Parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.
- (3) Governing Law.** This Contract shall be governed and construed in accordance with the laws of the State of Oregon without regard to principles of conflicts of law. Any claim, action, or suit between County and Contractor that arises out of or relates to the performance of this Contract shall be brought and conducted solely and exclusively within the Circuit Court for Clackamas County, for the State of Oregon. Provided, however, that if any such claim, action, or suit may be brought in a federal forum, it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon.
- (4) Compliance with Applicable Law.** Contractor shall comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the Work to be done under this Contract including, but not limited to, compliance with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.
- (5) Reserved.**
- (6) Compliance with Applicable Funding Source Requirements.** Contractor shall further comply with any and all terms, conditions, and other obligations as may be required by the applicable State or Federal agencies providing funding for performance under this Contract, whether or not specifically referenced herein. Contractor agrees to take all necessary steps, and execute and deliver any and all necessary written instruments, to perform under this Contract including, but not limited to, executing all additional

documentation necessary for PHA to comply with applicable State or Federal funding requirements.

- (7) **Debt Limitation.** This Contract is expressly subject to the debt limitation of Oregon counties set forth in Article XI, Section 10, of the Oregon Constitution, and is contingent upon funds being appropriated therefore. Any provisions herein which would conflict with law are deemed inoperative to that extent.
- (8) **No attorney fees.** No attorney fees shall be paid for or awarded to either party in the course of any dispute, indemnification, or other recovery. It is the intent of the parties that each shall bear the costs of its own legal counsel.
- (9) **Severability.** If any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.
- (10) **No Third Party Beneficiaries.** PHA and Contractor are the only parties to this Contract and are the only parties entitled to enforce its terms. Nothing in this Contract gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or otherwise, to third persons unless such third persons are individually identified by name herein and expressly described as intended beneficiaries of the terms of this Contract.
- (11) **Waiver.** The failure of PHA to enforce any provision of this Contract shall not constitute a waiver by PHA of that or any other provision.
- (12) **Merger.** This Contract constitutes the entire agreement between the parties with respect to the subject matter referenced therein. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Contract. No amendment, consent, or waiver of terms of this Contract shall bind either party unless in writing and signed by all parties. Any such amendment, consent, or waiver shall be effective only in the specific instance and for the specific purpose given. Contractor, by the signature hereto of its authorized representative, is an independent contractor, acknowledges having read and understood this contract, and contractor agrees to be bound by its terms and conditions.
- (13) **Responsibility for Taxes.** Contractor is solely responsible for payment of any federal, state, or local taxes required as a result of the Agreement or the Work including, but not limited, to payment of the corporate activity tax imposed under enrolled HB 3427 (2019 Oregon regular legislative session).

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed in **two** original counterparts as of the day and year first above written.

**HOUSING AUTHORITY OF  
CLACKAMAS COUNTY BOARD**

\_\_\_\_\_  
Contractor

Dated this \_\_\_\_ day of October, 2021.

\_\_\_\_\_  
Contractor Authorized Representative's  
Signature / Date

\_\_\_\_\_  
Executive Director, Jill Smith

\_\_\_\_\_  
Contractor Authorized Representative's  
Name / Title - Print or Type

\_\_\_\_\_  
Federal I.D. Number

\_\_\_\_\_  
Business Address - Street, City, State, Zip

\_\_\_\_\_  
State of Oregon CCB License Number



**CERTIFICATION**

I \_\_\_\_\_  
certify that I am the \_\_\_\_\_  
at the corporation named as Contractor herein, that \_\_\_\_\_  
who signed this Contract on behalf of the Contractor, was then \_\_\_\_\_  
of said corporation; that said Contract was duly signed for and in behalf of said  
corporation by authority of its governing body, and is within the scope of its corporate  
powers.

\_\_\_\_\_  
Authorized Representative's Signature / Date

\_\_\_\_\_  
Authorized Representative's Name / Title - Print or Type

## **6.0 Special Conditions**

**PROJECT #21007 – SPECIAL CONDITIONS**

**1.1 COMMUNICATIONS**

- A. All bids, notices, demands, requests, instructions, approvals, proposals, and claims must be in writing. Oral explanations or instructions will not be binding. Only written addenda are binding. Any addenda resulting from these requests will be mailed to all listed holders of the Bid Document no later than four (4) days prior to the bid opening. The Bidder shall acknowledge the receipt of all addenda.
- B. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract or at such other office as Contractor may from time to time designate in writing to the Housing Authority of Clackamas County (PHA) or deposited in the United States mail in a sealed, postage-prepaid envelope, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.
- C. All papers required to be delivered to the PHA shall, unless otherwise specified in writing to the Contractor, be delivered to the Housing Authority of Clackamas County, P.O. Box 1510, Oregon City, Oregon 97045 and any notice to or demand upon the PHA shall be sufficiently given if so delivered, or deposited in the United States mail in a sealed, postage prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said Capital Improvement Coordinator at such address, or to such other representative of the PHA or to such other address as the PHA may subsequently specify in writing to the Contractor for such purpose.
- D. Any such notice shall be deemed to have been given as of the time of actual delivery; or, in the case of mailing, when the same should have been received in due course of post; or, in the case of telegrams, at the time of actual receipt.

**1.2 REQUIRED CERTIFICATIONS**

- A. All contractors/subcontractors working on this project shall be licensed per ORS 468A.720.
- B. No bid for a construction contract shall be received or considered by the PHA unless the bidder is licensed by the Construction Contractors Board or licensed by the State Landscape Contractors Board as required by ORS 671.530.
- C. Copies of all certifications above are to be included with bid. Failure to submit the above required information could render the bid Non-Responsive.

**1.3 INDEMNIFICATION / INSURANCE REQUIREMENTS** (In addition to the requirements found in the General Conditions)

- A. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, employees or subcontractors. With respect to General Liability and Pollution, Environmental Impairment and Lead Pollution Liability, coverage shall be maintained for a minimum of five (5) years after contract completion.
- B. **Minimum Scope of Insurance**

Coverage shall be at least as broad as:

1. Insurance Services Office (ISO) Commercial General Liability coverage (occurrence Forms CG 20 10 & CG 20 37 or Form CG 32 61 10 05 or Form CG 85 22 07 04).
2. ISO Form No. CA 00 01 06 92, covering Automobile Liability, Code 1 (any auto).
3. Worker's Compensation insurance as required by State law and Employer's Liability insurance.

**C. Minimum Limits of Insurance**

Contractor shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability (Workers Compensation): \$1,000,000 each accident, \$1,000,000 policy limit bodily injury by disease, \$1,000,000 each employee bodily injury by disease.

**D. Deductible and Self Insured Retentions:**

Any deductibles or self-insured retentions must be declared to and approved by the Housing Authority of Clackamas County (PHA). If possible, the Insurer shall reduce or eliminate such deductibles or self insured retentions as respects PHA, its officers, officials, employees and volunteers; or the Contractor shall provide evidence satisfactory to the Authority guaranteeing payment of losses and related investigations, claim administration and defense expenses.

**E. Other Insurance Provisions:**

1. The general liability and automobile liability are to contain, or be endorsed to contain, the following provisions:
  - a. The Housing Authority of Clackamas County (PHA), its officers, officials, employees and volunteers are to be covered as additional insureds in regard to the general liability coverage. Coverage is primary and non contributory and completed operations. With respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the Contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operation. General Liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy.
  - b. Insurance Services Office (ISO) Properties Inc. Commercial General Liability endorsement Forms **CG 20 10 and CG 20 37 or Form CG 32 61 10 05 or Form CG 85 22 07 04** titled "Additional Insured – Owners, Lessees or Contractors – Completed Operations" are required or their equivalent for maximum coverage. These two endorsements **must be submitted with each certificate of insurance submitted.**
  - c. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects PHA, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by PHA, its officers, officials, employees, agents or volunteers shall be excess of the Contractor' insurance and shall not contribute with it.
  - d. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after sixty (60) days prior written notice by certified mail, return receipt request, has been given to PHA.
  - e. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of the contract.

- f. Course of construction policies shall contain the following provisions:
  - 1) PHA shall be named as loss payee.
  - 2) The insurer shall waive all rights of subrogation against the Authority, its officers, officials, employees and volunteers.
- F. Acceptability of Insurers: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than B+: VI.
- G. Verification of Coverage: Contractor shall furnish PHA with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsement should be on forms provided by PHA or on other than PHA's forms, provided those endorsements conform fully to the requirements. All endorsements are to be received and approved by PHA before work commences in sufficient time to permit contractor to remedy any deficiencies. PHA reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.
- H. Subcontractors: Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor in a manner and in such time as to permit PHA to approve them before subcontractors' work begins. All coverages for subcontractors shall be subject to all of the requirements stated herein.

#### 1.4 **MINIMUM RATES OF PAY**

- A. Workers on this project shall be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and ORS 279C.840.
- B. Additional Wage Classifications: Should additional wage classifications be necessary the Contractor should prepare and submit a request for additional classifications to PHA. PHA will prepare the request for additional classifications only after the contract has been executed.
- C. The Contractor agrees to pay no less than the applicable state or federal prevailing wage rate, whichever is higher per ORS 279C.830(1)(b).

#### 1.5 **RECORDKEEPING REQUIREMENTS**

- A. PHAs, tribes, TDHEs, and any other employers (e.g., contractors, subcontractors) engaged on work subject to HUD-determined wage rates must make and maintain for 3 years from the completion of the work records containing information demonstrating compliance with the prevailing wage rates determined (or adopted) by HUD and applicable to the work. 3 These records must at a minimum contain for each laborer and mechanic employed:

- 1) His or her name, address and social security number;
- 2) Correct work classification or classifications;
- 3) Hourly rate or rates of monetary wages paid;
- 4) Rate or rates of any fringe benefits provided;
- 5) Number of daily and weekly hours worked;
- 6) Gross wages earned;
- 7) Any deductions taken; and
- 8) Actual wages paid.

Such records shall be made available for inspection or transcription by authorized representatives of the PHA, tribe, TDHE and/or HUD.

**1.6 PAYROLL DEDUCTIONS AND FREQUENCY OF WAGE PAYMENTS**

- A. Employers (PHAs, tribes, TDHEs, contractors and/or subcontractors) must pay to each employee subject to HUD-determined wage requirements the full amount of wages due free and clear and without subsequent deduction (except as otherwise provided by law or regulations). These payments must be made no later than one pay period following the end of the regular pay period in which the wages were earned or accrued. A pay period may not be of any duration longer than semi-monthly.

**1.7 SUBCONTRACTOR DISCLOSURE**

- A. Within two working hours after the date and time of the deadline when the bids are due to the PHA a bidder shall submit to the PHA a disclosure of the first-tier subcontractors, on the form provided, that:
- (1) will be furnishing labor or will be furnishing labor and materials in connection with the public improvement; and
  - (2) will have a contract value that is equal to or greater than five percent of the total project bid or \$15,000, which ever is greater, or \$350,000 regardless of the percentage of the total project bid.
- B. The disclosure of first-tier subcontractors shall include:
- (1) The name of each subcontractor; and
  - (2) The category of work that each subcontractor will be performing, and
  - (3) The dollar value of each subcontract
- C. The PHA shall consider the bid of any contractor that does not submit a subcontractor disclosure (the form MUST be submitted even if there are to be no subcontractors and the word “NONE” entered on the first line of the First-Tier Subcontractor Disclosure Form) to the PHA to be a nonresponsive bid and may not award the contract to the contractor. A PHA is not required to determine the accuracy or the completeness of the subcontractor disclosure. (ORS 279 contracts over \$100,000)

**1.8 REGULATIONS AND COMPLIANCE**

- A. If this solicitation is for public work subject to ORS 279C.800 to 279C.870 or the Davis-Bacon Act (40 U.S.C. 276a), no bid will be received or considered by PHA unless the bid contains a statement by the bidder as a part of its bid that the provisions of ORS 279.350 or 40 U.S.C. 276a are to be complied with.
- B. The Contractor agrees to have a public works bond filed with the Construction Contractors Board before starting any work on the project per ORS 279C.836.
- C. The Contractor agrees that every subcontract shall include a provision requiring all subcontractors to have a public works bond filed with the Construction Contractors Board before starting any work on the project.

**1.9 LIENS**

- A. The contractor is prohibited from placing a lien on PHA’s property. This prohibition shall apply to all subcontractors.

**7.0 Certification Form – Economic  
Opportunities for Low and Very  
Low Income Persons (Section 3)**

## **SECTION 3 CLAUSE**

1. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
2. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
3. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
4. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
5. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with person other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
6. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
7. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

**HUD Section 3 Requirements (General Conditions, 15.18)**

The successful Bidder will be required to comply with the provisions of section 3 of Housing and Urban Development Act of 1968 as amended (herein referred to as section 3 requirements). Such provisions require that economic opportunities generated by HUD financial assistance shall, to the greatest extent feasible, be given to low income residents of the metropolitan area in which the project is located and to businesses that provide economic opportunities for these persons.

**Contracts exceeding \$1.00 are considered “section 3 covered contracts” and are thus subject to the provisions contained in 24 CFR part 135. Bids exceeding \$1.00 must include an indication of whether or not the firm submitting the bid is a “section 3 business concern.”**

A section 3 business concern is defined by HUD regulations as a business concern:

- A. That is 51 percent or more owned by section 3 resident; or
- B. Whose permanent, full-time employees include persons, at least 30 percent of whom are currently section 3 residents or, within three years of the date of first employment with the business concern, were section 3 residents; or
- C. That provides evidence of a commitment to subcontract in excess of 25 percent of the dollar award of all subcontracts to be awarded to business concerns that meet the qualifications set forth in paragraphs (1) or (2) above.

A section 3 resident means:

- A. A public housing resident; or
- B. An individual who resides in the metropolitan area in which the section 3 covered assistance is expended, and who is a low-income person or a very low-income person. For purposes of this project residents of the Portland/Vancouver metropolitan area who are members of families meeting the following income limits are considered low or very low income persons.

HUD Annual Income Limits for the Portland-Vancouver Metropolitan Area								
	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7 Person	8 Person
Very Low Income	\$14,950	\$17,100	\$19,200	\$21,350	\$23,050	\$24,750	\$26,450	\$28,200
Low Income	\$23,950	\$27,350	\$30,750	\$34,150	\$36,900	\$39,600	\$42,350	\$45,150

**SECTION 3 REPORT**  
Economic Opportunities for Low Income Persons

Housing Authority  
Clackamas County, Oregon

Project Title: Asbestos Air Monitoring – 2021

Project Number: 21007

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

**Part I: Contract/Contractor Information**  Prime Contractor  Subcontractor

1. Contractor:	2. Racial/Ethnic Code:
3. Contact Person:	4. Section 3 Business Concern: <input type="checkbox"/> Yes <input type="checkbox"/> No
5. Contract Amount: \$	6. Reporting Period:

**Part II: Employment and Training Activity**

A Total New Hires	B % of New Hires that are Section 3 Residents	C % of Total Staff Hours for Section 3 Employees and Trainees	D Number of Section 3 Employees and Trainees	E Racial/Ethnic Code(s) show Numbers for Column D				
				1	2	3	4	5

Racial/Ethnic Codes:  
1=White American 2=Black American 3=Native American 4=Hispanic American 5=Asian Pacific American  
6=Hasidic Jews (for ownership of contractor or subcontractor firms only)

**Part III: Subcontract Activity** (for subcontracts over \$100,000)

Subcontractor	Subcontract Amount

**Instructions for completing Section 3 Report:**

**Part I**

The Section 3 Report is required to be submitted by prime contractors for contracts over \$1.00 and by subcontractors for subcontracts over \$1.00. Check the appropriate box to indicate whether this report applies to prime contractor or subcontractor covered by Section 3 requirements.

1. Enter then name of the contractor (or covered subcontractor) here.
2. Enter the Racial/Ethnic Code which best applies to the contracting (or covered subcontracting) firm.
3. Enter the name of a contact person for the firm who is most familiar with information reported on this form.
4. Check whether or not the firm is a Section 3 business concern. See Instructions to Bidders for Section 3 business concern definition.
5. Enter the dollar amount of the contract (or covered subcontract.)
6. Indicate the time period covered by this report.

**Part II**

- A. Identify job categories for each trade in which new hires were employed in connection with this contract (or covered subcontract). For construction positions, list new hires identified in separate rows by trade. If applicable, report on hiring of any professionals (defined as supervisors and people who have special knowledge of an occupation such as architects, surveyors, planners and computer programmers) as additional job categories.
- B. Enter the percentage represented by Section 3 residents of all new hires that occurred in connection with this contract (or covered subcontract). New Hires include permanent, temporary and seasonal full-time positions.
- C. Enter the percentage of the total staff hours worked for Section 3 employees and trainees (including new hires) in connection with this contract (or covered subcontract). Include staff hours for part-time and full-time positions.
- D. Enter the number of Section 3 residents that were hired and trained in connection with this contract (or covered subcontract).
- E. Enter under each racial/ethnic code (1-5) the number of employees and trainees recorded in column D.

**Part III**

Enter the name of the subcontractor for all subcontracts over \$1.00 entered into by the firm identified in Part 1 in connection with the project. Indicate the dollar amount of all such subcontracts.

**CERTIFICATION: ECONOMIC OPPORTUNITIES FOR LOW AND VERY LOW INCOME PERSONS - SECTION 3 OF HUD ACT**

Contractor Name: \_\_\_\_\_  
Contractor Address: \_\_\_\_\_  
Contractor Phone: \_\_\_\_\_

Having familiarized myself with the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3), I certify:

1. That the Contractor named above is [ ], is not [ ], a Section 3 Business as defined by Section 3 of the Housing and Urban Development act of 1968, as amended, 12 U.S.C.1701u (section 3).
2. That the Contractor named above is [ ], is not [ ] a Category 1 business (51% or more owned by residents of the housing development or developments for which the section 3 covered assistance is expended, or whose full time, permanent workforce includes 30% of such residents as employees).
3. That the Contractor named above is [ ], is not [ ] a Category 2 business (51% or more owned by residents of other housing developments or developments managed by the housing authority that is expending the section 3 covered funding, or whose full-time, permanent workforce includes 30% of such residents as employees).
4. That the Contractor named above is [ ], is not [ ] a Category 3 business (HUD Youth build programs being carried out in the metropolitan area, or non-metropolitan county, in which the section 3 covered funding is expended).
5. That the Contractor named above is [ ], is not [ ] a Category 4 business (51% or more owned by section 3 residents, or whose full-time, permanent workforce includes no less than 30% section 3 residents; or that subcontract in excess of 25% of the total amount of subcontracts to category 1 or 2 businesses).
6. The Contractor will certify [ ], will not [ ] certify, that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor’s obligations under 24CFR part 135.

I \_\_\_\_\_, certify that I am the \_\_\_\_\_ (corporate title) at the corporation (company) known as \_\_\_\_\_ that I have the authority to sign on the behalf of the corporation and that the statements made above are true.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed or typed name)

\_\_\_\_\_  
Notary

**COMPLETE AND RETURN THIS PAGE WITH YOUR BID.**

## **8.0 Bid Form**

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

**BID FORM**

BIDDER \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

**BID FOR: Asbestos Project Manager & Air Monitoring Services – 2021, Project #21007**

THE HOUSING AUTHORITY OF CLACKAMAS COUNTY  
P.O. Box 1510  
13900 S. Gain Street  
Oregon City OR 97045

TO: Contracting Officer:

- The undersigned, having familiarized (himself/herself/themselves) with the local conditions affecting the cost of the work, and with the Specifications (including the Invitation for Bids, Instruction to Bidders (form HUD-5369), this bid, the Form of Non-collusive Affidavit, the Form of Contract, and the General Conditions (form HUD-5370), the Special Conditions, the General Scope of Work, the Technical Specifications, and Addenda if any thereto, as prepared by the Housing Authority of Clackamas County (HACC) and on file in the office of HACC hereby proposes to furnish all labor, materials, equipment, and services required to complete: **ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES - 2021, PROJECT #21007** all in accordance therewith, for the total sum not to exceed \_\_\_\_\_ dollars (\$ \_\_\_\_\_ ) and to be paid in accordance with the following unit prices:

#	WORK ITEM	BID AMOUNT PER HR or SAMPLE	QUANTITY**	EXTENDED AMOUNT FOR BIDDING
	<b>Rates 1-4 for ASBESTOS TESTING</b>			
1.	Daily Rate (8 Hrs includes 10 Air samples)		<b>20</b>	
2.	Hourly Rate not including samples		<b>20</b>	
3.	Additional Samples		<b>20</b>	
4.	Report Generation		<b>20</b>	
	<b>Rates 5-8 for MOLD TESTING</b>			
5.	Air Quality/Air Sample (Interior of Unit)		<b>15</b>	
6.	Air Quality/Air Sample (Exterior of Unit)		<b>15</b>	
7.	Mold Tape Lift Sample		<b>15</b>	
8.	Report Generation		<b>15</b>	
			<b>TOTAL</b>	<b>\$</b>

**\*\* QUANTITY IS FOR BIDDING PURPOSE ONLY.**

Addendum #1 \_\_\_\_\_ Addendum #2 \_\_\_\_\_ Addendum #3 \_\_\_\_\_ Addendum #4 \_\_\_\_\_.

## **CONTRACTOR BIDDING REQUIREMENTS**

### **1. Submission Requirements:**

- a. To be considered responsive and responsible, each contractor shall respond to the following requirements. Responses must be specific and complete unto themselves. Any submittal that, in the opinion of HACC, does not fully and completely address these requirements will not be reviewed and bid may be considered non-responsive.

### **2. Minimum Requirements:**

- a. To be qualified to respond, contractors must not be debarred, suspended, or otherwise ineligible to contract with HACC, and must **not** be included on the General Services Administration’s “List of Parties Excluded From Federal Procurement and Non-Procurement Programs” or the Department of Housing and Urban Development’s “Limited Denial of Participation” list. In addition, contractors must have current and active registration in the State of Oregon Business Registry.

### **3. Similar Project Experience:**

- a. Describe your firm’s relevant experience within the areas under the Scope of Work. Please describe your firm’s experience as it relates to rehabilitation/modernization projects.
- b. Please describe your firm’s specific experience working with Housing Authorities and/or Public Agencies. Describe in detail two public housing projects that your firm is currently working on and/or has completed in the last five years. Describe the scope of work and dollar value for each project.
- c. Please describe your firm’s approach to managing multiple project work sites at any one time, and the firm’s capacity to address competing project timelines.

### **4. References:**

- a. Provide (3) references, previous and/or current, including the name and title of the contact person, their mailing address, email address, phone number and fax number. If available, please provide one reference from a public housing authority or other public agency.

### **5. Firm Description:**

- a. Provide the firms history, organization and size including number of staff in each work area.
- b. Describe the overall staffing approach to be used in connection with this contract. Provide information regarding staff experience and qualifications that demonstrates the contractor’s capacity to perform the required services.
- c. Provide the identity of the Project Manager that will be monitoring managing this project.
- d. Provide the firms history to complete projects on time by maintaining a weekly progress schedule and completing on budget.

**6. Method of Award:**

- a. HACC will evaluate all bids and award a contract based on contract price and contractors ability to perform said work. The information listed above will be part of the bid evaluation and shall be part of the contractors bid. Price will not be the main factor in awarding the contract. Failure to provide the information above may render contractors bid non-responsive.
  - b. HACC reserves the right to reject any and all bids of any contractor including those who have previously failed to perform properly, or to complete on time, contracts of a similar nature; who is not in a position to perform the contract, or who has neglected the payment of bills or otherwise disregarded their obligations to subcontractors, material suppliers, or employees.
2. In submitting this bid, it is understood that the right is reserved by the Housing Authority of the County of Clackamas, Oregon City, Oregon, to reject any and all bids. If written notice of the acceptance of this bid is mailed, telegraphed, or delivered the undersigned within sixty (60) days after the opening thereof, or at any time thereafter before this bid is withdrawn, the undersigned agrees to execute and deliver a contract in the prescribed form within ten (10) days after the contract is presented to Contractor for signature.
  3. Security in the sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_) in the form of \_\_\_\_\_ is submitted herewith in accordance with the Specifications.
  4. Attached hereto is an affidavit in proof that the undersigned has not entered into any collusion with any person in respect to their proposal or any other proposal or the submitting of proposals for the contract for which this proposal is submitted.
  5. The bidder represents that bidder has [ ] has not [ ] participated in a previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Orders 10925, 11114 or 11246 or the Secretary of Labor; that bidder has [ ] has not [ ] filed all required compliance reports, and that representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards. (The above representation need not be submitted in connection with contracts or subcontracts which are exempt from the clause.)



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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NOTE: The penalty for making false statements is prescribed in 19 U.S.C. 1001.

**Date:**

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(Name of Bidder)

**Official Address:**

---

(By: Signature of Bidder)

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(Title of Bidder)

---

**Attest:**

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**THE FOLLOWING SIGNED ORIGINAL DOCUMENTS SHALL BE SUBMITTED TO THE ADDRESS INDICATED ON THE INVITATION TO BID AS PART OF YOUR BID. THESE ORIGINALS SHALL BE RECEIVED BY HACC PRIOR TO THE POSTED CLOSING DATE AND TIME**

1. Statement indicating receipt of each Addendum and Addendum number (if any).
2. Complete form HUD-5369-C - Representations, Certifications and Other Statements of Bidders
3. Completed Certification: Economic Opportunities for Low and Very-low Income Persons (Section 3)
4. Complete Bid Form
5. Copies of required Licenses and Certifications
6. Complete Contractors Bidding Requirements

**FAILURE TO SUBMIT ALL OF THE ABOVE, BY THE DATE AND TIME REQUIRED, MAY RENDER YOUR BID NON-RESPONSIVE.**

## **9.0 Detailed Specifications**

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
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P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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SECTION 01001 - BASIC REQUIREMENTS

PART 1 GENERAL

1.1 CONTRACT

- A. Contract Description: ASBESTOS PROJECT MANAGER AND AIR MONITORING SERVICES - 2021, PROJECT #21007

1.2 BUILDING IDENTIFICATION

Various residential buildings all within Clackamas County

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow:
  - 1. Housing Authority of Clackamas County (HACC) staff and public access at building at all times.
  - 2. Work by HACC, if any.

1.4 SCHEDULE OF VALUES

- A. Submit schedule of values on form HUD-51000.
- B. Submit Schedule of Amounts for Contract Payments in triplicate within 15 calendar days after start date established in the Notice to Proceed.

1.5 APPLICATIONS FOR PAYMENT

- A. Submit three originals of each application for payment on form HUD-51001.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.

1.6 CHANGE PROCEDURES

- A. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation.
- B. Change Order forms: form HUD-51002 and HACC Change Order form.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

1.8 FIELD ENGINEERING

- A. Verify that field measurements are as indicated on shop drawings, or as instructed by the manufacturer.

1.9 PRECONSTRUCTION MEETINGS

- A. HACC will schedule a preconstruction meeting after Notice of Award for all affected parties.
- B. When required in individual specification section, convene a pre-installation meeting at Project site prior to commencing Work of the section.

1.10 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout the progress of the Work at weekly intervals.
- B. Preside at meetings, record minutes, and distribute copies within two days to those attending the meeting and to those affected by decisions made.

1.11 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means contractors acceptance of existing conditions.
- B. Verify that utility services are available, of the correct characteristics, and in the correct location.

1.12 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

1.13 CUTTING AND PATCHING

- A. Employ a skilled and experienced installer to perform cutting and patching Work; restore Work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
  - 1. Fit the several parts together, to integrate with other Work.
  - 2. Uncover Work to install or correct ill-timed Work.
  - 3. Remove and replace defective and non-conforming Work.
  - 4. Remove samples of installed Work for testing.
  - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Cut masonry and concrete materials using masonry saw or core drill. Restore Work with new Products in accordance with requirement of Contract Documents.
- E. Fit Work tight to adjacent elements. Maintain integrity of wall, ceiling, floor, or roof construction; completely seal voids.
- F. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. provide escutcheon plates at finished locations, including where pipe penetrations occur inside a cabinet.
- G. Refinish surfaces to match adjacent finishes.

1.14 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Contract Document references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- C. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.15 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate as required by the General Conditions.
- B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.
- C. Submit a horizontal bar chart with separate line for each major section of Work or operation, identifying first Work day of each week.

1.16 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement, submit list of major Products proposed for use, with name of manufacturer, trade name, and model number of each product.

1.17 SHOP DRAWINGS

- A. Shop drawings for review:
  - 1. Submit to HACC for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
  - 2. After review, produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article above and the CONTRACT CLOSE-OUT article below.
- B. Submit the number of opaque reproductions which Contractor requires, plus two copies which will be retained by HACC.

1.18 PRODUCT DATA

- A. Product Data for Review:
  - 1. Submit to HACC for limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes as required in CONTRACT CLOSE-OUT article below.
- B. Product Data for Information:
  - 1. Submit for HACC's benefit as contract administrator.
- C. Product Data for Project Close-out:
  - 1. Submit for HACC's benefit during and after project completion.
- D. Submit the number of copies which the Contractor requires, plus two copies which will be retained by HACC.
- E. Mark each copy to identify applicable Products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.

1.19 SAMPLES

- A. Samples for Review:
  - 1. Submitted to HACC for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in CONTRACT CLOSE-OUT article below.
- B. Samples For Information:
  - 1. Submitted for the HACC's benefit as contract administrator.
- C. Samples For Selection:
  - 1. Submitted to HACC for aesthetic, color, or finish selection.

- 2. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for HACC selection.
- 3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in CONTRACT CLOSE-OUT article below.
- D. Submit samples to illustrate functional and aesthetic characteristics of the Product.
- E. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for HACC's selection.

1.20 MANUFACTURER INSTALLATION INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for Product Data.

1.21 MANUFACTURER CERTIFICATES

- A. When specified in individual specification sections, submit certifications by manufacturer to HACC's, and in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.22 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and Workmanship, to produce Work of specified quality.
- B. Comply 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.

1.23 TOLERANCES

- A. Monitor tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and Workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply fully with manufacturers' tolerances.

1.24 REFERENCES

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

1.25 TEMPORARY ELECTRICITY

- A. Existing power at the Administration building may be used.
- B. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

- 1.26 TELEPHONE SERVICE
- A. Not required.
- 1.27 TEMPORARY WATER SERVICE
- A. Connect to existing water source for incidental use for construction operations.
- 1.28 TEMPORARY SANITARY FACILITIES
- A. Provide and maintain required facilities and enclosures
  - B. Continuously maintain in clean and sanitary condition.
  - C. Coordinate location of temporary facilities with Owner.
- 1.29 PROTECTION OF INSTALLED WORK
- A. Protect installed Work until final acceptance by HACC. Provide special protection where specified in individual specification sections.
- 1.30 SECURITY
- A. Provide security and facilities to protect Work and existing facilities, and HACC's operations from unauthorized entry, vandalism, or theft.
- 1.31 PARKING
- A. Construction personnel parking shall be coordinated by Contractor with HACC.
  - B. Parking shall not occur on the lawns.
- 1.32 PROGRESS CLEANING AND WASTE REMOVAL
- A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition..
- 1.33 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS
- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion review.
  - B. Clean and repair damage caused by installation or use of temporary Work.
  - C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
- 1.34 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 the Contract Documents.
  - C. Provide interchangeable components of the same manufacturer for components being replaced.

1.35 TRANSPORTATION, HANDLING, STORAGE AND PROTECTIONS

- A. Transport, handle, store and protect Products in accordance with manufacturer’s instructions.
- B. Do not store any materials, equipment or tools outside when construction personnel are not present.
- C. Protect occupants and the public (including children) from construction operations. **Do not leave tools unattended at any time.** Provide and maintain barricades and warning signage at all times.
- D. Clean up metal scraps on a daily basis or more often if necessary to protect occupants and the public from harm.

1.36 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufactures with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

1.37 SUBSTITUTION

- A. HACC will consider requests for Substitutions only before bids are received.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.

1.38 CONTRACT CLOSE-OUT PROCEDURES

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

1.39 FINAL CLEARING

- A. Execute final cleaning prior to final inspection. Final cleaning shall be complete so that units are ready for move-in. Final cleaning shall subject to acceptance of the HACC.
- B. Clean exterior surfaces exposed to view.
- C. Clean debris from site, roofs, gutters, downspouts, and drainage systems.
- D. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.40 PROJECT RECORD DOCUMENTS

- A. Maintain on site on set of Contract Documents to be utilized for record documents.
- B. Record actual revisions to the Work. Record information concurrent with construction progress.
- C. Specifications: Legibly mark and record at each Product section a description of actual Products installed.
- D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction.
- E. Submit documents to HACC with claim for final Application for Payment.



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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1.41 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT

- A. Submit two sets prior to final inspection, bound in 8-1/2 x 11 inch (216 X 279 mm) text pages, three D side ring binders with durable plastic covers.
- B. Prepare binder cover with printed title “OPERATION AND MAINTENANCE INSTRUCTIONS” and the title of project.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized, with tab titles clearly printed under reinforced laminated plastic tabs.
- D. Contents:
  - 1. Part 1: Directory, listing names, addresses, and telephone numbers of HACC, Contractor, Subcontractors, and major equipment suppliers.
  - 2. Part 2: Operation and maintenance instructions, arranged by system.
  - 3. Part 3: Project documents and certificates.

1.42 WARRANTIES

- A. Provide notarized copies.
- B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
- C. Submit prior to final Application for Payment.

1.43 HACC PAYMENT OF INVOICES AND CONTRACT PAY REQUEST PROCEDURES AND TIME REQUIREMENTS

- A. See the General Conditions.
- B. Utilize the following forms:
  - 1. form HUD-51000 - Schedule of Amounts for Contract Payments
  - 2. form HUD-51001 - Periodic Estimate for Partial Payment
  - 3. form HUD-51002 - Schedule of Change Orders
  - 4. form HUD-51003 - Schedule of Materials Stored
  - 5. form HUD-51004 - Summary of Materials Stored.
- C. Contractor Pay Request submittal shall consist of the following documents, approved by the HACC Contracting Officer. Submit as a package with no unrelated paperwork or documents:
  - 1. Invoice showing Work items (in the same order as form HUD-51000), percentage of Work in place and dollar value.
  - 2. Payroll reports from the Contractor and all Subcontractors.
  - 3. Affidavit from the Contractor that Contractor owes “X” amount of dollars to each Subcontractor or Suppliers, or that Contractor has paid “X” amount of dollars to each Subcontractor or Supplier.
  - 4. Affidavit from each Subcontractor that they owe “X” amount of dollars to each lower tier Subcontractor or Supplier and a Material Supplier’s Certificate, or that Subcontractor has paid “X” amount of dollars to each Subcontractor.
  - 5. If the Contractor’s Affidavit shows that the Subcontractors have been paid, a Waiver of Lien must be signed and notarized by the Subcontractor stating that the amount was received.
  - 6. If the Contractor’s or the Subcontractor’s Affidavit shows that the suppliers have been paid, a Waiver of Lien must be signed and notarized by the supplier stating that the amount was received.
  - 7. Construction progress schedule showing amount and percentage of Work completed as of the final date of the period indicated on form HUD-51001.
  - 8. FINAL PAY REQUEST: Contractor is advised that on the final pay request there may be a longer waiting period for payment. All documents required under the contract shall be submitted before the final payment will be issued.
- D. Monthly due date: In order to expedite the payment of each monthly request for payment the Contractor’s Request for Payment package (complete and correct) should be submitted on the first

Working day of each month. Request for Payment received later may result in a delay of payment until the following month since HACC is permitted, by HUD, only one requisition per month. A complete and correct Request for Payment submitted no later than the first Working day of the month should be paid by the 20th day of the same month.

1.44 STORED MATERIALS:

- A. Refer to form HUD-5370 - General Conditions of the Contract for Construction.
- B. Required documentation and procedure for stored materials to be taken into consideration when computing progress payments:
  - 1. Submit material supplier's invoice showing the quantity of materials received, and the amount paid for the materials by the Contractor. Only the amount actually paid for the materials by the Contractor will be taken into consideration when computing progress payments. Contractor overhead and profit will not be paid on materials stored until material is installed.
  - 2. Submit complete form HUD-51003 - Schedule of Materials Stored and form HUD-51004 - Summary of Materials Stored prior to scheduling Stored Materials inspection.
  - 3. See form HUD 5370 GENERAL CONDITIONS for additional requirements for stored materials.
  - 4. Mark all materials claimed as stored materials with labels stating, "Property of the Housing Authority of the County of Clackamas" followed by the job name and address.
  - 5. Store all materials in a specific portion of the storage facility designated for HACC materials only.
  - 6. Schedule a stored materials inspection at a time mutually agreeable to HACC and Contractor. The HACC and Contractor will count the materials at the time of the inspection. Payment for stored materials will only be for the quantity of materials indicated on the invoice and properly stored on the date of the inspection.
  - 7. Submit affidavits and waiver of lien as required above.
  - 8. Copy of stored material inspection indicating actual quantity of materials properly stored. Inspection shall be signed by HACC and Contractor.

1.45 FINAL INSPECTIONS:

- A. When the Contractor notifies the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the Work will be substantially complete and ready for inspection, then the units will be scheduled for inspection. This inspection shall be attended by the Contractor's representative, who shall also sign, along with the HACC Inspector, the "punchlist" stating that they have performed the inspection and indicating the date.
- B. Punchlist items are to be completed in a timely manner, by the Contractor, who shall then request a re-inspection of the construction.

END OF SECTION 01001

**SECTION 01002 – ASBESTOS ABATEMENT**

**1.0 PART 1 - GENERAL**

**A. BIDDING REQUIREMENTS**

1. Site Investigation
  - a. See form HUD-5370, GENERAL CONDITIONS of the Contract for Construction.
  - b. See form HUD-5369, INSTRUCTIONS TO BIDDERS.
  - c. Bidders are advised to take representative samples of the material for analysis. Abatement procedures and equipment will vary depending on material composition. This should be reflected in bid proposals.
2. Discrepancies
  - a. See form HUD-5370, GENERAL CONDITIONS of the Contract for Construction.
3. Modification and Withdrawal of Bids
  - a. See HUD-5369, INSTRUCTIONS TO BIDDERS.
4. Insurance Requirements
  - a. See form HUD-5370 and SPECIAL CONDITIONS for Insurance requirements.
5. Licenses and Qualifications (See also form HUD-5370, GENERAL CONDITIONS of the Contract for Construction)
  - a. Contractor shall be licensed as required by the laws of the State of Oregon.
  - b. Contractor shall be licensed as required by the State of Oregon for the purpose of removal, encapsulation, enclosure, demolition and maintenance of structures or components covered by or composed of asbestos containing materials (include citation from appropriate regulation).
  - c. Contractor shall demonstrate prior experience on asbestos abatement projects of similar nature and scope through the submission of letters of reference from the Building Owner's including the name, address and telephone number of contact person (someone specifically familiar with the Contractor's work) for at least three (3) previous users of service. Include descriptions of projects, location, and records of all air monitoring data that were generated during the project.
  - d. Contractor shall submit a notarized statement, signed by an officer of the company, containing the following information:
    - 1) A record of all citations issued by Federal, State or Local regulatory agencies relating to asbestos abatement activity. Include projects, dates, and resolutions.
    - 2) A list of penalties incurred through non-compliance with asbestos abatement project specifications including liquidated damages, overruns in scheduled time limitations and resolutions.
    - 3) Situations in which an asbestos-related contract has been terminated including projects, dates and reasons for termination.
    - 4) A listing of any asbestos-related legal proceedings/claims in which the Contractor (or employees scheduled to participate in this project) have participated or are currently involved. Include descriptions of role, issue and resolution to date.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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**B. DEFINITIONS**

1. **Abatement** - Procedures to control fiber release from asbestos-containing materials. Includes removal, encapsulation, enclosure, repair, demolition and renovation activities.
2. **ACGIH** - American Conference of Governmental Industrial Hygienists, 6500 Glenway Avenue, Building D-5, Cincinnati, Ohio 45211
3. **AIHA** - American Industrial Hygiene Association 475 Wolf Ledges Parkway Akron, Ohio 44311
4. **Airlock** - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways separated by a distance of at least 3 feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
5. **Air monitoring** - The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method for Asbestos in Air P&CAM 239 or Method 7400. For clearance air monitoring, electron microscopy methods may be utilized for lower detectability and specific fiber identification.
6. **Air Sampling Professional** - The professional contracted or employed by the Building Owner to supervise and/or conduct air monitoring and analysis schemes. Supervision of air sampling and evaluation of results should be performed by an individual certified in the Comprehensive Practice of Industrial Hygiene (C.I.H.) and having specialized experience in air sampling for asbestos. Other acceptable Air Sampling Professionals include Environmental Engineers, Architects, Chemists and Environmental Scientists or others with equivalent experience in asbestos air monitoring. This individual shall not be affiliated in any way other than through this contact with the Contractor performing the abatement work.
7. **Amended Water** - Water to which a surfactant has been added.
8. **ANSI** - American National Standards Institute 1430 Broadway New York, New York 10018
9. **Asbestos** means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite grunerite (amosite), anthrophyllite, and actinolite, and tremolite.
10. **Asbestos containing material (ACM)** - Material composed of asbestos of any type and in an amount greater than 1% by weight, either alone or mixed with other fibrous or non-fibrous materials.
11. **Asbestos containing waste material** - asbestos containing material or asbestos contaminated objects requiring disposal.
12. **Asbestos Project Manager (also known as the PROJECT DESIGNER OR CLERK OF THE WORKS)**. An individual qualified by virtue of experience and education, designated as the Owner's representative and responsible for overseeing the asbestos abatement project. A representative of \_\_\_\_\_ will serve as the Clerk of the Works on this project.
13. **ASTM** - American Society For Testing and Materials 1916 Race Street Philadelphia, PA 19103
14. **Authorized Visitor** - The Building Owner (and any designated representatives) and any representative of a regulatory or other agency having jurisdiction over the project.
15. **Building Owner** - The Owner or Owner's authorized representative.
16. **Certified Industrial Hygienist** - (CIH) - An individual hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. (See DEFINITIONS: AIHA for address)

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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17. **Clean room** - uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of worker's street clothes and clean protective equipment.
18. **Contractor** - The individual and/or business with which the Building owner arranges to perform the asbestos abatement. It is recommended that wherever asbestos abatement is part of a larger project, the asbestos work be contracted separately and distinctly from other contract work. When this is not possible, the Contractor is responsible for the proper completion of project activities in accordance with these contract specifications even where a subcontractor has been retained to perform the actual abatement.
19. **Curtained doorway** - A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Other effective designs are permissible.
20. **Decontamination enclosure system** - A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers and equipment.
21. **Demolition** - The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations.
22. **Encapsulant** - A liquid material which can be applied to asbestos containing material which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).
23. **Encapsulation** - The application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.
24. **Enclosure** - The construction of an air-tight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.
25. **EPA** - U.S. Environmental Protection Agency, 401 M Street SW Washington, D.C. 20460.
26. **Equipment decontamination enclosure system** - That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out the work area, typically consisting of a washroom and holding area.
27. **Equipment room** - A contaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.
28. **Facility** - Any institutional, commercial or industrial structure, installation or building.
29. **Facility component** - Any pipe, duct, boiler, tank, reactor, turbine or furnace at or in a facility or any structural member of a facility.
30. **Fixed object** - A piece of equipment or furniture in the work area which cannot be removed from the work area.
31. **Friable asbestos** - Asbestos containing material which can be crumbled to dust, when dry, under hand pressure.
32. **Glove bag technique** - A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, glove bag assembly is a manufactured or fabricated device consisting of a glove bag (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic), two inward projecting long sleeves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. All workers who are permitted to use the glove bag technique must be highly trained, experienced and skilled in this method.
33. **HVAC** - Heating, ventilation and air conditioning system.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

---

34. **HEPA filter** - A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter with 99.97% efficiency.
35. **HEPA vacuum** - A vacuum system equipped with HEPA filtration.
36. **Holding area** - A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
37. **Movable object** - A piece of equipment or furniture in the work area which can be removed from the work area.
38. **Negative pressure ventilation system** - A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas.
39. **NESHAPS** - The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).
40. **NIOSH** - The National Institute for Occupational Safety and Health CDC-NIOSH Building J Room 3007 Atlanta, GA 30333.
41. **OSHA** - The Occupational Safety and Health Administration 200 Constitution Avenue Washington, D.C. 20210.
42. **Outside air** - The air outside buildings and structures.
43. **Plasticize** - To cover floors and walls with plastic sheeting as herein specified.
44. **Prior experience** - Experience required of the contractor on asbestos projects of similar nature and scope to insure capability of performing the asbestos abatement in a satisfactory manner. Similarities shall be in areas related to material composition, project, size, abatement methods required, number of employees and the engineering, work practice and personal protection controls required.
45. **Removal** - The stripping of any asbestos-containing materials from surface or components of a facility.
46. **Renovation** - Altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded.
47. **Shower room** - A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination.
48. **Staging area** - Either the holding area or some area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.
49. **Strip** - To take off friable asbestos materials from any part of the facility.
50. **Structural member** - Any load-supporting member of a facility, such as beam and load-supporting walls or any non-load-supporting member, such as ceilings and non-load-supporting walls.
51. **Surfactant** - A chemical wetting agent added to water to improve penetration.
52. **Visible emissions** - Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
53. **Waste transfer airlock** - A decontamination system utilized for transferring containerized waste from inside to outside of the work area.
54. **Wet cleaning** - The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with water and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.
55. **Work area** - Designated rooms, spaces, or areas of the project in which asbestos actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system. A non-curtained work area is an isolated or controlled-access work area which has not been plasticized nor equipped with a decontamination enclosure system.

56. Worker decontamination enclosure - A decontamination system consisting of a clean room, shower room, and an equipment room separated from each other and from the work area by airlocks and curtained doorways. This system is used for all events and exist in the work area and for equipment and waste pass out for small jobs.

**C. SCOPE OF WORK**

1. Remove all asbestos containing materials included in the Asbestos Survey Report provide by HACC at each dwelling location.
2. Contract will be for a time period up to 365 calendar days as established in the Notice to Proceed.
3. Contract amount shall be a Not to Exceed amount. Actual contract payments shall be made in accordance with the unit prices submitted as part of the Contractor's bid. No guarantee is made, nor implied that the full contract amount will be used.
4. Work may be at one building or at several at a time as determined by HACC.
5. As HACC has dwellings tested and determines that abatement is needed, HACC will contact the contractor to perform the work. The Contractor shall begin work as soon as possible but no later than 15 days after being notified by HACC unless otherwise mutually agreed. Work shall be complete in each dwelling within two consecutive calendar days after beginning work at the same dwelling, unless otherwise mutually agreed upon. Contractor shall provide HACC their projected schedule within 48hrs of notice to start work.
6. HACC will retain a consultant to perform Asbestos Project Management for HACC, including air clearance testing. Coordinate work with Asbestos Project Manager.

**D. DESCRIPTION OF WORK**

1. **Removal** of asbestos containing materials by competent persons trained, knowledgeable and qualified in the techniques of abatement, handling and disposal of asbestos-containing and asbestos-contaminated materials.
2. Cleaning of contaminated areas.
3. Compliance with all applicable Federal, State, and Local regulations.
4. Supply all labor, materials, services, insurance, permits and equipment necessary to carry out the work in accordance with all applicable Federal, State and Local regulations and these specifications.
5. Restoring the work area and auxiliary areas utilized during the abatement to conditions equal to or better than original. Repair all damage caused during the performance of abatement activities to the satisfaction of the Owner (e.g. paint peeled off by barrier tape, nail holes, water damage, broken glass) at no additional expense to the Building Owner.
6. Description of work:
  - a. See scope of work above.

**E. APPLICABLE STANDARDS AND GUIDELINES**

1. General requirements.
  - a. Perform all work under this contract in strict accordance with all applicable Federal, State and Local regulations, standards and codes governing asbestos abatement.
  - b. Applicable Regulations, Standards, Code and Documents: The most recent editions shall be in effect. Follow the most stringent requirements in the case of conflict among the requirements.
  - c. Make available copies of all standards, regulations, codes and other applicable documents, including this specification and those listed in Section 1.5.B. at the worksite in the clean change area of the worker decontamination system.
2. Follow the requirements of the following:

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- a. Occupational Safety and Health Administration (OSHA)
  - 1) Title 29 Code of Federal Regulations Section 1910.1001 - General Industry Standard For Asbestos.
  - 2) Title 29 Code of Federal Regulations Section 1910.134 General Industry Standard For Respiratory Protection.
  - 3) Title 29 Code of Federal Regulations Section 1926 Construction Industry.
  - 4) Title 29 Code of Federal Regulations Section 1910.2 Access to Employee Exposure and Medical Records.
  - 5) Title 29 Code of Federal Regulations Section 1910.1200 Hazard Communication.
- b. Environmental Protection Agency (EPA)
  - 1) Title 40 Code of Federal Regulations Part 61 Subparts A and M (Revised Subpart B) - National Emission Standard For Asbestos.

**F. SUBMITTALS AND NOTICES**

- 1. Contractor shall:
  - a. Prior To Commencement of Work:
    - 1) Abatement projects involving greater than 160 linear feet of pipe insulation or 260 square feet of sprayed, troweled or otherwise applied material or covering or composing building structures or components:
  - b. Send written notification in accordance with 40 CFR Part 61.146 of Subpart M, to the appropriate State and Federal air pollution control agency responsible for the enforcement of the National Emission Standard for Asbestos no less than ten (10) days prior to the commencement of any on-site project activity.
  - c. Provide Building Owner with a copy of the notice. Attach copy of notification forms and list of air pollution control agencies. Also notify in writing, with a copy to the Building Owner.
    - 1) Submit proof, satisfactory to the Building Owner, that required permits, site location and arrangements for transport and disposal of asbestos containing waste materials have been made.
  - d. Obtain and submit a copy of handling procedures and list of protective equipment utilized for asbestos disposal at the landfill, signed by the landfill Owner. Required for all abatement projects.
    - 1) Submit documentation satisfactory to the Building Owner that the Contractor's employees, including foremen, supervisors and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received adequate training that includes, at a minimum, information in Part 4 Section 4.1 of this document.
    - 2) Submit documentation from a physician that all employees or agents who may be exposed to airborne asbestos in excess of background level have been provided with an opportunity to be medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, document that personnel have received medical monitoring as required in OSHA 20 CFR 1910.1001 (j). The Contractor must be aware of and provide information to the examining physician about unusual conditions in the work place environment (e.g. high



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.
- 3) Inspect the premises with the building Owner wherein all abatement and abatement related activities will occur and submit a statement signed by both, agreeing on building and fixture condition prior to the commencement of work.
  - 4) Submit manufacturer's certification that HEPA vacuums, negative pressure ventilation units and other local exhaust ventilation equipment conform to ANSI 29.2-79.
  - 5) Provide a written notification concerning intended use of any rental equipment to the rental agency with a copy submitted to the Building Owner whenever rental equipment will be used in abatement areas or to transport asbestos contaminated waste,
  - 6) Document NIOSH approvals for all respiratory protective devices utilized on site. Include manufacturer certification of HEPA filtration capabilities for all cartridges and filters.
  - 7) Submit pre-abatement air sampling results (if conducted-these samples are optional, since the Contractor rarely has access to the site prior to job initiation). Include location of samples, name of Air Sampling Professional, equipment, and methods utilized for sampling and analysis. (See section F. SUBMITTALS AND NOTICES, 2.a.2)).
  - 8) Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as detailed in the OSHA Lead Standards 29 CFR 1910.102 Appendix D Qualitative Fit Test Protocol or be quantitative in nature.
  - 9) **Submit within (5) five days of notice of award of contract to the Clerk of the Works a detailed project procedural manual, that will be used by the Clerk of the Works to determine the Contractors procedural knowledge and be used as a strict guide manual throughout the project. Upon acceptance of the project manual by the Clerk of the Works, said manual will become an active part of the Project Specification and the Contract Documents. The Contractor shall include in the project procedural manual a strict work/time schedule for the Air Sampling Professional. This schedule will not include any overtime to be incurred by the Air Sampling Professional without the written consent of the Building Owner. If the Air Sampling Professional logs any overtime without the written consent of the Building Owner, the Contractor will pay the full cost of any and all overtime incurred by the Air Sampling Professional that is not approved by the Building Owner.**
  - 10) **The AIR SAMPLING PROFESSIONAL shall submit the following to the Building Owner and to the Clerk of the Works prior to beginning work:**
    - a) **Project Air Monitoring Manual, stating the number of samples to be taken each day, location or approximate location, of the samples to be taken.**
    - b) **Qualifications and name of technician taking said samples.**
    - c) **Outline of sample analysis procedures to be used on all samples taken on this project.**

e. During Abatement Activities:

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- 1) Submit daily (or as otherwise required by the Building Owner) job progress reports detailing abatement activities. Include review of progress with respect to previously established milestones and schedules, major problems and action taken, injury reports, equipment breakdown and bulk material and air sampling results conducted by Contractor's Air Sampling Professional.
- 2) Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area during the abatement process.
- 3) Submit daily, copies of worksite entry logbooks with information on worker and visitor access.
- 4) Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls.
- 5) Submit results of bulk material analysis and air sampling data collected during the course of the abatement including OSHA compliance air monitoring results.
- 6) Submit results of materials testing conducted during abatement for purposes of utilization during abatement activities (e.g. testing of encapsulant for depth of penetration, testing of substitute materials for adherence to encapsulated surfaces).
- 7) Post in the clean room area of the worker decontamination enclosure a list containing the names, addresses, and telephone numbers of the Contractor, the Building Owner, the Asbestos Project Officer, the General Superintendent, the Air Sampling Professionals, the testing laboratory and any other personnel who may be required to assist during abatement activities (e.g. Safety Officer, Building Maintenance Supervisor, Energy Conservation Officer).

2. Owner Shall

a. Prior to Commencement of Work:

- 1) Notify occupants of work areas that may be disrupted by the abatement of project dates and requirements for relocation. Arrangements shall be made prior to start, for relocation of desks, files, equipment and personal possessions to avoid unauthorized access into the work area.
- 2) Submit to the Contractor, results of pre-abatement air sampling (if conducted) including location of samples, names of the Air Sampling Professional, equipment utilized and method of analysis.
- 3) Document that Owner's employees who will be required to enter the work area during abatement have received training equal to that detailed in Support Activities and Personnel, Training Section included herein.
- 4) Provide to the Contractor information concerning access, shut-down and protection requirements of certain equipment systems in the work area.

b. During Abatement:

- 1) Submit to the Contractor, results of bulk material analysis and air sampling data collected during the course of the abatement. These sample results are for information only. They serve only to monitor

Contractor performance during the project and shall not release the Contractor from any responsibility to sample for OSHA compliance.

**G. SITE SECURITY**

1. Restrict work area only to authorized, trained, and protected personnel. These may include the Contractor's employees, employees of Subcontractors, Owner employees and representatives, State and local inspectors and any other designated individuals.
2. Establish and post a list of authorized personnel prior to job start. Post in the clean room of the worker decontamination facility.
3. Report unauthorized entry into the work area immediately to the Building Owner.
4. Maintain a log book in the clean-room area of the worker decontamination system. Record anyone who enters the work area. Include name, affiliation, time in, and time out for each entry.
5. Limit access to the work area to a single worker decontamination system. Block or lock all other means of access (doors, window, hallways, etc.) to prevent entry to exit from the work area. The only exceptions for this rule are the waste pass-out airlock which shall be sealed except during the removal of containerized asbestos waste from the work area, and emergency exits in case of fire or accident. Emergency exits shall not be locked from the inside, however, they shall be sealed with polyethylene sheeting and tape until needed.
6. Control site security during abatement operations. Protect work efforts and equipment.
7. Notification to building occupants and Owner's employees shall be by Owner. Enforcement of restricted access by Contractor.

**H. EMERGENCY PLANNING**

1. Emergency planning shall be developed prior to abatement initiation and agreed to by Contractor and Owner.
2. Emergency procedures shall be in written form and prominently posted in the clean change area and equipment room of the worker decontamination area. Everyone prior to entering the work area must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.
3. Emergency planning shall include written notification of police, fire and emergency medical personnel of planned abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.
4. Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, confined spaces and heat-related injury. Written procedures shall be developed and employee training in procedures shall be provided.
5. Employees shall be trained in evacuation procedures in the event of workplace emergencies.
  - a. For non-life-threatening situations - employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the workplace to obtain proper medical treatment.
  - b. For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove him from the workplace and secure proper medical treatment.
6. Telephone numbers of all emergency response personnel shall be prominently posted in the clean change area and equipment room, along with the location of the nearest telephone.

**I. PRE-START MEETING**

1. The successful Bidder shall attend a pre-start job meeting. Attending this meeting will be representatives of the Owner and the Owner's agents along with testing/monitoring personnel (e.g. Asbestos Project Manager, Air Sampling Professional) who will actually participate in the Owner's testing/monitoring program. The pre-start meeting shall be held at the **offices of the Housing Authority Clackamas County, or at the site as mutually agreed..**
2. The Contractor and supervisory personnel who will provide on-site direction of the abatement activities must attend. The Contractor's Air Sampling Professional shall also attend.
3. At this meeting the Contractor shall provide all submittals as required in Section Submittals and Notices contained herein. In addition he shall be prepared to provide detailed information concerning:
  - a. Preparation of work area
  - b. Personal protective equipment including respiratory protection and protective clothing.
  - c. Employees who will participate in the project, including delineation of experience, training, and assigned responsibilities during the project.
  - d. Decontamination procedures for personnel, work area and equipment.
  - e. Abatement methods and procedures to be utilized
  - f. Required air monitoring procedures
  - g. Procedures for handling and disposing of waste materials.
  - h. Procedures for final decontamination and cleanup.
  - i. A sequence of work and performance schedule.
  - j. Procedures for dealing with heat stress.
  - k. Emergency procedures

**2.0 PART 2 - MATERIALS AND EQUIPMENT**

**A. MATERIALS**

1. General (all abatement projects)
  - a. Deliver all materials in the original packages, containers or bundles bearing the name of the manufacturer and the brand name (where applicable).
  - b. Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Replacement materials shall be stored outside of the work area until abatement is completed.
  - c. Damaged, deteriorating or previously used materials shall not be used and shall be removed from the worksite and disposed of properly.
  - d. Polyethylene sheeting for walls and stationary objects shall be a minimum of 4-mil thick. For floors and all other uses sheeting of at least 6-mil thickness shall be used in widths selected to minimize the frequency of joints.
  - e. (Method of attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and Building Owner and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws or other effective procedures capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or

- unfinished surfaces under both wet and dry conditions (including the use of amended water).
- f. Polyethylene sheeting utilized for worker decontamination enclosure shall be opaque white or black in color.
- g. Special materials required to protect objects in the work area should be detailed (e.g. plywood over carpeting or hardwood floors to prevent damage from scaffolds and falling material).
- h. Disposal bags shall be of 6-mil polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 753 or OSHA requirement 29 CFR 1926.58.
- i. Disposal drums shall be metal or fiberboard with locking ring tops.
- j. Stick-on labels as per EPA or OSHA requirements for disposal drums.

2. Removal

- a. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by manufacturer. (An equivalent surfactant shall be understood to mean a material with a surface tension of 29 dynes/cm as tested in its properly mixed concentration, using ASTM method D1331-56- "Surface and Interfacial Tension of Solutions of Surface Active Agents"). Where work area temperature may cause freezing of the amended water solution, the addition of ethylene glycol in amounts sufficient to prevent freezing is permitted.
- b. Additional materials as necessary for removal.

3. Enclosure

- a. Enclosure materials shall conform with the following characteristics:
  - 1) The enclosures shall be constructed of materials such that when the enclosure is completed there is limited potential for impact damage to the enclosure and no potential for fiber release.
- b. Additional materials as necessary for removal.

**B. EQUIPMENT**

- 1. Respiratory Protection for this specific project
- 2. Refer to SPECIAL CONDITIONS.
- 3. General (all abatement projects)
  - a. A sufficient quantity of negative pressure ventilation units equipped with HEPA filtration and operated in accordance with ANSI 29.2-79 (local exhaust ventilation requirements) and EPA guidance document EPA 560/5-83-002 Guidance for Controlling Friable Asbestos-Containing Materials in Buildings Appendix F: Recommended Specifications and Operating Procedures For the Use of Negative Pressure Systems for Asbestos Abatement shall be utilized so as to provide one work place air change every 15 minutes.
  - b. If air-supplied respirators are utilized, estimate the volume of supplied air and add to workplace air volume when calculating ventilation requirements. For small enclosures and glove bags, a HEPA filtered vacuum system may be utilized to provide negative air pressure.

To calculate total air flow requirement

$$\text{Total ft}^3/\text{min} = \text{Vol. of work area (in ft}^3\text{)} / 15 \text{ min.}$$

To calculate the number of units needed for the abatement:

$$\text{Number of units needed} = \frac{\text{Total ft}^3/\text{min}}{\text{Capacity of unit in ft}^3/\text{min}}$$

(Capacity of unit in ft<sup>3</sup>/min)

- c. Type "C" air supplied respirators in positive pressure or pressure demand mode with full face pieces and HEPA filtered disconnect protection are recommended by the U.S. EPA for all full shift abatement work until the successful completion of final clearance air monitoring. Powered air purifying respirators equipped with HEPA filters and full face pieces or respirators with a higher NIOSH assigned protection factor may be used for inspection or repair work of less than 1 hour duration per day. A sufficient supply of charged replacement batteries and filters and a flow test meter shall be available in the clean change area for use with powered air purifying respirators. Air purifying respirators with dual high-efficiency (HEPA) filters may be utilized during work area preparation activities. Air purifying respirators with dual high-efficiency (HEPA) filters may be utilized during work area preparation activities. Spectacle kits and eyeglasses must be provided for employees who wear glasses and who must wear full face piece respirators. Respirators shall be provided that have been tested and approved by the National Institute of Occupational Safety and Health for use in asbestos contaminated atmospheres.
4. **Note:** Type C respirators should be worn through the completion of gross cleanup. Cartage respirators are usually appropriate during final wipe-downs.
  - a. Compressed air systems shall be designed to provide air volumes and pressures to accommodate respirator manufacturer's specifications. The compressed air systems shall have a receiver of adequate capacity to allow escape of all respirator wearers from contaminated areas in the event of compressor failure. Compressors must meet the requirements of 29 CFR 1910.134 (d). Compressors must have an in-line carbon monoxide monitor and periodic inspection of the carbon monoxide monitor must be evidenced. Documentation will include a list of compatible components with the maximum number and type of respirators that may be used with the system. Periodic testing of compressed air shall insure that systems provide air of sufficient quality (Grade D breathing air as described in Compressed Gas Association Commodity Specifications G-7.1). (See section entitled "Establishing a Supplied Air System" for complete details).
  - b. Full body disposable protective clothing, including head, body and foot coverings (unless using footwear as described in 2.2.A.6) consisting of material impenetrable by asbestos fibers (Tyvek or equivalent) shall be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing.
  - c. Additional safety equipment (e.g. hard hats meeting the requirements of ANSI Standard Z89.1-1981, eye protection meeting the requirements of ANSI Standard Z87.1-1979, safety shoes meeting the requirements of ANSI Standard Z41.1-1967, disposable PVC gloves), as necessary, shall be provided to all workers and authorized visitors.
  - d. Non-skid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.
  - e. If launderable clothing is to be worn underneath disposable protective clothing, it shall be provided by the Contractor to all abatement workers. (It is

recommended that launderable clothing be a unique, specific color to enable it to be distinguished from general purpose blue, gray or black coveralls which are commonly worn). Laundering must occur in accordance with 29 CFR 1910.1001 (d) (4) (iii) however, it is preferable that the following procedures be utilized:

- 1) Launderers must be trained in proper techniques for handling asbestos contaminated clothing and provided with personal protective clothing consisting of appropriate respirators and disposable clothing for use when needed.
  - 2) Machines used for laundering asbestos contaminated clothing shall be isolated and restricted for such use.
  - 3) Washers shall be equipped with filters to remove asbestos fibers from discharged water.
  - 4) Dryers shall be isolated and restricted for use with asbestos contaminated fabrics and have HEPA filtered exhaust.
  - 5) Machine maintenance shall be performed by protected individuals.
- f. A sufficient supply of disposable mops, rags and sponges for work area decontamination shall be available.
5. Removal
- a. A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g. scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be provided as needed.
  - b. Sprayers with pumps capable of providing 500 pounds per square inch (psi) at the nozzle tip at a flow rate of 2 gallons per minute for spraying amended water.
  - c. Rubber dustpans and rubber squeegees shall be provided for cleanup.
  - d. Brushes utilized for removing loose asbestos-containing material shall have nylon or fiber bristles, not metal.
  - e. A sufficient supply of HEPA filtered vacuum systems shall be available during cleanup.
6. Encapsulation
- a. Encapsulant shall be sprayed using airless spray equipment. Nozzle pressure should be adjustable within the 400 to 1300 psi range. (This can be specified depending on the encapsulant's viscosity and solids content. Tip size shall also be specified based on manufacturer's recommendations).
  - b. Additional support equipment as needed.
  - c. The nature of encapsulant may effect the requirements for respiratory protection. Vapors that may be given off during encapsulant application must be taken into account when selecting respirators, if types other than air supplied are used.
7. Enclosure
- a. Hand tools equipped with HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports if there is any need to disturb asbestos-containing materials during this process. (As an alternative asbestos material may be partially removed following proper removal procedures prior to the installation of supports and enclosures).
  - b. Additional support equipment as needed.

## **C. SUBSTITUTIONS**

1. Approval Required:

- a. The Contract is based on the materials, equipment and methods described in the Contract Documents.
  - b. The Building Owner will consider proposals for substitutions of materials, equipment and methods only when such proposals are accompanied by full and complete technical data and all other information required by the Owner to evaluate the proposed substitution.
  - c. Do not substitute materials, equipment or methods unless such substitution has been specifically approved for this work by the Building Owner.
2. "Or equal":
- a. Where the phrase "or equal" or "or equal as approved by the Owner" occurs in the Contract Document, do not assume that materials, equipment or methods will be approved by the Owner unless the item has been specifically approved for this work by the Owner.
  - b. The decision of the Owner shall be final.
3. Separate substitute bids: Bidders may, if they wish, submit completely separate bids using materials and methods other than those described in the Contract Documents, provided that all substitutions are clearly identified and described, and that the Bid in all other respects is in accordance with the provisions of the Contract Documents.
4. Availability of specified items:
- a. Verify prior to bidding that all specified items will be available in time for installation during orderly and timely progress of the work.
  - b. In the event that specified items will not be so available, notify the Owner prior to receipt of bids.
  - c. Costs of delays because of non-availability of specified items, when such delays could have been avoided by the Contractor, will be back-charged as necessary and shall not be borne by the Owner.

### **3.0 PART 3 - EXECUTION**

#### **A. PREPARATION**

1. Work Areas
  - a. Post caution signs meeting the specifications of OSHA 29 CFR 1910.1001 (g) (1) (ii) at any location and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure. Additional signs may need to be posted following construction of workplace enclosure barriers.
  - b. Shut down and lock out electric power to all work areas. Provide temporary power and lighting. Insure safe installation (including ground faulting) of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. All costs for electric shall be paid for by the Owner. (This may not be feasible on all jobs. See "other Safety and Health Considerations" for alternatives).
  - c. Shut down and lock out all heating, cooling and air conditioning system (HVAC) components that are in, supply or pass through the work area. (Note: Interiors of existing duct work may require decontamination. This may be done during the pre-cleaning phase of operations before the ductwork is sealed off or during



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- the pre-cleaning phase of operations before the ductwork is sealed off or during the final cleaning phase prior to re-engagement of the system. Appropriate equipment and control measures shall be utilized to prevent contamination of building spaces during this operation. Adequate cleaning of ductwork may sometimes be accomplished by drawing high volumes of air through the system using the HEPA filtered negative pressure ventilation units). Investigate the work area and agree on pre-abatement condition with Building Owner. Seal all intake and exhaust components that pass through the work area. Remove all HVAC system filters and place in labeled 6-mil polyethylene bags for staging and eventual disposal as asbestos contaminated waste.
- d. The Contractor shall provide sanitary facilities for abatement personnel outside of the enclosed work area and maintain them in a clean and sanitary condition throughout the project.
  - e. The Owner will provide water for construction purposes. Contractor shall connect to existing Owner system.
  - f. Pre-clean all movable objects within the work area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the work area and carefully stored in an uncontaminated location. (Carpeting, drapes, clothing, upholstered furniture and other fabric items may be disposed of as asbestos contaminated waste or cleaned as asbestos contaminated items utilizing HEPA vacuum techniques and off-premises steam cleaning. Since adequate cleaning of severely contaminated fabric is difficult, the Building Owner must carefully consider whether this option is an appropriate one).
  - g. Pre-clean all fixed objects in the work area using HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access may be difficult but contamination significant. Also pay particular attention to wall, floor and ceiling penetrations behind fixed items. After pre-cleaning, enclose fixed objects in 4-mil polyethylene sheeting and seal securely in place with tape. Objects (e.g. permanent fixtures, shelves, electronic equipment, laboratory tables, sprinklers, alarm systems, closed circuit TV equipment and computer cables) which must remain in the work area and that require special ventilation or enclosure requirements should be designated here along with specified means of protection. (Contact the manufacturer for special protection requirements). Control panels, gauges, etc. in the work area may require Owner access during abatement. These shall be designated and enclosures constructed with access flaps sealed with waterproof tape).
  - h. Pre-clean all surfaces in the work area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the pre-cleaning phase.
  - i. Seal off windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and any other openings between the work area and uncontaminated areas outside of the work area (including the outside of the building, tunnels and crawl spaces) with a 4-mil polyethylene sheeting and tape.
  - j. Cover floors in the work area with polyethylene sheeting.
    - 1) Floor shall be covered with two layers of 6-mil (minimum) sheeting. (Floors requiring special protection should be specified. Carpeting, hardwood flooring and tile floors may be damaged by leaks of water, ladder feet, scaffold wheels etc. Additional layers of protection such as

- plywood, canvas drop cloths or extra plastic sheeting may be required by the Owner). Additional layers of sheeting may be utilized as drop cloths to aid in cleanup of bulk materials.
    - 2) Plastic shall be sized to minimize seams. If the floor necessitates seams, those on successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring material. A distance of at least 6 feet between seams is sufficient. Do not locate any seams at wall/floor joints.
    - 3) Floor sheeting shall extend at least 12" up the sidewalls of the work area.
    - 4) Sheeting shall be installed in a fashion so as to prevent slippage between successive layers of material. (Vinyl sheeting may be used for improved traction on floors).
  - k. Cover walls in the work area with polyethylene sheeting. Walls that are non-porous and will not be damaged by water, surfactant, encapsulant do not necessarily need protection. They can be decontaminated using HEPA vacuums and wet cleaning techniques. Walls with mortar joints (e.g. tile) are considered porous. In addition, openings through these walls to uncontaminated areas of the building must be sealed as described in Specifications.
    - 1) Walls should be covered with two layers of 4-mil polyethylene sheeting.
    - 2) Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least 6 feet.
    - 3) Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal against water damage and for negative pressure.
    - 4) Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This will require additional support/attachment when negative pressure ventilation systems are utilized.
- 2. Worker decontamination enclosure systems.
  - a. Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. One system at a single location for each contained work area is preferred. These systems may consist of existing rooms outside of the work area, if the layout is appropriate, that can be enclosed in plastic sheeting and area accessible from the work area. When this situation does not exist, enclosure systems may be constructed out of metal, wood or plastic support as appropriate.
  - b. Plans for construction, including materials and layout, shall be submitted as shop drawings and approved, in writing by the Building Owner prior to work initiation. Worker decontamination enclosure systems constructed at the worksite shall utilize 6-mil opaque black or white polyethylene sheeting or other acceptable materials for privacy. Detailed descriptions of portable, prefabricated units, if used, must be submitted for the Building Owner's approval. Plans must include floor plan (in accordance with 3.1.B.3) with dimensions, materials, size, thickness, plumbing and electrical utilities.
  - c. The worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room, each separated from each other and from the work area by airlocks.
  - d. Entry to and exit from all airlocks and decontamination enclosure system chambers shall be through curtained doorways consisting of two sheets of overlapping polyethylene sheeting. One sheet shall be secured at the top and left

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- side, the other sheet at the top and right side. Both sheets shall have weights attached to the bottom to insure that they hang straight and maintain a seal over the doorway when not in use. Doorway designs, providing equivalent protection and acceptable to the Building Owner may be utilized.
- e. Access between any two rooms in the decontamination enclosure system shall be through an airlock with at least 3 feet separating each curtained doorway. Pathways into (from clean to contaminated) and out from (contaminated to clean) the work area shall be clearly designated.
  - f. Clean room shall be sized to adequately accommodate the work crew. Benches shall be provided as well as hooks for hanging up street clothes. (Lockers may be provided for valuables however, workers may be requested to secure valuables in their cars). Shelves for storing respirators shall also be provided in this area. Clean work clothes (if required under disposables), clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided to adequate supply at the clean room. A location for postings shall also be provided in this area. Whenever possible, a lockable door shall be used to permit access into the clean room from outside the work area. Lighting, heat and electricity shall be provided as necessary for comfort. This space shall not be used for storage of tools, equipment, or materials, (except as specifically designated) or as office space.
  - g. Shower room shall contain one or more showers as necessary to adequately accommodate workers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by the Contractor and available at all times. Shower water shall be drained, collected and filtered through a system with at least 0.3-1.0 micron particle size collection capacity. (Note: A system containing a series of several filters with progressively smaller pore sized is recommended to avoid rapid clogging of filtration system by large particles). Filtration through 0-5-1.0 micron filters can be achieved with extreme difficulty. Some states require 5 micron final filtration. Filtration of shower water is discussed in greater detail elsewhere.
  - h. The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Replacement filters (in sealed containers until used) for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement may also be stored here as needed. A walk-off pan (a small children's swimming pool or equivalent filled with water shall be located in the work area just outside the equipment room for workers to clean off foot coverings after leaving the work area and prevent excessive contamination of the worker decontamination enclosure system. A drum lined with a labeled 6-mil polyethylene bag for collection of disposable clothing shall be located in this room. Contaminated footwear (e.g. rubber boots, other re-usable footwear) shall be stored in this area for reuse the following workday.
3. Waste Container pass-out airlock (usually required only for large jobs) and emergency exits.
- a. The waste container pass-out airlock shall be constructed at some location away from the worker decontamination enclosure system. Wherever possible, this shall be located where there is direct access from the work area to the outside of the building.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- b. This airlock system shall consist of an airlock, a container staging area, and another airlock with access to outside the work area.
  - c. The waste container pass-out airlock shall be constructed in similar fashion to the worker decontamination enclosure system using similar materials and airlock and curtain doorway designs.
  - d. This airlock system shall not be used to enter or exit the worksite.
  - e. Emergency exits shall be established and clearly marked with duct tap arrows or other effective designations to permit easy location from anywhere within the work area. They shall be secured to prevent access from uncontaminated areas and still permit emergency exiting. These exits shall be properly sealed with polyethylene sheeting which can be cut to permit egress if needed. These exits may be the worker decontamination enclosure, the waste pass-out airlock and/or other alternative exits satisfactory to fire officials.
4. Isolation of the work area from occupied areas of the building (Building Owner must clearly identify all areas that will be occupied).
- a. The contaminated work area shall be separated from uncontaminated occupied areas of the building by the construction of air tight barriers.
  - b. Walls shall be constructed of wood or metal framing to support barriers in all openings larger than 4' x 8'.
  - c. A sheathing material (plywood, drywall) of at least 3/8" thickness shall be applied to work side of barrier.
  - d. Cover both sides of partition with a double layer of 6-mil polyethylene sheeting with staggered joints and seal in place.
  - e. Caulk edges of partition at floor, ceiling, walls and fixtures to form an air tight seal.
5. Maintenance of workplace barriers and worker decontamination enclosure systems.
- a. Following completion of the construction of all polyethylene barriers and decontamination system enclosures, allow overnight settling to insure that barriers will remain intact and secured to walls and fixtures before beginning actual abatement activities.
  - b. All polyethylene barriers inside the workplace, in the worker decontamination enclosure system, in the waste container pass-out airlock and at partitions constructed to isolate the work area from occupied areas shall be inspected at least twice daily, prior to the start of each day's abatement activities. Document inspections and observations in the daily project log.
  - c. Damage and defects in the enclosure system are to be repaired immediately upon discovery.
  - d. Use smoke tubes to test the effectiveness of the barrier system when directed by Building Owner.
  - e. At any time during the abatement activities after barriers have been erected, if visible material is observed outside of the work area or if damage occurs to barriers, work shall immediately stop, repairs be made to barriers, and debris/residue cleaned up using appropriate HEPA vacuuming and wet mopping procedures.
  - f. If air samples collected outside of the work area during abatement activities indicate airborne fiber concentrations greater than 0.01 f/cc or pre-measured background levels (whichever is lower) work shall immediately stop for inspection and repair of barriers. Cleanup of surfaces outside of the work area using HEPA vacuums or wet cleaning techniques may be necessary.
  - g. Install and initiate operation of negative pressure ventilation equipment as needed to provide one air change in the work area every 15 minutes. Openings

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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made in the enclosure system to accommodate these units shall be made airtight with tape and/or caulking as needed. If more than one unit is installed, they should be turned on one at a time, checking the integrity of wall barriers for secure attachment and need for additional reinforcement. Insure that adequate power supply is available to satisfy the requirements of the ventilating units. Negative pressure ventilation units shall be exhausted to the outside of the building whenever feasible. They shall not be exhausted into occupied areas of the building. Twelve inch extension ducting shall be used to reach from the work area to the outside when required. Careful installation, air monitoring and daily inspections shall be done to insure that the ducting does not release fibers into uncontaminated building areas.

6. Once constructed and reinforced as necessary, with negative pressure ventilation units in operation as required, test enclosure for leakage utilizing smoke tubes. Repair or reconstruct as needed.
7. Clearly identify and maintain emergency and fire exits from the work area.
8. Remove, clean and enclose in polyethylene the ceiling mounted objects such as lights and other items that may interfere with the abatement process and were not previously cleaned and sealed off. Utilize localized spraying of amended water and/or HEPA vacuums to reduce fiber dispersal during the removal of these fixtures.
9. Removal of building structural components.
  - a. After isolation of work area as described in previous sections and initiation of negative pressure ventilation, remove ceiling (tiles) (panels) within the work area carefully. If panels are to be reused, vacuum them with a HEPA filtered vacuum cleaner and carefully damp sponge and wrap cleaned (tiles) (panels) in 4-mil polyethylene sheeting and seal with tape. Store as designated by Building Owner (preferably outside of the work area). If (tiles) (panels) are to be discarded it is not necessary to clean them, but wrap in a similar fashion and stage for disposal in the waste container pass-out airlock. (Disposal is preferred over re-use when tiles or panels are composed of porous materials because of difficulties in adequate cleaning).
  - b. Where suspended ceiling T-grid components must be removed to perform the abatement, HEPA vacuum and wet-sponge each piece after removal from hangers. Wrap clean grid pieces in 4-mil polyethylene sheeting and seal with tape. Store as designated by Building Owner or in waste staging area if designated for disposal.
  - c. When removal of ceiling grid suspension system is not necessary for accessibility to the asbestos-containing materials, leave the system in place and clean properly following completion of abatement.
  - d. (Remove plaster/drywall ceilings including lathe, furring channel system, wire mesh, ties, clips, screws, nails and other accessory items as necessary and dispose of as asbestos contaminated waste material. Plaster ceiling may actually contain asbestos. They should be tested). As work progresses, spray ceiling materials and debris with amended water to keep wet until containerized for disposal.
10. Commencement of work shall not occur until:
  - a. Enclosure systems have been constructed and tested
  - b. Negative pressure ventilation systems are functioning adequately.
  - c. All pre-abatement submissions, notifications, postings and permits have been provided and are satisfactory to the Building Owner (See Section 1.6).
  - d. All equipment for abatement, clean-up and disposal are on hand.

- e. All worker training (and certification) is completed.
- f. Contractor receives written permission from Building Owner to commence abatement.

11. Alternative Procedures

- a. Procedures described in this specification are to be utilized at all times.
- b. If specified procedures cannot be utilized, a request must be made in writing to the Building Owner providing details of the problem encountered and recommended alternatives.
- c. Alternative procedures shall provide equivalent or greater protection than procedures that they replace.
- d. Any alternative procedure must be approved in writing by the Building Owner prior to implementation.

B. WORKPLACE ENTRY AND EXIT PROCEDURES

1. Personnel entry and exit

- a. All workers and authorized personnel shall enter the work area through the worker decontamination enclosure system.
- b. All personnel who enter the work area must sign the entry log, located in the clean room, upon entry and exit.
- c. All personnel, before entering the work area, shall read and be familiar with all posted regulations, personal protection requirements (including work place entry and exit procedures) and emergency procedures. A sign-off sheet shall be used to acknowledge that these have been reviewed and understood by all personnel prior to entry.
- d. All personnel shall proceed first to the clean room, remove all street clothes and appropriately don respiratory protection (as deemed adequate for the job conditions) and launderable and/or disposable coveralls, head covering and foot covering. Hard hats, eye protection and gloves shall also be utilized if required. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.
- e. Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.
- f. Before leaving the work area all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures. (Small HEPA vacuums with brush attachments may be utilized for this purpose, however, larger machines may tear the suits). Each person shall clean bottoms of protective footwear in the walk-off pan just prior to entering the equipment room.
- g. Personnel shall proceed to equipment room where they remove all protective equipment except respirators. Deposit disposable (and launderable) clothing into appropriately labeled containers for disposal (and laundering).
- h. Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. Upon completion of abatement it shall be disposed of as asbestos contaminated waste. (Rubber boots may be decontaminated at the completion of the abatement for re-use).
- i. Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator and shower and shampoo to remove residual asbestos contamination. Various types of filtered disconnect protection may be disconnected in the equipment room and work into the shower. A powered air-

purifying respirator face piece will have to be disconnected from the filter/power pack assembly which is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower. Cartridges must be replaced for each new entry into the work area. DO NOT disconnect the power pack since the PAPR respirator will not provide any protection. Hand the power pack to another person in the airlock, on the equipment room side of the shower. Keep motor operating until shower is complete. Have second person clean (wipe off) power pack, then remove respirator.

- j. After showering and drying off, proceed to the clean room and don clean disposable (and/or launderable) clothing if there will be later re-entry into the work area or street clothes if it is the end of the work shift.
- k. These procedures shall be posted in the clean room and equipment room.

2. Waste container pass-out procedures.

- a. Asbestos contaminated waste that has been containerized shall be transported out of the work area through the waste container pass-out airlock (or through the worker decontamination enclosure if a separate airlock has not been constructed).
- b. Waste pass-out procedures shall utilize two teams of workers, and "inside" team and an "outside" team.
- c. The inside team wearing appropriate protective clothing and respirators for inside the work area shall CLEAN THE OUTSIDE, INCLUDING BOTTOMS, OF PROPERLY LABELED CONTAINERS (bags, drums, or wrapped components) using HEPA vacuums and wet wiping techniques and transport them into the waste container pass-out airlock. No worker from the inside team shall further exit the work area through this airlock.
- d. The outside team, wearing a different color protective clothing and appropriately assigned respirators, shall enter the airlock from outside the work area, enclose the drums in clean, labeled 6-mil polyethylene bags and remove them from the airlock to the outside. No worker from the outside team shall further enter the work area through this airlock.
- e. The exit from this airlock shall be secured to prevent unauthorized entry.

C. PERSONNEL PROTECTION REQUIREMENTS

1. Training

- a. Prior to commencement of abatement activities all personnel who will be required to enter the work or handle containerized asbestos containing materials must have received adequate training in accordance with the requirements of this document.
- b. Special on-site training on equipment and procedures unique to this job site shall be performed as required.
- c. Training in emergency response and evacuation procedures shall be provided.

2. Respiratory Protection

- a. All respiratory protection shall be provided to workers in accordance with the submitted written respiratory protection program, which includes all items in OSHA 29 CFR 1910.125 (b) (1-11). This program shall be posted in the clean room of the worker decontamination enclosure system.
- b. Respirators shall be selected that meet the following level of protection requirements: (The U.S. EPA recommends that Type "C" air-supplied respirators in positive pressure or pressure demand mode with full face pieces and HEPA filtered disconnect protection be provided to all full-shift asbestos

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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abatement workers. Powered air-purifying respirators equipped with HEPA filtration and full face pieces may be utilized for inspection or repair work of less than one (1) hour duration. (See Section 2.2.A.2).

3. Implementation Suggestions:
4. The use of engineering controls such as negative pressure ventilation units and HEPA vacuums and good work practices such as the wetting of asbestos - containing material prior to abatement (when applicable), misting the work area to help fibers settle out, removal in small sections, use of glove bags and proper clean-up and containerization all help to reduce airborne fiber levels in the work area. A properly designed air monitoring program, implemented by a qualified air sampling professional and analytical laboratory, may support the use of respiratory protective devices that provide a lower factor of protection to the workers than air supplied respirators, for some abatement activities. Safety problems associated with the use of airline systems and time and financial constraints may be reduced through the use of alternative types of respiratory protection. It is imperative, however, that adequate air monitoring of fiber levels and a well designed respiratory protection program (in accordance with 29 CFR 1926.58 be implemented. Key points of the respirator program include proper selection of respirator type and size, training of personnel in the proper inspection, donning, use, cleaning and maintenance procedures for the respirator selected including their use limitations and a good fitting and fit testing program to provide proper protection. Single-use disposable respirators are not recommended for use during any asbestos abatement activities. Negative-pressure dual cartridge respirators shall be equipped with high efficiency filters and exhalation and inhalation valves to permit the performance of positive and negative pressure fit checks. As a rule of thumb, cartridge respirators are usually adequate for prepping and final clean-up. Air supplied respirators are usually adequate during removal and gross clean-up.
  - a. Fit Testing
    - 1) Workers must perform positive and negative air pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.
    - 2) Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Lead Standard (29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols) for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.
    - 3) Documentation of adequate respirator fit must be provided to the Building Owner.
  - b. No one wearing a beard shall be permitted to don a respirator and enter the work area.
  - c. Additional respirators (minimum of 2 of each type) and training on their donning and use must be available at the work site for authorized visitors who may be required to enter the work area.
5. Protective Clothing
  - a. Disposable clothing including head, foot and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.
  - b. (Launderable clothing, if required, shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors).



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- c. Hard hats, protective eyewear, gloves, rubber boots and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.
- D. REMOVAL PROCEDURES (Refer to SPECIAL CONDITIONS ATTACHMENT for any special or unusual procedures)
1. Clean and isolate the work area in accordance with Specifications.
  2. Wet all asbestos-containing material with an amended water solution using equipment capable of providing a fine spray mist, in order to reduce airborne fiber concentrations when the material is disturbed. Saturate the material to the substrate however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. If work area temperatures are below 32 degrees F and amended water is subject to freezing, dry removal permits and procedures must be utilized (see 2.1.B.1). Maintain a high humidity in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations. Wetting procedures are not equally effective on all types of asbestos-containing materials but, shall none-the-less be used in all cases.
  3. Saturated asbestos containing material shall be removed in manageable sections. Removed material should be containerized before moving to a new location for continuance of work. Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned up.
  4. Material removed from building structures or components shall not be dropped or thrown to the floor. Material should be removed as intact sections or components whenever possible and carefully lowered to the floor. If this cannot be done for materials greater than 10 feet above the floor, a dust-tight chute shall be constructed to transport the material to containers on the floor or the material may be containerized at elevated levels (e.g. on scaffolds) and carefully lowered to the ground by mechanical means. For materials between 10 and 50 feet above the ground they may be containerized at elevated levels or dropped onto inclined chutes or scaffolding for subsequent collection and containerization.
  5. Containers (6-mil polyethylene bags or drums) shall be sealed when full. (Wet material can be exceedingly heavy. Double bagging of waste material is usually necessary. A determination of need for single or double bags must be made early in the abatement process and agreed to by the Building Owner). Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in gooseneck fashion. Do not seal bags with wire or cord. (Bags may be placed in drums for staging and transportation to the landfill. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuuming before being placed in clean drums and sealed with locking ring tops).
  6. Large components removed intact may be wrapped in 2 layers of 6-mil polyethylene sheeting secured with tape for transport to the landfill.
  7. Asbestos containing waste with sharp-edged components (e.g. nails, screws, metal lath, tin sheeting) will tear the polyethylene bags and sheeting and shall be placed into drums for disposal.
  8. After completion of all stripping, work surfaces from which asbestos-containing materials have been removed shall be wet brushed and sponged or cleaned by some equivalent method to remove all visible residue.
  9. Clean-up shall proceed in accordance with Specifications.
  10. After the work area has been rendered free of visible residues, a thin coat of a satisfactory encapsulating agent shall be applied to all surfaces in the work area including structural members, building components and plastic sheeting on walls, floors and covering non-removable items, to seal in non-visible residue. (Note: 1) High temperature components such as boilers and pipes may not permit the application of some encapsulant. (2) If

insulation or acoustical materials are to be re-applied to the abated area, be certain that the encapsulant selected will permit good adhesion to the substrate. A small area should be tested before application).

11. Special circumstances (e.g. live electrical equipment, high amosite content of material, materials previously coated with an encapsulant or paint) may prohibit the adequate use of wet methods to reduce fiber concentrations. For these situations, a dry removal may be required. The contractor will have to acquire special permits, different from those mentioned herein from the NESHAP enforcement agency.

**E. ENCAPSULATION PROCEDURES**

1. Clean and isolate the work area in accordance with Specifications.
2. Repair damaged and missing areas of existing materials with non-asbestos containing substitutes. Material must adhere adequately to existing surfaces and provide an adequate base for application of encapsulating agents. Filler material shall be applied in accordance with manufacturer's recommended specifications.
3. Remove loose or hanging asbestos containing materials in accordance with the requirements of Specifications.
4. Bridging-type encapsulant.
  - a. Apply bridging-type encapsulant to provide at least 4-6 mil of minimum dry film thickness over sprayed asbestos surfaces.
  - b. When using a bridging-type encapsulant use a different color for each coat. (Use (color) for final coat.
5. Penetrating-type encapsulant.
  - a. Apply penetrating-type encapsulant to penetrate existing sprayed asbestos materials to a depth of (.75-1.5 inches).
  - b. Apply penetrating-type encapsulant to penetrate existing sprayed asbestos materials uniformly to substrate.
  - c. During treatment with a penetrating-type encapsulant, the Contractor shall remove selected random core samples of the asbestos-containing materials in the presence of the Owner to check the depth of penetration.
6. Apply encapsulant using airless spray equipment (See Section: Equipment - Encapsulation).
7. Clean-up shall be in accordance with Specifications.
8. Encapsulated asbestos containing materials shall be designated appropriately (specify format - labels, signs or color codes and frequency location of indicators) in order to warn building maintenance personnel in the event that they are required to disturb the materials.

**F. ENCLOSURE PROCEDURES**

1. Clean and isolate the work area in accordance with Specifications.
2. Spray areas that will be disturbed during the installation of hangers or other support/framing materials for the enclosure with water containing the specified surfactant. Keep these areas damp to reduce airborne fiber concentrations.
3. Remove loose or hanging asbestos containing materials in accordance with the requirements of Specifications.
4. After installation of hangers and other fixing devices and before installation of enclosure, repair damaged areas of fireproofing thermal insulation materials as required using a non-asbestos containing replacement material. Prepare surfaces and apply replacement material in accordance with manufacturer's recommendations.
5. Specify enclosure procedures and include the following requirements:

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

---

- a. Use hand tools equipped with HEPA filtered local exhaust ventilation to drill, cut into or otherwise disturb asbestos containing materials during the installation of support systems for the enclosures. (Alternatively, these areas of material could be removed prior to installation of supports).
  - b. Use materials that are impact resistant and that will provide an air-tight barrier once construction is complete.
  - c. Lower utilities as necessary and reinstall in a manner which permits proper utilization and does not disturb the integrity of the enclosures. Utility maintenance should not require the enclosure to be opened or disturbed. (If it does, an alternative abatement strategy is indicated).
6. Enclosed asbestos-containing materials shall be designated appropriately (Specify format - sign, label, color code and frequency/location of indicators) in order to warn building maintenance personnel in the event that they are required to disturb the enclosure.

**G. CLEAN-UP PROCEDURES**

1. 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.
2. Wet clean all surfaces in the work area using rags, mops and sponges as appropriate. (Note: Some HEPA vacuums might not be wet-dry vacuums. To pick up excess water and gross debris, a wet-dry shop vacuum may be used. This will be contaminated and require cleaning prior to removal from the work area).
3. Remove the cleaned outer layer of plastic sheeting from walls and floors. Windows, doors, HVAC system vents and all other openings shall remain in continuous operation. Decontamination enclosure systems shall remain in place and be utilized.
4. After cleaning the work area, wait at least 24 hours to allow fibers to settle and HEPA vacuum and wet clean all objects and surfaces in the work area again.
5. Remove all containerized waste from the work area and waste container pass-out airlock.
6. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.
7. Inspect the work area for visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos and the 24 hour settling period/cleaning cycle repeated.
8. The work area shall be cleaned until it is in compliance with State and Local requirements and any more stringent criteria agreed upon by the Contractor and Owner prior to initiation of abatement activities (criteria should be in the form of visual inspections and airborne fiber concentrations). Additional cleaning cycles shall be provided, as necessary, at no cost to the Building Owner until these criteria have been met.
9. Following the satisfactory completion of clearance air monitoring remaining barriers may be removed and properly disposed of. A final visual inspection by the Owner shall insure that no contamination remains in the work area. Unsatisfactory conditions may require additional cleaning and air monitoring. (See section 3.0 K. Re-establishment of the Work Area).

**H. CLEARANCE AIR MONITORING**

1. Following the completion of clean-up operations, the Contractor shall notify the Building Owner that work areas are ready for clearance air monitoring.
2. The Owner shall then arrange for an Air Monitoring Professional to sample the air in the work area for airborne fiber concentrations.
3. (Note: The use of TEM (Transmission Electron Microscopy) is highly recommended for clearance air monitoring. Availability of this analytical service may be limited, however,

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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and turn around time for sample analysis may be significantly longer than the NIOSH methods). The air sampling shall otherwise be conducted using sampling pumps calibrated at a flow rate of at least two and not more than 4 liters per minute using collection media and procedures in accordance with NIOSH Standard Analytical Method P&CAM 239 or 7400, as available. Air volumes shall be sufficient to provide reliable results down to a concentration of 0.01 fibers per cubic centimeter of air (f/cc) or lower. (Minimum air volumes of 3000 liters shall be collected) for P&CAM 239 and 1500 liters for method 7400. Volume requirements for electron microscope methods should be discussed with the analytical laboratory).

4. Air Samples shall be analyzed by Phase Contrast Microscopy) (See Part 4 Section 4.3 Laboratory Services) (Transmission Electron Microscopy)
5. All samples at all locations shall indicate concentrations of airborne fibers less than 0.01 f/c for release of the work area.
6. Areas exceeding this level shall be re-cleaned using procedures in Section 3.7 and re-tested until satisfactory levels are obtained. (Implementation Suggestions: The following is excerpted from A Review of the Scientific Basis for EPA:

I. School Asbestos Hazard Program with Recommendations to State Health Officials. Published by the Centers for Disease Control in October, 1984. When air samples are collected after an asbestos abatement, the "action level" should conform to a policy of lowest feasible level. The concept of an environmental "action level" is not the same as that of a permissible exposure limit that is precisely monitored for compliance with regulatory standards. As used here it is consistent with a policy of recommending that asbestos exposures be reduced to the lowest feasible level. It is readily measured by the NIOSH #7400 for asbestos in air, and it should be helpful to those who must make risk management decision when the general public is potentially exposed to asbestos. An "action level" of 0.1f/cc may be useful as a guideline for monitoring a building with potentially hazardous asbestos surfaces, as part of a comprehensive program or during abatement work, maintenance, etc. It is not a recommended "occupancy" or "safe" level. Using the NIOSH Method #7400 including modified rules for counting only fibers with aspect ratios of 5:1 or more in a 1,200 liter air sample will permit detection and quantification of about 0.01f/cc if a coefficient of variation of 25% is considered acceptable for risk-management decisions. This variability is reasonable, since the conversion factor used to convert mass concentration to fiber concentrations in environmental risk assessments has such a large uncertainty factor.

J. DISPOSAL PROCEDURES

1. As the work progresses, to prevent exceeding available storage capacity on site, sealed and labeled containers of asbestos containing waste shall be removed and transported to the prearranged disposal location.
2. Disposal must occur at an authorized site in accordance with regulatory requirements of NESHAP and applicable State and Local guidelines and regulations.
3. All dump receipts, trip tickets, transportation manifests or other documentation of disposal shall be delivered to the Building Owner for his records. A recommended record keeping format utilizes a chain-of-custody form which includes the names and addresses of the Generator (Building Owner), Contractor, pickup site, and disposal site, the estimated quantity of the asbestos waste and the type of containers used. The form should be signed by the Generator, the Contractor, and the Disposal Site Operator, as the responsibility for the material changes hands. If a separate hauler is employed, his name, address, telephone number and signature should also appear on the form.
4. Transportation to the landfill
  - a. Once drums, bags and wrapped components have been removed from the work area, they shall be loaded into an enclosed truck for transportation.

- b. When moving containers, utilize hand trucks, carts and proper lifting techniques to avoid back injuries. Trucks with lift gates are helpful for raising drums during truck loading.
  - c. The enclosed cargo area of the truck shall be free of debris and lined with 6-mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first and extend up the sidewalls. Wall sheeting shall be overlapped and taped into place.
  - d. Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting and bags placed on top. Do not throw containers into truck cargo area.
  - e. Personnel loading asbestos-containing waste shall be protected by disposable clothing including head, body and foot protection and at a minimum, half face-piece, air purifying, dual cartridge respirators equipped with high efficiency filters.
  - f. Any debris or residue observed on containers or surfaces outside of the work area resulting from clean-up or disposal activities shall be immediately cleaned-up using HEPA filtered vacuum equipment and/or wet methods as appropriate.
  - g. Large metal dumpsters are sometimes used for asbestos waste disposal. These should have doors or tops that can be closed and locked to prevent vandalism or other disturbance of the bagged asbestos debris and wind dispersion of asbestos fibers. Un-bagged material shall not be placed in these containers, nor shall be used for non-asbestos waste. Bags shall be placed, not thrown, into these containers to avoid splitting.
5. Disposal at the landfill
- a. Upon reaching the landfill, trucks are to approach the dump location as closely as possible for unloading of the asbestos containing waste.
  - b. Bags, drums and components shall be inspected as they are off-loaded at the disposal site. Material in damaged containers shall be repacked in empty drums or bags as necessary. (Local requirements may not allow the disposal of asbestos waste in drums. Check with appropriate agency and institute appropriate alternative procedures).
  - c. Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of trucks (weight of wet material could rupture containers).
  - d. Personnel off-loading containers at the disposal site shall wear protective equipment consisting of disposable head, body and foot protection and, at a minimum, half-face piece, air-purifying, dual cartridge respirators equipped with high efficiency filters.
  - e. Following the removal of all containerized waste, the truck cargo area shall be decontaminated using HEPA vacuums and/or wet methods to meet the no visible residue criteria. Polyethylene sheeting shall be removed and discarded along with contaminated cleaning materials and protective clothing, in bags or drums at the disposal site.
  - f. If landfill personnel have not been provided with personal protective equipment for the compaction operation by the landfill operator, Contractor shall supply protective clothing and respiratory protection for the duration of this operation.

**K. RE-ESTABLISHMENT OF THE WORK AREA AND SYSTEMS**

- 1. Re-establishment of the work area shall only occur following the completion of clean-up procedures and after clearance air monitoring has been performed and documented to the satisfaction of the Building Owner.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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2. Polyethylene barriers shall be removed from walls and floors at this time, maintaining decontamination enclosure systems and barriers over doors, windows, etc. as required.
3. The Contractor and Owner shall visually inspect the work area for any remaining visible residue. Evidence of contamination will necessitate additional cleaning requirements in accordance with Specifications.
4. Additional air monitoring shall be performed in accordance with Specifications if additional clean-up is necessary.
5. Following satisfactory clearance of the work area, remaining polyethylene barriers may be removed and disposed of as asbestos contaminated waste.
6. At the discretion of the Contractor, mandatory requirements for personal protective equipment may be waived following the removal of all barriers.
7. Re-secure mounted objects removed from their former positions during area preparation activities.
8. Relocate objects that were removed to temporary locations back to their original positions.
9. Re-establish HVAC, mechanical and electrical systems in proper working order. Remove contaminated HVAC system filters and dispose of as asbestos contaminated waste. Decontaminate filter assembly using HEPA vacuums and wet cleaning techniques. Install new filters in HVAC systems. Dispose of old filters.
10. Repair all areas of damage that occurred as a result of abatement activities.

4.0 PART 4 - SUPPORT ACTIVITIES AND PERSONNEL

A. TRAINING

1. Training shall be in accordance with all State of Oregon and EPA/AHERA requirements.
2. Training shall provide, at a minimum, information on the following topics:
  - a. The health hazards of asbestos including the nature of various asbestos related diseases, routes of exposure, known dose-response relationships, the synergistic relationship between asbestos exposure and cigarette smoking, latency periods for disease and health basis for standards.
  - b. The physical characteristics of asbestos including fiber size, aerodynamic properties, physical appearance and uses.
  - c. Employee personal protective equipment including the types and characteristics of respirator classes, limitations of respirators, proper selection, inspection, donning, use, maintenance and storage of respirators, field testing the face-piece-to face seal (positive and negative pressure fitting tests), qualitative and quantitative fit testing procedures, variations between laboratory and field fit factors, factors that affect respirator fit (e.g. facial hair), selection and use of disposable clothing, use and handling of launderable clothing, non-skid shoes, gloves, eye protection and hard hats.
  - d. Medical monitoring requirements for workers including required and recommended tests, reasons for medical monitoring and employee access to records.
  - e. Air monitoring procedures and requirements for workers including description of equipment and procedures, reasons for monitoring, types of samples and current standards with recommended changes.
  - f. Work practices for asbestos abatement including purpose, proper construction and maintenance of air-tight plastic barriers, job set-up of airlocks, worker decontamination systems and waste transfer airlocks, posting of warning signs, engineering controls, electrical and ventilation system lockout, proper working techniques, waste clean-up, storage and disposal procedures.

**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- g. Personal hygiene including entry and exit procedures for the work area, use of showers and prohibition of eating, drinking, smoking and chewing in the work area.
  - h. Special safety hazards that may be encountered including electrical hazards, air contaminants (CO, wetting agents, encapsulant, materials from Owner's operation), fire and explosion hazards, scaffold and ladder hazards, slippery surfaces, confined spaces, heat stress and noise.
  - i. Workshops affording both supervisory personnel and abatement workers the opportunity to see (and experience) the construction of containment barriers and decontamination facilities.
  - j. Supervisory personnel shall, in addition, receive training or contract specifications, liability insurance and bonding, legal considerations related to abatement, establishing respiratory protection medical surveillance programs, EPA, OSHA (and State) recordkeeping requirements, and other topics as requested by the Building Owner.
- 3. Training must be provided by individuals qualified by virtue of experience and education to discuss the topic areas in Specifications.
  - 4. Training is to have occurred within 12 months prior to the initiation of abatement activities.
  - 5. Contractor must document training by providing date of training, training entity, course outline, and names and qualification of trainers.

**B. MEDICAL MONITORING**

- 1. Medical Monitoring must be provided by the Contractor to any employee or agent that may be exposed to asbestos in excess of background levels during any phase of the abatement project. (Due to the synergistic effects between smoking and asbestos exposure, it is highly recommended that only nonsmokers be employed in positions which may require them to enter asbestos contaminated atmospheres).
- 2. Medical monitoring shall include at a minimum:
  - a. A work/medical history to elicit symptomatology of respiratory disease.
  - b. A chest x-ray (posterior - anterior, 14 x 13 inches) evaluated by a Certified B-reader.
  - c. A pulmonary function test, including forced vital capacity (FVC) and forced expiratory volume at one second (FEV), administered and interpreted by a Certified Pulmonary Specialist.
- 3. Employees shall be given an opportunity to be evaluated by a physician to determine their capability to work safely while breathing through the added resistance of a respirator. (Examining physicians shall be aware of the nature of respiratory protective devices and their contributions to breathing resistance. They shall also be informed of the specific types of respirators the employee shall be required to wear and the work he will be required to perform, as well as special workplace conditions such as high temperatures, high humidity, and chemical contaminants to which he may be exposed).

**C. ASBESTOS PROJECT MANAGER (Clerk of the Works)**

- 1. The Asbestos Project Manager shall be able to demonstrate through special education, training, skills, knowledge or experience satisfactory to the Building Owner to indicate the ability to carry out the following activities as required:
  - a. Assist in decision making regarding selection of procedures.
  - b. Assist in writing contract specifications for the abatement.

- c. Assist in evaluation of bids and selection of a Contractor
  - d. Enforce contract specifications.
  - e. Tour work area with the Contractor and agree on pre-abatement conditions of the work area.
  - f. Inspect and sign off on barriers and decontamination enclosure systems.
  - g. Observe activities at all times during the course of abatement.
  - h. Meet with the Contractor daily to review work progress and solve problems or adjust procedures as appropriate.
  - i. Perform bulk material or air sampling and all workplace inspection clearance inspections for the Building Owner.
  - j. Report on abatement to the Building Owner.
  - k. Request, review and maintain Contractor submittals.
  - l. Provide training and/or respirator fit testing to personnel.
2. The Asbestos Project Manager shall have the authority to stop any job activities if they are not being performed in accordance with applicable regulations or guidelines or the requirements of this specification. These will be reported to the Owner with description of activity, reason for stopping it and alternatives for correcting the problem. (Note: The Asbestos Project Manager should be selected as early as possible prior to selection of the Contractor to enable participation during the pre-bid conference, walk-through, and preconstruction conference).

**D. AIR SAMPLING PROFESSIONAL (ASP)**

1. Scope
  - a. The Air Sampling Professional shall be retained by the Building Owner and will report all findings to the Building Owner or the Building Owners appointed representatives.
  - b. The ASP shall conduct air sampling in accordance with the NIOSH Standard Analytical Method for Asbestos in Air, Method 7400 or other acceptable methods as otherwise agreed upon and in compliance with the Asbestos Hazard Emergency Response Act regulations.
  - c. No overtime work will be done by the ASP unless permitted in writing by the Building Owners representative or the Clerk of the Works in advance of the work period.
  - d. The ASP must retain and have in their possession at the least the following:
    - 1) Certificate of completion of NIOSH 582 or NIOSH approved 582 equivalent.
    - 2) A current State of Oregon Asbestos Worker or Supervisors card.
  - e. The ASP shall have documentation of at least three asbestos abatement projects in the State of Oregon of similar scope, completed under Oregon regulations and completed since October 12, 1987. This can be discussed with Clerk of the Works if necessary.
2. Submittals
  - a. The ASP shall submit to the Building Owner and the Project Manager, before the start of the project, a Project Air Monitoring Manual, stating the number of samples to be taken each day, location or approximate location, of the samples to be taken, qualifications and name of technician taking said samples and an



**ASBESTOS PROJECT MANAGER & AIR MONITORING SERVICES – 2021: PROJECT #21007**  
**HOUSING AUTHORITY OF CLACKAMAS COUNTY**  
P.O. BOX 1510, 13900 S. GAIN, OREGON CITY OR 97045

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- outline of sample analysis procedures to be used on all samples taken on the project.
  - b. The ASP shall coordinate each work day with the Building Owners representative or the Clerk of the Works on the sampling to be done that day and have the proposed area sampling schedule approved.
  - c. The ASP shall submit to the Clerk of the Works each day the field analysis reports in writing.
  - d. The ASP/Laboratory shall submit to the Building Owner and the Clerk of the Works, within ten days of the end of the project, copies of all field logs and field data sheets.
  - e. Required data for all field data and log sheets:
  - f. Field log:
  - g. Project title and number
  - h. Date of Sampling
  - i. Name of air monitoring technician
  - j. Sample cassette identification number
  - k. Type of sample
  - l. Location of sample
  - m. Pump calibration
  - n. Volume of sample
  - o. Results of sample
  - p. Testing laboratory name
  - q. Name of laboratory technician
  - r. Date of analysis
  - s. Lower limit of detectability
  - t. Field data sheets:
  - u. Project title and number
  - v. Project location
  - w. Name of air monitoring technician
  - x. Air monitoring cassette number
  - y. Sampling pump time on and off (real time)
  - z. Initial calibrated pump flow rates
  - aa. Final calibrated pump flow rates
  - bb. Pump identification number
  - cc. Pump calibration standard identification
  - dd. Sampling location
  - ee. Type of Sample
  - ff. Description of work being done
  - gg. Outdoor/indoor environmental conditions
3. Schedule of air sampling
- a. Pre-abatement fiber level sampling
    - 1) Prior to abatement activities in each regulated area for the following air samples will be taken:
4. The results of the pre-abatement samples will set a baseline expected result for final clearance sampling in the sampled area.
- a. Abatement activity sampling
    - 1) Regulated work areas
      - a) Provide both personal and area air monitoring during the initiation of asbestos operations to establish representative 8-

hour TWA exposure, and to confirm the appropriate personnel protective equipment and effectiveness of the abatement methods in use. Each representative 8-hour TWA shall be evaluated from three samples, of 240 liters each, taken at a flow rate of at least 2 liters per minute.

- b) If at any time either personnel or work area monitoring results indicate that the fiber levels have reached or are above the PEL (0.2 f/cc) immediately stop work, correct the conditions causing the excessive levels, and/or change the levels of respiratory protection in use.

5.	Inside each work area	1 sample	1200 liters
	Outside each work area	1 sample	1200 liters

END OF SECTION 01002