A80

Letting January 21, 2022

Notice to Bidders, Specifications and Proposal



Springfield, Illinois 62764

Contract No. KA051 Greater Kankakee Airport Kankakee, Illinois Kankakee County Illinois Project No. IKK-4882 SBG Project No. 3-17-SBGP-171



NOTICE TO BIDDERS

- 1. TIME AND PLACE OF OPENING BIDS. Electronic bids are to be submitted to the electronic bidding system (iCX-Integrated Contractors Exchange). All bids must be submitted to the iCX system prior to 12:00 p.m. on January 21, 2022, at which time the bids will be publicly opened from the iCX SecureVault.
- 2. **DESCRIPTION OF WORK**. The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

Contract No. KA051 Greater Kankakee Airport Kankakee, Illinois Kankakee County Illinois Project No. IKK-4882 SBG Project No. 3-17-SBGP-171

Construct a new airfield electrical vault and replace apron lighting

For engineering information, please contact D. Kyle Peabody, P.E. of Crawford, Murphy & Tilly, Inc. at 630.907.7024.

3. INSTRUCTIONS TO BIDDERS.

- (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 10-23 of the Standard Specifications for Construction of Airports (Adopted September 25, 2020 & Revised November 12, 2021), become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.
- (b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.
- 4. AWARD CRITERIA AND REJECTION OF BIDS. This contract will be awarded within 90 calendar days to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to read vertise the proposed improvement, and to waive technicalities.
- 5. PRE-BID CONFERENCE. N/A
- **6. DISADVANTAGED BUSINESS POLICY.** The DBE goal for this contract is <u>4.0</u>%.
- 7. SPECIFICATIONS AND DRAWINGS. The work shall be done in accordance with the Standard Specifications for Construction of Airports (Adopted September 25, 2020 & Revised November 12, 2021), the Special Provisions dated November 19, 2021, and the Construction Plans dated November 19, 2021 as approved by the Illinois Department of Transportation, Division of Aeronautics.

- 8. BIDDING REQUIREMENTS AND BASIS OF AWARD. When alternates are included in the proposal, the following shall apply:
 - a. Additive Alternates
 - (1) Bidders must submit a bid for the Base Bid and for all Additive Alternates.
 - (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lowest aggregate amount of (i) the Base Bid plus (ii) any Additive Alternate(s) which the Department elects to award based on the availability of funding.

Award of this contract will be limited to the following bid alternate combinations:

- Base Bid
- II. Base Bid + Additive Alternate 1
- III. Base Bid + Additive Alternate 1 + Additive Alternate 2
- IV. Base Bid + Additive Alternate 1 + Additive Alternate 2 + Additive Alternate 3

The Department may elect not to award any Additive Alternates. In that case, award will be to the lowest responsible qualified bidder of the Base Bid.

- b. Optional Alternates
 - (1) Bidders must submit a bid for the Base Bid and for either Alternate A or Alternate B or for both Alternate A and Alternate B.
 - (2) Award of this contract will be made to the lowest responsible qualified bidder computed as follows:

The lower of the aggregate of either (i) the Base Bid plus Alternate A or (ii) the Base Bid plus Alternate B.

9. CONTRACT TIME. The Contractor shall complete all work within the specified contract time. Any calendar day extension beyond the specified contract time must be fully justified, requested by the Contractor in writing, and approved by the Engineer, or be subject to liquidated damages.

The contract time for this contract is 54 calendar days.

- 10. INDEPENDENT WEIGHT CHECKS. The Department reserves the right to conduct random unannounced independent weight checks on any delivery for bituminous, aggregate or other pay item for which the method of measurement for payment is based on weight. The weight checks will be accomplished by selecting, at random, a loaded truck and obtaining a loaded and empty weight on an independent scale. In addition, the department may perform random weight checks by obtaining loaded and empty truck weights on portable scales operated by department personnel.
- 11. MATERIAL COST ADJUSTMENTS. Federal Aviation Administration rules prohibit the use of escalation clauses for materials. Therefore, the Illinois Department of Transportation, Division of Aeronautics cannot offer any material cost adjustment provisions for projects that utilize Federal Funds.
- 12. GOOD FAITH COMPLIANCE. The Illinois Department of Transportation has made a good faith effort to include all statements, requirements, and other language required by federal and state law and by various offices within federal and state governments whether that language is required by law or not. If anything of this nature has been left out or if additional language etc. is later required, the bidder/contractor shall cooperate fully with the Department to modify the contract or bid documents to correct the deficiency. If the change results in increased operational costs, the Department shall reimburse the contractor for such costs as it may find to be reasonable.

By Order of the Illinois Department of Transportation

Omer Osman, Secretary

ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF AERONAUTICS

REQUIRED CONTRACT PROVISIONS FOR STATE FUNDED AIRPORT CONSTRUCTION PROJECTS

The following provisions are State of Illinois requirements and are in addition to the REQUIRED CONTRACT PROVISIONS FOR AIRPORT IMPROVEMENT PROGRAM AND FOR OBLIGATED SPONSORS

DISADVANTAGED BUSINESS POLICY

NOTICE: This proposal contains the special provision entitled "Disadvantaged Business Participation." Inclusion of this Special Provision in this contract satisfies the obligations of the Department of Transportation under federal law as implemented by 49 CFR 23 and under the Illinois "Minority and Female Business Enterprise Act."

<u>POLICY</u>: It is public policy that the businesses defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with State or Federal funds. Consequently, the requirements of 49 CFR Part 23 apply to this contract.

<u>OBLIGATION</u>: The Contractor agrees to ensure that the businesses defined in 49 CFR Part 23 have the maximum opportunity to participate in the performance of this contract. In this regard, the Contractor shall take all necessary and reasonable steps, in accordance with 49 CFR Part 23, to ensure that the said businesses have the maximum opportunity to compete for and perform portions of this contract. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

The Contractor shall include the above Policy and Obligation statements of this Special Provision in every subcontract, including procurement of materials and leases of equipment.

<u>DBE/WBE CONTRACTOR FINANCE PROGRAM:</u> On contracts where a loan has been obtained through the DBE/WBE Contractor Finance Program, the Contractor shall cooperate with the Department by making all payments due to the DBE/WBE Contractor by means of a two-payee check payable to the Lender (Bank) and the Borrower (DBE/WBE Contractor).

<u>BREACH OF CONTRACT:</u> Failure to carry out the requirements set forth above and in the Special Provision shall constitute a breach of contract and may result in termination of the contract or liquidated damages as provided in the special provision.

SPECIAL PROVISION FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)

Effective: September 1, 2000 Revised: March 2, 2019

<u>FEDERAL OBLIGATION</u>. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR Part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR Part 26 and listed in the Illinois Unified Certification Program (IL UCP) DBE Directory.

STATE OBLIGATION. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. When this Special Provision is used to satisfy state law requirements on 100 percent state-funded contracts, the federal government has no involvement in such contracts (not a federal aid contract) and no responsibility to oversee the implementation of this Special Provision by the Department on those contracts. DBE participation on 100 percent state-funded contracts will not be credited toward fulfilling the Department's annual overall DBE goal required by the US Department of Transportation to comply with the federal DBE program requirements.

<u>CONTRACTOR ASSURANCE</u>. The Contractor makes the following assurance and agrees to include the assurance in each subcontract the Contractor signs with a subcontractor.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts funded in whole or in part with federal or state funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- (a) Withholding progress payments;
- (b) Assessing sanctions;
- (c) Liquidated damages; and/or
- (d) Disgualifying the Contractor from future bidding as non-responsible.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR Part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE companies performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. The determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates, in the absence of unlawful discrimination and in an arena of fair and open competition, DBE companies can be expected to perform 4.0% of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will only award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set for in this Special Provision:

- (a) The bidder documents enough DBE participation has been obtained to meet the goal or,
- (b) The bidder documents a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

<u>DBE LOCATOR REFERENCES</u>. Bidders shall consult the IL UCP DBE Directory as a reference source for DBE-certified companies. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217) 785-4611, or by visiting the Department's website at: http://www.idot.illinois.gov/doing-business/certifications/disadvantaged-business-enterprise-certification/il-ucp-directory/index.

<u>BIDDING PROCEDURES</u>. Compliance with this Special Provision is a material bidding requirement and failure of the bidder to comply will render the bid not responsive.

The bidder shall submit a DBE Utilization Plan (form SBE 2026), and a DBE Participation Statement (form SBE 2025) for each DBE company proposed for the performance of work to achieve the contract goal, with the bid. If the Utilization Plan indicates the contract goal will not be met, documentation of good faith efforts shall also be submitted. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor is selected over a DBE for work on the contract. The required forms and documentation must be submitted as a single .pdffile using the "Integrated Contractor Exchange (iCX)" application within the Department's "EBids System".

The Department will not accept a Utilization Plan if it does not meet the bidding procedures set forth herein and the bid will be declared not responsive. In the event the bid is declared not responsive, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty and may deny authorization to bid the project if re-advertised for bids.

GOOD FAITH EFFORT PROCEDURES. The contract will not be awarded until the Utilization Plan is approved. All information submitted by the bidder must be complete, accurate and adequately document enough DBE participation has been obtained or document the good faith efforts of the bidder, in the event enough DBE participation has not been obtained, before the Department will commit to the performance of the contract by the bidder. The Utilization Plan will be approved by the Department if the Utilization Plan documents sufficient commercially useful DBE work to meet the contract goal or the bidder submits sufficient documentation of a good faith effort to meet the contract goal pursuant to 49 CFR Part 26, Appendix A. This means the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which, by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not successful. The Department will consider the quality, quantity, and intensity of the kinds of efforts the bidder has made. Mere proforma efforts, in other words efforts done as a matter of form, are not good faith efforts; rather, the bidder is expected to have taken genuine efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

- (a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases and will be considered by the Department.
- (1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/orwritten notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

- (2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the Contractor might otherwise prefer to perform these work items with its own forces.
- (3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.
- b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also the ability or desire of a bidder to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidders are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable. In accordance with the above Bidding Procedures, the documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quotes ubmitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.
- (5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
- (7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.
- (b) If the Department determines the bidder has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided it is otherwise eligible for award. If the Department determines the bidder has failed to meet the requirements of this Special Provision or that a good faith effort has not been made, the Department will notify the responsible company official designated in the Utilization Plan that the bid is not responsive. The notification will also include a statement of reasons for the adverse determination. If the Utilization Plan is not approved because it is deficient as a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no more than a five calendar day period to cure the deficiency.
- (c) The bidder may request administrative reconsideration of an adverse determination by emailing the Department at "DOT.DBE.UP@illinois.gov" within the five calendar days after the receipt of the notification of the determination. The determination shall become final if a request is not made on or before the fifth calendar day. A request may provide additional written documentation or argument concerning the issues raised in the determination statement of reasons, provided the documentation and arguments address efforts made prior to submitting the bid. The request will be reviewed by the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person to consider all issues of documentation and whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid not responsive.

<u>CALCULATING DBE PARTICIPATION</u>. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR Part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR Part 26.55, the provisions of which govern over the summary contained herein.

(a) DBE as the Contractor: 100 percent goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE does not count toward the DBE goals.

- (b) DBE as a joint venture Contractor: 100 percent goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.
- (c) DBE as a subcontractor: 100 percent goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor from the Contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE does not count toward the DBE goal.
- (d) DBE as a trucker: 100 percent goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed, and insured by the DBE must be used on the contract. Credit will be given for the following:
- (1) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
- (2) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission is receives as a result of the lease arrangement.
- (e) DBE as a material supplier:
- (1) 60 percent goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.
- (2) 100 percent goal credit for the cost of materials of supplies obtained from a DBE manufacturer.
- (3) 100 percent credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a DBE regular dealer or DBE manufacturer.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Utilization Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the Contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal. All work indicated for performance by an approved DBE shall be performed, managed, and supervised by the DBE executing the DBE Participation Commitment Statement.

- (a) <u>NO AMENDMENT</u>. No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be emailed to the Department at DOT.DBE.UP@illinois.gov.
- (b) <u>CHANGES TO WORK</u>. Any deviation from the DBE condition-of-award or contract plans, specifications, or special provisions must be approved, in writing, by the Department as provided elsewhere in the Contract. The Contractor shall notify affected DBEs in writing of any changes in the scope of work which result in a reduction in the dollar amount condition-of-award to the contract. Where the revision includes work committed to a new DBE subcontractor, not previously involved in the project, then a Request for Approval of Subcontractor, Department form BC 260A or AER 260A, must be signed and submitted. If the commitment of work is in the form of additional tasks assigned to an existing subcontract, a new Request for Approval of Subcontractor will not be required. However, the Contractor must document efforts to assure the existing DBE subcontractor is capable of performing the additional work and has agreed in writing to the change.
- (c) <u>SUBCONTRACT</u>. The Contractor must provide copies of DBE subcontracts to the Department upon request. Subcontractors shall ensure that all lower tier subcontracts or agreements with DBEs to supply labor or materials be performed in accordance with this Special Provision.
- (d) <u>ALTERNATIVE WORK METHODS</u>. In addition to the above requirements for reductions in the condition of award, addition al requirements apply to the two cases of Contractor-initiated work substitution proposals. Where the contract allows alternate work methods which serve to delete or create underruns in condition of award DBE work, and the Contractor selects that alternate method or, where the Contractor proposes a substitute work method or material that serves to diminish or delete work committed to a DBE and replace it with other work, then the Contractor must demonstrate one of the following:
- (1) The replacement work will be performed by the same DBE (as long as the DBE is certified in the respective item of work) in a modification of the condition of award; or

- (2) The DBE is aware its work will be deleted or will experience underruns and has agreed in writing to the change. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so; or
- (3) The DBE is not capable of performing the replacement work or has declined to perform the work at a reasonable competitive price. If this occurs, the Contractor shall substitute other work of equivalent value to a certified DBE or provide documentation of good faith efforts to do so.
- (e) <u>TERMINATION AND REPLACEMENT PROCEDURES</u>. The Contractor shall not terminate or replace a DBE listed on the approved Utilization Plan, or perform with other forces work designated for a listed DBE except as provided in this Special Provision. The Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the Contractor obtains the Department's written consent as provided in subsection (a) of this part. Unless Department consent is provided for termination of a DBE subcontractor, the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the DBE in the Utilization Plan.

As stated above, the Contractor shall not terminate or replace a DBE subcontractor listed in the approved Utilization Plan without prior written consent. This includes, but is not limited to, instances in which the Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Written consent will be granted only if the Bureau of Small Business Enterprises agrees, for reasons stated in its concurrence document, that the Contractor has good cause to terminate or replace the DBE firm. Before transmitting to the Bureau of Small Business Enterprises any request to terminate and/or substitute a DBE subcontractor, the Contractor shall give notice in writing to the DBE subcontractor, with a copy to the Bureau, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor shall give the DBE five days to respond to the Contractor's notice. The DBE so notified shall advise the Bureau and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Bureau should not approve the Contractor's action. If required in a particular case as a matter of public necessity, the Bureau may provide a response period shorter than five days.

For purposes of this paragraph, good cause includes the following circumstances:

- (1) The listed DBE subcontractor fails or refuses to execute a written contract;
- (2) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor:
- (3) The listed DBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements;
- (4) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (5) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1200 or applicable state law.
- (6) The Contractor has determined the listed DBE subcontractor is not a responsible contractor;
- (7) The listed DBE subcontractor voluntarily withdraws from the projects and provides written notice to the Contractor of its withdrawal;
- (8) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (9) A DBE owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract;
- (10) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate a DBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the DBE contractor was engaged or so that the Contractor can substitute another DBE or non-DBE contractor after contract award.

When a DBE is terminated or fails to complete its work on the Contract for any reason, the Contractor shall make a good faith effort to find another DBE to substitute for the original DBE to perform at least the same amount of work under the contract as the terminated DBE to the extent needed to meet the established Contract goal. The good faith efforts shall be documented by the Contractor. If the Department requests documentation under this provision, the Contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary at the request of the Contractor. The Department will provide a written determination to the Contractor stating whether or not good faith efforts have been demonstrated.

(f) <u>FINAL PAYMENT</u>. After the performance of the final item of work or delivery of material by a DBE and final payment therefore to the DBE by the Contractor, but not later than 30 calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Agreement on Department form SBE 2115 to the Resident Engineer. If full and final payment has not been made to the DBE, the DBE Payment Agreement shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes the work has not been satisfactorily

completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Utilization Plan and after good faith efforts are reviewed, the Department may deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages. The Contractor may request an administrative reconsideration of any amount deducted as damages pursuant to subsection (h) of this part.

- (g) <u>ENFORCEMENT</u>. The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.
- (h) <u>RECONSIDERATION</u>. Notwithstanding any other provision of the contract, including but not limited to Article 109.09 of the Standard Specifications, the Contractor may request administrative reconsideration of a decision to deduct the amount of the goal not achieved as liquidated damages. A request to reconsider shall be delivered to the Contract Compliance Section and shall be handled and considered in the same manner as set forth in paragraph (c) of "Good Faith Effort Procedures" of this Special Provision, except a final decision that a good faith effort was not made during contract performance to achieve the goal agreed to in the Utilization Plan shall be the final administrative decision of the Department. The result of the reconsideration process is not administratively appealable to the U.S. Department of Transportation.

SPECIAL PROVISION FOR WEEKLY DBE TRUCKING REPORTS (BDE)

Effective: June 2, 2012 Revised: November 1, 2021

The Contractor shall submit a weekly report of Disadvantaged Business Enterprise (DBE) trucks hired by the Contractor or subcontractors (i.e. not owned by the Contractor or subcontractors) that are used for DBE goal credit.

The report shall be submitted to the Resident Engineer on Division of Aeronautics Form "AER 723" within ten business days following the reporting period. The reporting period shall be Sunday through Saturday for each week reportable trucking activities occur.

Any costs associated with providing weekly DBE trucking reports shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

SPECIAL PROVISION FOR SUBCONTRACTOR MOBILIZATION PAYMENTS

Effective: November 2, 2017 Revised: April 1, 2019

To account for the preparatory work and the operations necessary for the movement of subcontractor personnel, equipment, supplies, and incidentals to the project site and for all other work or operations that must be performed or costs incurred when beginning work approved for subcontracting according to Section 80-01 of the Standard Specifications, the Contractor shall make a mobilization payment to each subcontractor.

This mobilization payment shall be made at least seven days prior to the subcontractor starting work. The amount paid shall be at the following percentage of the amount of the subcontract reported on form AER 260A submitted for the approval of the subcontractor's work.

Value of Subcontract Reported on Form AER 260A	Mobilization Percentage
Less than \$10,000	25%
\$10,000 to less than \$20,000	20%
\$20,000 to less than \$40,000	18%
\$40,000 to less than \$60,000	16%
\$60,000 to less than \$80,000	14%
\$80,000 to less than \$100,000	12%
\$100,000 to less than \$250,000	10%
\$250,000 to less than \$500,000	9%
\$500,000 to \$750,000	8%
Over \$750,000	7%

The mobilization payment to the subcontractor is an advance payment of the reported amount of the subcontract and is not a payment in addition to the amount of the subcontract; therefore, the amount of the advance payment will be deducted from future progress payments.

This provision shall be incorporated directly or by reference into each subcontract approved by the Department.

SPECIAL PROVISION FOR PAYMENTS TO SUBCONTRACTORS

Effective: November 2, 2017

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the State Prompt Payment Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

When progress payments are made to the Contractor according to Article 90-07 of the Standard Specifications, the Contractor shall make a corresponding payment to each subcontractor and material supplier in proportion to the work satisfactorily completed by each subcontractor and for the material supplied to perform any work of the contract. The proportionate amount of partial payment due to each subcontractor and material supplier throughout the contracting chain shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors and material suppliers shall be paid by the Contractor within 15 calendar days after the receipt of payment from the Department. The Contractor shall not hold retainage from the subcontractors. These obligations shall also apply to any payments made by subcontractors and material suppliers to their subcontractors and material suppliers; and to all payments made to lower tier subcontractors and material suppliers throughout the contracting chain. Any payment or portion of a payment subject to this provision may only be withheld from the subcontractor or material supplier to whom it is due for reasonable cause. If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.

This Special Provision does not create any rights in favor of any subcontractor or material supplier against the State or authorize any cause of action against the State on account of any payment, nonpayment, delayed payment, or interest claimed by application of the State Prompt Payment Act. The Department will not approve any delay or postponement of the 15 day requirement except for reasonable cause shown after notice and hearing pursuant to Section 7(b) of the State Prompt Payment Act. State law creates other and additional remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond according to the Public Construction Bond Act, 30 ILCS 550.

SPECIAL PROVISION FOR SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Subcontractor and Disadvantaged Business Enterprise Payment Reporting

The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor's submitted DBE utilization plan.

The report shall be made through the Department's on-line subcontractor payment reporting system within 21 days of making the payment.

SPECIAL PROVISION FOR ADDITIONAL STATE REQUIREMENTS FOR FEDERAL-AID CONSTRUCTION CONTRACTS

Effective: February 1, 1969 Revised: January 1, 2017

EQUAL EMPLOYMENT OPPORTUNITY

In the event of the Contractor's noncompliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act, or the Illinois Department of Human Rights Rules and Regulations, the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political sub-divisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies in voked as provided by statute or regulation.

During the performance of this Contract, the Contractor agrees as follows:

(1) That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability

unrelated to ability, military status, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.

- (2) That, if it hires additional employees in order to perform this contract or any portion hereof, it will determine the availability (in accordance with the Illinois Department of Human Rights Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- (3) That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, sexual orientation, marital status, order of protection status, national origin or ancestry, citizenship status, age, physical or mental disability unrelated to ability, military status, or an unfavorable discharge from military service.
- (4) That it will send to each labor organization or representative of workers with which it has or is bound by a collective barg aining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations. If any labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and IDOT and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- (5) That it will submit reports as required by the Illinois Department of Human Rights Rules and Regulations, furnish all relevant information as may from time to time be requested by the Illinois Department of Human Rights or IDOT, and in all respects comply with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.
- (6) That it will permit access to all relevant books, records, accounts, and work sites by personnel of IDOT and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Illinois Department of Human Rights Rules and Regulations.
- (7) That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that the provisions will be binding upon the subcontractor. In the same manner as with other provisions of this contract, the Contractor will be liable for compliance with applicable provisions of this clause by subcontractors; and further it will promptly notify IDOT and the Illinois Department of Human Rights in the event any subcontractor fails or refuses to comply with these provisions. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

SPECIAL PROVISION FOR NPDES CERTIFICATION

In accordance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 III. Adm. Code, Subtitle C, Chapter I), and the Clean Water Act, and the regulations thereunder, this certification is required for all construction contracts that will result in the disturbance of one or more acres total land area.

The bidder certifies under penalty of law that he/she understands the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR100000) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

The Airport Owner or its Agent will:

- 1) prepare, sign and submit the Notice of Intent (NOI)
- 2) conduct site inspections and complete and file the inspection reports
- 3) submit Incidence of Non-Compliance (ION) forms
- 4) submit Notice of Termination (NOT) form

Prior to the issuance of the Notice-to-Proceed, for <u>each</u> erosion control measure identified in the Storm Water Pollution Prevention Plan, the contractor or subcontractor responsible for the control measure(s) must sign the above certification (forms to be provided by the Department).

SPECIAL PROVISION FOR COMPLETION TIME VIA CALENDAR DAYS

It being understood and agreed that the completion within the time limit is an essential part of the contract, the bidder agrees to complete the work within 54 calendar days, unless additional time is granted by the Engineer in accordance with the provisions of the specifications. In case of failure to complete the work on or before the time named herein, or within such extra time as may have been

allowed by extensions, the bidder agrees that the Department of Transportation shall withhold from such sum as may be due him/her under the terms of this contract, the costs, as set forth in Section 80-09 Failure to Complete on Time of the Standard Specifications, which costs shall be considered and treated not as a penalty but as damages due to the State from the bidder by reason of the failure of the bidder to complete the work within the time specified in the contract.

State of Illinois Department of Transportation

SPECIAL PROVISION FOR SECTION 80 PROSECUTION AND PROGRESS

This Special Provision amends the provisions of the Standard Specifications for Construction of Airports (Adopted September 25, 2020 & Revised November 12, 2021) and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

80-09 Failure to complete on time.

ADD:

Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Con	tract Amount	Daily Cha	arges
From More Than	To and Including	Calendar Day	Work Day
\$ 0 100,000 500,000 1,000,000 3,000,000 6,000,000 12,000,000	\$ 100,000 500,000 1,000,000 3,000,000 6,000,000 12,000,000 And over	\$ 475 750 1,025 1,275 1,425 2,300 6,775	\$ 675 1,050 1,425 1,725 2,000 3,450 9,525

State of Illinois Department of Transportation

SPECIAL PROVISION FOR SECTION 90 MEASUREMENT AND PAYMENT

This Special Provision amends the provisions of the Standard Specifications for Construction of Airports (Adopted September 25, 2020 & Revised November 12, 2021) and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

90-07 Partial payments.

DELETE: The entire section.

ADD: Partial payments will be made to the Contractor at least once each month as the work progresses. The payments will be based upon estimates, prepared by the Resident Engineer, of the value of the work performed and materials complete and in place in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with the Section 90-08 PAYMENT FOR MATERIALS ON HAND. From the amount of partial payment so determined on Federal-Aid projects, there shall be deducted an amount up to ten percent of the cost of the completed work which shall be retained until all conditions necessary for financial closeout of the project are satisfied. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1,000.00 will be approved for payment other than the final payment. A final voucher for under \$5.00 shall not be paid except through electronic funds transfer. (15 ILCS 405/9(b-1))

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders, except when such excess quantities have been determined by the Engineer to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Department to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in Section 90-09 ACCEPTANCE AND FINAL PAYMENT.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610) progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the Subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

In accordance with 49 USC § 47111, the Department will not make payments totaling more than 90 percent of the contractuntil all conditions necessary for financial closeout of the project are satisfied.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.

90-09 Trust agreement option.

DELETE: The entire section.

APPENDIX A - FEDERAL AVIATION ADMINISTRATION (FAA) REQUIRED CONTRACT PROVISIONS

A1 ACCESS TO RECORDS AND REPORTS

A1.1 CONTRACT CLAUSE

ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the sponsor, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives, access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A2 AFFIRMATIVE ACTION REQUIREMENTS

A2.1 SOLICITATION CLAUSE

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

- 1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- 2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

The following goal for female utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally-assisted construction contracts and subcontracts in excess of \$10,000. The goal is applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally assisted or nonfederally related construction contact or subcontract.

AREA COVERED (STATEWIDE)

Goals for Women apply nationwide.

GOAL

Goal (percent)

Until further notice, the following goals for minority utilization in each construction craft and trade shall apply to all Contractors holding Federal and federally-assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to the Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, federally-assisted or nonfederally related construction contract or subcontract.

Economic Area (percent)	Goal
056 Paducah, KY: Non-SMSA Counties - IL - Hardin, Massac, Pope KY - Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall	5.2
080 Evansville, IN: Non-SMSA Counties - IL - Edwards, Gallatin, Hamilton, Lawrence, Saline, Wabash, White IN - Dubois, Knox, Perry, Pike, Spencer KY - Hancock, Hopkins, McLean, Mublenberg, Ohio, Union, Webster	3.5
081 Terre Haute, IN: Non-SMSA Counties - IL - Clark, Crawford IN - Parke	2.5
083 Chicago, IL: SMSA Counties: 1600 Chicago, IL - IL - Cook, DuPage, Kane, Lake, McHenry, Will	19.6

	3740 Kankakee,IL - L - Kankakee	9.1
I	Non-SMSA Counties L - Bureau, DeKalb, Grundy, Iroquois, Kendall, LaSalle, Livingston, Putnam N - Jasper, Laporte, Newton, Pulaski, Starke	18.4
	mpaign - Urbana, IL: SMSA Counties:	
1	1400 Champaign - Urbana - Rantoul, IL - L - Champaign	7.8
-	Non-SMSA Counties - L - Coles, Cumberland, Douglas, Edgar, Ford, Piatt, Vermilion	4.8
	ngfield - Decatur, IL: SMSA Counties:	
2	2040 Decatur, IL - L - Macon	7.6
7	7880 Springfield, IL -	4.5
	L - Menard, Sangamon	
	Non-SMSA Counties L - Cass, Christian, Dewitt, Logan, Morgan, Moultrie, Scott, Shelby	4.0
086 Quin	icy, IL: Non-SMSA Counties	3.1
	L - Adams, Brown, Pike MO - Lewis, Marion, Pike, Ralls	
087 P	Peoria, IL:	
1	SMSA Counties: 1040 Bloomington - Normal, IL - L - McLean	2.5
	6120 Peoria, IL - L - Peoria, Tazewell, Woodford	4.4
	Non-SMSA Counties - L - Fulton, Knox, McDonough, Marshall, Mason, Schuyler, Stark, Warren	3.3
088 Rock	,	
6	SMSA Counties: 6880 Rockford, IL - L - Boone, Winnebago	6.3
	Non-SMSA Counties - L - Lee, Ogle, Stephenson	4.6
098 Dubi		
	Non-SMSA Counties - L - JoDaviess	0.5
	A - Atlamakee, Clayton, Delaware, Jackson, Winnesheik NI - Crawford, Grant, Lafayette	
	enport, Rock Island, Moline, IA - IL:	
1 I	SMSA Counties: 1960 Davenport, Rock Island, Moline, IA - IL - L - Henry, Rock Island	4.6
ı	A - Scott	
 	Non-SMSA Counties - L - Carroll, Hancock, Henderson, Mercer, Whiteside A - Clinton, DesMoines, Henry, Lee, Louisa, Muscatine MO - Clark	3.4
107 St. L	ouis, MO:	
	SMSA Counties: 7040 St. Louis, MO - IL -	14.7
I	L - Clinton, Madison, Monroe, St. Clair MO - Franklin, Jefferson, St. Charles, St. Louis, St. Louis City	
	Non-SMSA Counties - L - Alexander, Bond, Calhoun, Clay, Effingham, Fayette, Franklin, Greene,	11.4
	E 7 NONGLIGOT, DOTTA, CARTOAN, CIAY, EMILYMAN, LAYOUC, LANKIN, CICCIC,	

Jackson, Jasper, Jefferson, Jersey, Johnson, Macoupin, Marion, Montgomery, Perry, Pulaski, Randolph, Richland, Union, Washington, Wavne. Williamson

MO - Bollinger, Butler, Cape Girardeau, Carter, Crawford, Dent, Gasconade, Iron, Lincoln, Madison, Maries, Mississippi, Montgomery, Perry, Phelps, Reynolds, Ripley, St. Francois, St. Genevieve, Scott, Stoddard, Warren, Washington, Wayne

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- 3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
- 4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Kankakee, Illinois; Kankakee County.

A3 BREACH OF CONTRACT TERMS

A3.1 CONTRACT CLAUSE

This provision is required for all contracts that exceed the simplified acquisition threshold as stated in 2 CFR Part 200, Appendix II (A). This threshold is occasionally adjusted for inflation and is now equal to \$150,000.

BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide the Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the Contractor must correct the breach. Owner may proceed with termination of the contract if the Contractor fails to correct the breach by deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A4 BUY AMERICAN PREFERENCE

A4.1 CONTRACT CLAUSE

- (a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program (AIP).
- (b) Any and all steel products used in the performance of this contract by the Contractor, subcontractors, producers, and suppliers are required to adhere to the Illinois Steel Products Procurement Act, which requires that all steel items be of 100 percent domestic origin and manufacture. Any products listed under the Federal Aviation Administration's (FAA) nationwide approved list of "Equipment Meeting Buy American Requirements" shall be deemed as meeting the requirements of the Illinois Steel Products Procurement Act.
- (c) The successful bidder will be required to assure that only domestic steel and domestically manufactured products will be used by the Contractor, subcontractors, producers, and suppliers in the performance of this contract. The North American Free Trade Agreement (NAFTA) specifically excluded federal grant programs such as the AIP. Therefore, NAFTA does not change the requirement to comply with the Buy American requirement in the Act. Exceptions to this are for products, other than steel, that:
 - (1) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality;
 - (2) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest;

- (3) the FAA has determined that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent; or
- (4) the FAA has determined, under the Aviation Safety and Capacity Expansion Act of 1990,
 - (i) the cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components of the facility or equipment, and
 - (ii) final assembly of the facility or equipment has occurred in the United States.

The FAA must grant waivers for any items that are included in these above exceptions. Bidders can review items already approved under the FAA nationwide approved list of "Equipment Meeting Buy American Requirements" on the FAA website, which do not require a specific FAA waiver.

All waivers are the responsibility of the Contractor, must be obtained prior to the Notice to Proceed, and must be submitted to the Illinois Division of Aeronautics for review and approval before being forwarded to the FAA. Any products used on the project that cannot meet the domestic requirement, and for which a waiver prior to the Notice to Proceed was not obtained, will be rejected for use and subject to removal and replacement with no additional compensation, and the contractor deemed non-responsive.

A5 CIVIL RIGHTS - GENERAL

A5.1 CONTRACT CLAUSE

GENERAL CIVIL RIGHTS PROVISIONS

The contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractor and subtier contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

A6 CIVIL RIGHTS - TITLE VI ASSURANCE

A6.1 CONTRACT CLAUSE

A6.1.1 Title VI Solicitation Notice

Title VI Solicitation Notice:

The Kankakee Valley Airport Authority, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

A6.1.2 Title VI Clauses for Compliance with Nondiscrimination Requirements

Compliance with Nondiscrimination Requirements

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

- Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
- Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

A6.1.3 Title VI List of Pertinent Nondiscrimination Acts and Authorities

Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not):
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

A7 CLEAN AIR AND WATER POLLUTION CONTROL

A7.1 CONTRACT CLAUSE

This provision is required for all contracts and lower tier contracts that exceed \$150,000.

CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. § 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

A8 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

A8.1 CONTRACT CLAUSE

This provision applies to all contracts and lower tier contracts that exceed \$100,000, and employ laborers, mechanics, watchmen, and guards.

CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

1. Overtime Requirements.

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

2. Violation; Liability for Unpaid Wages; Liquidated Damages.

In the event of any violation of the clause set forth in paragraph (1) of this clause, the contractor and any 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 such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) 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 forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this clause.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A9 COPELAND "ANTI-KICKBACK" ACT

A9.1 CONTRACT CLAUSE

COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 U.S.C. 874 and 40 U.S.C. 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A10 DAVIS-BACON REQUIREMENTS

A10.1 CONTRACT CLAUSE

DAVIS-BACON REQUIREMENTS

1. Minimum Wages

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this

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

- (ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- (D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of 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.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2 Withholding.

The Federal Aviation Administration or the sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

- 3. Payrolls and basic records.
- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- (ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation

Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

- (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
- (2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.
- (D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the sponsor, the Federal Aviation Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is a

- (iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.
- 5. Compliance with Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR Part 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance With Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards.

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

- 10. Certification of Eligibility.
- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

A11 DEBARMENT AND SUSPENSION

A11.1 CONTRACT CLAUSE

A11.1.1 Bidder or Offeror Certification

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

A11.1.2 Lower Tier Contract Certification

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

- 1. Checking the System for Award Management at website: http://www.sam.gov
- 2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
- 3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A12 DISADVANTAGED BUSINESS ENTERPRISE

A12.1 REQUIRED PROVISIONS

A12.1.1 Solicitation Language (Solicitations that include a Project Goal)

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

As a condition of bid responsiveness, the Bidder or Offeror must submit the following information with their proposal on the forms provided herein:

- (1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- (2) A description of the work that each DBE firm will perform;
- (3) The dollar amount of the participation of each DBE firm listed under (1)
- (4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal;
- (5) If Bidder or Offeror cannot meet the advertised project DBE goal; evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR Part 26.

A12.1.2 Solicitation Language (Race/Gender Neutral Means)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the Kankakee Valley Airport Authority to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

A12.1.3 Prime Contracts (Projects covered by DBE Program)

DISADVANTAGED BUSINESS ENTERPRISES

Contract Assurance (§ 26.13) - The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of Department of Transportation-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Owner deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

A13 DISTRACTED DRIVING

A13.1 CONTRACT CLAUSE

TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 and involve driving a motor vehicle in performance of work activities associated with the project.

A14 ENERGY CONSERVATION REQUIREMENTS

A14.1 CONTRACT CLAUSE

ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201etseq).

A15 EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)

A15.1 MANDATORY CONTRACT CLAUSE

A15.1.1 E.E.O. Contract Clause

EQUAL OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identify or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, That in the eventa contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

A15.1.2 EEO Specification

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

- 1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d. "Minority" includes:
 - (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- 2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- 3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
- 4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance

Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

- 5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.
- 6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.
- 7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.
 - f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such a superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - I. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.
- 8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
- 9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.
- 10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- 11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246
- 12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- 13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- 14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate
- 15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A16 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

A16.1 CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The contractor has full responsibility to monitor compliance to the referenced statute or regulation. The contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

A17 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

A17.1 CONTRACT CLAUSE

This provision is required for all contracts that exceed \$100,000.

CERTIFICATION REGARDING LOBBYING

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

A18 PROHIBITION of SEGREGATED FACILITIES

A18.1 CONTRACT CLAUSE

PROHIBITION of SEGREGATED FACILITIES

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

A19 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

A19.1 CONTRACT CLAUSE

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A20 PROCUREMENT OF RECOVERED MATERIALS

A20.1 CONTRACT CLAUSE

Procurement of Recovered Materials

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,

 $The \ contractor \ has \ procured \ \$10,000 \ or \ more \ of \ a \ designated \ item \ using \ Federal \ funding \ during \ the \ previous \ fiscal \ year.$

 $The \ list of EPA-designated \ items \ is available \ at \ \underline{www.epa.gov/epawaste/conserve/tools/cpg/products/}.$

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A21 RIGHT TO INVENTIONS

A21.1 CONTRACT CLAUSE

RIGHTS TO INVENTIONS

Contracts or agreements that include the performance of experimental, developmental, or research work must provide for the rights of the Federal Government and the Owner in any resulting invention as established by 37 CFR part 401, Rights to Inventions Made by Non-profit Organizations and Small Business Firms under Government Grants, Contracts, and Cooperative Agreements. This contract incorporates by reference the patent and inventions rights as specified within in the 37 CFR §401.14. Contractor must include this requirement in all sub-tier contracts involving experimental, developmental or research work.

A22 SEISMIC SAFETY

A22.1 CONTRACT CLAUSE

A22.1.1 Construction Contracts

Seismic Safety

The contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

A23 TAX DELINQUENCY AND FELONY CONVICTIONS

A23.1 CONTRACT CLAUSE

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

Certifications

- 1) The applicant represents that it is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If an applicant cannot comply with either of the above representations, the applicant is ineligible to receive an award unless the sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

The applicant agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A24 TERMINATION OF CONTRACT

A24.1 CONTRACT CLAUSE

A24.1.1 Termination for Convenience

Termination for Convenience (Construction & Equipment Contracts)

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

- 1. Contractor must immediately discontinue work as specified in the written notice.
- 2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
- 3. Discontinue orders for materials and services except as directed by the written notice.
- 4. Deliver to the owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.
- 5. Complete performance of the work not terminated by the notice.
- 6. Take action as directed by the owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination:

documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and reasonable and substantiated expenses to the contractor directly attributable to Owner's termination action

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

A24.1.2 Termination for Default

Termination for Default (Construction)

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with Owner termination of this contract due default of the Contractor.

A25 TRADE RESTRICTION CERTIFICATION

A25.1 CONTRACT CLAUSE

TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror -

- a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R.);
- b. has not knowingly entered into any contractor subcontractfor this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the U.S.T.R; and
- c. has not entered into any subcontract for any product to be used on the Federal on the project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- (1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R. or
- (2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such U.S.T.R. list or

(3) who incorporates in the public works project any product of a foreign country on such U.S.T.R. list;

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

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by U.S.T.R, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A26 VETERAN'S PREFERENCE

A26.1 CONTRACT CLAUSE

VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 U.S.C. 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

SECTION III

Special Provisions

for

CONSTRUCT A NEW AIRFIELD ELECTRICAL VAULT AND REPLACE APRON LIGHTING

ILLINOIS PROJECT: IKK-4882 S.B.G. PROJECT: 3-17-SBGP-TBD

at

Greater Kankakee Airport Kankakee, Kankakee County, Illinois

November 19, 2021

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20007502.00

GENERAL

These Special Provisions, together with applicable Standard Specifications, Contract Requirements for Airport Improvement Project, Rules and Regulations, Payroll Requirements and Minimum Wage Rates which are hereto attached or which by reference are herein incorporated, cover the requirements of the State of Illinois, Division of Aeronautics, and the representatives of the Kankakee Valley Airport Authority for the improvements to the Greater Kankakee Airport, Kankakee, Illinois.

GOVERNING SPECIFICATIONS AND RULES AND REGULATIONS

The "Standard Specifications for Construction of Airports", State of Illinois, Department of Transportation, Division of Aeronautics, adopted September 25, 2020 shall govern the project except as otherwise noted in these Special Provisions. In the case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

Specifications may be obtained at:

http://www.idot.illinois.gov/home/resources/Manuals/Manuals-and-Guides

Where referenced within the Special Provisions, the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction adopted April 1, 2016 shall apply.

INDEX TO SPECIAL PROVISIONS

Table of Contents

PART 1 – GENERAL CONTRACT PROVISIONS	
SECTION 40 – SCOPE OF WORK	4 7 9
PART 2 – GENERAL CONSTRUCTION ITEMS	13
ITEM 102 – TEMPORARY AIR AND WATER POLLUTION, SOIL EROSIONAND SILTATION CONTROL ITEM 105 – MOBILIZATIONITEM 150 – RESIDENT ENGINEER FIELD OFFICE	15
PART 3 SITEWORK	17
ITEM 101 – PREPARATION/REMOVAL OF EXISTING PAVEMENTSITEM 152 – EXCAVATION, SUBGRADE, AND EMBANKMENT	17 18
PART 4 – BASE COURSES	24
ITEM 208 – AGGREGATE BASE COURSE	24

PART 6 - FL	EXIBLE PAVEMENTS	27
ITEM 401 -	- ASPHALT MIX PAVEMENT SURFACE COURSE	27
	10 – REMOVE & REPLACE BIT. PAVEMENT	
	- ASPHALT MIX PAVEMENT BASE COURSE	
PART 7 – RI	GID PAVEMENT	34
ITEM 501	- CEMENT CONCRETE PAVEMENT	34
PART 9 – MI	SCELLANEOUS	37
ITEM 602	- BITUMINOUS PRIME COAT	37
ITEM 603 -	- BITUMINOUS TACK COAT	38
	- CONCRETE FOR MISCELLANEOUS STRUCTURES	
	99 – WELL ABANDONMENT	
ITEM 9102	00 – ROADWAY SIGN PANELS AND POST	42
PART 10 – F	ENCING	43
ITEM 162	- CHAIN-LINK FENCE	43
PART 12 – T	URFING	47
ITFM 901 -	- SEEDING	47
	- TOPSOILING	
PART 13 – L	IGHTING INSTALLATION	51
ITEM 101 -	- AIRPORT ROTATING BEACON	51
	- APRON LIGHTING	
	- INSTALLATION OF UNDERGROUND CABLE FOR AIRPORTS - INSTALLATION OF AIRPORT TRANSFORMER VAULT AND VAULT EQUIPMENT	
	- INSTALLATION OF AIRPORT TRANSPORMER VACCT AND VACCT EQUIPMENT	
	- ELECTRICAL MANHOLE AND JUNCTION STRUCTURES	
ITEM 8000	24 – BUILDING DEMOLITION	83
APPENDIX		
1.	Policy Memorandum 2003-1	
2.	Policy Memorandum 87-2	
3.	Policy Memorandum 87-4	
4.	Policy Memorandum 96-1	
5.	Policy Memorandum 96-3	
6.	Buy American Requirements	
7.	Hazardous Materials Report and Technical Specifications	

PART 1 – GENERAL CONTRACT PROVISIONS

SECTION 40 – SCOPE OF WORK

40-05 MAINTENANCE OF TRAFFIC

ADD:

- I. To maintain airport operations and to facilitate the construction of the proposed work, the project has been divided into separate phases in accordance with Advisory Circular 150/5370-2G Operational Safety on Airports During Construction. References to Construction Safety and Phasing Plans (CSPP) in that document shall be interpreted to mean the phase limits, barricade locations, access points and notes shown on the construction activity plan sheets included in the as-bid contract documents. When "safety" is used or referred to in the contract documents and in the advisory circular(s) it shall be redefined by this contract as meaning "operational safety". The Construction Operational Safety and Phasing Plan (CSPP) establishes the airport and project specific requirements, supplementing the requirements in the AC, that are to be included in the contractor's bid for maintaining operational safety during construction.
- m. The Construction Safety and Phasing Plan (CSPP) contained herein has been approved by both the Airport and the FAA. The contractor shall be required to divide the overall work into separate phases in substantial conformance with the CSPP shown in the plans, except as allowed by the contract documents and approved by the Division on behalf of the FAA. Durations specified for individual phases shall become requirements of the contract and shall be subject to liquidated damages.
- n. The contractor activity on the airfield shall be limited to the limits of construction as identified on the construction activity plan drawings. Beyond the limits of construction the contractor shall not have access to any part of the active airfield pavement with any equipment or personnel without the approval of Airport Management.
- o. Maintenance of Airport Systems are critical to the operation of the Airport and the safety and/or security of the traveling public. Prior to beginning work the contractor shall investigate existing systems which may be located within the work area and locate all existing utilities. The contractor may seek assistance from the JULIE, Engineer, Resident Engineer, Airport and FAA with locating utilities but the final responsibility for all utility locates lies solely with the contractor. If the Contractor's investigation reveals that a utility must be relocated to allow for the performance of the work in the plans, the contractor shall immediately notify the Resident Engineer and remain clear of the utility until resolution has been determined by the Division and the Airport. Any system, including but not limited to systems associated with security, air navigation, weather, airfield lighting damaged by the Contractor's operations shall be immediately repaired to the satisfaction of the owner. No delay shall be taken in the repair of the damaged facility. The Contractor shall not be allowed to finish work for the day until the utility has been repaired.
- p. The contractor shall provide his own radio capable of transmitting and receiving on the Unicom frequencies of <u>123.00</u> MHz.
- q. The Contractor shall provide and maintain construction entrance signage on all public use roads intended to be used by his operations as required by the Illinois Department of Transportation, City of Kankakee and Kankakee County Division of Transportation. The

■ CMT 20007502.00 1 November 19, 2021

Contractor shall be responsible for coordinating all hauling and access on State, City, Township or County roads with the agency responsible for the roadway.

- r. If it is found the fully loaded delivery trucks are excessively damaging the Airport or local roadway pavement, the Contractor shall limit the weight of the material being hauled onto the site. The Resident Engineer shall determine what is considered excessive damage. No payments will be made for additional hauling that may be required due to load restrictions.
- s. The Contractor shall be required to provide a 24-hour phone number for emergency barricades and barricade lighting maintenance.

40-09 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

REVISE: The first sentence of the first paragraph to read:

10 days prior to the preconstruction conference, the Contractor shall submit a SPCD to the Airport describing how he will comply with the requirements of the AC plus the CSPP and supplying any details that could not be determined before contract award.

ADD:

40-10 BARRICADES, WARNING SIGNS AND HAZARD MARKINGS.

The Contractor shall furnish, erect, and maintain all barricades, warning signs, and markings for hazards necessary to protect the public and the work. When used during periods of darkness, such barricades, warning signs and hazard markings shall be suitably illuminated. Unless otherwise specified, barricades, warning signs, and markings for hazards that are in the air operations area shall be a maximum of 18 inches high. Unless otherwise specified, barricades shall be spaced not more than 10 feet apart.

For vehicular and pedestrian traffic, the Contractor shall furnish, erect, and maintain barricades, warning signs, lights and other traffic control devices in reasonable conformity with the Manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office).

Any cost for signage or traffic control shall be borne by the Contractor.

Barricades, as approved by the FAA, shall be provided per the details in the plan sheets. The barricades shall be lighted with steady burn omni-directional red lights supplemented with a 20" x 20" orange flag.

Barricades shall be placed as shown in the plans or as directed by the Resident Engineer or Airport.

The Contractor shall be responsible for supplying, maintaining and any moving of all barricades. Lights shall be maintained in proper working order. No separate payment will be made for supplying, maintaining and moving barricades but shall be considered incidental to the contract.

When the work requires closing an air operations area of the airport or portion of such area, the Contractor shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements of FAA Advisory Circular 150/5340-1 (latest revision), Standards for Airport Markings.

■ CMT 20007502.00 2 November 19, 2021

The Contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his/her parked construction equipment that may be hazardous to the operation of emergency fire-rescue or maintenance vehicles on the airport in reasonable conformance to FAA Advisory Circular 150/5370-2 (latest revision), *Operational Safety on Airports During Construction*.

The Contractor shall identify each motorized vehicle or piece of construction equipment in reasonable conformance to FAA Advisory Circular 150/5370-2 (latest revision).

Mark and identify vehicles in accordance with AC 150/5210-5 (latest revision) *Painting, Marking and Lighting of Vehicles Used on an Airport.* When any vehicle is required to travel over any portion of the aircraft movement area (within the existing perimeter fence) and runway approach area, the vehicle shall be properly identified to operate in the area or provided with a flag on a staff attached to the vehicle so that the flag will be readily visible. The flag should be not less than 3-feet square consisting of a checkered pattern of international orange and white squares of not less than one foot on each side and displayed in full view above the vehicle. A flag or escort vehicle is not required for vehicles which have been painted, marked and lighted for routine use on aircraft movement areas. Any vehicle operating on the movement area during the hours of darkness should be equipped with an amber flashing dome-type light, in accordance with local and/or state codes.

The Contractor shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing work which requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Resident Engineer.

Open-flame type lights shall not be permitted within the air operations areas of the airport.

■ CMT 20007502.00 3 November 19, 2021

SECTION 50 – CONTROL OF WORK

50-05 COOPERATION BETWEEN CONTRACTORS

REVISE: The first sentence of the second paragraph to read:

The contractor shall plan and conduct his/her work so as not to interfere or hinder the progress of work being performed by other contractors or Airport personnel.

50-06 CONSTRUCTION LAYOUT AND STAKES

DELETE: The first paragraph.

ADD: As the first paragraph:

The Contractor will be required to furnish and place construction layout stakes for this project. The establishment of survey control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor.

DELETE: The second paragraph.

ADD: As the second paragraph:

The Resident Engineer will locate and reference three (3) control points and will establish benchmarks along the line of the improvement outside construction limits. The Contractor shall locate and reference the centerline of survey, which shall also consist of locating and referencing control points such as point of curvature, points of tangent, and sufficient points on tangent to provide a line of sight. Control points set by the Resident Engineer shall be identified in the field to the Contractor, and the field notes shall be kept in the office of the Resident Engineer.

ADD:

Benchmarks will be established along the project outside of construction lines.

It is not the responsibility of the Resident Engineer to check the correctness of the Contractor's stakes or forms, except as provided herein; however, any errors that are apparent shall be immediately called to the Contractor's attention, and he shall be required to make the necessary correction before the stakes are used for construction purposes.

The Contractor shall immediately notify the Resident Engineer of conflicts or discrepancies with the established control points.

50-10 LOAD RESTRICTIONS

ADD: Access to the construction work area is limited to the haul routes as shown on the construction activity plan drawings. The use of existing airfield pavements by contractor construction traffic including all haul trucks is prohibited unless previously approved by the Airport Manager. Any damage to existing Airport pavement due to construction traffic operating beyond the approved work limits, hauling outside of the approved haul/access routes and construction traffic operating in prohibited areas shall be repaired by the Contractor at his own expense to the satisfaction of the owner.

■ CMT 20007502.00 4 November 19, 2021

The contractor shall coordinate construction hauling, construction access and load restrictions with the County Division of Transportation and the City of Kankakee. The Contractor shall be responsible for damage to any airfield pavement or public road caused by his construction operations. Any damage to existing airfield pavements or public roads shall be replaced by the Contractor at his own expense to the satisfaction of the Owner.

50-11 MAINTENANCE DURING CONSTRUCTION

ADD: The contractor shall make provisions in the work to maintain positive drainage from the work areas and to minimize the ponding of water. In areas where the contractor is required to core out or remove pavements the contractor shall cut temporary ditches or swales to maintain positive drainage. At locations where temporary ditches are not feasible, the contractor shall excavate storm water storage areas adjacent to but at a lower elevation than the bottom of the work and utilize mechanical pumps to promptly remove storm water from the excavations. All existing pavement areas that are to remain open to aircraft traffic shall be kept clean to the satisfaction of Airport Manager and the Resident Engineer. At the request of the Resident Engineer or of the Airport, the Contractor shall provide a self-propelled, vacuum or regenerative (recirculating) air pavement sweeper, a pavement blower or tractor mounted "sweeper box". At a minimum, a pavement blower shall be kept on site at all times.

ADD: Material tracked onto public streets shall be removed continuously during the work.

No material capable of being blown onto airfield pavement will be allowed to be stored uncovered anywhere within the fence line, at any time during construction.

50-14 FINAL ACCEPTANCE

DELETE: The first sentence of the first paragraph.

ADD: As the first sentence of the first paragraph.

Upon due notice to the Resident Engineer from the Contractor of presumptive completion of the entire project, the charging of Contract Time shall be suspended, and the Engineer will make an inspection.

ADD: After the first sentence of the second paragraph:

The charging of Contract Time shall resume on the day following the inspection and shall continue until the remaining work, including the applicable requirements of Section 40-08, Final Clean-up, is completed to the Engineer's satisfaction.

50-16 PLANS AND WORK DRAWINGS

REVISE: The second sentence of the eleventh (11th) paragraph to read as follows:

Such review will not relieve the Contractor of the responsibility for complying with the contract document requirements or for any error that may exist in the submittal. The Contractor is responsible for the dimensions and designs of adequate connections, detail and satisfactory construction of all work.

REVISE: The 15th paragraph to read:

■ CMT 20007502.00 5 November 19, 2021

Shop drawing submittals that do not include the information below will be rejected and returned to the Contractor. Information to be included on shop drawing submittals shall conform to the following:

PROJECT LOCATION: Greater Kankakee Airport, Kankakee, Illinois

PROJECT TITLE: Construct a New Airfield Electrical Vault and

Replace Apron Lighting

PROJECT NUMBERS: Illinois Project No.: IKK-4882

AIP Project No.: 3-17-SBGP-XXX

CONTRACT ITEM: (Pay Item Name & Number) i.e. AR401610

Bituminous Surface Course

SPECIFICAITON: Section in the specifications i.e. 401-2.3 Asphalt

binder

SUBMITTED BY: (Contractor/Subcontractor Name)

DATE: (Date of Submittal)

ADD: To the end of the 18th paragraph:

d. "Rejected": Submittal shall not be used at the project site.

■ CMT 20007502.00 6 November 19, 2021

SECTION 60 – CONTROL OF MATERIALS

60-01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS

REVISE: The third paragraph to read:

As a minimum, the Contractor shall provide, prior to delivery, statements (shipment tickets, source, certificate of analysis (COA), sample, etc.) as required by the current Illinois Department of Transportation, Bureau of Airport Engineering Manual for Documentation of Airport Materials or as requested by the Engineer of Airport Construction and Materials.

REVISE: The eleventh paragraph to read:

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in the current Federal Aviation Administration Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program and Addendum, that is in effect on the date of advertisement; and meets "Buy America" requirements.

ADD:

All materials for this item shall meet the requirements of the Buy American Preference as stated in the Appendix 4. Contractor shall provide proof of 100% domestic materials prior to delivering materials to the site. Materials that are unable to meet this requirement shall be reported in the bid documents under Certifications Required by State and/or Federal Law, Buy American Certificate and the contractor shall provide material certifications including ASTM testing standards to the Resident Engineer before any material is placed.

60-03 CERTIFICATION OF COMPLIANCE/ANALYSIS (COC/COA)

ADD: After the sixth (8th) paragraph:

The Contractor shall certify all materials contained in the contract. Certification and documentation shall be submitted to the Resident Engineer and Project Engineer. It shall be the <u>sole</u> responsibility of the Contractor to ensure the delivery of adequate and accurate documentation <u>prior</u> to the delivery of materials. Materials incorporated into this project without approved certification and documentation will not be recommended for payment by the Resident Engineer. It shall be the <u>sole</u> responsibility of the Contractor to provide certification that <u>ALL</u> materials to be used on the project meet the "Buy American" requirements.

The certification shall be submitted as part of the shop drawing submittal.

ADD: At the end of the Section:

Shop drawing submittals that do not include the information below will be rejected and returned to the Contractor. All submittals shall contain the following information:

PROJECT LOCATION: Greater Kankakee Airport, Kankakee, Illinois

PROJECT TITLE: Construct a New Airfield Electrical Vault and Replace

Apron Lighting

PROJECT NUMBERS: Illinois Project No.: IKK-4882

AIP Project No.: 3-17-SBGP-XXX

CONTRACT ITEM: (i.e., AR156510 – Silt Fence)

■ CMT 20007502.00 7 November 19, 2021

SPECIFICATION: (i.e., 102-2.5 Silt Fence)

SUBMITTED BY: (Contractor/Subcontractor Name)

DATE: (Date of Submittal)

If the Division of Aeronautics requires additional documentation, they shall request it through the Resident Engineer.

■ CMT 20007502.00 8 November 19, 2021

SECTION 70 - LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

70-08 PUBLIC CONVENIENCE AND SAFETY

ADD: at end of the Section:

The contractor shall provide, install and maintain any warning signs (trucks entering highway, etc.) as required by the County Division of Transportation and the City of Kankakee and/or the responsible agency that maintains the roadway. The cost to the warning signage as required by the agency responsible for the roadway for the duration of the contract shall be at no additional cost to the contract.

70-16 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS

REVISE: The second paragraph as follows:

". . ., the approximate locations and owners have been indicated on the plans."

ADD: After the eight (8th) paragraph:

The following table includes contact numbers that may provide assistance for locating cable. The personnel listed in the table are in no way responsible for damage to existing utilities.

Greater Kankakee Airport

Utility Service of Facility	Person to Contact	Contact Phone
FAA Control & Communications Cable	FAA Sector Office	1-630-587-7801
Airfield Lighting Cables and Water Lines	Kankakee Valley Airport Authority	1-815-939-1422
Electric Cables	J.U.L.I.E.	1-800-892-0123
Telephone Cables	J.U.L.I.E.	1-800-892-0123
Gas Lines	J.U.L.I.E.	1-800-892-0123
City of Kankakee - Sanitary	Randy Collins	1-815-933-0445
Sanitary	J.U.L.I.E.	1-800-892-0123
Aqua Illinois – Watermain	Supervisor of Construction	1-815-935-6538
Water Lines	J.U.L.I.E.	1-800-892-0123

REPLACE: paragraph eleven (11) with:

If, in the Contractor's opinion, additional assistance is needed to locate the utility service or facility, the contractor shall enlist the assistance of a qualified technician or professional utility location firm to accurately locate underground utilities or facilities prior to excavation. Prior to commencing this detailed location work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such owner of his/her plan of operation and request the presence of a representative of the owner to observe the work. Such notification shall be given by the most expeditious means to reach the utility owner's PERSON TO

■ CMT 20007502.00 9 November 19, 2021

CONTACT no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the Engineer.

Only after the investigation has been made should the contractor begin excavation operations. Upon beginning these operations, the contractor shall use extreme caution in the methods utilized. The contractor shall utilize exploratory trenching or small tool excavation practices when beginning operations in critical areas to verify that the utilities are clear of the area of interest or to verify the location and depth of these facilities.

Any utility damaged by the Contractor shall be repaired by the Contractor to the satisfaction of the Owner and shall be at the cost of the Contractor. In the event that an existing utility is damaged during construction, all other work on the project shall be suspended until the utility is repaired. No additional time will be awarded to the Contractor for delays in the project due to damaged utilities. It is a high priority to the airport that all existing Airport utilities, unless otherwise noted in the plans, remain in good working condition throughout the duration of the project.

Special care shall be taken on all operations and particularly near pavement edges to avoid damage to edge lights and all underground electrical cable on the airport. The approximate location of existing underground cable is shown on drawings. Any airfield lights or cable that are broken and require replacement because of the Contractor's operations will be replaced by the Contractor at his/her own expense.

Any airfield cable repairs or replacement to any part of the electrical system made necessary by the Contractor's operations will be made by him/her in the manner specified in Sections 108 and 125 at no cost to the Airport. Cost of replacement to be borne by the Contractor shall include any expense incurred in locating as well as repairing or replacing damaged parts of the system by the owning agency.

70-25 CONTRACTOR'S RESPONSIBILITY FOR SAFETY DURING CONSTRUCTION

ADD:

- e. Review the requirements in AC 150/5370-2 (current edition) and comply with items listed as contractor's responsibility.
- f. Implement a CSPP and SPCD as required in AC 150/5370-2 (current edition) and ensure that construction personnel are familiar with operational safety procedures and regulations on the Airport.
- g. Provide a 24 hour point of contact that will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the Airport.
- h. Provide a safety officer/construction inspector(s) trained in airport safety to maintain the CSPP and SPCD and to monitor all construction activities.
- Restrict movement of construction vehicles to construction areas as flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate.
- j. Ensure that no construction employees, employees of subcontractors or suppliers, or other persons enter any part of the aircraft operations area from construction site unless authorized.

■ CMT 20007502.00 10 November 19, 2021

SECTION 80 - PROSECUTION AND PROGRESS

80-04 LIMITATION OF OPERATIONS

ADD: After the fourth (4th) paragraph:

A minimum distance of <u>65.5'</u> shall be maintained between construction operations and the centerline of all active taxiways and taxilanes and <u>250'</u> from centerline of Runway 4/22 (when active) and <u>200'</u> for Runway 16/34 (when active). It is intended to plan, conduct, and complete the work in these critical traffic areas in such a manner that the length and amount of interruption to aircraft traffic at the Airport is minimized.

The Contractor shall comply with Federal Aviation Regulations and with all rules and regulations of the Airport, including, but not limited to, control and access to the airfield by Contractor's, employees and agents. In the event the Authority is assessed a fine by the Federal Aviation Administration for breach of security resulting from actions of Contractor's employees and agents, the Contractor shall fully reimburse the Authority for the amount of such fine in the form of additional rents.

Work within the Safety Area of Runways and Taxiways will require closure of the Runway or Taxiway as shown in the Construction Activity Plan. Runway closure markers shall be placed prior to initiating work. The Contractor shall place barricades at all locations shown on the plans. Any cable or unit duct protruding from the ground shall be secured flat using sand bags or other methods approved by the Resident Engineer.

80-08 DETERMINATION AND EXTENSION OF CONTRACT TIME

ADD: After the fourth paragraph:

The Engineer will make charges against Contract Time after the presumptive completion of the entire project as provided for in Section 50-16, Final Inspection.

ADD: After the last paragraph of this section:

The following number of calendar days available for work per month has been assumed to be:

<u>Month</u>	Workable Calendar Days
January	0
February	0
March	0
April	0
May	15
June	17
July	17
August	17
September	16
October	16
November	14
December	0

For an extension of contract time due to inclement weather to be considered, the actual total number of calendar days available for work on controlling items must be less than the total number of workable calendar days assumed for the duration of the contract.

■ CMT 20007502.00 11 November 19, 2021

Requests for extension of contract time on calendar day projects caused by inclement weather, shall, as a minimum, be supported with National Weather Bureau data and project diaries. Requests for extension of contract time due to inclement weather will not be considered until after final acceptance.

As part of the request for contract time extension review, consideration may be given to how timely the Contractor prosecuted the work up to the point of the delays and the efforts by the Contractor to get back on schedule including the addition of labor or equipment and the extension of work hours and workdays.

No allowance will be made for anticipated profits.

ADD:

80-14 CONTRACTOR'S ACCESS TO AIRFIELD

The location of an area for parking by the Contractor's employees shall be as shown on the plans or as agreed to by the Airport.

Use of personal vehicles beyond the airport perimeter fence line will not be allowed.

When not in use, the Contractor's vehicles and equipment shall park in the location shown on the plans or in an area outside the Runway Safety Areas (RSAs), Runway Object Free Zones (ROFZs), and Object Free Area (OFAs). The Contractor's vehicles and equipment shall not be parked on a closed taxiway or runway. Parking equipment shall not obstruct any runway visual aids, signs or navigational aids or penetrate Part 77 surfaces.

ADD:

80-15 SECURITY DURING CONSTRUCTION

As a minimum, the Contractor shall be responsible for security during construction as follows:

- (1) Visibly delineate his construction zone by placing a line of barricades or flagging around the entire work zone.
- (2) Keep construction personnel inside the work area delineated by barricades.
- (3) Ensure that construction personnel are familiar with security procedures and regulations on the Airport.
- (4) Restrict movement of construction vehicles to construction areas as flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate or as shown in plans.
- (5) The Contractor shall be required to maintain security on the Airport as specified or as directed by the Airport.
- (6) The Contractor shall provide a complete list of personnel that will be employed while on site and update the list as needed. The contractor shall limit access to the AOA. The Contractor shall be responsible for monitoring the access gate during work hours. If the Contractor chooses to leave the gate open, then he shall monitor the gate to prevent unauthorized entries.
- (7) The contractor shall provide his own padlock to secure the gate used for access.

■ CMT 20007502.00 12 November 19, 2021

PART 2 – GENERAL CONSTRUCTION ITEMS

ITEM 102 – TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

MATERIALS

102-2.13 EROSION CONTROL BLANKET

ADD:

Erosion Control Blanket. Erosion control blanket shall conform to Article 1081.10(b) of the Standard Specifications for Road and Bridge Construction. The blanket shall be secured with biodegradable stakes in accordance with Article 1081.10(e). Metal staples and/or stakes will not be allowed.

CONSTRUCTION REQUIREMENTS

102-3.11 EROSION CONTROL BLANKET

ADD:

Erosion Control Blanket shall be placed in accordance with Article 251.04 of the Standard Specifications for Road and Bridge Construction.

Within 24 hours from the time seeding has been performed, the blanket shall be placed. Prior to placing the mat or blanket, the areas to be covered shall be relatively free of all rocks or clods over 1-½ inches in diameter, and all sticks or other foreign material that will prevent the close contact of the mat or blanket with the seed bed. If as a result of a rain, the prepared seed bed becomes crusted or eroded, or if the eroded places, ruts or depressions exist for any reason, the Contractor will be required to rework the soil until it is smooth and to reseed such areas which are reworked. After the area has been properly shaped, fertilized and seeded, the mat or blanket shall be laid out flat, evenly and smoothly, without stretching the material.

The blanket shall be laid in accordance with the manufacturer's recommendations. All ends and edges shall be tightly butted together.

The blanket shall be held in place by means of stakes. The stakes shall be driven at a 90-degree angle to the plane of the soil. Stakes shall be spaced not more than 3 feet apart in 3 rows for each strip, with a row along each edge and one row alternately spaced in the middle. All ends shall be fastened by stakes spaced 6 inches apart across the width.

Once turf growth has been established, all non-biodegradable components shall be removed by the contractor. This would include any item that would interfere with the mowing of the new turf or which might damage mowing equipment. Furthermore, the contractor shall fill with topsoil or smoothly grade any ruts or gullies that developed during the turf grow in period to the satisfaction of the Owner. This work shall be considered incidental to this item.

METHOD OF MEASUREMENT

DELETE Sections 102-4.1 thru 102-4.4, 102-4.6, 102-4.7, 102-4.9 and 102-4.10.

■ CMT 20007502.00 13 November 19, 2021

ADD:

102-4.12 Erosion control blanket shall be the number of square yards satisfactorily completed.

Temporary seeding, stabilized construction entrances, ditch checks, temporary mulching and any other erosion control measures required at the Contractor's staging and storage areas and haul route shall not be measured for payment, but shall be considered incidental to the contract.

BASIS OF PAYMENT

102-5.1

ADD:

Payment will be made under:

ITEM AR156510 SILT FENCE - PER FOOT.

ITEM AR156520 INLET PROTECTION - PER EACH.

ITEM AR156531 EROSION CONTROL BLANKET - PER SQUARE YARD.

■ CMT 20007502.00 14 November 19, 2021

ITEM 105 – MOBILIZATION

DESCRIPTION

105-1.1 REVISE the third paragraph to read:

This item also includes all efforts related to restoration of the project site, staging areas and haul roads as directed in the bidding documents at the conclusion of the job. This activity includes, but is not limited to, incidental grading, seeding and clean-up, as required to restore the project site to original condition.

BASIS OF PAYMENT

ADD:

Payment will be made under:

ITEM AR150520 MOBILIZATION - PER LUMP SUM.

■ CMT 20007502.00 15 November 19, 2021

ITEM 150 - RESIDENT ENGINEER FIELD OFFICE

DESCRIPTION

ADD: The Airport will provide a location for the Field Office within proximity to the work areas. The Contractor shall be responsible for furnishing and maintaining the space as stated herein.

CONSTRUCTION METHODS

<u>150-2.1</u> DELETE (b) in paragraph 4.

ADD: the following in paragraph 4 under (h):

The copier shall be capable of scanning documents into pdf format for direct download into the resident engineer's computer. Ink replenishment and paper shall be supplied by the contractor. The scanning capabilities shall allow for creation of pdf documents for field books and plan sheets. A multiple sheet document feeder shall also be included for scanning multiple sheet documents such as field reports and catalog cuts.

BASIS OF PAYMENT

150-4.1 ADD:

Payment will be made under:

ITEM AR150510 ENGINEER'S FIELD OFFICE - PER LUMP SUM.

■ CMT 20007502.00 16 November 19, 2021

PART 3 SITEWORK

ITEM 101 - PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1.1

ADD:

The pavement structures are variable, and the record drawings may not accurately represent the thickness of the individual layers, the number of individual layers, nor the total pavement thickness. The Contractor shall satisfy themselves prior to bidding as to the actual thickness of the pavements to be removed or milled. No additional compensation will be made for variability in the pavement structures or differences between the actual structure and that provided herein.

The item shall consist of full depth bituminous removal of pavement.

METHOD OF MEASUREMENT

101-4.1

ADD:

All aggregate removed below the pavement structure, as directed by the Resident Engineer or as noted on the plans, will be paid for under ITEM 152.

If additional pavement or subgrade material is removed due to negligence of the Contractor, the additional quantity of pavement removal and replacement will not be measured for payment.

DELETE: Sections 101-4.2 through 101-4.7

BASIS OF PAYMENT

<u>101-5.1</u>

ADD:

Payment will be made under:

ITEM AR401900 REMOVE BITUMINOUS PAVEMENT - PER SQUARE YARD.

■ CMT 20007502.00 17 November 19, 2021

ITEM 152 - EXCAVATION, SUBGRADE, AND EMBANKMENT

DESCRIPTION

152-1.1

ADD:

This item shall consist of adjustment of filling or cutting of embankment areas for pavement and vault foundation and turf shoulders to the lines and grades as depicted in the plans. All topsoil or other fill materials used to adjust the shoulder shall be provided by the Contractor at no additional cost to the contract. The source of the fill materials shall be approved by the Engineer. All material brought to the site and hauled off the site shall be documented as uncontaminated in accordance with the Clean Construction or Demolition Debris (CCDD) section below.

Topsoil shall be used from the excavation limits of topsoil stripping and as needed from sources on the boundaries of the Airport property. It shall be the Contractor's responsibility to locate, obtain and haul the supply, subject to the approval of the Engineer and the Airport.

This item shall also consist of furnishing all materials, labor, equipment, tools, and incidentals necessary to completely remove the light pole concrete foundations and backfill the holes to the satisfaction of the Engineer.

All excess material from all contract work shall be hauled offsite at no additional cost to the contract.

152-1.2 DIGITAL TERRAIN MODEL (DTM)

DELETE: This Section.

152-1.3 CLASSIFICATION

DELETE: Paragraphs b, c, d and e.

ADD:

f. **Topsoil Stripping**. Topsoil stripping shall consist of stripping the existing topsoil from below the proposed embankments or below the proposed vault foundation, sidewalk, roadway and shoulder pavements. For the purpose of this specification, topsoil shall consist of the material consisting of brush, sods, grass, decayed vegetable matter, or vegetation approximately six inches (6") in depth. Topsoil stripping shall be defined as "Unclassified Excavation".

ADD: New section:

152-1.6 CLEAN CONSTRUCTION OR DEMOLITION DEBRIS

PROJECT CONDITIONS

- A. Prior to bidding, the bidder shall make a site visit to become familiar with the current conditions. He shall also determine the accessibility and assess safety measures that will be necessary to perform the contract work.
- B. Material Sampling and Analysis:

■ CMT 20007502.00 18 November 19, 2021

1. The Contractor shall provide his own sampling and analysis in compliance with applicable laws, prior to offsite disposal of all materials. This cost shall be borne by the Contractor at no additional expense to the Owner.

REGULATORY REQUIREMENTS

- A. The Contractor shall comply with all applicable local, state and federal laws and regulations with regard to material removal, handling and disposal, and shall pay all assessed costs and fees.
- B. The Contractor shall comply with the Illinois Environmental Protection Act, as amended by Public Act 096-1416 that was signed into law on July 30, 2010, Public Act 097-0137 that was signed into law on July 14, 2011, and all applicable amendments of the Illinois Environmental Protection Act.

SUBMITTALS

- A. Contractor shall submit a Clean Construction or Demolition Debris (CCDD) & Soil Removal and Disposal Plan to the Engineer. Submit the following as a minimum:
 - 1. A list of all construction or demolition debris anticipated to be generated requiring disposal.
 - 2. The anticipated quantity (both in tons and in cubic yards) of construction or demolition debris to be disposed of and identification of disposal facility including address and contact information.
 - 3. The anticipated quantity (both in tons and in cubic yards) of surplus soil to be disposed of, and identification of disposal facility including address and contact information.

CCDD testing shall be by the Contractor, as a minimum, the Contractor shall submit the following:

- Proposed Testing Program to establish that the surplus soil is uncontaminated, for compliance with the requirements of the Illinois Environmental Protection Act. Include details of intended testing program, and rate of sampling (number of samples based on total quantity of surplus soil generated).
- Credentials of the testing Lab that will perform the testing, and credentials of the Illinois Licensed Professional Engineer or Illinois Licensed Professional Geologist that will complete all required certification forms.
- 3. Results of the Proposed Testing Program.
- 4. If further CCDD testing is deemed necessary by the Contractor's chosen disposal facility, the Contractor shall complete this testing at no additional cost to the contract.

GENERAL

- A. The following work shall be included:
 - Removal, handling and legal offsite disposal of all construction or demolition debris generated from all contract work, considering it to be clean construction or demolition debris (CCDD).

■ CMT 20007502.00 19 November 19, 2021

- 2. Removal, handling and legal offsite disposal of surplus soil generated from all contract work, considering it to be uncontaminated.
- Debris and surplus soil disposal shall include any onsite drying of the material as required, so that the material will pass the paint-filter test as per Method 9095B in USEPA's publication SW 846, prior to transportation.
- 4. Any costs and fees for legally-permitted-facilities accepting clean construction or demolition debris (CCDD), and/or uncontaminated surplus soil.
- Additional sampling and testing of surplus soil to establish that it is uncontaminated, and certification to that effect by an Illinois Licensed Professional Engineer or an Illinois Licensed Professional Geologist using Form LPC-663, both as required by law and as required by the site accepting the material.
- 6. Any other applicable work, costs and fees as required by local, state and federal laws.

MATERIAL CHARACTERIZATION FOR OFFSITE DISPOSAL

A. Costs for any and all testing, sampling, laboratory analysis or any other document that is required by the recipient of the material (disposal site) to establish that the material is uncontaminated, shall be borne by the Contractor at no additional expense to the Owner.

CONSTRUCTION METHODS

152-3.1a

REVISE:

Blasting will not be permitted.

152-3.2 EXCAVATION

ADD:

The Contractor shall make provisions in the work to maintain positive drainage from the work areas and to minimize the ponding of water. The Contractor shall cut temporary ditches or swales to maintain positive drainage. At locations where temporary ditches are not feasible, the Contractor shall excavate stormwater storage areas adjacent to but at a lower elevation than the bottom of the work and utilize mechanical pumps to promptly remove stormwater from the excavations.

152-3.6 PREPARATION OF EMBANKMENT AREA

ADD: After the first paragraph:

Prior to placing embankment for new pavements, sidewalk and vault foundation, the topsoil as defined in Section 152-3.15 shall be stripped and stockpiled for future use.

Compressible and/or organic materials shall be removed down to dense material as directed by the Resident Engineer and replaced with suitable embankment material.

Materials excavated during the stripping process shall not be utilized as embankment under the proposed or future pavements.

■ CMT 20007502.00 20 November 19, 2021

Materials excavated during the stripping process shall be stockpiled at a location designated by the Contractor and approved by the Resident Engineer outside of the grading limits and allowed to decay and at the Contractor's expense. Upon completion of the earthwork, this material shall be incorporated as directed in Item 905 over the disturbed surface. Excavation, stockpiling and incorporation of this material shall not be measured for payment but shall be considered incidental to Item 152.

152-3.8 FORMATION OF EMBANKMENTS

ADD:

The Contractor shall make provisions in the work to maintain positive drainage from the work areas and to minimize the ponding of water. The Contractor shall cut temporary ditches or swales to maintain positive drainage. At locations where temporary ditches are not feasible, the Contractor shall excavate stormwater storage areas adjacent to but at a lower elevation than the bottom of the work and utilize mechanical pumps to promptly remove stormwater from the excavations.

ADD: After the eighth paragraph:

Compaction control tests for aircraft weights of less than 60,000 pounds (AASHTO T 99 shall apply in the areas below proposed pavements, sidewalk and vault foundation.

152-3.10 COMPACTION REQUIEREMENTS

In cut areas where porous granular embankment is used, the proposed subgrade shall be compacted to the satisfaction of the Resident Engineer prior to the placement of porous granular embankment.

<u>152-3.15</u> TOPSOIL

DELETE: 2nd paragraph of this section and REPLACE with the following:

The Contractor shall strip the vegetation from all proposed excavation areas at a minimum depth of 6" and from below all proposed pavement areas at a depth of 6". The stripped organic material shall be temporarily stockpiled outside the grading limits at a location approved by the Resident Engineer. Upon completion of the earthwork, this material shall be incorporated as directed in Item 905 over the disturbed surface. After the embankment is placed the decomposed vegetative shall be re-spread and disturbed areas shall be prepared for seeding.

In the area directly below the proposed pavement structure, sidewalk and vault foundation, the Contractor shall strip the topsoil and shall store this material on site. Except where noted in the plans, this excavated material shall be replaced with select fill material and compacted to the specifications of Item 152 for Aircraft weighing less than 60,000 lbs.

Materials excavated during the stripping process shall not be utilized as embankment under the proposed or future pavements.

Excavation, stockpiling and incorporation of this material shall not be measured for payment but shall be considered incidental to Item 152.

Any excess excavation material shall be hauled offsite at no additional cost to the contract.

ADD: New section:

■ CMT 20007502.00 21 November 19, 2021

152-3.19 DUST CONTROL WATERING

This work shall consist exclusively of applying water to control dust resulting from construction operations and is not intended for use in compaction of earth embankment. The Contractor shall take measures to control dust.

Dust shall be controlled by a uniform application of sprinkled water and shall be applied as directed by the Resident Engineer or Airport, in a manner meeting their approval.

Dust control watering shall not be paid for separately but shall be considered incidental to the item requiring the dust control.

152-3.20 REMOVE CONCRETE LIGHT POLE FOUNDATIONS

At the locations shown on the plans, the Contractor shall completely remove the existing light pole concrete foundations from the project site. The remaining hole or void which exists within the limits of all new pavement embankment following the structure floor and foundation removal shall be filled and compacted with unclassified excavation material in conformance with Section 152 of the specifications. At the contractor's option, aggregate base material meeting Section 208 may be used for backfilling. Aggregate base material backfill shall be compacted to not less than 95% of Standard Proctor laboratory density. The remaining hole or void which exists within the limits of turf areas following the concrete foundation removal shall be filled to within 4" of existing adjacent ground level or per the grading plan with unclassified excavation material in conformance with Section 152.

Any unfilled hole, void, or any other hazard left unattended during periods of inactivity shall be properly fenced or protected by the Contractor. Care shall be taken to prevent the spread of dust and flying particles. After the concrete removal has begun, the work shall be carried on promptly and expeditiously until finished.

The Contractor shall break all concrete foundations into pieces not exceeding two feet (2') square. The Contractor shall remove all contents and miscellaneous materials and dispose of said materials at an approved/licensed landfill or dumping area.

The entire site as shown on the plans, or as directed by the Engineer, shall be smoothly graded and turfed where applicable. Turfing shall include topsoiling, permanent seeding and erosion control blanket of those areas designated on the plans. The Contractor shall leave the site free of rubble and debris, and in a condition satisfactory to the Engineer. All rubble and debris shall be disposed of by the Contractor off the airport property at a landfill or approved dumping area. The Contractor shall provide the Engineer with a ticket or receipt from the landfill or dumping area for each load of material hauled from the project site.

METHOD OF MEASUREMENT

DELETE: Sections 152-4.1 thru 152-4.5.

ADD: The following sections:

152-4.7

Unclassified excavation measured for payment shall be lump sum at the locations shown on the plans or as directed by the Resident Engineer. No measurement for payment will be made for topsoil stripping, shoulder fill, spreading and excavation associated with the shoulder adjustment.

■ CMT 20007502.00 22 November 19, 2021

Remove concrete measured for payment shall be per cubic yard at the locations shown on the plans or as directed by the Resident Engineer.

Dust control watering will not be measured for payment but shall be considered incidental to the contract items for which dust control is required.

BASIS OF PAYMENT

152-5.1

ADD:

Payment shall be made at the lump sum contract unit price for "Unclassified Excavation." This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Clean Construction or Demolition Debris (CCDD) testing/documentation, removal and disposal, topsoil placement, shoulder fill and embankment fill shall not be paid for separately, but shall be included in the unit bid price for "Unclassified Excavation".

Payment shall be made at cubic yard contract unit price for "Remove Concrete." This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item. Payment for backfill and compaction of the resultant void with unclassified excavation material and granular material will not be paid for separately.

Payment will be made under:

ITEM AR152411 UNCLASSIFIED EXCAVATION – PER LUMP SUM.

ITEM AR152621 REMOVE CONCRETE – PER CUBIC YARD.

ITEM AR156513 SEPARATION FABRIC - PER SQUARE YARD.

■ CMT 20007502.00 23 November 19, 2021

PART 4 – BASE COURSES

ITEM 208 – AGGREGATE BASE COURSE

DESCRIPTION

208-1.1

ADD:

This item shall consist of a base course for the construction of the roadway pavement.

This item shall also consist of a base course for the construction of the vault foundation pad, sidewalk and other miscellaneous construction and the cost of this work shall not be paid for separately but shall be considered incidental to the associated item.

This item shall consist of porous granular embankment composed of coarse aggregate as specified. It shall be constructed on a prepared subgrade underlying course in accordance with these specifications and shall conform to the dimensions and typical cross section and to the lines and grades as shown on the Plans. This material is intended to repair soft subgrade as determined by the Resident Engineer based on results of geotechnical testing and/or proof roll. No adjustment in unit price will be allowed for an increase or decrease in quantities. **Excavation of the soft subgrade and aggregate base material shall not be paid for under Item 208 but shall be paid for under Item 152 Unclassified Excavation.**

MATERIALS

208-2.3 **GRADATION**

ADD:

The material shall be free from vegetable matter, lumps or clay, and other objectionable or foreign substance.

When submitting materials for consideration, the Contractor shall provide written certification that the material meets the specified requirements. A written gradation shall also be furnished.

Gradation for Porous Granular Embankment shall be one of the following gradations:

Sieve Designation	Percentage by weight passing sieves	
	Α	В
	8" maximum	3" maximum
8"	100	
6"	100-94	
4"	100-80	
3 inch		100
2 ½ inch		90-100
2 inch	20-70	45-75
1 ½ inch		0-30
1 inch		0-6
#4	0-40	
IDOT Gradation	CS 01	CA-1

■ CMT 20007502.00 24 November 19, 2021

CONSTRUCTION REQUIREMENTS

208-3.1 CONTROL STRIP

DELETE: This Entire Section.

208-3.2 PREPARING UNDERLYING COURSE

This section does not apply to the areas of porous granular placement for the repair of soft subgrades.

208-3.4 PLACEMENT

ADD:

The porous granular embankment shall be placed in lifts no greater than one (1) foot thick or as directed by the Resident Engineer.

208-3.5 COMPACTION

ADD:

Porous Granular: Rolling the top of the porous granular aggregate material with a vibratory roller meeting the requirements of Section 1101 of the IDOT *Standard Specification for Road and Bridge Construction* should be sufficient to obtain the desired keying, interlocking and necessary compaction. The Resident Engineer shall verify that adequate keying and interlocking has been obtained. The porous granular base shall be compacted to the satisfaction of the Resident Engineer.

Capping aggregate will not be required when embankment meeting the requirements of Section 208 of the Standard Specifications or granular subbase is placed on top of the porous granular embankment. Capping aggregate (two (2) inch depth) meeting the requirements of Section 208 of the Standard Specifications will be required when embankment meeting the requirements of Section 152 of the Standard Specifications is placed on top of the porous granular embankment.

208-3.9 ACCEPTANCE SAMPLING AND TESTING

ADD:

Compaction for the sidewalk aggregate base course shall be 95% of the maximum density of laboratory specimens compacted and tested per AASHTO T 99 or to the satisfaction of the Resident Engineer.

Compaction for the vault foundation concrete pad aggregate base course shall be 98% of the maximum density of laboratory specimens compacted and tested per AASHTO T 99.

METHOD OF MEASUREMENT

208-4.1

ADD:

The quantity of Porous Granular Embankment shall be the number of cubic yards as measured by the Engineer at the specified thickness of the material placed. If required, the thickness of PGE measured for payment will include the thickness of the capping stone.

■ CMT 20007502.00 25 November 19, 2021

The porous granular embankment shall be used as shown and as field conditions warrant at the time of construction. No adjustment in unit price will be allowed for an increase or decrease in quantities.

The Contractor shall furnish approved duplicate load tickets upon which is recorded the net weight of the aggregates in each truck. The Contractor shall submit one (1) load ticket to the Resident Engineer, or his/her duly authorized representative, at the job site when the truck load is incorporated into the base.

BASIS OF PAYMENT

208-5.1

ADD:

Porous granular embankment shall be paid for at the contract unit price per cubic yard, of which price shall be full compensation for the two (2) inch capping stone (if necessary), furnishing, spreading, compacting, watering and all incidentals related to equipment, labor and tools necessary to complete this work.

Payment will be made under:

ITEM AR208515 POROUS GRANULAR EMBANKMENT - PER CUBIC YARD.

ITEM AR208604 4" AGGREGATE BASE COURSE - PER SQUARE YARD.

■ CMT 20007502.00 26 November 19, 2021

PART 6 - FLEXIBLE PAVEMENTS

ITEM 401 - ASPHALT MIX PAVEMENT SURFACE COURSE

DESCRIPTION

401-1.1

ADD:

This item shall consist of placing bituminous surface course (per Method 1), placed as part of the proposed pavement structure at the locations shown on the plans.

MATERIALS

401-2.3 ASPHALT BINDER

ADD: The following after the 6th paragraph of this section:

Asphalt Binder Selection Table - IDOT Districts 1-6 (Apron) criteria shall apply

COMPOSITION

401-3.3 JOB MIX FORMULA (JMF)

ADD: The following after the 6th paragraph of this section:

Asphalt Design Criteria Table – Automobile (roadways/parking lots). Target air voids (AV) shall be 3% for the mixture.

At the Contractor's option, an IDOT Division of Highways HMA Surface mix may be submitted for approval by the Engineer. The HMA surface mix shall be in accordance with Section 406 Hot-Mix Asphalt Binder and Surface Course of the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction". The mix shall be a production mix from the current construction season meeting Mixture Composition:

Hot Mix Asphalt Surface Course, Mix "D", IL-9.5, N50.

CONSTRUCTION METHODS

401-4.10 JOINTS

ADD:

After the first paragraph of this section.

At any time during the bituminous surface course paving operation, it becomes necessary to end a paving lane at a location other than the proposed finished pavement edge because of ending a day's paving, machinery breakdown, etc., the lane end will be sawed back a sufficient distance to provide a smooth, neat appearing joint from which to resume paving. The sawed face will be painted with a liquid asphalt and this work shall be considered incidental to Item 401, Bituminous Surface Course, and no additional compensation will be allowed.

METHOD OF MEASUREMENT

401-7.1

REPLACE: The first and second paragraph with the following:

■ CMT 20007502.00 27 November 19, 2021

The quantity of asphalt shall be measured for payment by the number of square yards of asphalt surface placed at the required thickness specified, completed, and accepted by the Resident Engineer.

BASIS OF PAYMENT

<u>401-8.1</u>

ADD:

Payment will be made under:

ITEM AR401502 BITUMINOUS SURFACE COURSE – 2" - PER SQUARE YARD.

■ CMT 20007502.00 28 November 19, 2021

ITEM 401910 - REMOVE & REPLACE BIT. PAVEMENT

DESCRIPTION

401910-1.1

This item shall consist of bituminous pavement removal and replacement for construction of concrete encased duct bank as described in the plans. Pavement removal and replacement quantities are estimated. The pavement shall be compacted in accordance with these specifications and shall conform to the lines, grades, thicknesses and typical sections as shown on the plans or as directed by the Resident Engineer.

Each course shall be constructed to the depth, section or elevation required to match the existing pavement structure and shall be rolled, finished and approved prior to the placement of the next course.

MATERIALS

401910-2.1 BITUMINOUS SURFACE COURSE

Bituminous surface course shall conform to the specifications of Item 401.

At the Contractor's option, an IDOT Division of Highways surface mix may be used upon approval by the Engineer. The surface course mix shall be an a Mix "D", IL-9.5, N50. The compacted lift thickness shall meet the minimum requirements specified in Article 406.06(d) of the IDOT highway "Standard Specifications for Road and Bridge Construction" but shall not exceed a maximum lift of 4-inches.

401910-2.2 BITUMINOUS BASE COURSE

Bituminous base course shall conform to the specifications of Item 403.

At the Contractor's option, an IDOT Division of Highways binder mix may be used upon approval by the Engineer. The binder course mix shall be an IL-19.0, N50 mix. The compacted lift thickness shall meet the minimum requirements specified in Article 406.06(d) of the IDOT highway "Standard Specifications for Road and Bridge Construction" but shall not exceed a maximum lift of 4-inches.

401910-2.3 BITUMINOUS PRIME COAT

The bituminous prime coat shall conform to the specifications of Item 602.

401910-2.4 BITUMINOUS TACK COAT

The bituminous tack coat shall conform to the specifications of Item 603.

CONSTRUCTION METHODS

401910-3.1

The type of material to be removed along with approximate typical pavement section is shown on the plans. Pavement structure information was taken from airport records, data supplied by airport personnel and pavement cores. The Contractor shall verify the type and thickness of material to be removed. No extra compensation will be allowed for any variations in the pavement sections actually encountered.

■ CMT 20007502.00 29 November 19, 2021

401910-3.2

The proposed pavement replacement section shall be as specified herein. Tack coat shall be applied between each lift of asphalt and on all vertical faces of the patch area and prime coat shall be applied to the aggregate base course.

401910-3.3

The existing pavement areas to be removed shall be done in such a manner as to prevent damage to the adjacent pavements. All edges adjacent to existing pavements shall be saw-cut full depth prior to removal, as directed by the Resident Engineer.

Any damage to the pavement beyond the limits as shown on the plans or as directed by the Resident Engineer shall be removed and replaced by the Contractor at his expense. These areas shall be saw cut to a uniform width.

401910-3.4

Pavement replacement will be as detailed on the plans and constructed in accordance to the applicable Items 401, 403, 602 and 603. The various materials required for pavement replacement shall be in accordance with the applicable portions of the Standard Specifications and these Special Provisions. Any damage to pavement beyond the limits as shown on the plans **shall be removed and replaced by the Contractor at his expense. These areas shall be saw cut to a uniform width.**

401910-3.5

Pavement Removal and Replacement shall be the removal of the existing pavements as shown on the plans or as directed by the Resident Engineer and the replacement pavement shall match the existing pavement thickness. The replacement pavement shall consist of bituminous surface course and bituminous base course conforming to the specifications of Items 401 and 403. The maximum lift thickness shall be 3" unless otherwise specified herein. For full-depth patching, the existing aggregate base course shall be re-graded and compacted prior to the placement of the bituminous course. Cost of regrading and compacting to the existing base shall be incidental to the pavement removal and replacement.

401910-3.6

The existing pavement that is removed shall be disposed of off Airport property. No additional compensation will be made for hauling and disposal of any of the removed material.

401910-3.7 ACCEPTANCE TESTING OF HMA MIXES FOR DENSITY.

After the completion of compaction, the pavement will be tested for acceptance by the Resident Engineer and accepted on the basis of percent air voids in the final compacted mat. The HMA course shall be compacted to a minimum density of 93 percent (7 percent air voids) and a maximum of 99 percent (1 percent air voids) of the Maximum Theoretical Specific Gravity (ASTM D 2041). If, during construction, the density test falls below 93 percent, additional approved rollers shall be required. Failure to achieve density within these limits shall be cause for rejection of the material, as determined by the Division of Aeronautics.

One random nuclear density test shall be taken for each 250 tons of mix placed. Each nuclear density test shall be the average of five (5) nuclear tests taken as a cross-section of the pavement, in accordance with ASTM D2950. The Resident Engineer shall have a nuclear gauge and qualified operator on the project when constructing this item for acceptance testing. The contractor shall have their own nuclear gauge and qualified operator onsite for quality control.

■ CMT 20007502.00 30 November 19, 2021

METHOD OF MEASUREMENT

401910-4.1

The area of pavement removal and replacement shall be measured by the number of square yards, satisfactorily removed, replaced and disposed of as shown on the plans or as directed by the Resident Engineer.

If additional pavement or subgrade material is removed due to negligence on the part of the Contractor, the additional quantity of pavement removal and replacement of subgrade material will <u>not</u> be measured for payment.

The pavement removal, bituminous surface course, bituminous base course, bituminous prime coat and bituminous tack coat will not be measured separately for payment, but will be considered incidental to REMOVE & REPLACE BIT. PAVEMENT, per square yard.

BASIS OF PAYMENT

401910-5.1

Payment for REMOVE & REPLACE BITUMINOUS PAVEMENT shall be made at the contract unit price per square yard. This price shall include full compensation for sawing, removal, disposal, replacement of asphalt materials, compaction, prime coat, tack coat, including furnishing all materials, labor, tools, testing, equipment and incidentals necessary to complete this item of work.

Any grading and recompacting of existing granular base course to proper grade shall not be paid for separately but shall be considered incidental to Remove & Replace Bituminous Pavement.

Payment will be made under:

ITEM AR401910 REMOVE & REPLACE BIT. PAVEMENT - PER SQUARE YARD.

■ CMT 20007502.00 31 November 19, 2021

ITEM 403 - ASPHALT MIX PAVEMENT BASE COURSE

DESCRIPTION

403-1.1

ADD:

This item shall consist of placing bituminous base course (per Method 1), placed as part of the proposed pavement structure at the locations shown on the plans.

MATERIALS

403-2.3 ASPHALT BINDER

ADD: The following after the 6th paragraph of this section:

Asphalt Binder Selection Table – IDOT Districts 1-6 (Apron) criteria shall apply

COMPOSITION

403-3.3 JOB MIX FORMULA (JMF)

ADD: The following after the 6th paragraph of this section:

Asphalt Design Criteria Table – Automobile (roadways/parking lots). Target air voids (AV) shall be 3% for the mixture.

At the Contractor's option, an IDOT Division of Highways HMA Binder mix may be submitted for approval by the Engineer. The HMA surface mix shall be in accordance with Section 406 Hot-Mix Asphalt Binder and Surface Course of the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction". The mix shall be a production mix from the current construction season meeting Mixture Composition:

Hot Mix Asphalt Binder Course, IL-19.0, N50.

CONSTRUCTION METHODS

403-4.10 JOINTS

ADD:

After the first paragraph of this section.

At any time during the bituminous surface course paving operation, it becomes necessary to end a paving lane at a location other than the proposed finished pavement edge because of ending a day's paving, machinery breakdown, etc., the lane end will be sawed back a sufficient distance to provide a smooth, neat appearing joint from which to resume paving. The sawed face will be painted with a liquid asphalt and this work shall be considered incidental to Item 401, Bituminous Surface Course, and no additional compensation will be allowed.

METHOD OF MEASUREMENT

401-7.1

REPLACE: The first and second paragraph with the following:

■ CMT 20007502.00 32 November 19, 2021

The quantity of asphalt shall be measured for payment by the number of square yards of asphalt binder placed at the required thickness specified, completed, and accepted by the Resident Engineer.

BASIS OF PAYMENT

403-8.1

ADD:

Payment will be made under:

ITEM AR800121 BITUMINOUS BASE COURSE - PER SQUARE YARD.

■ CMT 20007502.00 33 November 19, 2021

PART 7 – RIGID PAVEMENT

ITEM 501 - CEMENT CONCRETE PAVEMENT

501-1.1

ADD: This work shall also include the construction of plain Portland cement concrete sidewalk with 4-inch aggregate base course. No separate measurement will be made for the required 4" granular bedding, excavation or other necessary incidentals required to complete this item.

MATERIALS

501-2.1 through 2.11

DELETE: These sections.

ADD: Portland cement concrete shall meet the material requirements of Section 610.

501-2.12

ADD: Liquid membrane forming compounds for curing concrete in accordance with ASTM C 309 shall be used.

501-2.13

DELETE: This section.

CONCRETE MIX

501-3.1 through 3.6

DELETE: These sections.

ADD: Portland cement concrete shall meet the material requirements of Section 610.

CONSTRUCTION METHODS

501-4.1 through 4.8

DELETE: These sections.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610.

501-4.9 Strike-off of Concrete and Placement of Reinforcement

DELETE: These sections.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610 and Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction, Section 424.06 Placing and Finishing.

501-4.10 Joints

DELETE: This section.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610 and Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction, Section 424.07 Expansion Joints.

■ CMT 20007502.00 34 November 19, 2021

501-4.11 and 4.12

DELETE: These sections.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610.

501-4.13 Curing

DELETE: This section.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610, membrane curing method.

501-4.14 and 4.18

DELETE: These sections.

ADD: Portland cement concrete shall meet the construction method requirements of Section 610.

CONTRACTOR QUALITY CONTROL (QC)

501-5.1 through 5.5

DELETE: These sections.

ADD: Portland cement concrete shall meet the requirements of Section 610.

MATERIAL ACCEPTANCE

501-6.1 through 6.6

DELETE: These sections.

ADD: Portland cement concrete shall meet the requirements of Section 610.

METHOD OF MEASUREMENT

501-7.1 and 7.2

DELETE: These sections.

ADD: The quantity to be paid for shall be the number of square feet of sidewalk as specified, in place, completed and accepted. No separate measurement will be made for the required 4" granular bedding, excavation or other necessary incidentals required to complete this item.

BASIS OF PAYMENT

<u>501-8.1</u>

DELETE: This section.

ADD: Payment shall be made at the contract unit price per square foot for Portland Cement Concrete sidewalk measured as outlined in Section 501-7.1. This price shall be full compensation for furnishing and placing all materials, including aggregate base, joint materials and texturing, labor, equipment, tools and incidentals necessary to complete this item.

■ CMT 20007502.00 35 November 19, 2021

Payment will be made under:

ITEM AR501605 5" PCC SIDEWALK- PER SQUARE FOOT.

<u>501-8.2</u>

DELETE: The entire section.

■ CMT 20007502.00 36 November 19, 2021

PART 9 – MISCELLANEOUS

ITEM 602 - BITUMINOUS PRIME COAT

CONSTRUCTION METHODS

602-3.3 SPRAYING APPLICATION

ADD: Areas worn from hauling operations shall be re-primed at no additional cost to the Contract.

METHOD OF MEASUREMENT

602-4.1

DELETE: The entire section.

ADD: Bituminous prime coat shall not be measured separately for payment.

BASIS OF PAYMENT

602-5.1

DELETE: The entire section.

ADD: Bituminous prime coat shall not be paid for separately. All costs shall be incidental to the pay item AR401910 Remove and Replace Bituminous Pavement and AR403610 Bituminous Base Course.

■ CMT 20007502.00 37 November 19, 2021

ITEM 603 - BITUMINOUS TACK COAT

CONSTRUCTION METHODS

603-3.3 SPRAYING APPLICATION

ADD: Areas worn from hauling operations shall be re-primed at no additional cost to the Contract.

METHOD OF MEASUREMENT

<u>603-4.1</u>

DELETE: The entire section.

ADD: Bituminous tack coat shall not be measured separately for payment.

BASIS OF PAYMENT

603-5.1

DELETE: The entire section.

ADD: Bituminous tack coat shall not be paid for separately. All costs shall be incidental to the pay item AR401910 Remove and Replace Bituminous Pavement and AR401610 Bituminous Surface Course.

■ CMT 20007502.00 38 November 19, 2021

ITEM 610 - CONCRETE FOR MISCELLANEOUS STRUCTURES

DESCRIPTION

610-1.1

ADD: This item shall include concrete used for the purpose of installing light pole foundations, vault foundation, sidewalk, fence post, electrical pad, duct banks, electric handholes, and other miscellaneous items that require the use of structural portland cement concrete.

METHOD OF MEASUREMENT

610-5.1

REVISE to read:

Concrete for miscellaneous structures shall be considered incidental to the contract unit price for the items requiring concrete and no separate measurement or payment will be made. The prices shall be full compensation for furnishing all materials and or preparation, delivering and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete the item.

■ CMT 20007502.00 39 November 19, 2021

ITEM 760999 - WELL ABANDONMENT

DESCRIPTION

760-1.1

This work shall consist of the location, abandonment and/or plugging of any fresh water well located on the demolition site, as shown on the plans in accordance with all federal, state and local rules and regulations. This work shall conform to Section 920.120 Abandoned Wells of the Illinois Water Well Construction Code by the Illinois Department of Health as well as the Kankakee County Health Department Requirements and Specifications on Abandoned Wells.

This work shall also include the Contractor's filing for and subsequent obtaining of all permits required including permitting fee costs for the said well abandonment.

MATERIALS

760-2.1

All materials used in the performance of this work shall comply with all federal, state and local rules and regulations. Plugging material shall be neat cement containing bentonite, aquagel, or similar materials from 2% to 6%. Bentonite will also be allowed as a suitable plug material. For the porous zone of the well the material shall be a sterile porous material such as pea-gravel.

CONSTRUCTION METHODS

760-3.1

The Contractor shall locate and abandon all freshwater wells as specified herein. All connecting water lines and electrical facilities shall be disconnected, sealed or removed in conformance with applicable local ordinances and to the satisfaction of the Engineer. All adjacent concrete structures or pads shall be removed. No additional payment shall be made for concrete removal associated with the abandonment of a well. The plug shall begin at the top of the water bearing formation and be a minimum of 10'. A bentonite slurry, or impervious material shall be used to fill the upper part of the well. The casing shall be removed to at least 3 feet below final grade.

METHOD OF MEASUREMENT

<u>760-4.1</u>

The number of abandoned wells shall be counted and measured by the completed unit.

BASIS OF PAYMENT

<u>760-5.1</u>

Payment shall be made at the contract unit price per each for WELL ABANDONMENT. This price shall be full compensation for furnishing all materials, labor, equipment and for any preparation including any excavation and backfill, permitting fees as well as any incidentals necessary to complete the item as shown on the plans and as specified herein.

Payment will be made under:

ITEM AR760999 WELL ABANDONMENT - PER EACH.

■ CMT 20007502.00 40 November 19, 2021

ITEM 910420 - BOLLARD

DESCRIPTION

800184-1.1

This item shall consist of the installation of bollards as shown on the plans or as directed by the Engineer.

MATERIALS

800184-2.1

Materials shall be as shown on the plans. Concrete shall meet Item 610.

Bollards shall have post sleeve made of high density polyethylene (HDPE) containing additives that resist fading (minimum 5 years fade resistant) and withstand extreme temperatures. Custom color chart shall be provided to the Owner for their choice of color.

CONSTRUCTION METHODS

800184-3.1

Installation shall be as shown in the plans.

METHOD OF MEASUREMENT

800184-4.1

The bollards shall be measured per each satisfactorily installed and accepted by the Resident Engineer. The bollards around the utility transformer shall not be measured for payment, it shall be incidental to the pay item "AR109535 ELECTRIC SERVICE ENTRANCE".

BASIS OF PAYMENT

800184-5.1

Payment shall constitute full compensation for the construction of the bollards, including all materials, labor, tools, paint, HDPE cover, equipment and necessary incidentals to complete this item of work.

Payment will be made under:

ITEM AR800184 BOLLARD - PER EACH.

■ CMT 20007502.00 41 November 19, 2021

ITEM 910200 - ROADWAY SIGN PANELS AND POST

DESCRIPTION

910-1.1

The work shall consist of furnishing Type 1 Sign panels complete with reflectorized sign faces, legend, and supplemental panels and installing them on newly erected sign supports.

MATERIALS

910-2.1

Sign face materials shall conform to Section 720 Sign Panels and Appurtenances of IDOT's Standard Specifications for Road and Bridge Construction. Sign post materials shall meet the requirements of Section 729 Metal Post of IDOT's Standard Specifications for Road and Bridge Construction. The post shall be Type B as designated on Illinois Department of Transportation Highway Standard 720011-01 and 729001-01. Unless otherwise specified, only galvanized posts shall be used.

INSTALLATION REQUIREMENTS

910-3.1

The metal posts shall be driven by hand or mechanical means to a minimum depth of 4.0 feet (Type B) measured from the ground line or as shown in the plans. The post shall be protected by suitable driving cap and if required by the Engineer, the material around the post will be compacted after driving.

Care shall be taken to avoid scratching, chipping, or other damage to the posts during handling and installation. Chips and scratches may be recoated in the field by a method meeting and coating manufacturer's recommendations except that chips and scratches totaling more than 5% of the surface area of any one post and/or more than 5% of the surface area in any one-foot segment of any one post shall be cause for rejection of the post.

If the post specified is too long, the Contractor may choose to cut the post to the required length. Any post so cut shall be installed with the cut end at the bottom.

METHOD OF MEASUREMENT

910-4.1

Signing shall be measured per each furnished and installed in accordance with applicable specifications and accepted by the Engineer. Sign posts and supports shall be incidental to this item. No additional compensation shall be made for additional length of posts required.

BASIS OF PAYMENT

910-5.1

The quantity, measured as described above, will be paid for at the contract unit price per each, which price shall be full compensation for all materials and erection of all signs as proposed location and for all materials, labor and equipment necessary to complete the work as described herein.

Payment will be made under:

ITEM AR910200 ROADWAY SIGN - PER EACH.

■ CMT 20007502.00 42 November 19, 2021

PART 10 - FENCING

ITEM 162 – CHAIN-LINK FENCE

DESCRIPTION

162-1.1

ADD:

Install new 10-foot chain link fence with 3-strands of barbed wire and 2-foot of buried fabric at the locations noted in the plans.

Existing 6-foot fencing materials to be removed shall **not** be incorporated into the new installation. Existing 10-foot chain link fence with 2-feet of buried fabric may reincorporate fittings, hardware or rail into the new installation if material is in good condition and is approved by the Resident Engineer. The 12' tall fence fabric to be removed shall not be incorporated into the new installation.

MATERIALS

162-2.3 POSTS, RAILS, AND BRACES

DELETE: all reference to Type C steel pipe.

DELETE: all reference to Tubing steel pipe.

DELETE: all reference to Angle steel pipe.

DELETE: all reference to Roll Formed steel pipe.

DELETE: all reference to H steel pipe.

DELETE: Gate Post Requirements Table.

REVISE: Post Type A in Fence Post Requirements Table:

Steel pipe, Type A shall meet ASTM F1083 schedule 40 pipe, high strength, hot-dip zinc-coated after fabrication with 1.8 ounces of zinc per square foot of coated surface area.

Line post shall be 2.875" OD and 5.80 lbs./ft.
Terminal, corner and pull posts shall be 3.5" OD and 7.58 lbs./ft.
Brace rails shall be 1.66" OD and 2.27 lbs./ft.
Intermediate rails, when required, shall be 1.66"

REVISE: Post Type B in Fence Post Requirements Table:

Steel pipe, Type B shall meet ASTM F1043 pipe Group IC, having a Type B external hot-dip zinc-coated with 0.9 ounces of zinc per square foot with a clear organic overcoat. Interior coating to be Type B hot-dip zinc-coating 0.9 ounces per square foot or Type D 81% zinc pigmented coating, minimum thickness of 0.3 mils be hot-dipped galvanized conforming to the requirements of ASTM F 1083.

Line post shall be 2.875" OD and 4.64 lbs./ft.

■ CMT 20007502.00 43 November 19, 2021

Terminal, corner and pull posts shall be 3.5" OD and 5.71 lbs./ft. Brace rails shall be 1.66" OD and 1.84 lbs./ft. Intermediate rails, when required, shall be 1.66" OD and 1.84 lbs./ft

162-2.4 GATES

DELETE: The entire section.

162-2.12 SIGNS

ADD:

Signs attached to the existing fence shall be removed and replaced on the new fence to their original locations.

162-2.13 TEMPORARY POLYETHYLENE FENCING

ADD:

The fencing shall be a minimum of 4-foot tall polyethylene "International Orange" in color. The temporary fence shall be similar to snow fence.

Temporary Fencing shall be incidental to the contract.

CONSTRUCTION METHODS

162-3.1 GENERAL

ADD The following to paragraph two (2):

If the Contractor is unable to tie the newly constructed fence to the existing fence at the end of the work day, temporary polyethylene fencing described in 162-2.13 shall be installed. The contractor shall also have the option to reuse any of the existing fencing material removed as part of the project as temporary fencing.

162-3.2 CLEARING FENCE LINE

REPLACE: in the first paragraph replace the reference of "2 feet" to "10 feet or as shown on the plans".

162-3.3 INSTALLING POSTS

REVISE the first paragraph to the following:

All posts shall be spaced not more than 10 feet apart as shown on the plans. Terminal (end, corner, pull, and brace), line, and gate posts holes shall be augured a minimum of 70 inches below ground level. Posts shall be set in 46 inches concrete bases as shown on the plans. The remaining 24 inches above the concrete bases shall be backfilled slightly above the ground and sloped to drain

162-3.6 INSTALLING FABRIC

ADD:

■ CMT 20007502.00 44 November 19, 2021

At terminal (end, corner, and pull) and gate posts the fabric shall be fastened with stretcher bars and bands. The stretcher bar and bands shall extend below the existing ground to secure the 2 feet of buried fence to the post.

All trenches that are constructed to allow the fabric installation 2 feet below the existing ground shall be backfilled and compacted to the Resident Engineer's satisfaction.

When utilities are encountered by the buried fabric, the "dog-house" cut in the fabric shall be made to allow installation around the utility.

At locations of small natural swales or drainage ditches and where it is not practical to have the fence conform to the general contour of the ground surface, longer posts may be used and additional fence fabric as detailed on the construction plans.

162-3.7 INSTALLING GATES

DELETE: Entire section.

162-3.8 EXISTING FENCE CONNECTIONS

ADD:

Where new fence and existing fence meet, a new terminal or end post shall be installed, and the new and existing fence shall be connected to the new corner post. A brace shall be required in both the new and existing fence. Connections between new and existing fence shall be considered incidental to the contract.

162-3.10 FENCE AND GATE REMOVAL

DELETE: All references to gates.

162-3.11 FENCE AND GATE RELOCATION

DELETE: All references to gates

162-3.13 CONTRACTOR'S RESPONSIBILITY FOR UTILITY LOCATING

The location of known underground utilities is presented on the plans.

It shall be the Contractor's responsibility to determine the actual location of all utilities, including service connections to underground utilities. Prior to construction, the Contractor shall contact JULIE, FAA and Airport Maintenance. Prior to construction, the Contractor shall notify all utility companies of his operational plans. The Contractor shall make arrangements for detailed information and assistance in locating utilities. In the event an unexpected utility interference is encountered during construction, the Contractor shall immediately notify the utility company, the Owner and the Resident Engineer. Any such mains and/or services disturbed by the Contractor's operations shall be restored immediately at his expense to the satisfaction of the Owner and the Engineer.

The Contractor shall be responsible for keeping the owner advised of this plan of operations. Prior to commencing work in the general vicinity of an existing utility service or facility, the Contractor shall notify the owner of his plan of operation.

■ CMT 20007502.00 45 November 19, 2021

METHOD OF MEASUREMENT

<u>162-4.1</u>

ADD:

Barbed wire shall not be measured separately but shall be included in the CLASS E FENCE 10' W/ 2' BURY pay item.

Temporary fence or other measures necessary to comply with the plans and specifications shall not be measured separately but shall be included in the CLASS E FENCE 10' W/ 2' BURY pay item.

162-4.2

DELETE: Entire section.

BASIS OF PAYMENT

162-5.1

ADD:

No distinction will be made between heights of removed fence for payment purposes.

Payment will be made under:

ITEM AR162810 CLASS E FENCE 10' W/2'BURY – PER FOOT. ITEM AR162900 REMOVE CLASSE E FENCE – PER FOOT.

■ CMT 20007502.00 46 November 19, 2021

PART 12 - TURFING

ITEM 901 - SEEDING

DESCRIPTION

901-1.1

ADD:

Topsoiling shall be per Item 905 Topsoiling.

Restoration, seeding and erosion control blanket beyond the limits of seeding and erosion control blanket shown in the plans (such as lighting, cabling, access roads, haul roads, staging area, storage area) shall be considered incidental to the contract

CONSTRUCTION METHODS

901-3.2 DRY APPLICATION METHOD

REVISE: Paragraph a. to read:

Liming will not be required unless considered necessary by the Contractor. The Contractor has the option to perform a soil test, at their expense, for the on-site or plan specified topsoil sources. If the Contractor proposes an application of lime, the proposal shall be approved by the Engineer. Lime, if used, shall be at no additional costs to the contract.

DELETE: Paragraph c. Seeding

ADD:

Grass seed shall be sown at the rate shown in 901-2.1 with a machine that is capable of cutting a slit in the soil free from leaves and debris, placing the seed in the slit and compacting the seed into the soil of the slit in one continuous operation.

The site will be to grade and shaped to the elevations as shown on the plans. The topsoil will be free of clods, stones, roots, sticks, rivulets, gullies, crusting, caking and have a soil particle size of no larger than 1". Seedbed preparation methods shall be approved by the Engineer. Cultivation shall be accomplished at such a time that seeding may occur immediately and without delay. No seeds shall be sown until the seedbed has been approved by the Engineer.

No seed shall be sown during high winds or when the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seeds to be used and shows that the seed meets the noxious weed seed requirements. All equipment shall be approved by the Engineer prior to being used. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the required seeding rate. Equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded. The Engineer shall be notified forty-eight (48) hours prior to beginning the seeding operations.

901-3.3 WET APPLICATION METHOD

DELETE: Entire Section.

■ CMT 20007502.00 47 November 19, 2021

METHOD OF MEASUREMENT

901-4.1

DELETE: The first paragraph.

ADD:

Seeding shall be measured per square yard completed and accepted by the Engineer.

BASIS OF PAYMENT

901-5.1

DELETE: Entire section.

ADD:

Seeding shall be paid for at the contract unit price per square yard which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Restoration, seeding and erosion control blanket beyond the limits of seeding and erosion control blanket shown in the plans (such as lighting, cabling, access roads, haul roads, staging area, storage area) shall be considered incidental to the contract

Payment will be made under:

ITEM AR901515 SEEDING - PER SQUARE YARD.

■ CMT 20007502.00 48 November 19, 2021

ITEM 905 - TOPSOILING

DESCRIPTION

905-1.1

ADD:

This item shall consist of a minimum of 4" of topsoil placed in the areas shown in the plans. In addition, the surface of all disturbed areas shall be covered with a layer of topsoil, as needed, to facilitate drainage and the growth of turf.

Topsoil shall be used from the excavation limits of topsoil stripping and as needed from sources on the boundaries of the Airport property. It shall be the Contractor's responsibility to locate, obtain and haul the supply, subject to the approval of the Engineer and the Airport.

CONSTRUCTION METHODS

905-3.1 GENERAL

DELETE: The first sentence.

ADD:

A 4 inch minimum layer of topsoil shall be spread evenly over the disturbed areas outside the proposed pavement to facilitate drainage and the growth of turf.

905-3.3 OBTAINING TOPSOIL

DELETE: The third paragraph.

905-3.4 PLACING TOPSOIL

CHANGE:

In the first sentence the word "uniform" to "minimum".

ADD:

When constructing Item 152, the contractor shall consider the thickness of topsoil to be spread over the compacted surface to ensure that final grade constructed including the topsoil is to the lines and grades shown in the plans.

METHOD OF MEASUREMENT

905-4.1, 905-4.2

DELETE: These sections.

ADD:

Topsoil placement shall not be measured for payment.

■ CMT 20007502.00 49 November 19, 2021

BASIS OF PAYMENT

905-5.1

DELETE: This section.

ADD:

Topsoil placement shall not be paid for separately, but shall be included in the unit bid price for Item AR152411 Unclassified Excavation.

Areas that require topsoiling due to the Contractor rutting and disturbing the areas outside of the limits shown on the plans, and within material storage/staging areas, access/haul roads, lighting and cabling areas will not be measured for payment, but shall be considered incidental to the contract.

■ CMT 20007502.00 50 November 19, 2021

PART 13 - LIGHTING INSTALLATION ITEM 101 - AIRPORT ROTATING BEACON

DESCRIPTION

101-1.1

DELETE: Entire Section

ADD:

This item shall consist of the removal of the existing airport beacon on top of the existing beacon pole and a new airport rotating beacon (LED) furnished and installed on top of the existing beacon pole in accordance with this specification at the location and shall conform to the design and dimensions shown in the plans. This work shall include the mounting, leveling, wiring and testing of the beacon and all materials and incidentals necessary to place the beacon in operating condition as a completed unit to the satisfaction of the Engineer. This item shall include all cables, conduits and all connections required and as specified in the plans.

EQUIPMENT AND MATERIALS

<u>101-2.2 BEACON</u>

REVISE: The first sentence to read:

The airport rotating beacon shall conform to FAA Advisory Circular 150/5345-12 (latest revision), Specification for Airport and Heliport Beacons and FAA AC 150/5340-30 (latest revision) Design and Installation Details for Airport Visual Aids. Beacon type shall be L-802A (L).

101-2.6 ELECTRICAL WIRE AND CABLE

ADD:

All cable and wiring shall conform to specification section <u>ITEM 108 Underground Power Cable for</u> *Airports* in the special provisions and as shown in the plans.

101-2.7 CONDUITS

ADD:

All conduits and ducts shall conform to specification section <u>ITEM 110 Airport Underground</u> <u>Electrical Duct Banks and Conduits</u> in the special provisions and as shown in the plans.

CONSTRUCTION METHODS

101-3.1 PLACING THE BEACON

REVISE: The sentence to read:

The new beacon is to be mounted to the existing beacon tower as shown in the plans. The Contractor will make any necessary modifications to the mounting assembly and/or base plates in order to bolt the proposed beacon to the top of the existing beacon tower.

■ CMT 20007502.00 51 November 19, 2021

101-3.5 BEAM ADJUSTMENT

REVISE: The third sentence to read:

The beacon light beam angle shall be adjusted to three and a half degrees above the horizontal.

101-3.15

ADD:

This work shall consist of removal of the existing rotating beacon unit on top of the existing beacon tower, and any conduit and cable necessary to be removed. The Contractor shall dispose of any portions of the beacon not salvaged off airport property. No additional compensation will be made for hauling and disposal of the removed and/or salvaged material.

The existing rotating beacon unit shall be turned over to the Airport.

METHOD OF MEASUREMENT

101-4.1

ADD:

The quantity to be paid under this item shall be measured per each for furnishing and installation of a new beacon mounted on top of the existing beacon tower, including cable/conduits within the beacon pole and any items required for a complete and operational system.

The quantity to be paid for under this item shall be the number of beacon units completely removed and accepted. This item shall include removal of beacon, beacon mounting hardware cable, conduit and associated items.

BASIS OF PAYMENT

101-5.1

DELETE: Entire Section

ADD:

Payment shall be made at the contract per each price for a completed and accepted installation. This price shall be full compensation for furnishing all materials and for preparation, new beacon, mounting hardware and cables, wiring, conduit, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Beacon removal shall include full compensation for removal of the entire existing beacon light unit, cables, conduits, and any incidentals necessary to complete this item.

Payment will be made under:

ITEM AR101510 AIRPORT ROTATING BEACON - PER EACH.

ITEM AR101900 BEACON REMOVAL - PER EACH.

■ CMT 20007502.00 52 November 19, 2021

ITEM 106 – APRON LIGHTING

DESCRIPTION

106-1.1

DELETE: This paragraph.

ADD:

The work under this item shall include the furnishing and installation of all LED luminaires, LED drivers, disconnects, obstruction lights, luminaire mounting brackets, receptacles, light poles, new light pole foundations, anchor bolts, ballasts, lamps, fusing, ground rods and internal wiring for Apron Lighting. Installation shall include aiming of luminaries of obtain the light levels and patterns detailed on the plans and specified herein.

This work shall also include the installation of new apron lighting controller, contactors, timeclock, circuit breakers and wiring as detailed on the plans and specified herein.

The Apron lighting has been designed for Uniformity and Glare-Control as well as for intensity to meet 2.0 footcandle average horizontal illumination and uniformity of 0.4 average/minimum uniformity as recommended in IES RP-37. An IES format photometric file for each fixture type and an Independent Testing Laboratory certified hard copy shall be provided with the submittals for verification of lighting requirements.

Light pole locations are indicated on the plans and no deviation from these locations shall be permitted without the written approval of the Engineer.

Exterior power wiring, handholes and conduits shall be paid for under Item L-108, Item L-110 and L-115.

EQUIPMENT AND MATERIALS

106-2.1 Light Fixtures

DELETE: Last (5) paragraphs of this section.

ADD:

Apron light luminaire shall be LED, 480V, maximum input power 600W. Color shall be Dark Bronze. Provide in-line brackets, slip fitters, hardware and accessories as required to provide a complete luminaire installation. Install #12 XLP-USE conductors from luminaire to breakaway fuse holder at pole base handhole, Bussman HEX, or equivalent. Install two 5A, slow-blow fuses, or as required by luminaire manufacturer. The Contractor shall bond the pole ground lug to the pole ground rod with a #6 ground wire. Contractor shall connect incoming circuit ground wire and luminaire ground wire to pole ground lug.

LED luminaires shall provide minimum of 72,000 lumens with 5000K color temperature and 80 CRI.

Contractor shall provide (15) years warranty of labor and material for all new LED luminaires.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND HIS LIGHTING SUPPLIER TO PROVIDE AND INSTALL ANY ADDITIONAL COMPONENTS REQUIRED FOR A COMPLETE AND OPERATIONAL LED APRON LIGHTING SYSTEM.

Lamps for the Apron Lighting shall be LED.

Drivers for LED luminaires shall be U.L. Listed and operate at a voltage of 480VAC, 1 phase, 60Hz and be capable of starting the LED's indicated herein down to a temperature of -20°F. If,

■ CMT 20007502.00 53 November 19, 2021

LED drivers are not integral part of the luminaire, the Contractor shall furnish and install NEMA 3R enclosures, mounted on the light pole as recommended by the light pole and LED luminaire manufacturer.

<u>106-2.2</u> Light pole

ADD:

The pole shaft shall be designed for the combined effective projected area (EPA) and weight of the fixtures and head-frame assembly. The pole shall be analyzed in its final deflected position to account for secondary moments caused by eccentric dead loads. The calculations shall include a pole, base plate and anchor bolt analysis. The pole calculations shall be analyzed at the pole base, 5' pole intervals, and at each slip joint splice. At each of these locations, the following information shall be provided:

- 1. The pole shafts diameter, thickness, section modulus, moment of inertia, and cross-sectional area.
- 2. The centroid, weight, projected area, drag coefficient, velocity pressure, and wind force of each trapezoidal pole segment.
- 3. The structures axial force, shear force, primary moment, total moment, axial stress, bending stress, allowable axial stress, allowable bending stress, and combined stress ratio (CSR) at each elevation.
- 4. The pole's angular and linear deflection at each elevation.

Calculations shall include an inherent summary page of applicable information pertaining to the design of concrete foundations. The summary page shall include, at a minimum, the total base moment, axial force, shear force, anchor bolt size and quantity, base plate size, and minimum and maximum bolt projections above the footing for poles to be installed on existing foundations and new foundations.

Each individual calculation page must include the project name, date, and manufacturing company information. Failure to comply will result in submittal rejection.

Wind velocities of 100-Mph w/1.3 applicable gust factor will be utilized for design purposes. The structural design criteria shall comply with the requirements of the most recent edition of AASHTO (American Association of State Highway Transportation Officials) specifications.

Each section of the pole shaft shall be of single ply material and be made from a single sheet of steel with no circumferential welded splices.

Pole shaft shall be hot dip galvanized in accordance with the requirements of ASTM A123 specifications and then finish with a powder coat dark bronze finish. Each shaft assembly shall be completely coated, inside and out, in a single dip. Double dipping will not be permitted. All connecting hardware shall be galvanized in accordance with ASTM A153 specifications. Powder Coat Finish as directed by Owners Representative. Welding shall be in accordance with AWS (American Welding Society) Structural Welding Code's most recent edition. Welders certified in accordance with the AWS code shall perform all welding. Welds shall be free of cracks and under-cutting and will be 100% visually inspected with questionable areas inspected by magnetic particle non-destructive process.

Pole shall be round tapered steel pole shall be nominally 60' and 45'. Pole, luminaires, disconnects, LED driver enclosures and in-line bracket as installed shall be able to withstand a steady wind load of 80 mph with wind gusts of 100 mph and a simultaneous ice load of 3 PSF. Pole shall be suitable for mounting six or eight luminaries as detailed.

One ground lug shall be provided in its respective handhole.

■ CMT 20007502.00 54 November 19, 2021

Pole finish shall be Dark Bronze.

Pole and anchor bolts shall be furnished by one manufacturer. While it is the pole manufacturer's responsibility to furnish properly sized anchor bolts, the minimum anchor bolt embedment into the concrete pole foundation shall be 36". Anchor bolts shall be "L" shaped with 4" bend or double-nutted, and shall be minimum 1" diameter, 36" long unless otherwise recommended by the pole manufacturer.

Pole shall include an interior vibration damper provided by pole manufacturer. The pole manufacturer shall submit the vibration damper to be utilized with the poles with the pole submittal for review and comment.

106-2.4 Light pole foundations

ADD:

Foundation shall be as dimensioned on the plans and shall extend into undisturbed earth or compacted fill (95% Standard Proctor). Reinforcing steel shall be installed as detailed on the plans. Pole foundation shall be extended above finished grade per respective light as indicated on the plans.

Shaft liner shall conform to ASTM A615 Grade 1 (minimum) of diameter required to construct light pole foundations to the diameter shown on the plans.

Concrete for light pole foundations shall have 14-day compressive strength of 3,500 PSI and shall meet the quality requirements specified in Item 610 of the standard specifications.

106-2.7 Disconnect and Surge Protection

Furnish and install disconnect and surge protection in NEMA 3R enclosure as required by the LED luminaires manufacturer and as detailed on the plans.

Conduit nipples, interior wiring, mounting hardware and miscellaneous materials shall be as necessary for a complete and accepted installation.

106-2.8 Obstruction Light

The proposed obstruction light shall be FAA L-810 L.E.D. type. The obstruction light shall be mounted on a 1" GRS conduit at top of the apron light pole. It shall operate on 120 VAC. Install and connect separate 120VAC circuit for obstruction lights.

106-2.9 GFI Receptacle

An externally assessable Dual 120V GFI with cover shall be mounted at the base of the pole as detailed on the plans. The opening for GFI receptacle shall be provided by the light pole manufacturer.

106-2.10 Base Plate

■ CMT 20007502.00 55 November 19, 2021

Base plates shall conform to ASTM A36, or ASTM A42. Plates shall be integrally welded to the bottom pole shaft section with either a telescopic welded joint or back-up-bar joint configuration. If telescoped, both external and internal lap joints shall be welded complete.

106-2.11 Anchor Bolts

Foundations will be poured concrete footings with incorporation of an anchor bolt to base plate attachment system. The following anchor bolt material will be acceptable.

- 1. Material for anchor bolts shall be ASTM F1554, Grade 55. The bolts shall have a minimum of 10" of thread and be galvanized to ASTM A153 for a minimum of 12" on the threaded end. Each anchor bolt shall be supplied with two hex nuts and two flat washers. The strength of the nuts shall equal or exceed the proof load of the bolts. Anchor bolts shall be finished with a "hooked" end on the embedded portion to assist in the development of pull-out-strength from the foundation.
- The light pole anchor bolts embedded in the pole foundation shall be designed and supplied
 by the light pole manufacturer. Pole manufacturer shall provide bolt circle template, one for
 each pole/foundation. The threaded portion of the rod shall be hot dipped galvanized.
 Anchor bolts and templates must be readily available for pre-shipment.

106-2.12 Apron Lighting Controller

New apron lighting controller shall include 2 pole lighting contactors and astronomical timeclock as detailed on the plans. Apron lighting controller shall be located inside the new vault and fed from the new 480V power panel.

CONSTRUCTION METHODS

106.3.2 Light Pole Foundations

ADD:

Light pole foundations shall be of the types, diameters and lengths shown on the drawings. The foundation for the light poles shall be drilled to the depth and diameter shown on the drawings.

The shafts of the light pole foundation shall be case or lined to overcome unsuitable soil conditions and permit removal of water. Casings or linings shall be withdrawn as explained below. The work shall be performed in a manner that will confine disturbance of surrounding materials to a minimum. The completed light pole foundation shall receive full lateral support from the surrounding materials.

The top part of the light pole foundation which projects above grade shall be formed to the diameter shown on the plans and concrete shall be placed in the forms at the same time the lower part of the light pole foundation is filled with concrete.

The center of any light pole foundation, measured at any horizontal plane, will be allowed a tolerance from true plumb of not more than 1% of the depth of such lane. Plumb lines shall be suspended from center points at tops of shafts and any divergence above allowable tolerance shall be corrected.

■ CMT 20007502.00 56 November 19, 2021

Concrete for the light pole foundation shall be mixed, placed and cured in accordance with Item 610 of the specifications, and shall be placed in a manner that will prevent separation of its constituent materials. Drop chutes or tremies shall be used to prevent concrete from striking walls. Concrete shall be poured continuously from bottom to top of light pole foundation. The concrete shall form a solid homogenous mass free from voids and an excessive amount of water. No construction joints will be permitted.

Protective casing used to prevent cave-ins and to seal off ground water shall be withdrawn only as the shaft is filled with concrete. Ahead of concrete adequate to balance outside soil or water pressure (but not less than 5 feet) must be maintained above the bottom of the casing at all times during withdrawal. Where casing is removed during replacement of concrete, the concrete shall have a slump between 4 and 6 inches. These precautions will minimize adhesion of the concrete to the sides of the casing and will prevent arching of the concrete during casing withdrawal. Any dewatering efforts necessary to properly construct the light pole foundations shall be considered incidental to this foundation item.

The foundation details shown on the drawings are based on specific assumptions regarding the poles and luminaries to be installed and subsurface conditions. Material changes to these items in terms of dimension, number of luminaires, other characteristics and subsurface conditions from the basic assumptions may require modification to the foundation design. The contractor shall notify the Resident Engineer of any changes prior to construction foundations, who will then coordinate any modifications to the foundation design with the engineer and owner. The Contractor shall be responsible for the necessary concreting and formwork to install the foundation as detailed on the plans.

106-3.4 Light Levels

The apron luminaires shall be aimed to provide uniform illumination of the apron with foot-candle values as indicated on the plans.

106-3.5 Light Pole Removals

Existing light poles and associated components shall be removed and salvaged. All salvaged items shall be turned over to the Airport. If Airport elects not to salvage all or some of the components, these components shall be disposed-of off-site by the Contractor at no additional cost to the Contract.

Existing light pole foundations to be removed shall be per specification Item 152 and paid for per AR152621 Remove Concrete.

METHOD OF MEASUREMENT

106-4.1

DELETE: Entire section.

ADD:

Each apron light, including pole, light pole foundations, LED luminaires, LED drivers, mast arms, obstruction lights, transformer, GFI receptacles, disconnects and surge protection, lamps,

■ CMT 20007502.00 57 November 19, 2021

brackets, fusing, internal wiring, ground rods and grounding, steel reinforcement, and associated materials shall be measured as a unit, installed, ready for use and accepted by the Resident Engineer.

106-4.2

Apron lighting controller shall not be measured for payment. Apron lighting controller, including but not limited to enclosure, contactors, relays, timeclock and controls shall be included in the lump sum pay item "AR109400 POWER DISTRIBUTION SYSTEM".

106-4.3

The quantity of light poles and fixtures to be removed shall be paid for under this item and shall be the number of units completely removed and disposed of off the Airport property. Each light pole removal shall include removal of the complete unit, including but not limited to luminaires, cabling, and all other associated items.

Light pole foundation removal is paid for separately under pay item "AR152621 REMOVE CONCRETE".

106-4.4

The quantity of luminaires to be removed from the existing beacon pole shall be paid for under this item and shall be included per each, completely removed and disposed of off Airport property. Luminaire removal shall include removal of all fixtures, including but not limited to cabling, and all other associated items.

BASIS OF PAYMENT

106-5.1

ADD:

Payment shall be made at the respective contract unit prices for each completed light pole with light pole foundations and luminaires of the type specified, removal or existing light poles and removal of luminaires from existing beacon pole. The prices shall constitute full compensation for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete this item of work.

Payment will be made under:

ITEM AR106504 - APRON LIGHT POLE W/QUAD FIXTURE - PER EACH.

ITEM AR106905 - REMOVE LIGHT POLE & FIXTURE - PER EACH.

ITEM AR106910 - REMOVE LIGHT FIXTURE - PER EACH.

■ CMT 20007502.00 58 November 19, 2021

ITEM 108 – INSTALLATION OF UNDERGROUND CABLE FOR AIRPORTS DESCRIPTION

108-1.1

ADD:

This item of work shall consist of the underground installation of 600V cables, 5000V cables and fiber optic cable in unit duct or duct bank at the locations shown on the plans and in accordance with these specifications. When crossing existing utilities or as required by the Engineer, the Contractor shall hand dig the trenches for the proposed cables.

Contractor shall color code all airfield lighting cables in ducts, manholes and handholes as directed by the Engineer. All costs of color-coding shall be considered incidental to the contract unit price for the associated item.

EQUIPMENT AND MATERIALS

108-2.1 GENERAL

ADD:

Airfield Lighting cable under this item shall be:

- L-824, 1 1/C #8, 5,000 V, Type C
- 1/C #10 XLP-Use Cable
- -1/C #8 XLP-Use Cable
- 1/C #6 XLP-Use Cable
- 1/C #4 XLP-Use Cable
- 1/C #1 XLP-Use Cable
- 1/C #4/0 XLP-Use Cable
- 1/C 600kcmil XLP-Use Cable
- 1-12 Strand Multi-Mode Fiber Optic Cable

108-2.4 CABLE CONNECTIONS

DELETE: The first and second sentence of paragraph D. The Taped or Heat-Shrank Splice.

ADD:

To further reduce the possibility of water (moisture) entrance into the connector between the cable and the field attached connector, heat shrinkable tubing with interior adhesive shall be applied over all cable connections.

The heat shrinkable tubing shall cover the entire L-823 connector. All connections shall be at manholes or light bases. No direct burial splicing will be allowed.

No splices will be allowed in the new cable unless at the end of a spool of cable. Splices due to termination points shall be done in splice cans, manholes, handholes and light cans. Any repairs necessary to cable damaged during installation shall be done at the Contractor's expense and shall consist of replacing the entire length of damaged cable between pull points.

■ CMT 20007502.00 59 November 19, 2021

In line connections for existing cables to be spliced or those which are cut during construction shall be repaired with the cast splice kit. The Contractor shall have a minimum of five (5) splice kits on the jobsite at all times for emergency repairs. Splice markers shall be installed over each splice in cables not to be abandoned. Cast splice kits shall be as specified in paragraph (a). All field splices shall be covered with a flexible polyolefin heat-shrinkable sleeve.

108-2.13 FIBER OPTIC CABLE

Fiber optic cable shall be 12 strand multi-mode, 62.5/125 micron core/cladding, with attenuation at 1300 nm; 0.4 dB/km 220 MHz-km and at 1310 nm; 0.4 dB/km 500 MHz-km. Fiber optic cable shall be 12 Fiber Construction around center strength member and elastomeric PVC black outer jacket suitable for indoor or outdoor use.

Furnish and install fiber optic terminators (connectors) style SC or ST as required to match equipment. Connectors shall be designed for field assembly and be self-aligning and self-centering. Comply with manufacturers requirements. Include terminators on all fibers, including spares.

Splice closures shall protect the spliced fibers from moisture and to prevent physical damage. The splice closure shall provide strain relief for the cable and the fibers at the splice points.

CONSTRUCTION METHODS

108-3.1 GENERAL

ADD:

Any damages to existing utilities as a result of the Contractor's operations shall be repaired immediately at his expense.

108-3.2 INSTALLATION IN DUCT BANKS OR CONDUIT

ADD:

The Contractor shall install conduit in trench between the lights and signs as shown in the plans.

The Contractor shall coordinate the cable trenching, placement and backfilling operations so that the cable will not be damaged by (a) the use of mechanized road building equipment in the area where underground cable is or will be in existence, and (b) stone or other foreign materials falling into the trench or mixing into the trench backfill materials.

Contractor shall provide a minimum of one loop of cable in all manholes, handholes and light bases.

<u>108-3.3.a</u> <u>TRENCHING</u>

REVISE 18" to 30" in the last sentence of the second paragraph.

108-3.5 SPLICING

DELETE: The first and second paragraph of Section D. Taped or Heat-Shrank Splices.

ADD:

■ CMT 20007502.00 60 November 19, 2021

Contractor shall use cast splicing kits as described in Article 108-2.4 for any splices made inside the electric handholes and manholes. Contractor shall provide shop drawing for splicing method and cast splicing kit. Contractor shall also leave minimum 30" of slack on each side of the cable being spliced.

Splicing of FAA cables shall be tested and approved by FAA.

Contractor may elect to install FAA approved "Complete Kit" or "Super Kit" with sealant and rubber boot in lieu of heat shrink connectors at no additional cost to the contract.

108-3.11 LOCATING OF EXISTING CABLES

ADD:

Contact Personnel are listed in Section 70-17 herein.

ADD:

108-3.12 INSTALLATION OF FIBER OPTIC (FO) CABLE

Unless noted otherwise, all conduits, ducts, and manholes for FO cable systems shall be installed as shown on drawings.

- a. No splices shall be permitted unless the length of cable being installed exceeds the maximum standard cable length available from manufacturer.
- b. Splices shall be made using the method recommended by the cable manufacturer. Splices shall be housed in a splice enclosure and shall be encapsulated with an epoxy or ultraviolet light cured splice encapsulant. All FO splices shall be field tested at the time of splicing. Fusion splices shall have less than 0.2 dB loss, and mechanical splices shall not be used. There shall be no more than one (1) splice per kilometer in any of the FO cables excluding terminations. All field splices shall be located in cable boxes. Sufficient cable shall be provided in each splicing location to properly splice the cables, and to provide extra cable for additional splices. All cable ends shall be protected at all times with end caps except during actual splicing. During the splicing operations, means shall be provided to protect the unspliced portions of the cable from the intrusion of moisture and other foreign matter. All splices shall be done in hand holes provided and installed by the Contractor as required.
- c. For cable installed in ducts and conduit, a cable lubricant compatible with the cable sheathing material shall be used on all cables pulled. Pulling fixtures shall be attached to the cable strength members. If indirect attachments are used, the grip diameter and length shall be matched to the cable diameter and characteristics. If indirect attachment is used on cables having only central strength members, the pulling forces shall be reduced to ensure that the fibers are not damaged from forces being transmitted to the strength member. DURING PULLING, THE CABLE PULL LINE TENSION SHALL BE CONTINUOUSLY MONITORED. AND SHALL NOT EXCEED THE MAXIMUM TENSION AS GIVEN BY THE CABLE MANUFACTURER. The mechanical stress placed upon a cable during installation shall be such that the cable is not twisted or stretched. A cable feeder guide shall be used between the cable reel and the face of the duct or conduit to protect the cable and guide it into the duct or conduit as it is pulled off the reel. As the cable is pulled off the reel, it shall be carefully inspected for jacket defects. Precautions shall be taken during installation to prevent the cable from being kinked or crushed and that the minimum bend radius of the cable is not exceeded at any time. Cable shall be hand fed and guided through each manhole and additional lubricant shall be applied at all intermediate manholes. When practicable, the center pulling technique shall be used to lower pulling tension. That is, the cable shall be pulled from the center point of the cable run towards the end termination points. The method may require

■ CMT 20007502.00 61 November 19, 2021

the cable to be pulled in successive pulls. If the cable is pulled out of a junction box or manhole, the cable shall be protected from dirt and moisture by laying the cable on a ground covering. Dynamometers or load-cell instruments shall be used to ensure that the pulling line tension does not exceed the installation tension value specified by the cable manufacturer. The mechanical stress placed upon a cable during installation shall be such that the cable is not twisted or stretched.

108-3.13 CONNECTION AND TERMINATION OF FIBER OPTIC CABLE

- a. Connectors: All fibers at each end of the cable shall have jumpers or pigtails installed of not less than 3 feet in length. All fibers at both ends of the cable shall have connectors installed on the jumpers. The mated pair loss, without rotational optimization shall not exceed 1.5 dB. The pull strength between the connector and the attached fiber shall not be less than 50 pounds.
- b. Identification and Labeling: The Contractor shall supply identification tags or labels for each cable. The labeling format shall be identified and complete record shall be provided to the Owner with the final documentation. Each cable shall be identified with type of signal being carried and termination points.

108-3.14 TESTING OF FIBER OPTIC CABLE

- a. An optical time domain reflectometer (TDR) test shall be performed at 820 nanometers, of the FO cable on the reel prior to installation. The optical time domain reflectometer shall be calibrated to show anomalies of 0.2 dB as a minimum. Test data shall be recorded and furnished to the Engineer. Cable tested with losses exceeding manufacturer's acceptable levels for new cable shall be rejected.
- b. A second time domain reflectometer test at 820 nanometers shall be performed on the FO cable after it is installed. The optical time domain reflectometer shall be calibrated to show anomalies of 0.2 dB as a minimum. If the optical time domain reflectometer test results are unsatisfactory, the FO cable segment is unacceptable.
- c. The unsatisfactory segments of cable shall be replaced with a new segment of cable at no cost to the Contract. The new segment of cable shall then be tested to demonstrate acceptability.

METHOD OF MEASUREMENT

108-4.1

REVISE: This Section to read as follows:

No measurement for payment will be made for trenching, excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2

REVISE: This Section to read as follows.

The length of 1/C #8 5KV UG CABLE, 600V cables and FIBER OPTIC CABLE installed in conduits or ducts to be paid for, shall be the number of lineal feet measured in place, complete and ready for operation, and accepted as satisfactory, and no extra quantity will be allotted for any vertical distances or the required cable slack, as stated under Item 108-3.3, in the Standard Specifications.

■ CMT 20007502.00 62 November 19, 2021

The cost of routing the cable through duct, splicing, marking, trenching, backfilling, and all connections shall be included in the unit price bid for the cable.

The cost of installation of ground rods for counterpoise system as detailed on the shall not be measured separately for payment but shall be considered incidental to the unit bid price for the counterpoise system.

The cost of removing cable as called out in the plans to make way for new cable shall not be measured separately for payment but shall be considered incidental to the unit bid price for the cable.

The cost of temporary cables and jumpers as required for construction phasing and to keep circuits operational during construction shall not be measured separately for payment but shall be considered incidental to the unit bid price for the cable.

The footage of line marking tape installed shall be considered incidental to the work and shall not be measured separately.

BASIS OF PAYMENT

<u>108-5.1</u>

REVISE: This Section to read as follows:

The cables measured under Item 108-4.2 shall be paid for under this item. These prices shall be full compensation for furnishing all materials and for all preparation and installation of these materials, trenching, backfilling and compacting trenches, all connections, line marking tape and installation, and for all labor, equipment, tools and incidentals necessary to complete these items. The cable measured under Item 108-4.3 shall be paid for under this item. These prices shall be full compensation for furnishing all materials and for all preparation and removal of existing cable.

Payment will be made under:

ITEM AR108040 1/C # 4/0 600V UG CABLE – PER FOOT.
ITEM AR108081 1/C #1 XLP-USE – PER FOOT.
ITEM AR108086 1/C #6 XLP-USE – PER FOOT.
ITEM AR108088 1/C #8 XLP-USE – PER FOOT.
ITEM AR108090 1/C #10 XLP-USE – PER FOOT.
ITEM AR108108 1/C #8 5KV UG CABLE – PER FOOT.
ITEM AR800078 600KCMIL 600V UG CABLE – PER FOOT.
ITEM AR800178 FIBER OPTIC CABLE – PER FOOT.

■ CMT 20007502.00 63 November 19, 2021

ITEM 109 – INSTALLATION OF AIRPORT TRANSFORMER VAULT AND VAULT EQUIPMENT DESCRIPTION

109-1.1

ADD:

This item shall consist of removal of existing vault building and equipment, installation of a new Electrical Vault and ALCMS in accordance with these specifications and in accordance with the design and dimensions shown in the plans. The following major items of work will be included under this Item:

- A. Installation of the concrete foundation/slab as detailed and specified herein.
- B. Installation of a prefabricated building on a concrete slab as detailed and specified herein.
- C. Power Distribution System:
 - Installation of Airfield Lighting Vault Electrical Service, including, but not limited to:
 - a. New 400A, 480/277V, Three Phase, 4-Wire Utility Service to Electrical Vault, with transformer pad, bollards and utility-approved C.T Cabinet and Utility-approved Meter Base mounted on building exterior wall.
 - 2. Installation of Electrical Vault building equipment, including, but not limited to:
 - a. 400A, 480/277V, Three Phase, 4-Wire Distribution Panelboard.
 - b. 400A, 240V, Three Phase, 3-Wire Distribution Panelboard.
 - c. 100A, 120/240V, Single Phase, 3-Wire Distribution Panelboard.
 - d. 6"x6" High Voltage and Low Voltage wireways, conduit, wiring, GFCI receptacles, toggle switch, interior lights, heater, exhaust fan, intake louver, thermostat, fractional horsepower starter, and interior ground hus
 - e. 400A 3-Pole Manual Transfer Switch with Generator Receptacle.
 - 3. Installation of exterior building ground ring and ground rods as detailed.
 - Installation of Seven Regulator Indicating Light Assemblies, including, but not limited to, L-861 and L-861T edge lights, isolation transformers, plug cutouts, L-823 connectors, L-824 5KV cable, hinged NEMA 1 enclosures, grommets and mounting panels.
- D. Installation of new L-828,1-20 KW Ferroresonant Regulator for Runway 4/22 and 1-7.5 KW Ferroresonant Regulator for Runway 16/34.
- E. Installation of new L-828,3-15 KW Ferroresonant Regulators for Taxiway circuits.

■ CMT 20007502.00 64 November 19, 2021

- F. Installation of new L-828,1-20 KW Ferroresonant Regulator and 1-15 KW Ferroresonant Regulator for Spare.
- G. Installation of new Airfield Lighting Control and Monitoring System (ALCMS) with touchscreens in Vault and Airport office.
- H. Installation of new L-854 Radio Controller, antenna, conduit, and power and control wiring.
- I. Installation of Apron and Parking Lot Lighting Controller with Timeclock.
- J. Installation of contractors for PAPI, Beacon and Windcone Controls with H-O-A selector switches.
- K. Removal of existing of seven existing regulators.
- L. Removal of existing electrical vault building, concrete pads, vault electrical and mechanical equipment and all associated items as detailed on the Plans.

Except as noted above, exterior field installed cable from airfield edge lights and visual navaids, fuel farm, apron lighting, parking lot lighting, gates and hangar feeds will be paid for separately under applicable unit prices of Item 108, "Installation of Underground Cable for Airports" up to the connection to vault equipment.

Except as noted above, items of underground duct work shall be paid for under applicable unit prices of Item 110, "Airport Underground Electrical Duct Banks and Conduits."

EQUIPMENT AND MATERIALS

109.2.1 GENERAL

REVISE: Paragraph (a) of the Specifications as follows:

Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall have the prior approval of the FAA and shall be listed in Advisory Circular (AC) 150/5345-53, Current Edition, Airport Lighting Equipment Certification Program, including the current Addendum. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer. The Contractor is responsible for using the latest editions of the referenced FAA Advisory Circulars, including any changes, in effect at the time of bidding. The advisory circulars may be obtained free of charge on the internet at the following address:

http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/

The Contractor shall ascertain that all lighting system components furnished by him (including FAA approved equipment) are compatible in all respects with each other and the remainder of the new/existing system. Any non-compatible components furnished by the Contractor shall be replaced by him at no additional cost to the airport sponsor with a similar unit, approved by the Engineer (different model or different manufacturer) that is compatible with the remainder of the airport lighting system.

■ CMT 20007502.00 65 November 19, 2021

All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the plans and specifications. The Contractor's submittals (five (5) copies) shall be neatly bound in a properly sized 3-ring binder, tabbed by specification section. The Engineer reserves the right to reject any and all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

109-2.2 ELECTRICAL VAULT BUILDING.

ADD:

The vault shall be a 30'x12'x9'H Lightweight prefabricated steel Equipment Shelter, as manufactured by Parkline, Inc., Eleanor, WV or approved equivalent.

Shelter shall comply with all applicable codes in force or adopted by the City of Kankakee (International Building Code, International Mechanical Code, National Electrical Code, International Energy Conservation Code, etc.).

Prefabricated shelter shall meet the following requirements or conditions:

- a. 30'L x 12'W x 9'H (interior dimensions)
- b. Ceiling insulation shall be minimum R-19
- c. Wall insulation shall be a minimum of R-11
- d. Floor insulation shall be a minimum of R-11
- e. Shelter shall have a minimum two-hour fire rating
- f. A double door (6'x7' steel doors) shall be furnished
- g. A single door (3'x7' steel doors) shall be furnished
- h. Floor Live Load: 150 PSF
- Floor Dead Load: 36 PSF
- j. Roof Live Load: 110 PSF
- k. Flat Roof Snow Load: 60 PSF
- I. Roof Dead Load: 47 PSF
- m. Roof Wind Load (Horizontal): 46 PSF
- n. Wind Load (Uplift): 53.5 PSF
- o. Seismic Group 1
- p. Bulletproof to 30.06 Rifle from 15 Feet
- g. Shelter is Not connected to Public Utilities

■ CMT 20007502.00 66 November 19, 2021

Exterior finish shall be as determined by the Owner, and a standard selection of finishes, colors, and styles shall be provided to the Owner for their selection.

The Contractor shall provide a weatherproof sign permanently mounted to door exterior, reading: "Caution! High Voltage".

<u>109-2.14</u> SQUARE DUCT

ADD: Square duct shall be NEMA 1, hinged cover or NEMA 3R hinged cover as detailed.

109-2.17 FAA-APPROVED EQUIPMENT

ADD:

The following FAA approved equipment is to be used on this project:

a. L-829, Constant Current Regulator, 20KW, 15KW and 7.5 KW, 480V, single phase primary, 6.6 AMP maximum, 3-Step or 5-step Brightness secondary. Regulator shall be Ferroresonant design. All-Solid-State design regulators are not acceptable. Regulator shall be a self-contained unit of the static type with no moving parts requiring attention or service. Internal input fusing shall be provided. Positive open circuit and over-current protection in the event of a fault shall be provided. All control circuitry shall be behind a hinged door for accessibility. Input and output lightning arrestors shall be included. Power factor capacitor shall be provided and provide a power factor of 96% or better, at full load and maximum brightness. All controls, including brightness relays, shall be in the air-filled control cabinet. Regulator shall have provision for both external 120V control and internal 120V control. Regulator shall be equipped with internally mounted remote control operated primary contractor with 120VAC operating coil.

New regulators shall be equipped with Digital Control Interface units as required to interface with ALCMS and auto-meggarring option.

- b. L-854 radio controller, 120V, with remote antenna, in NEMA 4 enclosure.
- Airfield edge lights (LED) and isolation transformers used as indicator lights as part of Regulator Indicating Light Assemblies at each regulator shall comply with requirements of Item 125 of these specifications.

109-2.18 OTHER ELECTRICAL EQUIPMENT

ADD:

- a. Main Distribution Panelboard "MDP", 400A, 480/277V, 3-Phase, 4-Wire, with 400A, 3P Main Circuit Breaker, in NEMA 1 enclosure, Eaton/Cutler-Hammer Pow-R-Line C, PRL3a, or equivalent. Minimum short circuit rating shall be 42kA. Provide branch circuit breakers as indicated on the plans. Provide Surge Protective Device (SPD), SPD shall comply with U.L. 1449 "2nd Edition" and NEMA LS-1 Low Voltage Surge Protection Devices. Minimum total Surge Current and Withstand Capability shall be 240 kA per phase, 120 kA per mode.
- b. Power Panelboard "PP-1", 100A, 120/240V, 1-Phase, 3-Wire, with 100A, 2P Main Circuit Breaker, in NEMA 1 enclosure, Eaton/Cutler-Hammer Pow-R-Line C, PRL3a,

■ CMT 20007502.00 67 November 19, 2021

- or equivalent. Minimum short circuit rating shall be 30kA. Provide branch circuit breakers as indicated on the plans.
- c. Power Panelboard "PP-2", 400A, 240V, 3-Phase, 3-Wire, with 300A, 3P Main Circuit Breaker, in NEMA 1 enclosure, Eaton/Cutler-Hammer Pow-R-Line C, PRL3a, or equivalent. Minimum short circuit rating shall be 30kA. Provide branch circuit breakers as indicated on the plans.
- d. LED Light Fixtures shall be surface mount, non-metallic, enclosed and gasketed, Lithonia FEM-L48-4000LM-LPAFL-MD-MVOLT-40K or equivalent.
- e. Interior receptacles shall be of 20 Amp, 125 Volt, 3 Wire grounding type, NEMA 5-20R, back and side wire compatible, heavy duty industrial specification grade, Leviton 5362A, or equivalent.
- f. Vault toggle switch shall be industrial specification grade, 20A, 120/277 VAC rated, back and side wired type single-pole switches, Leviton 1221-2, or equivalent.
- g. Fractional horsepower starters shall be Square D Class 2510, or equivalent. They will be used as local disconnects for fan and louver.
- h. Architectural wall heater, 4.8 KW, 240V, single-phase, Indeeco WAI Series, Cat. #93U04800C, with surface mount frame, or equivalent,
- i. Exhaust fan, Greenheck model CWB-300-7, 240V, 3/4 HP, 6,200 CFM, with motorized backdraft damper and motor starter MS1P-1, or equivalent. Provide wall-mount thermostat, Honeywell T6051A with Q651A1009 Auto-Off-Fan sub-base.
- j. Intake louver, Ruskin model ELF375DXH, 48"W x 42" H, min. free area: 7.10 sq. ft., with extended sill, bird screen, Kynar finish to match shelter color (or as directed by the Owner), with CD35 motorized damper (power-open/spring-close), or equivalent. NOTE: Contractor shall provide interior filter rack with replaceable filters. Provide minimum of 3 spare filters.

109-2.21 UTILITY SERVICE.

Work included in this section is labor, equipment and materials necessary to provide a complete and operational service entrance as specified herein. This work shall be coordinated with serving utility and shall be considered incidental to the power distribution system for the new vault. Major work items to be performed:

- 1. Removal of existing concrete pads for utility transformers.
- 2. Installation of new concrete pad for utility transformer per utility requirements.
- 3. Installation of 2-4" PVC Schedule primary conduits. Primary conductors will be installed by the utility company.
- 4. Installation of secondary conductors and conduits.
- 5. Installation of Utility-approved Metering C.T. cabinet.
- 6. Installation of Utility-approved meter base.
- 7. Installation of bollards around utility transformer.
- 8. Additional work as required by serving electric utility shall be considered incidental to this specifications section.

NOTE: Any charges by the Utility will be paid for separately by the Owner and are not part of the bid item.

■ CMT 20007502.00 68 November 19, 2021

<u>109-2.22</u> <u>SHOP DRAWINGS.</u>

In addition to the requirements of Section 60 Paragraph 60-09 of the General Provisions of Division 1 of these specifications, shop drawings shall also be submitted for review for all items specified in Paragraphs 2.2 through 2.23.

109-2.23 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)

ALCMS shall be FAA approved L-890-B-Y (Basic Monitoring and Preset Failsafe) system as detailed on the plans and specified herein:

The ALCMS manufacturer shall be listed in the FAA Approved Equipment List, AC 150/5345-53 (current edition), be a FAA approved supplier of L-890 Airfield Lighting Control and Monitoring and Monitoring Systems in accordance with AC 150/5345-56 (current edition), and be a FAA approved supplier of Constant Current Regulator Monitors in accordance with AC 150/5345-10 (current edition).

ALCMS Approved Manufacturers: Liberty Airport Systems – Spirit Series ADB/Safegate – Navigator Crouse-Hinds Or an approved equal

The system shall represent the leading edge in aviation lighting technology with innovative Touchscreen control stations; distributed control and monitoring; and powerful database storage and retrieval systems.

The ALCMS manufacturer shall be ISO 9001 certified and provide a copy of the ISO certification during the submittal process.

The ALCMS manufacturer shall be listed in the FAA Approved Equipment List, AC 150/5345-53 (current edition), be a FAA approved supplier of L-890 Airfield Lighting Control and Monitoring and Monitoring Systems in accordance with AC 150/5345-56 (current edition), and be a FAA approved supplier of Constant Current Regulator Monitors in accordance with AC 150/5345-10 (current edition).

The ALCMS manufacturer shall have a minimum of five (5) years of experience in computerized airfield lighting control and monitoring systems and shall have installed at least five (5) basic control and monitoring systems of similar size and complexity to the one specified herein.

The ALCMS Manufacturer shall furnish and commission a complete and functional computerized distributed control and monitoring airfield lighting system based on an industry standard Ethernet network.

This project shall include software, programming, computers, manuals, on-site commissioning, on-site testing, on-site training and any other materials, tools and equipment to provide a fully functional system to the satisfaction of the Engineer.

The ALCMS Manufacturer shall provide an experienced and qualified Engineering, Sales and Service staff to support the contractor and airport throughout the installation and life of the system.

■ CMT 20007502.00 69 November 19, 2021

The proposed ALCMS shall be compatible with existing Crouse-Hinds and ADB regulators. It shall be the Contractor's responsibility to coordinate with regulator manufacturer and to provide all required CT's, PT's and components for a fully functioning L-890 ALCMS.

FACTORY ACCEPTANCE TEST (FAT)

Before shipment, the ALCMS system shall be assembled as an operating system at the ALCMS Manufacturer's test facilities.

ON SITE COMMISIONING AND SYSTEM ACCEPTANCE TEST (SAT)

The ALCMS manufacturer shall perform complete onsite commission and system readiness checks. A witnessed system acceptance tests shall be performed onsite by ALCMS manufacturer to be witnessed by airport/owner representative and contractor. Copies of the SAT shall be provided.

MAINTENANCE TRAINING

Maintenance training shall be provided during the commissioning of the system for Airport personnel. Training shall be scheduled with Airport maintenance and management staff, training shall be minimum of (2) 2-hour sessions at the airfield lighting vault and airport office.

ALCMS EQUIPMENT AND MATERIALS

The ALCMS shall be a PC-based or PLC-based system for control or monitoring. Ethernet communication network using Multi-Mode fiber optic shall be used for data transfer between the electrical vault and airport office.

The computerized airfield lighting control and monitoring system shall consist of the following major hardware components:

- 1. Touchscreen control station located in the airport office.
- 2. Airport office computer subsystem consisting of an industrial enclosure with PLC or PC and communication equipment, UPS and printer.
- 3. Vault computer subsystem consisting of an industrial enclosure with PLC or PC, monitor, UPS and communication equipment.

Within the airfield lighting vault shall be a distributed control and monitoring system which operates on a redundant communication network or as required by ALCMS manufacturer.

The Distributed Control and Monitoring Equipment (DCME) shall be of a distributed nature that shall be installed locally at each controlled element within the vault. The vault industrial computer communicates to each DCME via two (2) shielded cables each consisting of two (2) twisted pairs.

The system shall monitor the operation of the various lighting systems per AC 150/5345-10 (current edition) requirements.

Furnish and install ALL required CT's and interface modules for new regulators for a fully functional L-829 and L-890 system.

COMMUNICATION NETWORK

The electrical vault and airport office shall communicate via 12 strand multi-mode fiber optic cable.

■ CMT 20007502.00 70 November 19, 2021

TOUCHSCREEN CONTROL STATIONS

TECHNICAL SPECIFICATIONS

A. Touchscreen technology shall be integrated into the display monitor and shall have the following technical specifications:

Options Description

- a. Technology AccuTouch™ Five-Wire Resistive
- b. Screen Resolution 1280 x 1024 (minimum)
- c. Touch Resolution Touchpoint controller resolution of 4096 x 4096
- d. Input method Finger or stylus
- e. Positional Accuracy Standard deviation error less than 0.080" (2mm)
- f. Agency Approvals UL, CE, FCC Class A
- g. Chemical Resistance The active area of the Touchscreen is resistant to all chemicals that do not affect glass.
- h. Temperature/ Relative Humidity (-)10°C to 50°C at 90% RH, non-condensing
- i. Electrostatic Per EN 61000-4-2
- j. Light Transmission 80% +/- 5% at 550nm wavelength
- k. Face Plate Anti-glare
- I. Expected Life 35 million touches in one location without failure

TOUCHSCREEN MONITOR SPECIFICATIONS

A. The touchscreen video graphics display shall have the following technical specifications:

Options Description

- a. Type LCD, active matrix
- b. Mounting Flush Mount
- c. Size 19" Diagonal viewable
- d. Screen Resolution 1280 x 1024 (minimum)

ALCMS EQUIPMENT

- Uninterruptible Power System: DCME Control and Monitoring Equipment (vault only)
 - 1. An uninterruptible power system (UPS) shall be provided for supporting power to the DCME equipment and PC/PLC.
 - 2. The UPS shall be capable of supplying full load power for 10 minutes after loss of main input power.
 - The UPS shall be in the vault computer equipment and airport office equipment enclosure.

B. Industrial Enclosures

- 1. A NEMA 12 industrial enclosure shall be provided for housing associated ALCMS equipment.
- 2. The enclosure is designed for indoor use to provide protection against dust, dirt, dripping water, and external condensation of non-corrosive liquids.
- 3. The industrial enclosure shall include a pagoda top with exhaust fan and ventilation kit for proper convection cooling.

■ CMT 20007502.00 71 November 19, 2021

- C. The environmental conditions within the area of the enclosure installation shall not exceed 122 Deg F (50 Deg C) or fall below 32 Deg F (0 Deg C).
- D. Printer The printer shall be a black and white Laser Jet Printer. The printer shall be located on a shelf within the airport office building.

DISTRIBUTED CONTROL EQUIPMENT

- A. The control and monitoring equipment shall be of a distributed nature or PLC based.
- B. The DCME units shall be installed locally at each device (i.e. CCR) which requires control and/or monitoring within the airfield lighting electrical vault.
- C. The DCME unit shall also house Insulation Resistance Measurement System (IRMS) as shown on the plans.

OVERVIEW OF OPERATION

- A. The ALCMS shall perform the following functions:
 - 1. Brightness setting control of the CCRs or ON/OFF control as required by the controlled element (i.e. beacon may only require ON/OFF control).
 - 2. Perform all failsafe functions.
 - 3. Self-diagnostic function to monitor for proper operation.
 - 4. Locally store all data and parameters specific to the controlled element.
 - 5. Measure and record Insulation Resistance.

FAILSAFE

- A. ALCMS shall provide a self-contained failsafe feature that shall perform the following functions:
 - 1. Insure default operation of the airport lighting, even if the entire airport lighting control system is not functioning.
 - 2. Display the commands sent by the computer to the CCRs and/or to the other controllable items.
 - 3. Adaptable to each CCR regardless of internal or external control voltage.
 - 4. Permits maintenance of portions of the control system, without changing the operational status of the lighting system.
- B. The failsafe mode of ALCMS shall be "Passive Failsafe" mode.
- C. If the CCR was switched ON before the failure, it shall remain ON at the same brightness level.
- D. If the CCR was switched OFF before the failure, it shall remain OFF.
- E. Failsafe shall be able to be bypassed by selecting the CCR locally to any desired brightness level.

GRAPHICAL USER INTERFACE OPERATION

General

- A. The Airport Office Touchscreen display shall control and monitor the airfield lighting system. The display shall show real-time information on the operational status of the airfield lighting systems.
- B. The Touchscreen control stations shall consist of multiple Touchscreen 'pages' each with a specific function. These Touchscreen 'pages' are defined as follows:
 - Runway Lights: Consists of runway control touch buttons used to individually control runway circuits. Multiple runway pages may be necessary for airports with several runways.
 - 2. Taxiway Lights: Consists of taxiway control touch buttons used to individually control taxiway circuits if required.
 - 3. NAVAIDS: Consists of control touch buttons for PAPI's, windcone and beacon.

■ CMT 20007502.00 72 November 19, 2021

- 4. Utilities: Consists of miscellaneous functions for calibrating the Touchscreen, granting lighting control to other locations, setting the date and time, etc.
- 5. Overview of Operation
- C. Airfield lighting control commands are entered into the system by touching the corresponding touch button on the Touchscreen video display. When a command is entered, the Touchscreen shall respond by graphically displaying the button as being depressed and change the button color.
- D. The associated circuit graphics shall alternately flash indicating the airfield lighting section that shall be affected when this command is "confirmed".
- E. Once confirmed, the Airport Office Touchscreen shall register the command, generate a data instruction and transmit the command to the vault computer for implementation. The command is also simultaneously transmitted to the maintenance computer and all other computers connected to the network.
- F. In the event that communications is lost between the airport office and vault, an alarm is indicated at each computer location.
- G. In the event of a predefined alarm condition, the effected airfield lighting circuit graphic shall flash red and an audible alarm tone shall alert operators to the alarm condition.

ALCMS ALARM FUNCTIONS

Touchscreen Audible Alarm

- A. The audible alarm shall sound at each Touchscreen display when an alarm condition occurs. In addition, the 'ALARM ACK' button shall flash and the associated airfield circuit graphics shall change to red.
- B. The audible alarm shall stop automatically after three (3) seconds unless the 'ALARM ACK' button is pressed.
- C. If the alarm is not acknowledged, the audible shall cease for sixty (60) seconds while the 'ALARM ACK' continues to flash. If the 'ALARM ACK' is still not pressed after the sixty (60) seconds, the audible shall sound again for three (3) seconds.
- D. This sequence shall repeat indefinitely until the alarm is acknowledged.

Circuit Alarms

- E. The ALCMS shall continuously monitor the status of all of the circuits per the monitoring requirements as specified previously.
- F. If there are any monitoring discrepancies (i.e. incorrect CCR output current, loss of primary power) an alarm shall be generated at the Touchscreen display for the associated circuit.

TOUCHSCREEN COMMAND SEQUENCES

- A. The Touchscreen control station shall allow the airfield lighting circuits to be controlled individually (i.e. RWY Edge) or as a group based on preset tables (See following section).
- B. Each control command shall require two distinct operator actions in order for the command to initiate any state changes in the airfield lighting. The command sequence shall be as follows:
 - 1. Select circuit: Operator selects the desired circuit to be changed.
 - 2. Select intensity: Operator selects the desired brightness step that the circuit is to be changed to.
 - 3. Graphics flash: The graphics associated with the selected circuit shall begin to flash visually indicating to the operator the airfield lighting section that is going to be affected by the command.

■ CMT 20007502.00 73 November 19, 2021

4. Confirm/Reject: Operator selects the 'CONFIRM' button to accept the selection and initiate the lighting change. Operator selects the 'REJECT' button to cancel the selections and make another selection.

GRAPHICAL AIRPORT PICTORIAL

- A. The ALCMS display screens shall display a graphical pictorial representation of the airport runways, taxiways and other requested airport features.
- B. When there is a change in lighting system status, the appropriate graphical detail shall indicate the status by changing color.
- C. The circuit intensity display colors shall be represented as seen in the legend as follows.

WINDTEE, BEACON, PAPI's and REIL's CONTROL

- A. The ALCMS shall provide control of the existing Windtee, Beacon, (4) PAPI's and REIL's from the ALCMS node.
- B. The ALCMS shall provide one (8) optically isolated, dry-contact output to control contactors inside vault. The contacts shall be rated 1A at 120Vac.
- C. The ALCMS shall close the output to command the ON and open the output to turn the OFF, based on the photocell input. The contractor shall provide an interface relay/contactor to connect power to the windtee, beacon, PAPI and REIL's.

RADIO CONTROL ENABLED CONTROL METHODOLOGY

- A. The ALCMS shall provide an interface to the new L-854 radio controller located inside the vault.
- B. One (1) button labeled "Radio Control" will be programmed to allow air-to-ground radio control after normal operating hours.
- C. When the radio control button is pressed, all preset settings are changed for radio operations according to the preset control methodology.
- Radio Control preset lighting settings shall be specified by the airport.
 Radio Control Interface
 - 1. The ALCMS system shall provide three (3) inputs for Radio Control commands.
 - 2. The ALCMS shall monitor the inputs and adjust the airfield lighting according to the Radio Control preset table.
 - 3. The ALCMS shall only monitor for the radio control inputs when the "Radio Control" button is enabled at the Airport Office.
 - 4. Locating and wiring of Radio Control output points shall be completed by the contractor in coordination with the airport/engineer and equipment manufacturer.

CONSTRUCTION METHODS

CONSTRUCTION OF VAULT AND PREFABRICATED METAL HOUSING

109-3.1 GENERAL

REVISE: 1st paragraph to read:

■ CMT 20007502.00 74 November 19, 2021

The Contractor shall install the prefabricated Lightweight Concrete Shelter on concrete pad with aggregate sub-base per shelter supplier requirements.

ADD:

All electrical equipment shall be installed in conformance with applicable sections of NPFA 70 - National Electrical Code, respective equipment manufacturer's directions, as detailed on drawings and as specified herein. Any installations which void U.L. listing (or other third party listing) and/or manufacturer's warranty of a device or equipment shall NOT be permitted.

In installation of this work, Contractor shall comply in every respect with requirements of National Electrical Code (NEC), National Board of Fire Underwriters, and any state and local requirements, laws and ordinances as may be applicable.

If, in opinion of the Contractor, there is anything in drawings or specifications that will not strictly comply with above laws, ordinances and rules, the matter shall be referred to the attention of the Owner's representative for a decision before proceeding with that part of the work. No changes on drawings or in specifications shall be made without the full consent of Owner's representative.

Contractor shall obtain and pay for all licenses, permits and inspections required by above laws, ordinances and rules for entire electric wiring job called for in these specifications and accompanying drawings.

Drawings and specifications are intended to be descriptive only, and any error or omissions of detail in either shall not relieve Contractor from obligations thereunder to install in correct detail any and all materials necessary for complete and operating electrical systems to extent shown on drawings and described in this specification.

Contractor shall, during progress of job, record any and all changes or deviations from original drawings, and, at completion of project, shall deliver to Owner's representative a single marked-up set of "as-built" drawings.

This Contractor shall prepare shop drawings for all parts of his work. Before commencing any work or providing any material, Contractor shall submit for approval all drawings relating to construction, arrangement or disposition of equipment entering into contract, and show complete equipment with manufacturer's specifications of same.

Shop drawings shall be fully descriptive of all materials and equipment to be incorporated into this project. Contractor shall carefully check all submitted shop drawings, making sure they are complete in all details and cover specific items as hereinafter specified. No material or equipment shall be allowed at the site until shop drawings approved by the Engineer are received by the Resident Engineer at the site.

109-3.3 ROOF

DELETE: This section.

■ CMT 20007502.00 75 November 19, 2021

INSTALLATION OF EQUIPMENT IN VAULT OR PREFABRICATED METAL HOUSING

109-4.4 DUCT AND CONDUIT

ADD:

The low voltage and high voltage wireways shall be stand-off mounted to permit conduits to be routed to wireway below.

109-4.6 MARKING AND LABELING

ADD:

- (c) Nameplates and legend plates shall be engraved three-layer laminated plastic, black letters on white background. Legends (wording) shall be as detailed on drawings or as directed by Owner's representative.
- (d) All wire markers installed on electrical equipment shall be weatherproof and water resistant. Wire identification labeling, whether factory applied or written in the field, shall utilize an adhesive that does not soften or weaken over time. Sleeve or tubing type labels may be utilized as an alternate. Paper adhesive-backed wire markers will be rejected and replaced at the Contractor's expense. Wire marker labels shall be as manufactured by Brady, or equivalent.

ADD:

109-4.9 ALCMS INSTALLATION

The Contractor shall install new ALCMS at new airfield lighting vault and Airport Office as shown on the plans and specified herein. The installation of new fiber optic communication link between new airfield lighting vault and Airport Office shall be as described in specification 108.

The Contractor shall install new ALCMS cabinet, touchscreen, UPS and printer in airport office at the location determined by the Airport. Install new circuit breaker and 120VAC power to the new ALCMS in the airport office.

109-4.10 VAULT AND VAULT EQUIPMENT REMOVAL

The Contractor shall remove and dispose off existing airfield lighting vault building, concrete pad, and vault electrical/mechanical equipment as shown on the plans. Existing regulators shall be removed and salvaged or disposed off the Airport property. Existing L-854 radio controller and antenna shall be removed and salvaged for spare parts. All other equipment shall be removed and disposed of offsite by the Contractor. If the Airport does not want any of the removed materials then the Contractor shall dispose of off airport property at no additional cost to the contract.

Contractor shall remove and dispose all existing oil-filled regulators in compliance with IEPA requirements. Existing contaminated material shall be properly disposed off-site as required by IEPA and local environmental codes

109-4.11 TEMPORAY ELECTRIC SERVICE AND REGULATORS.

The Contractor shall protect and maintain existing electric service in old vault to keep airfield lighting operational during construction. Contractor shall install temporary feeds to

■ CMT 20007502.00 76 November 19, 2021

existing hangar and electric gates to keep operational during construction.

The Contractor shall be responsible for maintenance of the existing electric service and regulators during the entire vault construction period. Existing electric service and regulator shall be removed after the new vault power distribution and airfield lighting circuits are energized and tested and ready for operation.

METHOD OF MEASUREMENT

109-5.1 DELETE: This section.

ADD:

109-5.2 DELETE: This section.

ADD:

ERECT PREFABRICATED VAULT.

The quantity of prefabricated steel Shelter to be paid for shall be lump sum. This item shall consist of the shelter structure installed as detailed on the plans, in place, and all labor and materials necessary for a complete and accepted installation.

109-5.3 DELETE: This section.

ADD:

POWER DISTRIBUTION SYSTEM.

The quantity of vault electrical to be paid for shall be lump sum. This item shall consist of furnishing and installation of all vault electrical and HVAC equipment, including but not limited to lighting, wireways, conduits/conductors, transformers, apron lighting controller, navaids controller and Panelboard installation, indicator lights, ground ring, ground rods, photocell, except for the regulators, and all labor and materials necessary for a complete and accepted installation.

109-5.4 REGULATORS.

The quantity of regulators to be paid for shall consist of furnishing and installation of regulators of each size, and all labor and materials necessary for a complete and accepted installation.

109-5.5 L-890 AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM (ALCMS)

The quantity of new ALCMS to be paid for under this item shall be lump sum. This item shall include all the work associated with new ALCMS, including but not limited to installation of ALCMS equipment in vault and airport office. This item shall also include installation of fiber optic communication network, UPS, printer, photocell, installation of circuit breaker and power in airport office, coordination with regulator manufacturer, installation of cable/conduits in vault and airport office, testing, commissioning and training for a complete and operational ALCMS as specified.

■ CMT 20007502.00 77 November 19, 2021

<u>109-5.6</u> <u>L-854 PCAL SYSTEM</u>

The quantity of L-854 PCAL System to be paid for shall be lump sum. This item shall consist of furnishing and installing the L-854 Radio Controller antenna cable, antenna, and associated conduit and wiring, and all labor and materials necessary for a complete and accepted installation.

109-5.7 ELECTRIC SERVICE ENTRANCE

The quantity of new electric service to be paid for shall consist of new concrete pad, CT cabinet, primary conduits and all required items by the local utility company as detailed on the plans, and all labor and materials necessary for a complete and accepted installation.

109-5.8 REMOVE ELECTRICAL EQUIPMENT

The quantity of Remove Electrical Equipment to be paid for shall be lump sum. This item shall consist of the disconnection and removal of all equipment in the existing vault, removal of L-821 panel in airport office and other components necessary for the new installation, removal of all electrical/mechanical equipment, removal of transformer pads, removal and salvaging of radio controller, removal of antenna and antenna cable, removal of existing electric service conductors to the vault as detailed on the plans, and all labor and materials necessary for a complete and accepted installation.

109-5.9 REMOVE REGULATOR

The quantity of Remove Regulator to be paid for shall be for each unit to be removed and disposed. This item shall consist of the disconnection and removal of all equipment in the existing vault as detailed on the plans, and all labor and materials necessary for a complete and accepted installation.

109-5.10 VAULT FOUNDATION AND FLOOR

The quantity of Vault Foundation and Floor to be paid for shall be lump sum. This item shall consist of the furnishing and installation of concrete foundation, complete with reinforcement, frost legs, aggregate sub-base and all incidental items as detailed on the plans and as specified herein to the satisfaction to the Engineer.

109-5.11 TEMPORARY AIRFIELD VAULT CONNECTIONS

The quantity of Temporary Airfield Vault Connections to be paid for shall be lump sum. This item shall consist of the furnishing and installation of labor and material to provide temporary connections to existing circuits during the construction of the new vault building. All existing airfield light circuits, hangar, gates, fuel farm, AWOS, parking lot lighting, beacon and other miscellaneous circuits shall remain operational as detailed on the plans and as specified herein to the satisfaction to the Engineer.

■ CMT 20007502.00 78 November 19, 2021

BASIS OF PAYMENT

109-5.1 ADD: Payment will be made under:

ITEM AR109110
ITEM AR109311
ITEM AR109311
ITEM AR109331
ITEM AR109342
ITEM AR109342
ITEM AR109400
ITEM AR109535
ITEM AR109610
ITEM AR109610
ITEM AR109902
ITEM AR109903
ITEM AR800056
ITEM AR800056
ITEM AR800077

ITEM AR800192 INSTALL ALCMS L-890 - PER LUMP SUM.

■ CMT 20007502.00 79 November 19, 2021

ITEM 110 – INSTALLATION OF AIRPORT UNDERGROUND ELECTRICAL DUCT DESCRIPTION

<u>110-1.1</u>

ADD:

This item shall consist of the construction of new RGS conduits, PVC Schedule 40 concrete encased duct banks and new PVC Schedule 80 directionally bored and direct bury conduits including appropriate duct markers in pavement at the locations shown in the plans or as directed by the Engineer.

Trenching and backfilling under the proposed pavement for the concrete encased duct shall not be paid for separately, but shall be considered incidental to the associated duct item. Contractor shall provide pull wire for each conduit and cap the unused conduits for future use.

EQUIPMENT AND MATERIALS

110-2.3 PLASTIC CONDUIT

ADD:

Conduit shall be Schedule 40 and 80 where indicated in the Plans. In general, Schedule 40 PVC conduit is required for concrete encased duct banks and Schedule 80 PVC conduit for directionally bored conduits.

<u>110-2.11</u> <u>DUCT MARKER</u>

ADD:

The Contractor shall provide duct markers for each new or existing duct being used as detailed in the plans. The cost of installation of the duct markers shall be incidental to the contract.

Brass duct markers shall only be used at bituminous pavement locations as shown on the plans. At concrete pavement locations, the Contractor shall stamp the concrete as directed by the Engineer.

110-2.12 AGGREGATE BACKFILL

ADD:

Crushed aggregate material conforming to the requirements of Item 208 or as approved by the Engineer shall be used for backfill at the pavement crossings for the proposed duct installation. In lieu of aggregate, the Contractor may substitute Controlled low strength material (CLSM) backfill for those areas requiring aggregate backfill. This substitution must be approved in writing prior to construction and must be completed at no additional cost to the contract. CLSM shall meet Item 153 Controlled Low Strength Material. The CLSM material will be considered incidental to the associated duct item.

■ CMT 20007502.00 80 November 19, 2021

CONSTRUCTION METHODS

110-3.6 BACKFILLING FOR DUCT BANKS

ADD:

Backfilling materials shall be compacted to The granular material shall be compacted to not less than 95% of Standard Proctor laboratory density or to the Resident Engineer's satisfaction by ramming or tamping with tools approved by the Resident Engineer.

METHOD OF MEASURMENT

110-4.1

ADD:

No separate measurement will be made for individual ducts in a multi-way duct system. The cost of trench excavation and backfill shall not be measured separately for payment, but shall be considered incidental to the respective pay item associated with the work.

BASIS OF PAYMENT

<u>110-5.1</u>

DELETE: Entire Section.

ADD:

Payment will be made at the contract unit price per lineal foot for each size of concrete encased duct and directionally bored conduits completed and accepted. These prices shall be full compensation for furnishing all materials and for all preparation, assembly, aggregate backfill, backfill, compaction, duct markers, pull rope/wire, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete these items as specified herein.

Restoration, topsoiling, seeding and mulching of the duct and conduit trench shall not be paid for separately but shall be considered incidental to the associated duct.

Payment will be made under:

ITEM AR110012 2" DIRECTIONAL BORE – PER FOOT.
ITEM AR110202 2" PVC DUCT, DIRECT BURY – PER FOOT.
ITEM AR110214 4" STEEL DUCT, DIRECT BURY – PER FOOT.
ITEM AR110504 4 - WAY CONCRETE ENCASED DUCT – PER FOOT.
ITEM AR110508 8 - WAY CONCRETE ENCASED DUCT – PER FOOT.

■ CMT 20007502.00 81 November 19, 2021

ITEM 115 – ELECTRICAL MANHOLE AND JUNCTION STRUCTURES

DESCRIPTION

<u>115-1.1</u>

ADD: Airfield lighting improvements shall include:

- Installation of Electrical Handhole, Type 1
- Installation of Electrical Handhole, Type 2

METHOD OF MEASUREMENT

115-4.1

REVISE: First sentence to read:

The quantity of electrical manholes, handholes and junction structures shall be measured for payment by the number of each unit installed as specified, completed, and accepted by the Resident Engineer.

BASIS OF PAYMENT

<u>115-5-1</u>

ADD: Payment will be made under:

ITEM AR800112 ELECTRICAL HANDHOLE, TYPE 1 – PER EACH. ITEM AR800113 ELECTRICAL HANDHOLE, TYPE 2 – PER EACH.

■ CMT 20007502.00 82 November 19, 2021

ITEM 800024 – BUILDING DEMOLITION

DESCRIPTION

800024-1.1

This item shall consist of furnishing all materials, labor, equipment, tools, and incidentals necessary to completely remove the electrical vault building/structure, its contents, its foundation, floor and/or supporting structure to the satisfaction of the Engineer.

Removal of electrical equipment shall be per specification Item 109 and shall be paid for under Item 109902 REMOVE ELECTRICAL EQUIPMENT and Item 109903 REMOVE REGULATOR.

The Contractor shall visit the site and acquaint himself with the demolition work required. Site visits shall be coordinated with the Airport Manager.

All shrubs, bushes, concrete pads or ramps, concrete stairs, sidewalks and miscellaneous refuse located within the site boundaries shall be removed as shown on the plans or as directed by the Engineer.

All concrete steps, patios, decks attached to the building/structure being demolished shall not be measured separately for payment, but shall be removed and considered incidental to the demolition.

If the structure to be demolished has water or sanitary service that is part of a public or private water or sewer system, the appurtenant service shall be disconnected or plugged as required by local agencies. Disconnecting these services shall not be measured separately for payment but shall be considered incidental to the demolition of the building.

Prior to undertaking the required demolition, the Contractor shall give ample notice to the Owner, occupant and Engineer for the removal of any or all usable equipment presently located within the confines of the demolition and obtain all permits necessary for the demolition and disposal of all building/structure material. After approval by the Engineer that usable equipment has been removed, any and all equipment or material left in the area shall be disposed of by the Contractor off airport property.

800024-1.2 UTILITIES

The Contractor shall be responsible for locating all utility lines within the area of the demolition. It shall be the Contractor's responsibility to protect and maintain all utilities that are to remain active throughout the extent of the contract. Existing utilities that are to be abandoned because of the demolition shall be cut, sealed and abandoned. This work shall be done in cooperation with the utility companies involved and shall conform to all federal, state, and local requirements.

800024-1.3 ASBESTOS AND LEAD PAINT REMOVALS

The building was inspected for hazardous materials. The inspection reports are included in Appendix 7, Hazardous Materials Report and Technical Specifications. The contractor shall remove the hazardous materials per the Appendix 7 technical specifications.

■ CMT 20007502.00 83 November 19, 2021

CONSTRUCTION METHODS

800024-2.1

At the locations shown on the plans, the Contractor shall completely demolish and remove the existing building/structures from the project site. The foundation walls and concrete floors shall also be completely removed, where applicable. The remaining hole or void which exists within the limits of all new pavement embankment following the structure floor and foundation removal shall be filled and compacted with unclassified excavation material in conformance with Section 152 of the specifications. At the contractor's option, aggregate base material meeting Section 208 may be used for backfill. Aggregate base material backfill shall be compacted to not less than 95% of Standard Proctor laboratory density. The remaining hole or void which exists within the limits of turf areas following the floor/foundation removal shall be filled to within 4" of existing adjacent ground level or per the grading plan with unclassified excavation material in conformance with Section 152.

Any unfilled basement, hole, void, or any other hazard left unattended during periods of inactivity shall be properly fenced or protected by the Contractor. Care shall be taken to prevent the spread of dust and flying particles. After the demolition has begun, the work shall be carried on promptly and expeditiously until finished.

The Contractor shall break all concrete floors, pads, ramps and foundation walls into pieces not exceeding two feet (2') square. All floor drains, sanitary sewers or incoming waterlines shall be abandoned to the satisfaction of the Engineer. The Contractor shall remove all contents and miscellaneous materials from within the structure and dispose of said materials at an approved/licensed landfill or dumping area.

Burning of any structure or removal material will not be allowed in the performance of this work. The use of explosives will not be permitted in the performance of this work.

The entire site as shown on the plans, or as directed by the Engineer, shall be smoothly graded and turfed where applicable. Turfing shall include topsoiling, permanent seeding and erosion control blanket of those areas designated on the plans. The Contractor shall leave the site free of rubble and debris, and in a condition satisfactory to the Engineer. All rubble and debris shall be disposed of by the Contractor off the airport property at a landfill or approved dumping area. The Contractor shall provide the Engineer with a ticket or receipt from the landfill or dumping area for each load of material hauled from the project site.

METHOD OF MEASUREMENT

800024-4.1

The Building Demolition will be measured as lump sum for the entire site. The cost of all granular material backfill and unclassified excavation backfill shall not be paid for separately, but shall be considered incidental to Building Demolition pay item.

BASIS OF PAYMENT

800024-3.1

This work will be paid for at the contract lump sum price, which shall be compensation in full for the complete removal and disposal of the existing structure, floor, foundation, gravel driveways, concrete walkways, hazardous materials and all debris and any necessary incidentals for the entire site.

■ CMT 20007502.00 84 November 19, 2021

Payment for backfill and compaction of the resultant void with unclassified excavation material and granular material will not be paid for separately.

Payment will be made under:

ITEM AR800024 BUILDING DEMOLITION – PER LUMP SUM.

■ CMT 20007502.00 85 November 19, 2021

APPENDIX 1

Requirements for Laboratory, Testing, Quality Control, And paving of Superpave Bituminous Concrete Mixtures for Airports -Policy Memorandum 2003-1 17 Pages

November 19, 2021

State of Illinois Department of Transportation Division of Aeronautics

POLICY MEMORANDUM

December 3, 2020 Springfield, Illinois Number 2003-1

TO: CONSULTANTS & CONTRACTORS

SUBJECT: REQUIREMENTS FOR LABORATORY, TESTING, QUALITY CONTROL, AND

PAVING OF SUPERPAVE HMA CONCRETE MIXTURES FOR AIRPORTS

I. SCOPE

The purpose of this policy memorandum is to define to the Contractor the requirements concerning the laboratory, testing, Quality Control, and paving of HMA mixtures utilizing Superpave technology. References are made to the most recent issue of the Standard Specifications for Construction of Airports (Standard Specifications) and to American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO) and IDOT Bureau of Materials Illinois Lab Procedure (ITP) testing methods. The Quality Assurance and acceptance responsibilities of the Resident Engineer are described in Policy Memorandum 96-3.

II. LABORATORY

The Contractor shall provide a laboratory located, at the plant, according to the current Illinois Department of Transportation, Bureau of Materials Policy Memorandum (PM) 6-08, *Minimum Private Laboratory Requirements for Construction Materials Testing or Mix Design*. The laboratory shall be of sufficient size and be furnished with the necessary equipment and supplies for adequately and safely performing the Contractor's Hot Mix Asphalt (HMA) Job Mix Formula (JMF), Quality Control (QC) testing and Quality Assurance (QA) testing. The laboratory and equipment furnished by the Contractor shall be properly calibrated and maintained. The Contractor shall maintain a record of calibration results at the laboratory. The Engineer may inspect measuring and testing devices at any time to confirm both calibration and condition. If the Engineer determines that the equipment is not within the limits of dimensions or calibration described in the appropriate test method, he may stop production until corrective action is taken. If laboratory equipment becomes inoperable or insufficient to keep up with mix production testing, the Contractor shall cease mix production until adequate and/or sufficient equipment is provided.

III. MIX DESIGN SUBMITTAL

Based upon data and test results submitted by the Contractor, the Illinois Division of Aeronautics (IDA) Engineer of Construction & Materials shall issue the final Job Mix Formula (JMF) approval letter that concurs or rejects the Contractor's proposed JMF. The Contractor will be required to perform the sampling and laboratory testing and develop a complete mix design, according to the following guidelines: Mix design submittals should be submitted to IDA, Construction/Material Section.

Attn: Certification and Mixtures Engineer. Note: Quality Control (QC) Managers shall

be Level III QC/QA qualified and will be responsible for all mix designs. All Technicians obtaining samples and performing gradations shall have successfully completed the IDOT Mixture Aggregate Technician Course and Technicians performing mix design testing and plant sampling/testing shall have successfully completed the IDOT Bituminous Concrete Level 1 Technician Course under the Illinois Department of Transportation, Bureau of Materials & Physical Research QC/QA Training Program.

A. Initial Mix Design Submittal

- 1. Use the first tab/page of the IDOT, QC/QA Package, Mix Design Software spreadsheet workbook. Provide the Producer name, Producer # and Producer location of each aggregate and asphalt binder (AB). Producers are assigned Producer numbers by IDOT Central Bureau of Materials.
- 2. Material code for each aggregate.
- 3. Aggregate Gradations per ASTM C-136 (The Contractor shall obtain representative samples of each aggregate).
- 4. Material code for each aggregate (i.e. 022CM11, etc.).
- 5. Material code for the grade of AB.
- 6. Proposed Aggregate Blend (% for each aggregate) Note: Based on the gradation results, the Contractor shall select the blend percentages that comply with the Standard Specifications, Section 401/403 3.3 (Table: Aggregate Asphalt Pavements)
- 7. Producer name, Producer #, and specific gravity of the proposed asphalt cement.
- 8. IDOT approved Performance Grade (PG) Binder shall be used unless otherwise specified by the IDA Engineer of Construction & Materials.

After verification and approval by IDA of the proposed design information from this Section A, Initial Mix Design Submittal, the Contractor shall proceed to Section B, Mixture Design and Testing, and perform mixture tests on 4 gyratory brix sample (4 point mix design) to determine the optimum AB content for the target Air Voids.

Note: If Section A, Initial Mix Design Submittal, is not performed first, and the complete mix design (gyratory testing) is submitted with an unapproved material source or an incorrect aggregate blend, then the gyratory laboratory testing would have to be redone.

B. Preliminary Mixture Design & Testing

Design Parameters

Gyrations (N_{des}) – per Standard Specifications for Construction of Airports (Standard Specifications), Section 401/403 – 3.3 (JMF), Table (Asphalt Design Criteria)

Asphalt Content – AC% per Standard Specifications, Section 401/403 – 3.3 (JMF), Table (Aggregate – Asphalt Pavements)

Maximum Specific Gravity – G_{mm} (AAHSTO T 209)

Bulk Specific Gravity – G_{mb} (AAHTO T 166)

% air voids – V_a (ASTM D3203) per Standard Specifications, Section 401/403 – 3.3 Table (Asphalt Design Criteria)

VFA % – per Standard Specifications, Section 401/403 – 3.2 (JMF), Table (Asphalt Design Criteria)

C. Preliminary Mix Design Submittal

The Preliminary JMF including all test results shall be submitted to IDA, Construction/Material Section, Attn: Certification and Mixtures Engineer with the following data:

- a) Aggregate & asphalt cement material codes
- b) Aggregate & asphalt cement producer numbers, names, and locations
- c) Percentage of each individual aggregate
- d) Aggregate blend % for each sieve
- e) AC Specific Gravity
- f) Bulk Specific Gravity and Absorption for each aggregate
- g) Summary of Superpave Design Data: AC % Mix, G_{mb}, G_{mm}, VMA, Voids (Total Mix), Voids Filled, V_{be}, P_{be}, P_{ba}, G_{se}
- h) Optimum design data listing: AC % Mix, G_{mb} , G_{mm} , VMA, Voids (Total Mix), Voids Filled, G_{se} , G_{sb}
- i) Percent of asphalt that any RAP will add to the mix
- j) Graphs for the following: Gradation on 0.45 Power Curve, AC vs. Voids (Total Mix), AC vs. Specific Gravities, AC vs. Voids Filled, AC vs. VMA
- k) Tensile Strength Ratio (TSR)
- I) Type and amount of anti-strip agent when used
- m) Date the JMF was developed

D. Mix Approval

Once the preliminary JMF is reviewed and approved by IDA, a JMF approval letter will be issued to the consultant and contractor. Production of HMA is not authorized until a JMF letter has been issued.

E. Change in Material Sources

The above procedure, III. MIX DESIGN SUBMITTAL, shall be repeated for each change in material source or gradation of aggregate materials.

IV. MIX PRODUCTION TESTING

The Quality Control (QC) of the manufacture and placement of HMA mixtures is the responsibility of the Contractor and will be according to the Standard Specifications, Section 401/403-5.1 - 5.6. In addition, the Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item 100 in the Standard Specifications. The (CQCP) shall be submitted on the Form AER 27. Hot Mix Asphalt (HMA) Quality Control Plan. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Quality Control includes the recognition of defects and their immediate correction. This may require increased testing, communication of test results to the plant or the job site, modification of operations, suspension of HMA production, rejection of material, or other actions as appropriate. The Resident Engineer shall be immediately notified of any failing tests and subsequent remedial action. Form AER-14 shall be reported to IDA, Construction/Material Section, Attn: Certification and Mixtures Engineer and the Resident Engineer no later than the start of the next workday. The Contractor shall provide a Quality Control (QC) Manager who will have overall responsibility and authority for Quality Control. This individual shall have successfully completed the IDOT Division of Highways HMA Concrete Level II Technician Course "HMA Proportioning and Mixture Evaluation." In addition to the QC Manager, the Contractor shall provide sufficient and qualified personnel to perform the required visual inspections, sampling, testing, and documentation in a timely manner.

V. TEST SECTION (Note: Applies for Method II only (≥ 2,000 tons/pay item))

The purpose of the test section is to determine if the mix is acceptable and can be compacted to a consistent passing density. The test strip construction and acceptance will be according to the Standard Specifications, Section 401/403-3.5.

VI. MATERIAL ACCEPTANCE

Material acceptance and acceptance sampling to determine conformance to the contract specifications will be performed by the Resident Engineer in accordance with the Standard Specifications, Section 401/403-6.1. In addition to the requirements set forth in Section 401/403-6.1 the R.E. shall perform sample tests at a rate of 1/5000 tons randomly selected by the R.E. and shall be sent with an identification sheet (Form AER 24, Sample Identification) to an ASTM certified independent laboratory. If the project is < 5000 tons, 1 sample selected randomly shall be sent.

Alan D. Mlacnik, P.E. Bureau Chief of Airport Engineering

Supersedes Policy Memorandum 2003-1 dated June 12, 2004

APPENDIX 2

Density Acceptance of Bituminous Pavements
-Policy Memorandum 87-2
4 Pages

■ CMT 20007502.00 November 19, 2021

State of Illinois Department of Transportation Division of Aeronautics

POLICY MEMORANDUM

February 20, 2014 Springfield Number: 87-2

TO: CONSULTING ENGINEERS

SUBJECT: DENSITY ACCEPTANCE OF BITUMINOUS PAVEMENTS

I. Introduction

This Policy Memorandum deals with the implementation of the bituminous density quality assurance specifications as outlined in the Standard Specifications for Construction of Airports, Sections 401-4.15 and 403-4.15.

II. Sampling

After completion of compaction and when the pavement has reached ambient temperature, the paved area shall be divided into Sublots of 500 tons per type of mix. One core sample (2 cores per sample) shall be taken from each Sublot. The longitudinal and transverse location for each sample shall be determined by use of a random number "Deck" provided by the Division. No core shall be taken closer than two (2) feet from the edge of the mat. A core extraction device shall be used to obtain all cores from the mat. All cores are to be taken by the contractor under the supervision and remain in the possession of the Engineer. It is imperative that the Engineer and the contractor realize that the cores are "money" and that improper coring, extraction, shipping and/or testing can be costly.

One mix sample per 1000 tons of mix laid shall be taken for Extraction, Maximum Specific Gravity (G_{mm}) and Air Void tests. The mix samples shall be sampled by the contractor and split in half.

The Resident Engineer shall randomly designate and send the split samples to an independent laboratory for testing. The laboratory will be verified to be ASTM- certified for all the required testing and be contracted through the Consultant. The frequency of testing split samples shall be 1 per 5000 tons. Higher frequencies may be necessary if the contractor's tests, and/or mix quality control are inconsistent.

III. Testing

All cores shall be tested for Bulk Specific Gravity (G_{mb}) in accordance with ASTM D2726 using Procedure 10.1, "For Specimens That Contain Moisture." The Theoretical Maximum Gravity (G_{mm}) shall be determined according to ASTM D2041. From these tests the in-place air voids of the compacted pavement are calculated according to ASTM

D3203 for "dense bituminous paving mixtures." Selection of the proper G_{mm} shall be based on a running average of four (4) tests per Lot.

E.g. Lot 1 - Use the average of the two (2) tests for Lot 1.

Lot 2 - Use the average of the four (4) tests from Lots 1 and 2.

Lot 3 - Use the average of the four (4) tests from Lots 2 and 3.

NOTE: When more than four (4) Sublots are used, still use a running average of four (4) tests per Lot.

IV. Acceptance Calculations

The first step in calculating the quantities for pay is to calculate the Mean (X) and the Standard Deviation (S) of the Sublot tests. From this data the Lot samples should first be tested for outliers. After consideration for outliers, the Percent Within Tolerance (PWT) and the Percent Within Limits (PWL) are calculated to determine the final pay quantities for the Lot.

EXAMPLE

1. Test Data

Lot Quantity = 2000 tons

Sublot Test 1 = 4.35 % Air Voids

Sublot Test 2 = 3.96 % Air Voids

Sublot Test 3 = 6.75 % Air Voids

Sublot Test 4 = 6.25 % Air Voids

2. Calculating the Mean and Standard Deviation

Sublot	<u>X</u>	$(\underline{X} - \overline{X})$	$(X - X)^2$
1	4.35	-0.978	0.956
2	3.96	-1.368	1.871
3	6.75	1.422	2.022
4	6.25	0.922	0.850
Sum =	21.31		5.699

$$N = 4$$

Mean
$$\overline{(X)}$$
 = 21.34 / 4 = 5.328

Variance
$$(S)^2 = Sum (X - X)^2 = 5.699 = 1.900$$

3

Standard Deviation S = $\sqrt{1.900}$ = 1.378

Test for Outliers

Check for Critical "T" Values

$$T = \left| \frac{X_1 - \overline{X}}{S} \right|^* = \left| \frac{3.96 - 5.328}{5} \right| = 0.99$$

^{*} Difference between the suspect test value (X_1) and the Mean (\overline{X}).

If the T value exceeds the critical "T" Value in the table below and no <u>assignable cause</u> can be determined for the outlier, discard the suspected test measurement and obtain another <u>random sample from the Sublot in question</u>. If the new test exceeds the Mean (X) in the same direction from the Mean as the suspected test, recalculate the T value including all tests (original test, suspected test, and new test) for an outlier and for computing final payment.

TABLE OF CRITICAL "T" VALUES

Number of observations	Critical "T" Value
<u>(N)</u>	5% Significance Level
3	1.15
4	1.46
5	1.67
6	1.82
7	1.94
8	2.03
9	2.11
10	2.18
11	2.23
12	2.29

Based on the above table, the "T" value of 0.99 does not exceed the Critical "T" Value of 1.46 for N = 4. Therefore, the value (3.96) is not an outlier and shall be used in calculating the Lot payment.

4. Calculation of Lot Payment

To calculate the Lot Payment use the Acceptance Criteria as outlined under Item 401-4.15(c) or Item 403-4.15(c).

$$Q_L = (X - 1) = 5.328 - 1 = 3.141$$

S 1.378

$$Q_{\underline{u}} = \underline{(7 - X)} = \underline{7 - 5.328} = 1.213$$

S 1.378

From this data the Percentage Within Tolerance (PWT) for both the lower and upper tolerance limits is determined by Table 6 (see Item 401 Bituminous Surface Course and/or Item 403 Bituminous Base Course in the Standard Specifications) for the number (N) of samples tested.

We now calculate the Percent Within Limits (PWL) for the Lot.

Using Table 5, the % Adjustment in Lot Quantity is:

% Adjustment = 0.5 PWL + 55.0 % Adjustment = 0.5 (89.4) + 55.0 % Adjustment = 99.7

Adjusted Quantities = % Adjustment x Lot Quantities Adjusted Quantities = 0.997 x 2000 tons Adjusted Quantities = 1994 tons

5. Resampling and Retesting

The contractor has the right to request the resampling and retesting of a complete Lot. This privilege is only allowed once for each Lot and must be requested in writing by the contractor within 48 hours of receiving the official report from the Engineer.

6. Reporting

After completion of the tests for each Lot, the Engineer shall complete the necessary calculations for final adjustment in quantities on the Form AER-1 and have both the Engineer and the Contractor sign the report for copying to both the FAA and IDOA.

Steven J. Long, P.E. Acting Chief Engineer

Supersedes Policy Memorandum 87-2, dated April 1, 2010

APPENDIX 3

Determination of Bulk Specific Gravity (d) of Compacted Bituminous Mixes -Policy Memorandum 87-4 3 Pages

November 19, 2021

State of Illinois Department of Transportation Division of Aeronautics

POLICY MEMORANDUM

December 3, 2020 Springfield Number: **87-4**

TO: CONSULTING ENGINEERS

SUBJECT: DETERMINATION OF BULK SPECIFIC GRAVITY (d)
OF COMPACTED BITUMINOUS MIXES

A. SCOPE. This method of test covers the determination of the bulk specific gravity and the percent air, of core samples from compacted bituminous mixtures using a <u>saturated surface-dry</u> procedure.

B. DEFINITIONS.

- 1. Bulk Specific Gravity (G_{mb}) ASTM 2726 or density is the weight per unit volume (gms/cc) of a mixture in its existing state of consolidation. The volume measurement for this specific gravity will include the volume of all the aggregate, asphalt, and air spaces (voids) in the aggregate particles and between the aggregate particles.
- Theoretical Maximum Specific Gravity (G_{mm}) ASTM 2041 is the weight per unit volume (grams/cc) of a mixture assuming complete consolidation; i.e., all the air spaces (voids) between the aggregate particles are eliminated.
- 3. Percent Density is a measure of the degree of compaction in relation to the Theoretical Maximum Specific Gravity.
- 4. Percent Air is a measure of the air voids in the compacted pavement.

C. APPARATUS.

- 1. Balance The balance shall be accurate to 0.1 gm throughout the operating range. It may be mechanical or electrical and shall be equipped with a suitable suspension apparatus and holder to permit weighing of the core in water while suspended from the balance. If the balance is a beam type, it shall be set up so that the core is placed in the basket that is suspended from the zero (0) end of the balance arm.
- Water bath The container for immersing the core in water while suspended from the balance shall be equipped with an overflow outlet for maintaining a constant water level. This water bath should be large enough to handle full-depth cores. When testing several cores at the same time, a dish-pan, sink or suitable container may be used for soaking.

D. PROCEDURE.

- 1. Prior to testing, cores shall be sorted on a flat surface in a cool place. The sample(s) shall be brushed with a wire brush and/or other suitable means, to remove all loose and/or foreign materials, such as seal coat, tack coat, foundation material, soil, paper and foil prior to testing.
- 2. If a core contains binder and surface or multiple lifts, the lifts shall be separated. This may be done in the following manner:
 - a. Mark the separation line between the two lifts.
 - b. Place the core in a freezer for 20-25 minutes.
 - c. Place a 2 or 3-inch wide chisel on the separation line and tap with a hammer. Rotate the core and continue this process until the core separates. Brush loose pieces with a wire brush if needed.
 - d. Allow 2-3 hours for the core to return to ambient temperature before proceeding.
- 3. Prepare the water baths for soaking and weighing with water at 77° F. Water baths should be maintained at this temperature throughout testing. Saturate the cores by submerging in the water for a minimum of 20 minutes.
- 4. With the balance and water bath properly assembled and zeroed, suspend the sample from the balance and submerge it in the water bath. The core must be placed with the original top and bottom in a <u>vertical</u> position. If necessary, add sufficient water to bring the water level up to the overflow outlet. Permit any excess to overflow. Read and record the Saturated Submerged Weight. Designate this weight as (C).
- 5. Remove the core from the water bath and blot the excess water from the surface of the core with an absorbent cloth or other suitable material. This must be done quickly to prevent the internal water from escaping.
- 6. Place the core on the balance and read and record the Saturated Surface-dry Weight in air. Designate this weight as (B).
- 7. Place the core in a tared pan and dry in an oven. When the core is dry (less than 0.5 gm loss in one hour), record the weight and subtract the pan weight. Designate this weight as (A).

8. The following calculation is used to determine the Bulk Specific Gravity of the core.

$$G_{mb} = \underline{A}$$
 $B - C$

G_{mb} = Bulk Specific Gravity

A = Oven dry weight

B = Saturated surface-dry weight

C = Saturated submerged weight

E. PERCENT DENSITY. The following calculation is used to determine the percent density of the core:

% Density = 100 x
$$\frac{G_{mb}}{G_{mm}}$$

G_{mb} = Bulk Specific Gravity

G_{mm} = Theoretical Maximum Gravity*

Note: The Theoretical Maximum Gravity (G_{mm}) is determined from the mix design until current Vacuum Pycnometer test are available.

F. PERCENT AIR. To calculate the percent air, use the following formula:

G. WEIGHT PER SQUARE YARD OF COMPACTED MIXTURE. The actual weight per square yard of a compacted mixture can be calculated by using the Bulk Specific Gravity (G_{mb}). The volume of a square yard of pavement <u>one (1) inch</u> thick is 0.75 cubic foot. Taking the weight of a cubic foot of water as 62.37 pounds, one square yard of compacted material, <u>one (1) inch</u> thick weighs:

Pounds / Sq. Yd. (1" thick) =
$$0.75 \times 62.37 \times G_{mb}$$

Alan D. Mlacnik, P.E. Bureau Chief of Airport Engineering

Supersedes Policy Memorandum 87-4, dated February 20, 2014

APPENDIX 4

Item 610, Structural Portland Cement Concrete: Job Mix Formula Approval & Production Testing -Policy Memorandum 96-1 2 Pages

■ CMT 20007502.00 November 19, 2021

State of Illinois Department of Transportation Division of Aeronautics

POLICY MEMORANDUM

December 3, 2020 Springfield Number 96-1

TO: CONSULTING ENGINEERS

SUBJECT: ITEM 610, STRUCTURAL PORTLAND CEMENT CONCRETE: JOB MIX FORMULA APPROVAL & PRODUCTION TESTING.

 This policy memorandum addresses the Job Mix Formula (JMF) approval process and production testing requirements when Item 610 is specified for an airport construction contract.

II. PROCESS

- a. The contractor may submit a mix design with recent substantiating test data, or he may submit a mix design generated by the Illinois Division of Highways with recent substantiating test data for approval consideration. The mix design should be submitted to the Resident Engineer.
- b. The Resident Engineer should verify that each component of the proposed mix meets the requirements set forth under Item 610 of the *Standard Specifications for Construction of Airports* and/or the contract special provisions.
- c. The mix design should also indicate the following information:
 - 1. The name, address, and producer/supplier number for the concrete.
 - 2. The source, producer/supplier number, gradation, quality, and SSD weight for the proposed coarse and fine aggregates.
 - 3. The source, producer/supplier number, type, and weight of the proposed fly ash and/or cement.
 - 4. The source, producer/supplier number, dosage rate or dosage of all admixtures.
- d. After completion of Items b and c above, the mix with substantiating test data shall be forwarded to the Division of Aeronautics for approval. Once the mix has been approved, the production testing shall be at the rate in Section III as specified herein.

III. PRODUCTION TESTING

- a. One set of cylinders shall be cast for acceptance testing for each day the mix is used. In addition, at least one slump and one air test shall be conducted for each day the mix is used. If more than 100 cubic yards of the mix is placed in a given day, additional tests at a frequently of 1 per 100 cubic yards shall be taken for strength, slump, and air. The concrete shall have a maximum slump of four inches (4") and minimum slump of two inches (2"). The air content of the concrete shall be between 5% and 8% by volume. At no time shall the temperature of the concrete exceed 90 degrees Fahrenheit.
- If the total proposed amount of Item 610 Structural Portland Cement Concrete as calculated by the Resident Engineer is less than 50 cubic yards for the entire project, the following shall apply:

The Resident Engineer shall provide calculations of the quantity of Item 610 to the Division of Aeronautics. One set of cylinders shall be cast for acceptance testing. One air content and one slump test shall be taken for acceptance testing. The concrete shall have a maximum slump of four inches (4") and minimum of two inches (2"). The air content of the concrete shall be between 5% and 8% by volume. At no time shall the temperature of the concrete exceed 90 degrees Fahrenheit.

c. The Resident Engineer shall collect actual batch weight tickets for every batch of Item 610 concrete used for the project. The actual batch weight tickets shall be kept with the project records and shall be available upon request of the Department of Transportation.

Alan D. Mlacnik, P.E. Bureau Chief of Airport Engineering

Supersedes Policy Memorandum 96-1 dated April 1, 2010

APPENDIX 5

Requirements for Quality Assurance On Projects With Bituminous Concrete Paving -Policy Memorandum 96-3 3 Pages

■ CMT 20007502.00 November 19, 2021

State of Illinois Department of Transportation Division of Aeronautics

POLICY MEMORANDUM

December 3, 2020 Springfield, Illinois Number 96-3

TO: CONSULTING ENGINEERS

SUBJECT: REQUIREMENTS FOR QUALITY ASSURANCE ON PROJECTS

WITH BITUMINOUS CONCRETE PAVING

SCOPE

The purpose of this policy memorandum is to define to the Consulting Engineer the requirements concerning Quality Assurance on bituminous concrete paving projects. Specifically, this memo applies whenever the Contractor is required to comply with the requirements set forth in Policy Memorandum 2003-1, "Requirements for Laboratory, Testing, Quality Control, and Paving of Bituminous Concrete Mixtures".

II. LABORATORY APPROVAL

The Resident Engineer shall review and approve the Contractor's plant laboratory to assure that it meets the requirements set forth in the contract specifications and Policy Memorandum 2003-1. This review and approval shall be completed prior to utilization of the plant for the production of any mix.

III. QUALITY ASSURANCE DURING PRODUCTION PAVING

A. The R.E. shall perform sample tests at a rate of 1/5000 tons randomly selected by the R.E. and shall be sent with an identification sheet (Form AER 24, Sample Identification) to an ASTM certified independent laboratory. designated by the Division of Aeronautics. If the project is < 5000 tons, 1 sample selected randomly shall be sent.

Sample preparation, sample size and number of samples shall be according to Policy Memorandum, "HMA Comparison Samples".

B. At the option of the Engineer, additional independent assurance tests may be performed on split samples taken by the Contractor for Quality Control testing. In addition, the Resident Engineer shall witness the sampling and splitting of these samples at the start of production and as needed throughout mix production. The Engineer may select any or all split samples for assurance testing. These tests may be performed at any time after sampling. The test results will be made available to the Contractor as soon as they become available.

- C. The Resident Engineer may witness the sampling and testing being performed by the Contractor. If the Resident Engineer determines that the sampling and Quality Control tests are not being performed according to the applicable test procedures, the Engineer may stop production until corrective action is taken. The Resident Engineer will promptly notify the Contractor, both verbally and in writing, of observed deficiencies. The Resident Engineer will document all witnessed samples and tests. The Resident Engineer may elect to obtain samples for testing, separate from the Contractor's Quality Control process, to verify specification compliance.
 - 1. Differences between the Contractor's and the Engineer's split sample test results will be considered acceptable if within the following limits:

Test Parameter	Acceptable Limits of Precision
% Passing 1/2 in. No. 4 No. 8 No. 30 No. 200	5.0 % 5.0 % 3.0 % 2.0 % 2.2 %
Asphalt Content	0.3 %
Maximum Specific Gravity (G _{mm}) of Mixture 0.026
Bulk Specific Gravity (G _{mb}) of G	yratory Brix 0.045

2. In the event a comparison of the required plant test results is outside the above acceptable limits of precision, split or independent samples fail the control limits, an extraction indicates non-specification mix, or a continual trend of difference between Contractor and Engineer test results is identified, the Engineer will immediately investigate. The Engineer may suspend production while the investigation is in progress. The investigation may include testing by the Engineer of any remaining split samples or a comparison of split sample test results on the mix currently being produced. The investigation may also include review and observation of the Contractor's technician performance, testing procedure, and equipment. If a problem is identified with the mix, the Contractor shall take immediate corrective action. After corrective action, both the Contractor and the Engineer shall immediately resample and retest.

C. The Contractor shall be responsible for documenting all observations, records of inspection, adjustments to the mixture, test results, retest results, and corrective actions in a bound hardback field book or bound diary which will become the property of IDA upon completion and acceptance of the project. The Contractor shall be responsible for the maintenance of all permanent records whether obtained by the Contractor, the Contractor's Consultants, or the producer of bituminous mix material. The Contractor shall provide the Engineer full access to all documentation throughout the progress of the work.

Results of adjustments to mixture production and tests shall be recorded in duplicate and sent to the Engineer.

IV. ACCEPTANCE BY ENGINEER

Density acceptance shall be performed according to the Standard Specifications for Construction of Airports, section 401-6.1 or according to the acceptance procedure outlined in the Special Provisions.

Alan D. Mlacnik, P.E. Bureau Chief of Airport Engineering

Supersedes Policy Memorandum 96-3, dated February 20, 2014

APPENDIX 6
Buy American Requirements
14 Pages

■ CMT 20007502.00 November 19, 2021

49 U.S.C.

United States Code, 2009 Edition
Title 49 - TRANSPORTATION
SUBTITLE VII - AVIATION PROGRAMS
PART E - MISCELLANEOUS
CHAPTER 501 - BUY-AMERICAN PREFERENCES
Sec. 50101 - Buying goods produced in the United States
From the U.S. Government Publishing Office, www.gpo.gov

§50101. Buying goods produced in the United States

- (a) Preference.—The Secretary of Transportation may obligate an amount that may be appropriated to carry out section 106(k), 44502(a)(2), or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title for a project only if steel and manufactured goods used in the project are produced in the United States.
 - (b) WAIVER.—The Secretary may waive subsection (a) of this section if the Secretary finds that—
 - (1) applying subsection (a) would be inconsistent with the public interest;
 - (2) the steel and goods produced in the United States are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality;
 - (3) when procuring a facility or equipment under section 44502(a)(2) or 44509, subchapter I of chapter 471 (except section 47127), or chapter 481 (except sections 48102(e), 48106, 48107, and 48110) of this title—
 - (A) the cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components of the facility or equipment; and
 - (B) final assembly of the facility or equipment has occurred in the United States; or
 - (4) including domestic material will increase the cost of the overall project by more than 25 percent.
- (c) LABOR COSTS.—In this section, labor costs involved in final assembly are not included in calculating the cost of components.
- (Pub. L. 103–272, §1(e), July 5, 1994, 108 Stat. 1298, §49101; renumbered §50101 and amended Pub. L. 104–287, §5(88)(D), (89), Oct. 11, 1996, 110 Stat. 3398.)

HISTORICAL AND REVISION NOTES Pub. L. 103–272

Revised Section	Source (U.S. Code)	Source (Statutes at Large)
49101(a)	49 App.:2226a(a).	Nov. 5, 1990, Pub. L. 101–508, §9129, 104 Stat. 1388–371.
49101(b)	49 App.:2226a(b).	
49101(c)	49 App.:2226a(c).	

In this chapter, the word "goods" is substituted for "product" and "products" for consistency. In subsection (a), the words "Notwithstanding any other provision of law" are omitted as surplus. The words "after November 5, 1990" are omitted as obsolete.

In subsection (b), before clause (1), the words "The Secretary may waive" are substituted for "shall not apply" for consistency. In clause (2), the words "steel and goods" are substituted for "materials and products" for consistency. In clause (4), the word "contract" is omitted as surplus.

Pub. L. 104-287, §5(89)

This makes a clarifying amendment to 49:50101(a) and (b)(3), 50102, 50104(b)(1), and 50105, as redesignated by clause (88)(D) of this section, because 49:47106(d) was struck by section 108(1) of the Federal Aviation Administration Authorization Act of 1994 (Public Law 103–305, 108 Stat. 1573).

AMENDMENTS

1996—Pub. L. 104–287, §5(88)(D), renumbered section 49101 of this title as this section. Subsecs. (a), (b)(3). Pub. L. 104–287, §5(89), substituted "section 47127" for "sections 47106(d) and 47127".

USE OF DOMESTIC PRODUCTS

- "(a) PROHIBITION AGAINST FRAUDULENT USE OF 'MADE IN AMERICA' LABELS.—(1) A person shall not intentionally affix a label bearing the inscription of 'Made in America', or any inscription with that meaning, to any product sold in or shipped to the United States, if that product is not a domestic product.
- "(2) A person who violates paragraph (1) shall not be eligible for any contract for a procurement carried out with amounts authorized under this title [enacting section 47509 of this title, amending sections 44505 and 48102 of this title, and enacting provisions set out as notes under this section and section 40101 of this title], including any subcontract under such a contract pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations, or any successor procedures thereto.
- "(b) COMPLIANCE WITH BUY AMERICAN ACT.—(1) Except as provided in paragraph (2), the head of each office within the Federal Aviation Administration that conducts procurements shall ensure that such procurements are conducted in compliance with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a through 10c [41 U.S.C. 10a—10b—1], popularly known as the 'Buy American Act').
 - "(2) This subsection shall apply only to procurements made for which—
 - "(A) amounts are authorized by this title to be made available; and
 - "(B) solicitations for bids are issued after the date of the enactment of this Act [Aug. 23, 1994].
- "(3) The Secretary, before January 1, 1995, shall report to the Congress on procurements covered under this subsection of products that are not domestic products.
 - "(c) DEFINITIONS.—For the purposes of this section, the term 'domestic product' means a product—
 - "(1) that is manufactured or produced in the United States; and
 - "(2) at least 50 percent of the cost of the articles, materials, or supplies of which are mined, produced, or manufactured in the United States."

Similar provisions were contained in the following prior authorization act: Pub. L. 102–581, title III, §305, Oct. 31, 1992, 106 Stat. 4896.

PURCHASE OF AMERICAN MADE EQUIPMENT AND PRODUCTS

Pub. L. 103-305, title III, §306, Aug. 23, 1994, 108 Stat. 1593, provided that:

- "(a) Sense of Congress.—It is the sense of Congress that any recipient of a grant under this title [enacting section 47509 of this title, amending sections 44505 and 48102 of this title, and enacting provisions set out as notes under this section and section 40101 of this title], or under any amendment made by this title, should purchase, when available and cost-effective, American made equipment and products when expending grant monies.
- "(b) NOTICE TO RECIPIENTS OF ASSISTANCE.—In allocating grants under this title, or under any amendment made by this title, the Secretary shall provide to each recipient a notice describing the statement made in subsection (a) by the Congress."

Should a Type III waiver be required to the Buy American Requirements, the Contractor shall submit the required waiver documentation after issuance of the project's conformed documents.

At a minimum the waiver request shall contain the following items:

- 1. Transmittal Letter requesting the waiver.
- 2. FAA Buy American Product Content Percentage Worksheet (Form 5100-136)
- 3. FAA Buy American Final Assembly Questionnaire (Form 5100-137)
- 4. FAA Buy American Construction Project Content Percentage Worksheet (Form 5100-143)

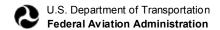
Please note additional information may be requested by the Sponsor or FAA beyond the noted items. Only the FAA may issue the waiver. FAA may take 30-60 days to complete a waiver review, which may include a 10 day open comments period.



FAA Form 5100-136, Buy American Product Content Percentage Worksheet

Paperwork Reduction Act Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0569. Public reporting for this collection of information is estimated to be approximately 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are required under 49 U.S.C. Section 47105 to retain a benefit and to meet the reporting requirements of 2 CFR 200. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.



OMB CONTROL NUMBER: 2120-0569 EXPIRATION DATE: 6/30/2023

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	Buy American Prod	duct Content Percentage Worksheet		
Company Name:		Date:		
Address:		Point of Contact:		
Telephone:	Fax: Email:			
Product Structure: Multi-	Level Bill of Materials (through	level 2 only)		
FAA Eligible Item: FAA Item Number (if applicable):				
Total Material Cost:	US Content (%) (attack	US Content (%) (attach Certificate of Origin, US Customs Form 434, if applicable):		
Address of Final Assembly	Location:			
		d accurate to the best of their knowledge. A false certification repourden of proof to establish compliance.	resents a violation of 18	
Signature:		-		
Name:				
Instruction: Items listed in exempt in 25.104.	Federal Acquisition Regulation	on Part 25.104 may be counted as US Origin but should include a	a note stating the item is	
Level codes: Level 0 is th	e final product: Level 1 is a co	mponent: Level 2 is a sub-component.		

Level (0, 1, 2)	Part Number	Item Description	Quantity Per Unit	Unit of Measure	Price/Unit of Measure	US Origin Price/Unit of Measure	US Origin Cost/Each	Other Price/Unit of Measure	Other Cost/Each

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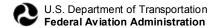
Part Number	Item Description	Quantity Per Unit	Unit of Measure	Price/Unit of Measure	US Origin Price/Unit of Measure	US Origin Cost/Each	Other Price/Unit of Measure	Other Cost/Each
	Part Number	Part Number Item Description	Part Number Item Description Quantity Per Unit	Part Number Item Description Quantity Per Unit Measure	Part Number Item Description Quantity Per Unit of Measure of Measure	Part Number Item Description Quantity Per Unit of Measure of Measu	Part Number Item Description Quantity Per Unit Unit of Measure Price/Unit of Measure of Measure US Origin Price/Unit of Measure US Origin Price/Unit of Measure Image: Control of Measure of Measure Image: Control of Measure of Measure Image: Control of Measure of Measure Image: Control of Measure of Measure Image: Control of Measure of Measure of Measure Image: Control of Measure of Measure of Measure of Measure Image: Control of Measure of Meas	Part Number Item Description Quantity Per Unit of Per Unit of Measure of Meas



FAA Form 5100-137, Buy American Preferences – Final Assembly Questionnaire

Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0569. Public reporting for this collection of information is estimated to be approximately 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are required under 49 U.S.C. Section 47105 to retain a benefit and to meet the reporting requirements of 2 CFR 200. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.



Company Name:

OMB CONTROL NUMBER: 2120-0569 EXPIRATION DATE: 6/30/2023

Date:

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Buy American Preferences – Final Assembly Questionnaire

To assist the Federal Aviation Administration (FAA) in making the determination of whether final assembly of the product occurs in the United States, please complete and submit this questionnaire when requesting a Buy American Waiver under 49 USC § 50101(b)(3)(A).

FAA Eligible Item:			FAA Item Number (if applicable):
Add	dres	s of Final Asseml	oly Location:
1.		ovide a description ates.	of the assembly process occurring at the specified final location in the United
	a.	Describe the fina	al assembly process and its various operations.
	b.	How long does t	he final assembly process take to complete?
2.		ovide a description ation in the United	of the resources used to conduct the assembly of the product at the specified States.
	a.	How many empl level of those en	oyees are involved in the final assembly process and what is the general skill aployees?
	b.	What type of equ	uipment is used during the final assembly process?
	C.		estimate of the associated cost to conduct final assembly of the product at the in the United States?
cer	tifica		s that this information is true and accurate to the best of their knowledge. A false violation of 18 U.S.C § 1001 and 49 U.S.C § 47126. Signatory has the burden of ance.
Sig	natu	ıre:	
Na	me:		



FAA Form 5100-143, FAA Buy American Preference Construction Project Content Percentage Worksheet

Paperwork Reduction Act Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0569. Public reporting for this collection of information is estimated to be approximately 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are required under 49 U.S.C. Section 47105 to retain a benefit and to meet the reporting requirements of 2 CFR 200. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

General Instructions

Related Statutes, Guidance, & Policies:

United States Code (U.S.C) Title 49 § 50101- requires that all steel and manufactured goods used in AIP funded projects are produced in the United States.

USC § 50101(b) and 49 CFR § 1.83(a)(11) – gives the FAA the authority to waive these Buy American Preferences if certain market or product conditions exist. These are:

- Applying the Buy American Preferences would be inconsistent with the public interest, (a.k.a Type I waiver);
- The steel or goods produced in the U.S. are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality, (a.k.a. Type II waiver);
- When the cost of components and subcomponents produced in the U.S. is more than 60 percent
 of the cost of all components of the facility or equipment procured and final assembly occurs in
 the United States, (a.k.a. Type III waiver); or
- Including domestic material will increase the cost of the overall project by more than 25 percent (a.k.a. Type IV waiver).

Executive Order 13858 – Strengthening Buy-American Preferences for Infrastructure Projects.

FAA Order 5100.38D - the Airport Improvement Program (AIP) Handbook provides information on eligible AIP projects, Buy American responsibilities, procurement procedures, etc.

FAA Reauthorization Act of 2018 – provision requiring that all waivers shall be made publically available on the FAA website, including a justification of the waiver determination and provide informal public notice and comment opportunity.

Confidentiality - Manufacturer information submitted to the Federal Aviation Administration for the purposes of receiving a Buy American Waiver is not subject to the Freedom of Information Act (FOIA) under exemption # 4 of FOIA.

General Definitions

- **Produced in the United States** for iron and steel product that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
- Manufactured Products items and construction materials composed in whole or in part of nonferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregate such as concrete; glass, including optical fiber; and lumber.
- **Nationwide Waiver-** Waivers issued to manufacturer(s) for AIP eligible steel or manufactured goods products used in airport development projects that may be used at any project site.
- Project Specific Waiver- Waivers issued to manufacturer(s) for AIP eligible steel or manufactured goods used to support the overall development objective for a specific project specific airport development projects that.

Currency - All forms should reflect U.S. currency and symbol (\$) only.

Items listed in Federal Acquisition Regulation Part 25.104 may be counted at U.S. Origin, however should include a not stating that the item is exempt in 25.104. Additionally, items exempted from Buy American requirements may be listed in the material list however; the costs should be listed as "n/a."

FAA Advisory Circulars (AC) – Find ACs at https://www.faa.gov/regulations_poicies/advisory_circulars/

Requests for waivers to the FAA Buy American Preference require a completed Product Content Percentage Worksheet and Final Assembly Questionnaire.

Additional Definitions

- **Level 1 Material**: The list of component materials required to construct/ manufacture the final Airport Improvement Program eligible product.
- **Level 2 Material**: The list of subcomponent materials required to construct/manufacture the level one component required in the final Airport Improvement Program eligible product.

FAA Form 5100-143 Page ii of iv

Form Instructions

Use this form only for FAA Buy American Type III Construction Project Waiver requests.

See the sample form on the following page for examples of entries. Form field instructions:

- **Airport Sponsor**. Enter the name of the airport sponsor.
- Date. Enter the date of submission to FAA.
- **Airport Worksite**. Enter the airport worksite name.
- Total Material Cost. This auto-populates based on total entered below. Do not edit.
- U.S. Content. This auto-populates based on total entered below. Do not edit.
- Non-U.S. Content. This auto-populates based on total entered below. Do not edit.
- Worksite LOCID. Enter the worksite's FAA Location Identification (LOCID).
- Project Description. Enter a brief final project description (e.g., Runway 18/36 Rehabilitation).
- Project Material Structure List (Bill of Materials). Enter data in the Bill of Materials table

Note: This form does not include formulas or auto-calculations. Applicants are responsible for the accuracy of the information submitted.

- Material Level items:
 - Enter component materials of the project (Material Level 1) by group.
 - Enter subcomponent materials of the project (Material Level 2) by group.
- **Total Material Cost**. *Calculate* and enter the amount. This value then auto-fills the information on form page 1.
- **Total cost of U.S. origin materials**. *Calculate* and enter the amount. This value then auto-fills the information on form page 1.
- **Total cost of non-U.S. materials.** *Calculate* and enter the amount. This value then auto-fills the information on form page 1.
- **U.S. content percentage**. *Calculate* (Total cost of U.S. origin materials/Total Material Cost) and enter the amount. This value then auto-fills the information on form page 1.
- Non-U.S. content percentage. Calculate (Total cost of non-U.S. origin materials/Total Material Cost) and enter the amount. This value then auto-fills the information on form page 1.

When complete, submit this form to the FAA for review and processing.

FAA Form 5100-143 Page iii of iv

OMB CONTROL NUMBER: 2120-0569

EXPIRATION DATE: 6/30/2023

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SAMPLE - FAA Buy American Preference Construction Project Content Percentage Worksheet

Airport Sponsor: Sample Airport Authority

Airport Worksite: Sample Municipal Airport

Worksite LOCID: SMP

Project Description: Reconstruct Runway 18/36

Total material cost: \$ 1,523,900.00

Date: 09/16/2020

U.S. Content: 5.00 %

Non-U.S. Content: 95.00 %

Project Material Structure List (Bill of Materials) - SAMPLE

Line	Material Level (1 or 2)	M aterials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
1	1	Pavement items	\$1,000,000.00	\$0.00
2	1	Pavement Item Component	\$50,000.00	\$50,000.00
3	2	Pavement Item Subcomponent	\$250,000.00	\$8,000.00
4	1	Painting and Marking Component	\$1,900.00	\$0.00
5	1	Painting and Marking Component	\$120,000.00	\$0.00
6	1	Electrical and Lighting	\$0.00	\$0.00
7	2	Electrical and Lighting Subcomponent	\$0.00	\$20,000.00
8	2	Electrical and Lighting Subcomponent	\$24,000.00	\$0.00
		SUBTOTAL	\$1,445,900.00	\$78,000.00

TOTAL MATERIAL COST: \$1,523,900.00

U.S. Content: 5.00 %

Non-U.S. Content: 95.00 %

FAA Form 5100-143 (8/20) Page iv of iv

For FAA Use Only

OMB CONTROL NUMBER: 2120-0569 EXPIRATION DATE: 6/30/2023

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FAA Buy American Preference Construction Project Content Percentage Worksheet

Airport Sponsor:	Date:		
Airport Worksite:		Total material cost:	
Worksite LOCID:		U.S. Content:	%

Project Description:

Non-U.S. Content: %

Project Material Structure List (Bill of Materials)

Line	Material Level (1 or 2)	Materials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

For FAA Use Only

FAA Form 5100-143 (8/20) Page 1 of 2

Line	Material Level (1 or 2)	M aterials	Cost of U.S. Origin Materials	Cost of Non-U.S. Materials
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
		SUBTOTAL		

For FAA Use Only

TOTAL MATERIAL COST:

U.S. Content: %

Non-U.S. Content: %

The undersigned certifies that this information is true and accurate to the best of their knowledge. A false certification represents a violation of 18 U.S.C § 1001 and 49 U.S.C § 47126. Signatory has the burden of proof to establish compliance.

Signature:		 	
Name:			
Title:			

APPENDIX 7

Hazardous Materials Reports and Technical Specifications 152 Pages

■ CMT 20007502.00 November 19, 2021

Midwest Environmental Consulting Services, Inc.

Consultants < Engineers < Scientists

NESHAP ASBESTOS SURVEY

Performed For:

CRAWFORD, MURPHY & TILLY

2750 W. Washington Street Springfield, IL 62702-3497

Project Location:



AIRFIELD ELECTRICAL VAULT BUILDING

813 E. 4000 South Road Kankakee, IL 60901

Inspection Date: August 23, 2021

MEC Project #: 21-08-505-INSP

Yorkville Location

2551 N. Bridge St. Yorkville, IL 60560

P: (630) 553-3989 F: (630) 553-3990

Peoria Location

3100 N. Knoxville Ave. Suite 204

Peoria, IL 61603 P: (309) 621-4680 F: (309) 621-4690

CRAWFORD, MURPHY & TILLY AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901

Table of Contents MEC Project #: 21-08-505-INSP

Narrative	Section 1
Asbestos Bulk Sample Summary Table	Section 2
Drawings of Homogeneous Areas	Section 3
Photographs of Homogeneous Areas	Section 4
Final Analytical Report	Section 5
Licensing / Certifications	Section 6

Section 1:

Introduction:

Midwest Environmental Consulting Services, Inc. (MEC) was retained by Crawford, Murphy & Tilly to conduct a comprehensive National Emission Standards for Hazardous Air Pollutants (NESHAP) survey for suspect asbestos-containing materials (ACM) at the Greater Kankakee Airport - Airfield Electrical Vault Building located at 813 E. 4000 South Road, Kankakee, Illinois, 60901. The asbestos inspection was performed on August 23, 2021. This comprehensive NESHAP inspection was intended to address the potential existence of ACM on the interior and exterior prior to future planned demolition of the

Section 2:

Protocol:

The bulk sampling strategy is based upon the protocol of homogeneous areas established by the United States Environmental Protection Agency (USEPA). A homogeneous sampling area (HSA) is defined as an area of material that is uniform in color, texture, construction, general appearance, and date of installation.

Bulk samples of suspect ACM were analyzed by Polarized Light Microscopy (PLM) utilizing the EPA-600/M4-82-020 Method. Bulk samples were analyzed using Asbestos Hazard Emergency Response Act (AHERA) "positive stop" protocol, meaning each sample of each HSA group is analyzed until asbestos is found in the HSA or all samples in the group are analyzed and are negative for asbestos content.

Section 3:

Building Description:

The structure is a one-story brick structure. The building was constructed on a concrete slab and has no basement. The building contains approximately 3,320 square feet of usable space. The flooring consists of concrete and is covered by tile in the bathroom. Interior walls are brick and drywall. The exterior walls are constructed with brick. The oof consists of pitched asphalt-based shingles and flat rolled asphalt.

Section 4:

Scope of Work:

The inspection was to address the following objectives:

- * Observe, assess, and collect bulk samples of friable and non-friable asbestos containing building materials within the specific scope of work.
- * The inspection was intended to identify all homogeneous areas, and did not attempt to identify or address any other environmental health hazards.
- * The scope of work did not include identifying all potential concerns or eliminate possible risks.

A total of seven (7) homogeneous areas were identified within the scope of work. Of the seven (7) homogeneous areas, six (6) homogeneous areas tested positive for asbestos content. Zero (0) homogeneous areas were assumed to contain asbestos.

Inspection Performed For: CRAWFORD, MURPHY & TILLY 2750 W. Washington Street Springfield, IL 62702-3497 MEC Project #: 21-08-505-INSP

Asbestos-Containing Materials:

- MMA Interior Window Glazing
- MMB Exterior Window Glazing
- MMC Exterior Door Caulking
- MMD Exterior Caulking
- MME Interior Caulking
- MMF Exterior Window Caulking

Assumed Asbestos-Containing Materials:

None

Section 5:

Executive Summary:

Standard practice requires that the owner provide Certified-As-Built drawings for review by the inspector. At the time of the inspection, these drawings were not available. Therefore, the accuracy of the inspection can only be based on the materials that were accessible or known about prior to the inspection. If a suspect material is identified during demolition, all work shall stop immediately until the materials can be sampled for asbestos content.

During renovation or demolition, it is recommended that a project design, project oversight, and air monitoring be in place prior to any asbestos abatement work being conducted. An Illinois Department of Public Health licensed asbestos abatement contractor must be in place prior to any asbestos abatement activities.

Prior to any planned renovation or demolition taking place, Midwest Environmental Consulting Services, Inc., strongly recommends that either the client contact Midwest Environmental Consulting Services, Inc., or the Illinois Department of Public Health or the Illinois Environmental Protection Agency in regards to applicable rules and regulations.

This survey report is for the exclusive use of Crawford, Murphy & Tilly and its respective affiliates, designees, successors, and assignees, and no other party shall have any right to rely on service provided by Midwest Environmental Consulting Services, Inc., without prior written consent. This asbestos survey is not intended to be a scope of work or project design. Estimated quantities of materials are for information only and should not be utilized for abatement bidding purposes.

Although Midwest Environmental Consulting Services, Inc., has attempted to identify all suspect asbestos materials located on the inside of the building; some materials may have been inaccessible. Midwest Environmental Consulting Services, Inc. makes no warranty, expressed or implied.

Sincerely,

Stephen Merwin

Stysh Mervi

IDPH-Licensed Asbestos Building Inspector 100-02871

Inspection Performed For: CRAWFORD, MURPHY & TILLY 2750 W. Washington Street Springfield, IL 62702-3497 MEC Project #: 21-08-505-INSP



Asbestos Bulk Sample Field Summary Table

Project Location: AIRFIELD ELECTRICAL VAULT Client: CRAWFORD, MURPHY & TILLY

BUILDING

Address: 2750 W. Washington Street

Springfield, IL 62702-3497

Address: 813 E. 4000 South Road

Kankakee, IL 60901

MEC Project #: 21-08-505-INSP Insp. Date: August 23, 2021

Inspector: Stephen Merwin

IDPH #: 100-02871

НЅА	MATERIAL DESCRIPTION	MATERIAL LOCATION	ACM CATEGORY	TYPE OF ANALYSIS OR ASSUMED	MATERIAL CONDITION	MATERIAL TYPE	APPROX. QUANTITY	ACM YES/NO	COMMENTS
MMA	Interior Window Glazing	Windows - Interior	Friable	PLM	G	М	3 Windows	Yes	N/A
ММВ	Exterior Window Glazing	Windows - Exterior	Friable	PLM	G	М	3 Windows	Yes	Same Windows as MMA
ММС	Exterior Door Caulking	Doors - Exterior	Friable	PLM	G	М	20 S.F.	Yes	N/A
MMD	Exterior Caulking	Exterior - Around Building	Friable	PLM	G	S	70 S.F.	Yes	N/A
MRA	Roofing Insulation	Roof	N/A	PLM	G	М	250 S.F.	No	N/A
ММЕ	Interior Caulking	Interior Wall - At Ceiling	Friable	PLM	SD	М	90 S.F.	Yes	N/A
MMF	Exterior Window Caulking	Exterior - Windows	Friable	PLM	G	М	25 S.F.	Yes	N/A

ACM Category Classification:

Friable Asbestos-Containing Material = A friable ACM is a material containing more than 1% asbestos that can easily be crumbled, pulverized, or reduced to powder by hand pressure when it is dry. Category I Non-Friable Asbestos-Containing Material = Any asbestos-containing packet, gasket, resilient floor covering, mastic, or asphalt roofing product that contains more than 1% asbestos. Category II Non-Friable Asbestos-Containing Material = Any material excluding Category I Non-Friable material containing more than 1% asbestos that when dry cannot be crumbled, pulverized, or reduced to powder by hand pressure or mechanical forces expected to act on the material.

Analysis Type: PLM = Polarized Light Microscopy

TEM = Transmission Electron Microscopy

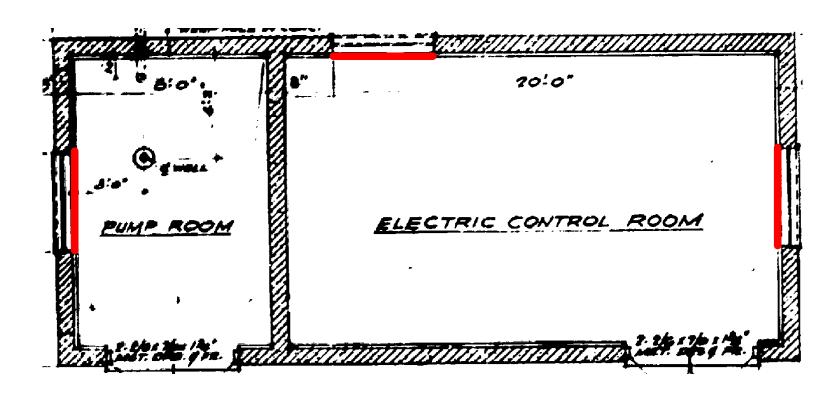
Assumed = Material was not tested and is assumed to contain ACM.

Condition: G = Good Material Type: M = Miscellaneous

SD = Significantly Damaged D = Damaged S = Surfacing

T = Thermal

MMA Interior Window Glazing 3 Windows Yes N/A

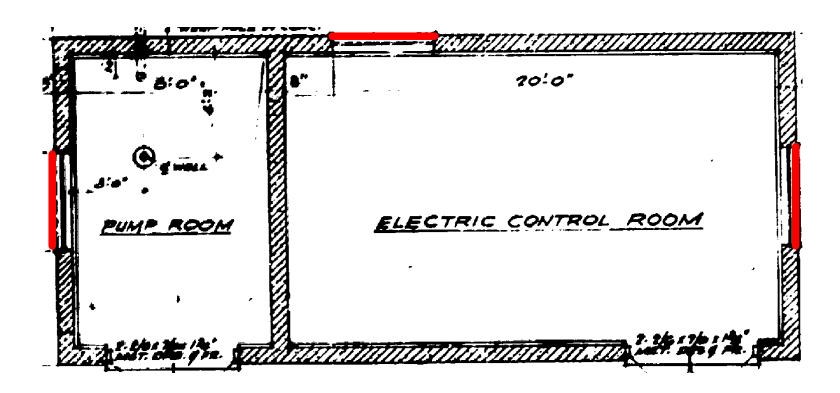




Cor	sultant:	Client:	Project Location:		REVISIONS			INSPECTION SURVEY	
	22	Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No.	21-08-505-INSP	
	Vlidwest Environmental	275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date:	8/23/2021	
	Consulting Services, Inc.		Kankakee, IL 60901				Inspector:	Stephen Merwin	
	Consultunts Englasers Salentists						Scale: NTS	Drawn By: JWR	

MMB Exterior Window Glazing 3 Windows Yes

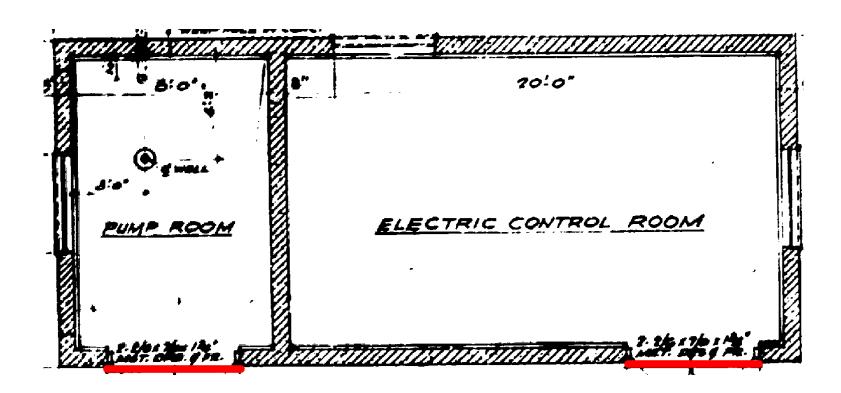
Same Windows as MMA





Consultant:		Client:	Project Location:		REVISIONS			INSPECTION SURVEY	
		Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No.	21-08-505-INSP	
Midwest Environmental	I	275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date: 8/23/2021		
Consulting Star	ulting Starvices, Inc.	opge., e e e.e.	Kankakee, IL 60901				Inspector:	Stephen Merwin	
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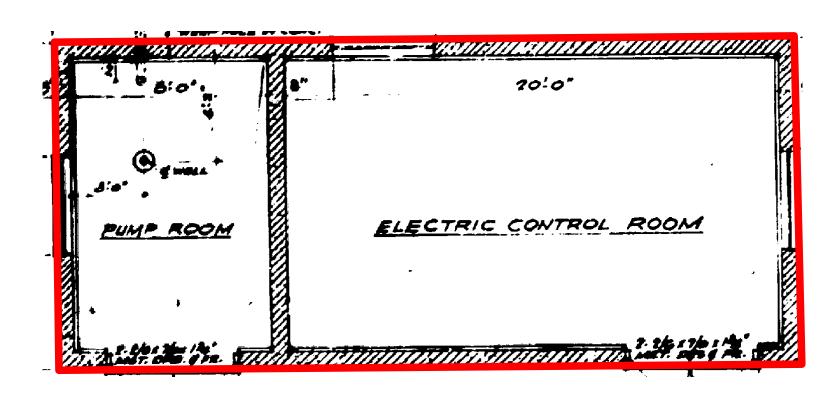
MMC Exterior Door Caulking 20 S.F. Yes N/A





Cor	sultant:	Client:	Project Location:		REVISIONS		INSPECTION SURVEY	
	22	Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No. 21-08-505-INSP	
		275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date: 8/23/2021	
	ومعملانية والمعارضة المعارضة		Kankakee, IL 60901				Inspector: Stephen Merwin	
	Consulturita Englineers Scientists						Scale: NTS Drawn By: JWR	

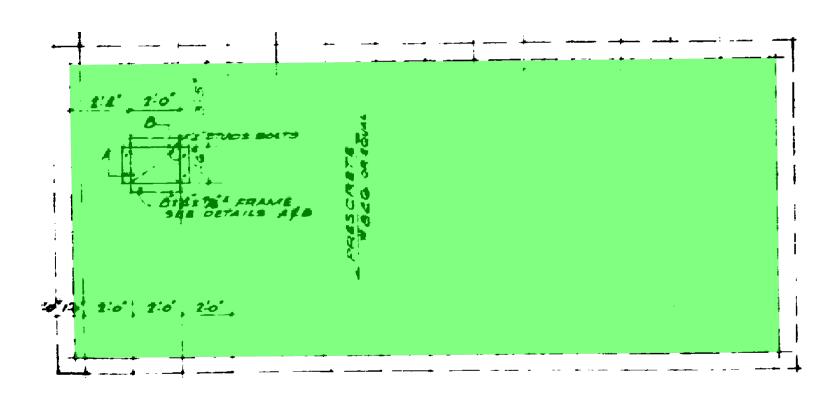
MMD Exterior Caulking 70 S.F. Yes N/A





Consultant:		Client:	Project Location:		REVISIONS			INSPECTION SURVEY	
		Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No.	21-08-505-INSP	
Midwest Environmental	I	275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date: 8/23/2021		
Consulting Star	ulting Starvices, Inc.	opge., e e e.e.	Kankakee, IL 60901				Inspector:	Stephen Merwin	
couanignuga gualua	efstinebe sven						Scale: N	S Drawn By: JWR	

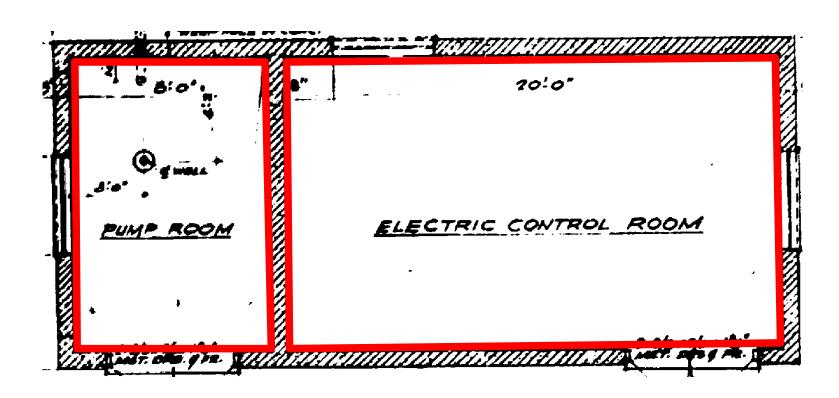
MRA Roof Insulation 250 S.F. No N/A





Coi	sultant:	Client:	Project Location:		REVISIONS			INSPECTION SURVEY	
DI		Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.		REV. BY:	Project No.	21-08-505-INSP	
		275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date:	8/23/2021	
	لعمل رحوفاته والتاليطان	, , , , , , , , , , , , , , , , , , , ,	Kankakee, IL 60901					Stephen Merwin	
	Consulturita Englineers Scientists						Scale: NTS	Drawn By: JWR	

MME Interior Caulking 90 S.F. Yes N/A

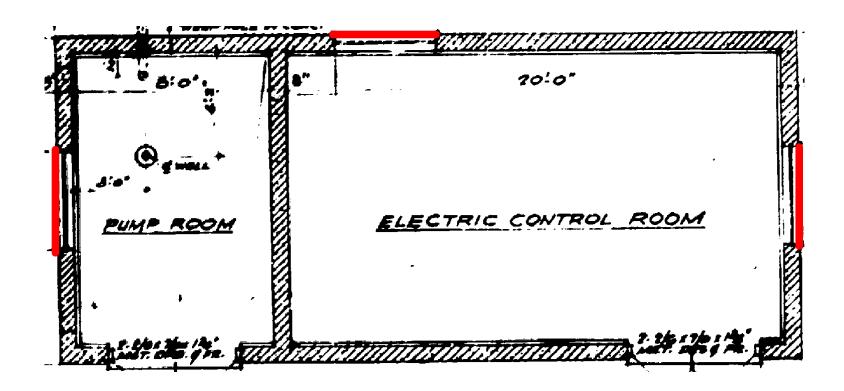




Cor	sultant:	Client:	Project Location:		REVISIONS		INSPECTION SURVEY	
	22	Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No. 21-08-505-INSP	
		275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date: 8/23/2021	
	ومعملانية والمعارضة المعارضة		Kankakee, IL 60901				Inspector: Stephen Merwin	
	Consulturita Englineers Scientists						Scale: NTS Drawn By: JWR	

MMF
Exterior Window Caulking
25 S.F.
Yes

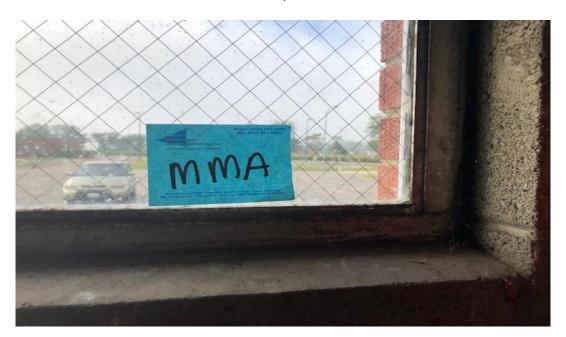
N/A





Coi	sultant:	Client:	Project Location:		REVISIONS			INSPECTION SURVEY	
DI		Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.		REV. BY:	Project No.	21-08-505-INSP	
		275- W. Jefferson Street Springfield, IL 62702 - 3497	Electronic Vault Building 813 E. 4000 South Road				Drawing Date:	8/23/2021	
	لعمل رحوفاته والتاليطان	, , , , , , , , , , , , , , , , , , , ,	Kankakee, IL 60901					Stephen Merwin	
	Consulturita Englineers Scientists						Scale: NTS	Drawn By: JWR	

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



Homogeneous Area:	мма
Material Description:	Interior Window Glazing
Material Location:	Windows - Interior
ACM Y/N:	Yes

Comments: N/A



Homogeneous Area:	ММВ
Material Description:	Exterior Window Glazing
Material Location:	Windows - Exterior
ACM Y/N:	Yes

Comments: Same Windows as MMA

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



Homogeneous Area:	MMC
Material Description:	Exterior Door Caulking
Material Location:	Doors - Exterior
ACM Y/N:	Yes

Comments: N/A



Homogeneous Area:	MMD
Material Description:	Exterior Caulking
Material Location:	Exterior - Around Building
ACM Y/N:	Yes

Comments: N/A

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



Homogeneous Area:	MRA
Material Description:	Roofing Insulation
Material Location:	Roof
ACM Y/N:	No

Comments: N/A



Homogeneous Area:	MME
Material Description:	Interior Caulking
Material Location:	Interior Wall - At Ceiling
ACM Y/N:	Yes

Comments: N/A

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



Homogeneous Area:	MMF
Material Description:	Exterior Window Caulking
Material Location:	Exterior - Windows
ACM Y/N:	Yes

Comments: N/A



EMSL Order: 262105828 **Customer ID:** MECO77

Customer PO: Project ID:

Attention: Stephen Merwin Phone: (630) 514-3758

Midwest Environmental Consulting Svs. Fax: (630) 553-3990

2551 North Bridge Street Received Date: 08/24/2021 2:24 PM

Yorkville, IL 60560 Analysis Date: 08/31/2021 Collected Date: 08/23/2021

Project: 21-08-505-INSP Kankakee Regional Airport-Airfield Electrical Vault Building

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbes		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
MMA-1	Interior Window Glazing	White Non-Fibrous		97% Non-fibrous (Other)	3% Chrysotile
262105828-0001		Homogeneous			
MMA-2	Interior Window Glazing				Positive Stop (Not Analyzed)
262105828-0002					
MMA-3	Interior Wiindow Glazing				Positive Stop (Not Analyzed)
262105828-0003					
MMB-1	Exterior Window Glazing	Gray/White Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
262105828-0004		Homogeneous			
MMB-2	Exterior Window Glazing				Positive Stop (Not Analyzed)
262105828-0005					
MMB-3	Exterior Window Glazing				Positive Stop (Not Analyzed)
262105828-0006					
MMC-1	Exterior Door Caulking	Tan Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
262105828-0007		Homogeneous			
All MMC samples have	are labeled MMC-3. Randomly as	ssigned these samples.			
MMC-2	Exterior Door Caulking				Positive Stop (Not Analyzed)
262105828-0008					
MMC-3	Exterior Door Caulking				Positive Stop (Not Analyzed)
262105828-0009					
MMD-1	Exterior Caulking	Beige Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
262105828-0010		Homogeneous			
MMD-2	Exterior Caulking				Positive Stop (Not Analyzed)
262105828-0011					
MMD-3	Exterior Caulking				Positive Stop (Not Analyzed)
262105828-0012					
MRA-1	Roofing Insulation	Tan Fibrous	98% Cellulose	2% Non-fibrous (Other)	None Detected
262105828-0013		Homogeneous			
MRA-2	Roofing Insulation	Tan Fibrous	98% Cellulose	2% Non-fibrous (Other)	None Detected
262105828-0014		Homogeneous			
MRA-3	Roofing Insulation	Tan Fibrous	95% Cellulose	5% Non-fibrous (Other)	None Detected
262105828-0015		Homogeneous			
MME-1	Interior Caulking	Tan Non-Fibrous		98% Non-fibrous (Other)	2% Chrysotile
262105828-0016		Homogeneous			

Initial report from: 08/31/2021 15:34:48



EMSL Order: 262105828 **Customer ID:** MECO77

Customer PO: Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-A	<u>sbestos</u>	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
MME-2	Interior Caulking				Positive Stop (Not Analyzed)
262105828-0017					
MME-3	Interior Caulking				Positive Stop (Not Analyzed)
262105828-0018					
MMF-1	Exterior Window	White		98% Non-fibrous (Other)	2% Chrysotile
262105828-0019	Caulking	Non-Fibrous Homogeneous			
MMF-2	Exterior Window				Positive Stop (Not Analyzed)
262105828-0020	Caulking				
MMF-3	Exterior Window				Positive Stop (Not Analyzed)
262105828-0021	Caulking				

Analyst(s)
Lauren Swain (1)

Natalie Blanchard (8)

James Hahn, Laboratory Manager or Other Approved Signatory

fam P. Hlr

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Hillside, IL NVLAP Lab Code 200399-0

Initial report from: 08/31/2021 15:34:48

OrderID: 262105828 EMSL

Asbestos Chain of Custody (Air, Bulk, Soil)

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc. 4140 Litt Dr. Hillside, IL 60162

PHONE: 773-313-0099 EMAIL: dwagolab@emil.com

EMSL ANALYTICAL, IN	C.	OND	<u>10</u>		<u>7 0 0</u>	EM	AIL: dylesgolab@emsl.com	
Customer ID:				If Bill-To is the Billing ID:	same as Report-To l	eave this section blank. Th	ird-party billing requires write	n authorization.
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NIOSH 7400 w/ 8hr	. TWA		H 7402			Wipe - ASTM		
_	Bulk (reporting limit)		Level II			Qualitative via		1
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PLM EPA NO8 (<1	%)		TEM -	Bulk		•		1
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NY\$ 198.8 (Vermic	ulite SM-V)							
			Please call with yo	ur project-spec	fic requirements.			
Positíve Stop - Cla	early Identified Homogen	ieous Areas (HA)		Filter Pore	Size (Air Sample:	s) 🔲 0.8um	0.45um	
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Page 1 of

1



ASBESTOS PROFESSIONAL LICENSE

ID NUMBER 100 - 02871

ISSUED 2/24/2021

EXPIRES 05/15/2022

STEPHEN D MERWIN 25 W 101 MARBLEHEAD COUR NAPERVILLE, IL 60540

Environmental Health



TC EXPIRES

INSPECTOR

7/31/2021

MANAGEMENT PLANNER

1/6/2022

PROJECT MANAGER

8/1/2021

AIR SAMPLING PROFESSIONAL

Alteration of this license shall result in legal action This license issued under authority of the State of Illinois
Department of Public Health

This license is valid only when accompanied by a valid training course certificate.



OCCUPATIONAL TRAINING & SUPPLY, INC

Asbestos Building Inspector Refresher

Occupational Training & Supply, Inc. certifies that

Stephen Merwin

70%. The course is accredited by the Illinois Department of Public Health and Indiana Department of Environmental Management for purposes of accreditation in accordance with EPA 40 CFR 763, Asbestos Hazard Emergency response Act (AHERA) and TSCA Title II. has successfully completed the Asbestos Building Inspector Refresher course and has passed the competency exam with a minimum score of

Course Date: 7/9/2021

Exam Date: 7/9/2021

Expiration Date: 7/9/2022

Certificate Number: BIR2107091600

lith De Salvo

Kathy DeSalvo, Director



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMSL Analytical Inc.

4140 Litt Drive Hillside, IL 60162 Mr. James Hahn

Phone: 773-313-0099 Fax: 773-313-0139

Email: jhahn@emsl.com http://www.emsl.com

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 200399-0

Bulk Asbestos Analysis

Code

Description

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of

Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>

Description

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in

40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

United States Department of Commerce National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200399-0

EMSL Analytical Inc.

Hillside, IL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2021-04-01 through 2022-03-31

Effective Dates



For the National Voluntary Laboratory Accreditation Program

Midwest Environmental Consulting Services, Inc.

Consultants - Engineers - Scientists

LEAD-BASED PAINT INSPECTION

Performed For:

CRAWFORD, MURPHY & TILLY

2750 W. Washington Street Springfield, IL 62702-3497

Project Location:



AIRFIELD ELECTRICAL VAULT BUILDING

813 E. 4000 South Road Kankakee, IL 60901

August 23, 2021

MEC Project #: 21-08-505-LEAD

Yorkville Location

2551 N. Bridge St. Yorkville, IL 60560

P: (630) 553-3989 F: (630) 553-3990

Peoria Location

3100 N. Knoxville Ave. Suite 204

Peoria, IL 61603 P: (309) 621-4680 F: (309) 621-4690

CRAWFORD, MURPHY & TILLY AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901

Table of Contents MEC Project #: 21-08-505-LEAD

Lead-Based Paint Inspection Summary	Section 1
XRF Testing Results	Section 2
Unit Floor Plan	Section 3
Photograph of Lead-Based Paint	Section 4
XRF Performance Characteristic Sheets & Licensing Information	Section 5
Lead Inspector Licenses / Certifications	Section 6

LEAD-BASED PAINT INSPECTION SUMMARY AIRFIELD ELECTRICAL VAULT BUILDING, 813 E. 4000 South Road, Kankakee, IL 60901

This lead-based paint inspection is an investigation to identify lead based-paint hazards and potential lead-based paint hazards on a surface-by-surface basis. A non-HUD lead-based paint inspection was performed on August 23, 2021, at the Greater Kankakee Airport - Airfield Electrical Vault Building with the common address 813 E. 400 South Road, Kankakee, Illinois, 60901.

In each room, the wall closest to the street address side of that particular building was always labeled side A. Then, in clockwise fashion the remaining walls were labeled side B, C, and D. Other attached painted surfaces (e.g., doors, floors) were tested but not always in order. There are instances when a wall or other painted surface could not be tested due to obstructions present during the time of this evaluation. That was not the case during this inspection. All practical efforts were made to test each surface. Every attempt was made to sample the existing remaining surfaces.

Validation of sampling was accomplished based upon adherence to the standard calibration check protocol as outlined in the Performance Characteristic Sheet for the instrument. Calibration check readings are recorded and taken at the beginning and end of the inspection also every time during the inspection the instrument is turned off and then turned back on.

Accessible Lead-Based Paint and lead-based containing substances found to be in a non-intact condition and therefore constitute a Lead-Based Paint Hazard are the following:

Interior:

None

Exterior:

- Fascia
- Soffit

Accessible Lead-Based Paint and lead-based containing substances found to be in an intact condition and therefore are potential moderate risks are the following:

Interior:

None

Exterior:

None

Testing was performed by Stephen Merwin, an Illinois licensed and certified Lead Based Paint Risk Assessor (#L-009858), using the RMD Model LPA-1 XRF Unit. His credentials are provided in Section 6, Certifications, Licenses, and Accreditations. The XRF analyzer is designed to measure the lead content of surface coatings on a variety of building surfaces, substrates, and components. The measurement is rapid and nondestructive and, according to the manufacturer, capable of detecting concentrations that occur within numerous layers of various surface coatings.

Please refer to the XRF Testing Results Section 2, for the detailed analytical testing results for each distinct area or unit inspected. The reports provide a summary of surfaces and components identified with lead-based paint coatings (Summary Report), and a sequential report providing complete testing data in sequential order (Sequential Report).

LEAD PAINT INSPECTION REPORT

REPORT NUMBER:

08/23/21 10:00

INSPECTION FOR:

Crawford, Murphy & Tilly 2750 W. Washington St. **Springfield, IL 62702-3497**

PERFORMED AT:

Greater Kankakee Airport Airfield Elect. Vault Building 813 E. 4000 South Road Kankakee, IL 60901

INSPECTION DATE:

08/23/21

INSTRUMENT TYPE:

RMD **MODEL LPA-1**

XRF TYPE ANALYZER Serial Number: 2787

ACTION LEVEL:

1.0 ma/cm²

OPERATOR LICENSE: L-009858

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Crawford, Murphy & Tilly

Inspection Date: Report Date:

Abatement Level:

08/23/21

8/31/2021

1.0

Airfield Elect. Vault Building 813 E. 4000 South Road Kankakee, IL 60901

Greater Kankakee Airport

08/23/21 10:00

Total Readings: Job Started:

Report No.

20 Actionable: 2 08/23/21 10:00

Job Finished: 08/23/21 10:00

Readin	g				Paint			Lead	
No.	Wall	Structure	Location	Member	Cond	Substrate	Color	(mg/cm²)	Mode
Futor	rior R	oom 001 Exte	rior						
Ex ce.									
013	В	Facia	N/A		F	Wood	white	1.9	QM

Calibration Readings

⁻⁻⁻⁻ End of Readings ----

SEQUENTIAL REPORT OF LEAD PAINT INSPECTION FOR: Crawford, Murphy & Tilly

Inspection Date: Report Date:

08/23/21

Greater Kankakee Airport Airfield Elect. Vault Building 8/31/2021

Abatement Level:

1.0

813 E. 4000 South Road Kankakee, IL 60901

Report No.

08/23/21 10:00

Total Readings:

20

08/23/21 10:00

Job Started: Job Finished: 08/23/21 10:00

Read	Rm	Room					Paint			Lead	
No.	No.	Name	Wall	Structure	Location	Member	Cond	Substrate	Color	(mg/cm²)	Mode
1		CALIBRATION								1.0	TC
2		CALIBRATION								1.0	TC
3		Interior	A	Floor	N/A		P	Concrete	Lt Gre	en-0.5	QM
4		Interior	A	Floor	N/A		P	Concrete	Lt Gre	en-0.6	QM
5	001	Interior	В	Door	N/A		I	Steel	black	-0.3	QM
6	001	Interior	В	Door	N/A	Casing	I	Steel	black	-0.3	QM
7	001	Interior	В	Door	N/A	Jamb	I	Steel	black	-0.1	QM
8	001	Exterior	В	Door	N/A	L	I	Steel	white	-0.4	QM
9	001	Exterior	В	Door	N/A	Casing	I	Steel	white	0.5	QM
10	001	Interior	В	Door	Rgt	Casing	I	Steel	Gray	-0.3	QM
11	001	Interior	В	Door	Rgt	:	I	Steel	Gray	-0.3	QM
12	001	Exterior	В	Facia	N/A	L	P	Metal	white	0.2	QM
13	001	Exterior	В	Facia	N/A		F	Wood	white	1.9	QM
14	001	Exterior	В	Soffit	N/A	L	P	Wood	white	2.2	QM
15	001	Exterior	A	Window	N/A	Sash	I	Metal	white	-0.*8	QM
16	001	Exterior	A	Window	N/A	Sill	I	Cement	white	-0.3	QM
17	001	Exterior	A	Lintel	N/A	\	I	Steel	white	-0.1	QM
18		CALIBRATION								1.0	TC
19		CALIBRATION								1.0	TC
20		CALIBRATION								1.0	TC

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Crawford, Murphy & Tilly

Inspection Date: Report Date:

08/23/21 8/31/2021 Greater Kankakee Airport Airfield Elect. Vault Building 813 E. 4000 South Road

Abatement Level:

1.0

Kankakee, IL 60901

Report No.

08/23/21 10:00

Total Readings:

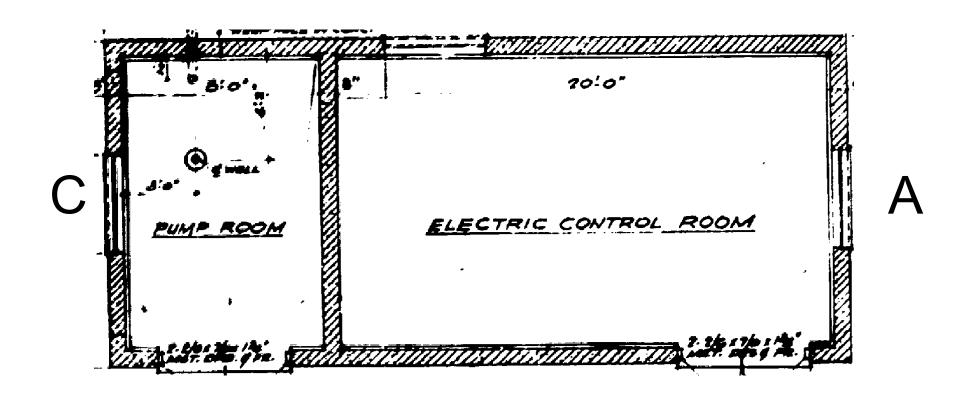
20

08/23/21 10:00 Job Started: Job Finished: 08/23/21 10:00

Reading			Paint				Lead			
No.	Wall	Structure	Location	Member	Cond	Substrate	Color	(mg/cm²)	Mode	
Exte	rior R	oom 001 Exte	rior							
017	A	Lintel	N/A		I	Steel	white	-0.1	QM	
015	A	Window	N/A	Sash	I	Metal	white	-0.8	QM	
016	A	Window	N/A	Sill	I	Cement	white	-0.3	QM	
012	В	Facia	N/A		P	Metal	white	0.2	QM	
013	В	Facia	N/A		F	Wood	white	1.9	QM	
014	В	Soffit	n/a		P	Wood	white	2.2	QM	
800	В	Door	n/a		I	Steel	white	-0.4	QM	
009	В	Door	N/A	Casing	I	Steel	white	0.5	QM	
Inte	rior R	oom 001 Inte	rior							
003	A	Floor	N/A		P	Concrete	Lt Gre	en-0.5	QM	
004	A	Floor	N/A		P	Concrete	Lt Gre	en-0.6	QM	
005	В	Door	N/A		I	Steel	black	-0.3	QM	
006	В	Door	N/A	Casing	I	Steel	black	-0.3	QM	
007	В	Door	N/A	Jamb	I	Steel	black	-0.1	QM	
010	В	Door	Rgt	Casing	I	Steel	Gray	-0.3	QM	
011	В	Door	Rgt		I	Steel	Gray	-0.3	QM	
Cali	bratio	n Readings								
001								1.0	TC	
002								1.0	TC	
018								1.0	TC	
019								1.0	TC	
								1.0	TC	

---- End of Readings ----

D



B





Cons	sultant:	Client:	Project Location: REVISIONS					LEAD SURVEY
		Crawford, Murphy, & Tilly	Greater Kankakee Airport-Airfield	REV. NO.	DATE	REV. BY:	Project No.	21-08-505-LEAD
	Midwest	2750 W. Jefferson Street	Electronic Vault Building					8/23/2021
	Environmanहा। Consulting रोबरशंदकः, Inc.	Springfield, IL 62702-3497	813 E. 4000 South Road Kankakee, IL 60901					Stephen Merwin
	Consultants Engineers Scientists		Transact, in 60001				Scale: NTS	Drawn By: JWR

CRAWFORD, MURPHY & TILLY

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



XRF Reading #: 13

Material Description: Fascia (Wood-White)

Sample Location: Exterior

Lead Y/N: Yes

Comments: Non-Intact Condition - Lead Hazard

CRAWFORD, MURPHY & TILLY

AIRFIELD ELECTRICAL VAULT BUILDING 813 E. 4000 South Road Kankakee, IL 60901



XRF Reading #: 15

Material Description: Soffit (Wood-White)

Sample Location: Exterior

Lead Y/N: Yes

Comments: Non-Intact Condition - Lead Hazard

Performance Characteristic Sheet

EFFECTIVE DATE: October 25, 2006 EDITION NO.: 5

MANUFACTURER AND MODEL:

Make: Radiation Monitoring Devices

Model: **LPA-1** Source: **LPA-1**

Note: This sheet supersedes all previous sheets for the XRF instrument of the make,

model, and source shown above for instruments sold or serviced after June

26, 1995. For other instruments, see prior editions.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Quick mode or 30-second equivalent standard (Time Corrected) mode readings.

XRF CALIBRATION CHECK LIMITS:

0.7 to 1.3 mg/cm² (inclusive)

SUBSTRATE CORRECTION:

For XRF results below 4.0 mg/cm², substrate correction is recommended for:

Metal using 30-second equivalent standard (Time Corrected) mode readings. None using quick mode readings.

Substrate correction is <u>not</u> needed for:

Brick, Concrete, Drywall, Plaster, and Wood using 30-second equivalent standard (Time Corrected) mode readings

Brick, Concrete, Drywall, Metal, Plaster, and Wood using quick mode readings

THRESHOLDS:

30-SECOND EQUIVALENT STANDARD MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)
	Brick	1.0
Results corrected for substrate bias	Concrete	1.0
on metal substrate only	Drywall	1.0
	Metal	0.9
	Plaster	1.0
	Wood	1.0

QUICK MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)
	Brick	1.0
Readings not corrected for substrate bias	Concrete	1.0
on any substrate	Drywall	1.0
·	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines* for the Evaluation and Control of Lead-Based Paint Hazards in Housing ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations in July 1995. The instrument that performed testing in September had a new source installed in June 1995 with 12 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.02 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a <u>bare</u> substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

Correction value =
$$(1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th} Reading) / 6 - 1.02 mg/cm2$$

Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either the Quick Mode or 30-second equivalent standard (Time Corrected) Mode readings.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with reported laboratory results less than 4.0 mg/cm² lead. The data which were used to determine the bias and precision estimates given in the table below have the following properties. During the July 1995 testing, there were 15 test locations with a laboratory-reported result equal to or greater than 4.0 mg/cm² lead. Of these, one 30-second standard mode reading was less than 1.0 mg/cm² and none of the quick mode readings were less than 1.0 mg/cm². The instrument that tested in July is representative of instruments sold or serviced after June 26, 1995. These data are for illustrative purposes only. Actual bias must be determined on the site. Results provided above already account for bias and precision. Bias and precision ranges are provided to show the variability found between machines of the same model.

30-SECOND STANDARD MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm ²)	PRECISION* (mg/cm²)
0.0 mg/cm ²	Brick	0.0	0.1
	Concrete	0.0	0.1
	Drywall	0.1	0.1
	Metal	0.3	0.1
	Plaster	0.1	0.1
	Wood	0.0	0.1
0.5 mg/cm ²	Brick	0.0	0.2
	Concrete	0.0	0.2
	Drywall	0.0	0.2
	Metal	0.2	0.2
	Plaster	0.0	0.2
	Wood	0.0	0.2
1.0 mg/cm ²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.0	0.3
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.0	0.3
2.0 mg/cm ²	Brick	-0.1	0.4
	Concrete	-0.1	0.4
	Drywall	-0.1	0.4
	Metal	0.1	0.4
	Plaster	-0.1	0.4
	Wood	-0.1	0.4

^{*}Precision at 1 standard deviation.

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this XRF Performance Characteristics Sheet did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION:

An EPA document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD. A HUD document titled *A Nonparametric Method for Estimating the 5th and 95th Percentile Curves of Variable-Time XRF Readings Based on Monotone Regression* provides supplemental information on the methodology for variable-time XRF instruments. A copy of this document can be obtained from the HUD lead web site, www.hud.gov/offices/lead.

This XRF Performance Characteristic Sheet was developed by QuanTech, Inc., under a contract from the U.S. Department of Housing and Urban Development (HUD). HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

OFFICIAL USE ONLY - SECURITY RELATED INFORMATION

IDNS.FLM-004-01 (9/91)

STATE OF ILLINOIS
ILLINOIS EMERGENCY MANAGEMENT AGENCY
BUREAU OF RADIATION SAFETY
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704
(217) 785-9947

RADIOACTIVE MATERIAL LICENSE

Pursuant to the Illinois Radiation Protection Act and the rules and regulations in 32 Illinois Administrative Code promulgated thereunder, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material(s) listed herein; and to use such radioactive inaterial(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Agency now or hereafter in effect and to any conditions specified in the license.

LICENSEE

LICENSE NUMBER

EXPIRATION DATE

Midwest Environmental Consulting Services, Inc.

IL-02377-01

February 28, 2022

2551 N. Bridge Street Yorkville, IL 60560

AMENDMENT NUMBER

3

Attention:

Blake Mellecker

President

In accordance with letter with attachments dated March 28, 2018, License Number IL-02377-01 is amended

in its entirety. Previous amendments are void.

MAXIMUM ACTIVITY* MAXIMUM POSSESSION ITEM RADIONUCLIDE CHEMICAL and/or PHYSICAL FORM PER SOURCE LIMIT Co-57 Sealed Source - Isotope Products 15 mCi 15 mCi Laboratory Models 3814 or 3901 series, QSA Global, Inc. Model CTC.P1, North American Scientific Models IND1150 or IND1403, DuPont Merck Pharmaceutical Company Models NER-472 or NER-372

AUTHORIZED USE:

A For use in RMD Instruments Corp. d/b/a Dynasil Products (formerly Radiation Monitoring Devices, Inc.) Model LPA-1 portable x-ray fluorescence analyzers for the measurement of lead in surfaces.

CONDITIONS

1. Radioactive material shall be stored at the licensee's facilities located at 2551 N. Bridge Street, Yorkville, Illinois, and used at temporary jobsites of the licensee in areas not under exclusive Federal jurisdiction throughout the State of Illinois in accordance with statements, representations and procedures listed in other conditions of this license.

* μCi-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel	; TBq-Terabecquerel; g-gram; µg-microgram; kg-kilogram		
APPROVED BY:	DATE	PAGE	of PAGES
Mary E. Burklart, Supervisor of Materials Licensing			
Mary E. Burkhart, Supervisor of Materials Licensing	August 14, 2018	1	3
L 473-0059	· · · · · · · · · · · · · · · · · · ·		

OFFICIAL USE ONLY - SECURITY RELATED INFORMATION

IDNS.FLM-004-02 (8/91)

STATE OF ILLINOIS IEMA BUREAU OF RADIATION SAFETY RADIOACTIVE MATERIAL LICENSE

LICENSEE	LICENSE NUMBER	AMENDMENT NUMBER	EXPIRATION DATE
Midwest Environmental Consulting Services, Inc.	IL-02377-01	3	February 28, 2022

- 2. Radioactive material shall be used by, or under the supervision and in the physical presence of, Stephen Merwin, Stuart J. Bruce, Jr., Daniel L. Medler, Steven R. Szeredy, or individuals who have successfully completed the manufacturer's training course or an equivalent, Agency approved, training course. The licensee shall maintain training records of all designated users.
- 3. The Radiation Safety Officer for this license is Stephen Merwin.
- 4. A. Each sealed source possessed under this license shall be tested for leakage and/or contamination as specified in 32 III. Adm. Code 340.410. Tests for leakage and/or contamination shall be performed by persons specifically licensed to provide such services.
 - B. This license does not authorize analysis of leak test samples. However, the licensee is authorized to collect leak test samples for analysis by persons specifically authorized by the Agency, an Agreement State, a Licensing State, or the U.S. Nuclear Regulatory Commission to perform such services.
- Maintenance, repair and initial radiation monitoring of devices containing radioactive material shall be performed only by persons specifically authorized by the Agency, an Agreement State, or the Nuclear Regulatory Commission to perform such services.
- 6. A. The source holder shall be locked in the "off" or closed position when the device is not in use.
 - B. Sealed sources shall not be opened or removed from their source holders by the licensee.
- 7. When performing tests at temporary job sites, the authorized user shall not leave the device unattended. Upon completion of tests, the device shall be locked in the licensee's vehicle or a secure building to prevent unauthorized use, loss, or theft.

* μCi-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel; TBq-Terabecquerel; g-gram; μg-microgram; kg-kilogram

APPROVED BY: DATE PAGE of PAGES

3

OFFICIAL USE ONLY - SECURITY RELATED INFORMATION

IDNS.FLM-004-02 (8/91)

STATE OF ILLINOIS IEMA BUREAU OF RADIATION SAFETY RADIOACTIVE MATERIAL LICENSE

LICENSEE Midwest Environmental Consulting Services, Inc.	IL-02377-01	AMENDMENT NUMBER	EXPIRATION DATE February 28, 2022
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- At any time the licensee is engaged in making measurements by authority of this license at a temporary 8. job site, the licensee shall have a current copy of each of the following documents available at the temporary job site for inspection by the Agency:
 - Α. The license, including all active amendments;
 - The manufacturer's instruction manual for the sealed sources and devices at the temporary job B.
 - C. The licensee's emergency procedures; and
 - D. The results of the latest test for leakage and/or contamination performed on the sealed source.
- 9. Except as specifically provided otherwise by the license, the licensee shall possess and use radioactive material described in all schedules of this license in accordance with statements, representations and procedures contained in, referenced in, or enclosed with the documents listed below. The regulations contained in 32 III. Adm. Code: Chapter II, Subchapters b and d shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations. The most recent statements, representations and procedures listed below shall govern if they conflict with previously submitted documents.
 - Applications dated December 4, 2008 and January 21, 2014. Α.
 - В. Letter, with attachments, dated March 28, 2018.

MEB:WNC:kic

* μCi-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel; TBq-Terabecquerel; g-gram; μg-microgram; kg-kilogram APPROVED BY:

PAGE of PAGES DATE

3



LEAD RISK ASSESSOR LICENSE

LEAD ID 009858

ISSUED

2/4/2021

EXPIRES

Stephen D Merwin

25W101 Marblehead Court Naperville, IL 60540



ILLINOIS LEAD PROGRAM Environmental Health

4 dhievenn

This is to certify that

Stephen D. Merwin

Midwest Environmental Consulting Services, Inc.

on the 6th day of November 2006 successfully completed the factory training for

RMD's LPA-1 Lead Paint Inspection System

including, but not limited to, the topics of Radiation Safety and the Proper Use of the Instrumer

Sha Alsharf, Product Manager 44 Hunt St., Watertown, Massachusetts



OCCUPATIONAL TRAINING & SUPPLY, INC. 7233 S. Adams Street • Willowbrook, IL 60527 • (630) 655-3900 • www.otssafety.com

Lead Risk Assessor Refresher

Occupational Training & Supply, Inc. certifies that

Stephen Merwin

has successfully completed the Lead Risk Assessor Refresher course and has passed the competency exam with a minimum score of 70%. This course is accredited by the Illinois Department of Public Health in accordance with the Illinois Lead Poisoning Prevention Code.

Course Date: 10/29/2018

Exam Date: 10/29/2018

Expiration Date: 10/29/2021

Certificate Number: LRAR1810292897

Kathy DeSalvo, Director

Moth De Col

SECTION 1043 - PROJECT COORDINATION-ASBESTOS ABATEMENT

PART 1 - GENERAL

SUMMARY

<u>This Section</u> specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

- -Administrative and supervisory personnel.
- -Progress Meetings
- -Pre-Construction Conference
- -Daily Log
- -Special reports.
- -Contingency Plans
- -Notifications to other entities at job site.

Related Work:

ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

<u>General Superintendent</u>: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing materials.

Experience and Training: The General Superintendent must have completed a course at an EPA Training Center or equivalent certificate course in asbestos abatement procedures, and have had a minimum of two (2) years on-the-job training in asbestos abatement procedures.

<u>Competent Person</u>: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.

<u>Accreditation</u>: The General Superintendent is to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C.

Owner occupants, etc. as to the nature of the Work being conducted including but not limited to the following:

<u>NOTIFICATION:</u> The Contractor shall be responsible for notifying all agencies, authorities having jurisdiction,

- Notify other entities at the job site of the nature of the asbestos abatement activities, locations of asbestos-containing materials, requirements relative to asbestos set forth in these Specifications and applicable regulations.
- Notify emergency service agencies including fire, ambulance, police or other agencies that may service the abatement work site in case of an emergency. Notification is to include methods of entering Work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment and/or sprinkler systems, and other information needed by agencies providing emergency services.
- Notification of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or Contract Sum

<u>General</u> The contractor shall comply with the requirements specified in Section 01301 - Submittals, and as specified herein.

<u>Before the Start of Work</u> submit the following to the Owners Representative for review. No Work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for use without revisions or corrections. Submittals shall included, but not necessarily limited to the following:

Contingency Plans: for emergency actions.

Telephone Numbers and locations of emergency services

Notifications: sent to emergency service agencies/ authorities having jurisdiction.

<u>Accreditation:</u> submit evidence in form of training course certificate of accreditation of General Superintendent as an asbestos abatement Supervisor.

<u>Staff Names</u> Within 15 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site: identify individuals, their duties and responsibilities; list their addresses and telephone numbers

Post copies of the list in the project meeting room, the temporary field office, and each temporary telephone.

PROGRESS MEETINGS:

<u>General</u>: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, Owner's Representative will hold general progress meetings as required. These meeting will be scheduled, where possible, at time of preparation of payment request. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

PRE-CONSTRUCTION CONFERENCE:

An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Owner's Representative prior to start of any work. Meet at project site, or as otherwise directed with General Superintendent, Owner, Owner's Representative, Project Administrator, and other entities concerned with the asbestos abatement work.

72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.

This is an organizational meeting, to review responsibilities and personnel assignments and to locate the containment and decontamination areas and temporary facilities including power, light, water, etc.

DAILY LOG:

Daily Log: Maintain within the Decontamination Unit a daily log documenting the dates and time of but not limited to, the following items:

Meetings; purpose, attendees, brief discussion
Visitations; authorized and unauthorized
Personnel, by name, entering and leaving the work area

Special or unusual events, i.e. barrier breeching, equipment failures, accidents

Air monitoring tests and test results

Documentation of Contractor's completion of the following:

Inspection of work area preparation prior to start of removal and daily thereafter.

Removal of any sheet plastic barriers

Contractor's inspections prior to spray back, lock back, encapsulation, enclosure or any other operation that will conceal the condition of asbestos-containing materials or the substrate from which such materials have been removed.

Removal of waste materials from work area

Decontamination of equipment (list items)

Contractors final inspection/final air test analysis.

Provide two (2) copies of this log to Project Administrator on a daily basis.

Submit 3 copies of this log at final close-out of project as a project close-out submittal.

SPECIAL REPORTS:

<u>General</u>: Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.

Reporting Unusual Events: When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

Reporting Accidents: Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

<u>Report Discovered Conditions</u>: When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) prepare and submit a special report indication condition discovered.

CONTINGENCY PLAN:

<u>Contingency Plan</u>: Prepare a contingency plan for emergencies including fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or work area isolation procedures. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

<u>Post</u>: in clean room of Personnel Decontamination Unit telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.

END OF SECTION - 01043

SECTION 01046 - DEFINITIONS AND STANDARDS

PART 1 - GENERAL

RELATED DOCUMENTS:

Sections 01527 and 01562 Sections 02084 Other Sections as specified herein

QUALITY ASSURANCE

Cutting and patching of asbestos-containing materials shall be performed in accordance with recognized and applicable standards and as herein specified. Cutting and patching of such materials shall be restricted to regulated areas and shall be performed by personnel properly attired.

SUBMITTALS

<u>Before the Start of Work</u>: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

<u>Tools</u>: equipped with HEPA vacuum dust collection attachments

PART 2 - PRODUCTS

Provide local exhaust ventilation systems that comply with ANSI 29.2-1971.

Products for encapsulation are specified in Section 09805.

PART 3 - EXECUTION

Before beginning work of this section, comply with:

Section 01527 - Regulated Areas Section 01562 - Respiratory Protection

Perform cutting, drilling, abrading, or otherwise penetrating any asbestos-containing material in a manner that will minimize the dispersal of asbestos fibers into the air.

Provide adequate local exhaust to capture fibers produced by cutting, drilling, or abrading by means of an approved High Efficiency Particulate Absolute (HEPA) filter vacuum. Use specialized equipment such as drills or saws having integral ventilation hoods which are connected to a HEPA vacuum with a flexible hose. Handle and dispose of HEPA filters as contaminated material. See Section 02084.

Thoroughly saturate absorbent surfaces of asbestos-containing material to be penetrated with a penetrating type encapsulant. Allow encapsulant to penetrate to substrate before working on materials.

Seal edges of asbestos-containing material exposed by cutting, drilling, or abrading, etc. with two (2) coats of an approved penetrating encapsulant applied in accordance with manufacturers' printed instruction for use of the encapsulant as an asbestos coating and requirements of Section 09805.

END OF SECTION - 01046

SECTION 01091 - DEFINITIONS AND STANDARDS - ASBESTOS ABATEMENT

PART 1 -GENERAL

SUMMARY

<u>General Explanation</u>: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.

QUALITY ASSURANCE

All Work shall conform to the applicable provisions of the codes, standards and Specifications as specified herein. Comply with specified standards as a minimum quality for the Work except where more stringent requirements apply. Where contradictions occur between codes, standards or Specifications, the more stringent shall apply.

SUBMITTALS:

Permits, Licenses and Certificates: For the owner's records, submit copies of permits, licenses, certifications, inspections reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work. All such permits, licenses and certificates to be obtained by Contractor at Contractors own expense.

DEFINITIONS:

Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

<u>Directed</u>: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner's Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.

<u>Approve</u>: The term "approved," where used in conjunction with the Owner's Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.

Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

<u>Furnish</u>: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."

<u>Install</u>: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."

Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."

<u>Installer</u>: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub- subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.

<u>Project Site</u> is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.

<u>Testing Laboratories</u>: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

Owner's Representative: This is the entity described as the "Architect" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." All references to Architect or Engineer in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during construction and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.

<u>General Superintendent</u>: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

<u>Accredited or Accreditation</u> (when referring to a person or laboratory): A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).

Aerosol: A system consisting of particles, solid or liquid, suspended in air.

<u>Air Cell</u>: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.

Air Monitoring: The process of measuring the fiber content of a specific volume of air.

<u>Amended Water</u>: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

<u>Asbestos</u>: The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker

protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

<u>Asbestos-Containing Material (ACM)</u>: Any material containing more than 1% by weight of asbestos of any type or mixture of types.

<u>Asbestos-Containing Building Material (ACBM)</u>: Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

<u>Asbestos-Containing Waste Material</u>: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

<u>Asbestos debris</u>: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

<u>Authorized Visitor</u>: The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.

<u>Barrier</u>: Any surface that seals off the work area to inhibit the movement of fibers.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

<u>Ceiling Concentration</u>: The concentration of an airborne substance that shall not be exceeded.

<u>Certified Industrial Hygienist (C.I.H.)</u>: An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

<u>Demolition</u>: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

<u>Disposal Bag</u>: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.

<u>Encapsulant</u>: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.

Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather that for in situ encapsulation.

Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.

<u>Enclosure</u>: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.

Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

<u>Friable Asbestos Material</u>: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

<u>Glovebag</u>: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestoscontaining material is to be removed.

<u>HEPA Filter</u>: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.

<u>HEPA Filter Vacuum Collection Equipment (or vacuum cleaner)</u>: High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

<u>High-efficiency particulate air filter</u>: (HEPA) refers to a filtering system capable of trapping and retaining 99.97 percent of all monodispersed particles 0.3 um in diameter or larger.

<u>Negative Pressure Respirator</u>: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

Negative Pressure Ventilation System: A pressure differential and ventilation system.

<u>Personal Monitoring</u>: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

<u>Pressure Differential and Ventilation System:</u> A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.

<u>Protection Factor</u>: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

<u>Surfactant</u>: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

<u>Time Weighted Average (TWA)</u>: The average concentration of a contaminant in air during a specific time period.

<u>Visible Emissions</u>: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

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 amended water or diluted

removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestoscontaminated waste.

<u>Work Area</u>: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.

INDUSTRY STANDARDS

<u>Applicability of Standards</u>: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

<u>Referenced industry standards</u> take precedence over standards that are not referenced but recognized in the construction industry as applicable.

<u>Unreferenced industry standards</u> are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.

<u>Publication Dates</u>: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

<u>Updated Standards</u>: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.

<u>Conflicting Requirements</u>: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Representative for a decision before proceeding.

Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.

<u>Copies of Standards</u>: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.

Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

AIHA American Industrial Hygiene Association

AIA American Institute of Architects ANSI American National Standards Institute **ASHRAE**

American Society for Heating, Refrigerating,

Air Conditioning Engineers

ASME American Society of Mechanical Engineers ASPE Americam Society of Plumbing Engineers American Society for Testing and Materials ASTM

Association of the Wall and Ceiling Industries-International AWCI

Code of Federal Regulations CFR DOT Department of Transportation Environmental Protection Agency EPA

FS Federal Specification (General Services Admin.)

GΑ Gypsum Association

General Services Administration **GSA** IEEE Institute of Electrical and Electronic

Engineers

MIL Military Standardization Documents National Electrical Code (by NFPA) NEC National Fire Protection Association NFPA RFCI Resilient Floor Coverings Institute

UL **Underwriters Laboratories**

END OF SECTION - 01091

.SECTION 01092 - CODES, REGULATIONS, AND STANDARDS - ASBESTOS ABATEMENT

PART 1 - GENERAL

SUMMARY

This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.

Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.

Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

CODES AND REGULATIONS

General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

<u>Contractor Responsibility</u>: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

<u>Federal Requirements</u>: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations

Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations Construction Industry
Title 29, Part 1926.1101of the
Code of Federal Regulations

Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations

Hazard Communication
Title 29, Part 1910, Section 1200 of the
Code of Federal Regulations

Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations

<u>DOT</u>: U. S. Department of Transportation, including but not limited to:

Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations

<u>EPA</u>: U. S. Environmental Protection Agency (EPA), including but not limited to:

Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations

Training Requirements of (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations

National Emission Standard for Hazardous Air Pollutants (NESHAPS) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations

<u>State Requirements</u>: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

Illinois-

Rules for Asbestos Abatement for Public and Private Schools and Commercial and Public Buildings in Illinois

(77III Adm. Code 855)
Department of Public Health
535 West Jefferson Street, Springfield, IL. 62761

<u>Local Requirements</u>: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

STANDARDS:

<u>General Applicability of Standards</u>: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

<u>Contractor Responsibility</u>: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.

<u>Standards</u>: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

American National Standards Institute (ANSI) 1430 Broadway New York, New York 10018 (212)354-3300

Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-79

Practices for Respiratory Protection Publication Z88.2-80

American Society for Testing and Materials (ASTM) 1916 Race Street Philadelphia, PA 19103 (215)299-5400

Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

Specification for Encapsulants for Friable Asbestos Containing Building Materials
Proposal P-189

EPA GUIDANCE DOCUMENTS:

<u>EPA Guidance Documents</u>: discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books)

EPA C00090 (out of print)

Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024

Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)

Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005.

Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006.

Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018.

Asbestos Waste Management Guidance. EPA 530-SW-85-007.

Asbestos Fact Book. EPA Office of Public Affairs.

Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials.

Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification.

A Guide to Respiratory Protection for the Asbestos Abatement Industry EPA -560-OPS-86-001

NOTICES, PERMITS AND LICENSES

<u>U.S. Environmental Protection Agency</u> Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAPS.

Notification: Include the following information in the notification sent to the NESHAPS contact:

Name and address of owner or operator.

Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.

Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, explain techniques of estimation.

Location of the facility being demolished or renovated.

Scheduled starting and completion dates of demolition or renovation.

Nature of planned demolition or renovation and method(s) to be used.

Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61 Subpart M).

Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

For facilities being demolished under an order of a State or Local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

STATE AND LOCAL AGENCIES:

<u>Send written notification</u> as required by state and local regulations prior to beginning any work on asbestos-containing materials.

PERMITS:

Permit: All asbestos containing waste is to be transported by and entity maintaining a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

LICENSES:

<u>Licenses</u>: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

POSTING AND FILING OF REGULATIONS

<u>Posting and Filing of Regulations</u>: Post all notices requires by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

SUBMITTALS:

<u>Before Start of Work:</u> Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

<u>Permits, Licenses, and Certificates</u>: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

State and Local Regulations: Submit copies of codes and regulations applicable to the work.

<u>Notices</u>: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.

Permits: Submit copies of current valid permits required by state and local regulations.

<u>Licenses</u>: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01092

PRE-CONSTRUCTION CONFERENCE

<u>General</u> Within 10 days after issuance of the Notice of Proceed, a preconstruction conference will be held at the location, date and time to be designated by the Owner. A minimum of 72 hours advance notice will be provided to participants.

Agenda The matters to be discussed will include:

- 1. Construction schedule and progress reports to be submitted by the Contractor as described in Section 01310.
- 2. Details of construction and phasing sequence, including the bar chart submitted with the Bid, lead times of equipment procurement, as well as the date by which the Contractor must have material or equipment in place in order to complete the Work within the construction schedule time limitations set in Section 00300 Paragraph 6.
- 3. Communication and general correspondence procedures between the involved parties. The Owner will designate his/her representative and/or Consultant at the time of this meeting.
- 4. The names and titles of all persons authorized by the Contractor to represent and execute documents for him/her with samples of all authorized signatures.
- 5. The names, addresses, and telephone numbers of all those authorized by the Contractor to act for him/her in emergencies.
- 6. Access and rights-of-way furnished by the Owner.
- 7. Forms and procedures for Contractor's Submittals as described in Section 01310.
- 8. Construction equipment and methods proposed by the Contractor. The Contractor shall submit a list of equipment to be used in the Work.
- 9. Administrative and general matters as needed.
- 10. Traffic control on existing access roads and parking areas for public and Contractor.
- 11. Location/construction of containment, decontamination areas and temporary facilities such as power, light, water, telephone, etc.
- 12. General mean of Contractor ingress/egress into building proper (including waste removal) and those individual(s) responsible for Owner furnished keys.
- 13. Site and construction layout. Location of Contractor's field office.
- 14. Subcontractors.
- 15. Arrangements for Owner furnished keys.
- 16. Payment estimates, submittals for payment and payment application forms.
- 17. Progress meetings during the course of the Work.

WEEKLY CONSTRUCTION PROJECT MEETINGS

<u>General</u> Construction meetings shall be held at least weekly or more frequently as needed or called by the Contractor or the Owner.

Agenda All matters bearing on the progress and performance of the Work since the preceding progress meetings shall be discussed and resolved, including, without limitation, any previously unresolved matters, deficiencies in the Work or the methods being employed for the Work, and problems, difficulties, or delays which may be encountered, in order that the Work may be constructed on schedule and within cost.

END OF SECTION - 1200

SECTION 01301 - SUBMITTALS

PART 1 - GENERAL

SUMMARY

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

Contractor's construction schedule. Submittal schedule.

Daily construction reports.

Shop Drawings.

Product Data.

Samples.

Miscellaneous Submittals

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

Permits Applications for payment Performance and payment bonds Insurance certificates List of Subcontractors

SUBMITTAL PROCEDURES

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay. Contractor shall responsibly coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Owner's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Owner's Representative will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

If an intermediate submittal is necessary, process the same as the initial submittal.

Allow two weeks for reprocessing each submittal.

No extension of Contract Time will be authorized because of failure to transmit submittals to the Owner's Representative sufficiently in advance of the work to permit processing.

<u>Submittal Preparation</u>: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.

Include the following information on the label for processing and recording action taken.

Project name.

Date.

Name and address of Owner's Representative.

Name and address of Contractor.

Name and address of subcontractor.

Name and address of supplier.

Name of manufacturer.

Number and title of appropriate Specification Section.

Drawing number and detail references, as appropriate.

<u>Submittal Transmittal</u>: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Owner's Representative using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

On the transmittal record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

CONTRACTOR'S CONSTRUCTION SCHEDULE

<u>Schedule</u>: Within 10 days after issuance of the Notice to Proceed, the contractor will provide a proposed detailed schedule including work dates, work shift time, number of employees, dates of start and completion including dates of preparation work, removals and final inspection dates.

<u>Bar-Chart Schedule</u>: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 10 days of the date established for "Commencement of the Work".

Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the work as indicated in the "Schedule of Values."

Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.

Secure time commitments for performing critical elements of the work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the work.

Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.

Indicate completion and Clearance of each Work Area in advance of the date established for Substantial Completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of Clearance and Substantial Completion.

<u>Phasing</u>: Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion to permit work by separate Contractors and partial occupancy by the Owner prior to Substantial Completion.

<u>Work Stages</u>: Indicate important stages of construction for each major portion of the work, including testing and installation. Include indication of start and finish times for the following:

Non-asbestos demolitions. Preparation of the Work Area. Asbestos removal. Clearance testing. Substantial Completion.

<u>Area Separations</u>: Provide a separate time bar to identify each Work Area or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.

<u>Cost Correlation</u>: At the head of the schedule, provide a two item cost correlation line, indicating "recalculated" and "actual" costs. On the line show dollar-volume of work performed as of the dates used for preparation of payment requests.

Refer to Section "Applications for Payment" for cost reporting and payment procedures.

<u>Distribution</u>: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project Administrator's field office, project meeting room and temporary field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

<u>Schedule Updating</u>: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

SUBMITTAL SCHEDULE

<u>Listing</u>: At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

After review and action on the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule of submittals within 10 days of the date required for establishment of the Contractor's construction schedule.

<u>Distribution</u>: Following response to initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the project meeting room and field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

<u>Schedule Updating</u>: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

PRODUCT DATA

Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

Manufacturer's printed recommendations.

Compliance with recognized trade association standards.

Compliance with recognized testing agency standards.

Application of testing agency labels and seals.

Notation of dimensions verified by field measurement.

Notation of coordination requirements.

Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

MISCELLANEOUS SUBMITTALS:

Material Safety Data Sheets: Process material safety and data sheets as "product data."

<u>Inspection and Test Reports</u>: Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.

<u>Standards</u>: Where submittal of a copy of standards is indicated, and except where copies of standards are specified as an integral part of a "Product Data" submittal, submit a single copy of standards for the Owner's Representative's use. Where workmanship, whether at the project site or elsewhere is governed by a standard, furnish additional copies of the standard to fabricators, installers and others involved in the performance of the work.

<u>Close-out Submittals</u>: Refer to section "Project Close-out" and to individual sections of these specifications for specific submittal requirements of project close-out information.

<u>Record Documents</u>: Furnish set of original documents as maintained on the project site. Along with original marked-up record drawings provide 2 photographic copies of marked-up drawings, which, at the Contractor's option, may be reduced to not less than half size.

OWNER'S REPRESENTATIVE'S ACTION

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Owner's Representative will review each submittal, mark to indicate action taken, and return promptly.

Compliance with specified characteristics is the Contractor's responsibility.

<u>Action Stamp</u>: The Owner's Representative will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

<u>Final Unrestricted Release</u>: Where submittals are marked "Approved," that part of the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.

<u>Final-But-Restricted Release</u>: When submittals are marked "Approved as Noted," that part of the work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.

<u>Returned for Resubmittal</u>: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.

Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where work is in progress.

Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked "Action Not Required".

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01301

SECTION 01410 - AIR MONITORING - TEST LABORATORY SERVICES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.

Air Monitoring: during work area clearance is described in Section 01711 Work Area Clearance.

DESCRIPTION OF THE WORK

This section describes air monitoring carried out by the owner to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

Air monitoring required by OSHA is work of the Contractor and is not covered in this section.

AIR MONITORING:

Work Area Isolation: The purpose of the Owner's air monitoring is to detect faults in the work area isolation such as:

Contamination of the building outside of the work area with airborne asbestos fibers,

Failure of filtration or rupture in the differential pressure system,

Contamination of air outside the building envelop airborne asbestos fibers.

Should any of the above occur immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Owner's Representative.

<u>Work Area Airborne Fiber Count</u>: The Owner will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

<u>Work area clearance</u>: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner will sample and analyze air per Section 01714 Work Area Clearance.

The Owner will be conducting air monitoring throughout the course of the project.

STOP ACTION LEVELS:

Inside Work Area: Maintain an average airborne count in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8 hour period exceeds the Stop Action Level, stop all work except corrective action, leave pressure differential and air circulation system in operation and notify Owner's Representative. After correcting cause of high fiber levels, do not

recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

STOP ACTION LEVEL (f/cc)	IMMEDIATE STOP LEVEL (f/cc)		MINIMUM PROTECTION FACTOR	
0.1	1.0	Half face	10	
0.5	5.0	PAPR	50	
1.0	10.0	Type C	100	

If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify Owner's Representative. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

<u>Outside Work Area</u>: If any air sample taken outside of the Work Area exceeds the base line established below, immediately and automatically stop all work except corrective action. The Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.

If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:

Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (eg. wall, ceiling, floor).

Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.

Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for reoccupancy in accordance with Section 01714 Work Area Clearance.

Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.

If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01564 Decontamination Units at entry point to affected area.

After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01714 Work Area Clearance.

If the high reading was the result of other causes initiate corrective action as determined by the Owner's Representative.

<u>Effect on Contract Sum</u>: Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule will be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

<u>Fibers Counted</u>: The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts.

<u>Large Fibers</u>: "Airborne Fibers" referred to above include all fibers regardless of composition as counted by phase contrast microscopy (PCM), unless additional analysis by transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner's Representative that non-asbestos fibers are being counted. "Airborne Fibers" counted in samples analyzed by scanning or transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length and greater that 0.25 microns in diameter. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM by a number equal to asbestos fibers counted divided by all fibers counted in the electron microscopy analysis.

<u>Small Structures</u>: "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

ANALYTICAL METHODS:

<u>General</u> The following methods will be used by the Owner in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.

Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method.

<u>Transmission Electron Microscopy</u> will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

SAMPLE VOLUMES:

<u>General</u>: The number and volume of air samples taken by the Owner will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used.

SCHEDULE OF AIR SAMPLES:

Before Start of Work:

The Owner will secure the following Air Samples to establish a base line before start of work. As required by AHERA and IDPH requirements. Minimums are as follows, however, the more stringent shall apply.

Sample cassettes: Samples will be collected on 25 mm, cassettes as follows:

PCM: 0.8 micrometer mixed cellulose ester.

TEM: 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.

Sampling sensitivity in the table below refers to:

Detection Limit for PCM analysis as set forth in the analytical method used

Analytical Sensitivity for TEM analysis as set forth in the analytical method used or the AHERA regulation

Location Sampled	Number of Samples	Analysis Method	Sampling Sensitivity Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	1	PCM	0.01	1,200	1-10
Each Work Area	1	hold for TEM	0.005	1,300	1-10
Outside Each Work Area	5	PCM	0.01	1,200	1-10
Outside Each Work Area	1	hold for TEM	0.005	1,300	1-10
Outside Building	5	PCM	0.01	1,200	1-10
Outside Building	1	hold for TEM	0.005	1,300	<u>1-10</u>

<u>Base Line</u>: an action level expressed in fibers per cubic centimeter which is twenty-five percent greater than the largest of the following:

Average of the PCM samples collected outside each Work Area

Average of the PCM samples collected outside the building

0.01 fibers per cubic centimeter

Samples collected for TEM analysis will be held without analysis. These samples will be analyzed under the conditions and terms set forth in "Fibers Counted" and "Affect On Contract Sum".

Daily:

From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Owner may be taking the following samples on a daily basis.

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 micrometer mixed cellulose ester.

Location Sampled	Number of Samples	Analysis Method Fibers/cc.	Detection Limit (Liters)	Minimum Volume	Rate LPM	
Each Work Area 2	·	PCM	0.01	1,200	1-10	
		OR AS REQUIRED BY CONDITIONS				
Outside Each Work Area at Critical Barrier	1	PCM	0.01	1,200	1-10	
Clean Room	1	PCM	0.01	1,200	1-10	
Equip Decon	1	PCM	0.01	1,200	1-10	
Outside Building	g 1	PCM	0.01	1,200	1-10	
Output Pressure Differential Sys	e 1	PCM	0.01	1,200	<u>1-10</u>	

Additional samples may be taken at Owner's or Owner's Representatives discretion. If airborne fiber counts exceed allowed limits additional samples will be taken as necessary to monitor fiber levels.

LABORATORY TESTING:

The services of a testing laboratory may be employed by the Owner to perform laboratory analyses of the air samples. A microscope and technician will be setup at the job site, so that verbal reports on air samples can be obtained immediately.

Written Reports: of all air monitoring tests will be posted at the job site on a daily basis.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

END OF SECTION - 01410

SECTION 01503 - TEMPORARY FACILITIES - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF REQUIREMENTS:

<u>General</u>: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

SUBMITTALS

<u>Before the Start of Work</u>: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

<u>Scaffolding</u>: submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.

<u>Hot water heater</u>: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.

Decontamination Unit Sub-panel: Submit product data.

Ground Fault Circuit Interrupters (GFCI): Submit product data.

<u>Lamps and Light Fixtures</u>: Submit product data. Temporary Heating Units: Provide product data.

Temporary Cooling Units: Provide product data and installation instructions.

<u>Self Contained Toilet Units</u>: Provide product data and name of sub-contractor to be used for servicing self contained toilets. Submit method to used for servicing.

<u>First Aid Supplies</u>: Provide list of contents of first aid kit. Submit in form of check list. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 - PRODUCTS

MATERIALS AND EQUIPMENT:

<u>General</u>: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

SCAFFOLDING:

Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

Non-slip/Non-skid Surface Equip rungs of all metal ladders, etc. with an abrasive non-slip surface.

Provide a nonskid surface on all scaffold surfaces subject to foot traffic.

WATER SERVICE:

<u>Temporary Water Service Connection</u>: All connections to the Owner's water system shall include back flow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

<u>Water Hoses</u>: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shutoff nozzles and equipment.

Hot Water Heater: Provide UL rated 40 gallon electric hot water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. A 3-quart kitchen saucepan may be substituted for this purpose. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards. (for IDPH & AHERA JOBS)

<u>Hot Water</u>: may be secured from the building hot water system, provided back flow protection is installed at point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner's Representative.

ELECTRICAL SERVICE:

<u>General</u>: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.

<u>Temporary Power</u>: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.

<u>Voltage Differences</u>: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.

<u>Ground Fault Protection</u>: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate in panel exterior to Work Area.

<u>Electrical Power Cords</u>: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

<u>Lamps and Light Fixtures</u>: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture.

HEAT TEMPORARY

<u>Heating Units</u>: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the fuel being consumed. Use steam or hot water radiant heat where available, and where not available use electric resistant fin radiation supplied from a branch circuit with ground fault circuit interrupter.

TEMPORARY COOLING:

<u>Cooling Units</u>: Provide temporary cooling units consisting of a fan coil unit inside the work area with a compressor and heat rejection coil outside.

SELF-CONTAINED TOILETS:

<u>Self-Contained Toilet Units</u>: Provide single-occupant self-contained toilet units of the chemical type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar non-absorbent material.

FIRST AID:

<u>First Aid Supplies</u>: Comply with governing regulations and recognized recommendations within the construction industry.

FIRE EXTINGUISHERS:

<u>Fire Extinguishers</u>: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

PART 3 - EXECUTION

SCAFFOLDING:

During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.

Clean as necessary debris from non-slip surfaces.

At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheet and seal before removal from the Work Area.

INSTALLATION, GENERAL:

<u>General</u>: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

WATER SERVICE:

General: Water connection (without charge) to Owner's existing potable water system is limited to one 3/4" pipe-size connection, and a maximum flow of 10 gpm each to hot and cold water supply. Install using vacuum breakers or other back flow prevented as required by local authority. Hot water shall be supplied at a minimum temperature of 100 F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01564. In addition, water shall be supplied for the following uses:

<u>Hoses and Drip Pans</u>: Maintain hose connections and outlet valves in leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

ELECTRICAL SERVICE:

<u>General</u>: Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.

<u>Lockout</u>: Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.

<u>Lockout power to Work Area</u> by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's designated Representative.

<u>Lockout power to circuits running through Work Area</u> wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and supply keys to Contractor, Owner and Owner's Representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard."

<u>Temporary Electrical Panel</u>: Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative.

<u>Power Distribution System</u>: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

<u>Circuit Protection</u>: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

<u>Temporary Wiring</u>: in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices. <u>Number of Branch Circuits</u>: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

One Circuit for each HEPA filtered fan unit

For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).

One outlet in the work area for each 2500 square feet of work area.

One outlet at each decontamination unit, located in equipment room.

Provide 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:

One in each work area

One at clean side of each Decontamination Unit.

One at each exhaust location for HEPA filtered fan units

Provide 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:

Five inside work area

Two outside work area in location designated by Owner's Representative

TEMPORARY LIGHTING:

<u>Lockout</u>: Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level:

One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.

Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.

Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.

Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level

<u>Number of Lighting Circuits</u>: Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.

<u>Circuit Protection</u>: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

TEMPORARY HEAT:

General: Provide temporary heat where indicated or needed for performance of the Work.

Maintain a minimum temperature of 70 degrees F. where finished work has been installed.

Maintain a minimum temperature of 75 degrees F. in the shower of the decontamination unit.

Maintain a minimum temperature of 70 degrees F. in the Work Area at all times that work is going on. At all other times and at completion of removal work, but before start of reconstruction work, maintain a minimum temperature of 50 degrees F.

TEMPORARY COOLING:

Required Cooling: Provide units sufficient to supply 20,000 BTU's of cooling per 8,000 cubic feet of work area.

PROJECT ADMINISTRATOR'S FIELD OFFICE:

<u>Project Administrator's Field Office</u>: Provide air conditioned, heated office space near the Work Area for professional person, suitably finished, furnished, equipped, locked, heated, naturally ventilated, lighted and wired with electrical power, not less than 250 sq. ft. floor area. Equip office with 1 telephone line and 1 telephone, and not less than 2 duplex convenience power outlets. In addition to 1 desk, 1 four drawer file cabinet and 3 chairs, furnish office with one 36" X 96" plan table, and one 24" X 48" work table near electrical power outlet. Provide portable office or use a suitable room as designated by Owner and relocate or add equipment as required to meet the above requirements.

FIRE EXTINGUISHERS:

<u>Fire Extinguishers</u>: Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in Equipment Room and One outside Work Area in Clean Room.

END OF SECTION - 01503

SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

PART 1 - GENERAL

<u>Description:</u> This section covers the air distribution equipment and associated accessories required for the temporary pressure differential and air circulation system(s) including all necessary appurtenances to be furnished, installed and tested as shown on the drawings and as specified herein. All fittings connectors, hangers, supports and anchors where required, not otherwise specifically provided for in these specifications, but necessary to provide a complete and operational system(s) shall be included under this section of work. contractor's responsibility also includes continuously monitoring and recording the pressure differential between the Work Area and the building outside of the Work Area with a monitoring device incorporating a continuous recorder (e.g. strip chart).

RELATED DOCUMENTS:

Heating and cooling requirements are set forth in Section 01503 Temporary Facilities - Asbestos Abatement

MONITORING

Monitor pressure differential at Personnel and Equipment Decontamination Units with a differential pressure meter equipped with a continuous recorder. Meter shall be equipped with a warning type alarm buzzer which shall sound if pressure differential drops below 0.01" of water.

SUBMITTALS

<u>Before Start of Work</u>: Submit design of pressure differential system to the Owner's Representative for review. Do not begin work until submittal is returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use. Include in the submittal at a minimum:

Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines

Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area

Anticipated pressure differential across Work Area enclosures

Description of methods of testing for correct air flow and pressure differentials

Manufacturer's product data on the HEPA filtered fan units to be used

Location of the machines in the Work Area

Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power

Description of work practices to insure that airborne fibers travel away from workers

Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area

Manufacturer's product data on auxiliary generator to be used

Manufacturer's product data on auxiliary power switch to be used

On a weekly basis: Submit printout from pressure differential monitoring equipment. Mark printout with date and start of time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each days record times of starting and stopping abatement work, type of work in progress, breaks for lunch or other purposes, periods of stop work, and filter changes. Cut printout into segments by day, attach to 8 1/2" by 11" paper. Label with project name, contractors name and date.

PART 2 - PRODUCTS

HEPA FILTERED FAN UNITS:

<u>General</u>: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.

<u>Cabinet</u>: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:

Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance

Arranged to provide access to and replacement of all air filters from intake end Mounted on casters or wheels

Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.

<u>HEPA Filters</u>: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.

Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal

Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.

Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

<u>Prefilters</u>, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required. Provide units with the following prefilters:

First-stage prefilter: low-efficiency type (e.g., for particles 100 um and larger)
Second-stage (or intermediate) filter: medium efficiency (eg., effective for particles down to 5 um)

Instrumentation: Provide units equipped with:

Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed

A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point Elapsed time meter to show the total accumulated hours of operation

Safety and Warning Devices: Provide units with the following safety and warning devices:

Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter

Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge

Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red)

Audible alarm if unit shuts down due to operation of safety systems

<u>Electrical components</u>: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

<u>Manufacturers</u>: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

AUXILIARY GENERATOR:

<u>Auxiliary Generator</u>: Provide a gasoline-powered self-starting generator with a capacity adequate to power a minimum of 50% of the HEPA filtered fan units in operation at any time during the work.

AUXILIARY POWER SWITCH:

<u>Auxiliary Power Switch</u>: Provide a switching relay which will automatically start auxiliary generator and switch over power supplied to HEPA filtered fan units to auxiliary generator.

PART 3 - EXECUTION

PRESSURE DIFFERENTIAL ISOLATION

Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

<u>Relative Pressure in Work Area</u>: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

Establish required air circulation in the work area, personnel and equipment decontamination units. Establish isolation by increased pressure in adjacent areas or as part of seals where required. Exhaust a sufficient number of units from the work area to develop the required pressure differential. The required number of units is the number determined above plus one additional unit.

Vent HEPA filtered fan units to outside of building unless authorized in writing by Owner's Representative.

Mount units to exhaust directly or through disposable ductwork.

Use only new ductwork except for sheet metal connections and elbows.

Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.

Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet.

Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.

Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.

If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.

<u>Isolation of elevators, stair towers, and return air intakes:</u> Erect seals with an air space at doors to elevators and stair towers. Pressurize this space with HEPA-filtered air so that it is at a pressure greater than either the Work Area elevator shaft or stair tower.

Fabricate seal by first sealing door with duct tape and 6 mil polyethylene. Construct a barrier from 1/2" gypsum board supported by 3-5/8" 25 gauge metal studs at 16" on centers. Space face of barrier a minimum of 3" from face of door. Seal barrier with 6 mil sheet plastic and duct tape. Pressurize space with exhaust from HEPA filtered fan unit. Continuously maintain a pressure differential with this space a minimum of 0.02 inches of water higher in static pressure than any adjacent space. Locate HEPA filtered fan unit outside of work area. Fabricate a manifold as required to distribute air to individual spaces to be isolated. Provide relief venting at unit as required to prevent shut down due to low air flow while still maintaining required air pressure.

<u>Isolation of chases and enclosed stairs</u>: Pressurize chases and enclosed stairs with HEPA filtered air so that it is at a pressure greater than any adjacent work area. Pressurize space with exhaust from HEPA filtered fan unit. Continuously maintain a pressure differential with this space a minimum of 0.02 inches of water higher in static pressure than any adjacent work area.

<u>Isolation of return air ductwork</u>: Return air duct work which must be kept operating is located in the Work Area. This duct work is to be isolated from the Work Area by an enclosure forming an annular space around the duct which is positively pressurized with HEPA filtered air. Minimum requirement shall include but not be limited to the following:

Wrap the duct with 6 mil polyethylene. Seal all polyethylene seams with spray glue and duct tape.

Enclose wrapped duct with two layers of polyethylene. Fabricate inner layer from 6 mil polyethylene with all seams sealed with spray glue and duct tape. Arrange outer layer to support inner layer. Fabricate out of reinforced sheet plastic with seams sealed with spray glue and duct tape and reinforced with staples. Support outer layer with a frame work fabricated from 2" x 4"s at 24" on center. Enclosures less than 2' - 6' in diameter may be reinforced with box strapping in lieu of wood framing.

AUXILIARY GENERATOR

Provide auxiliary gasoline-powered generator located outside of the building in a location protected from the weather. Arrange so that if a power failure occurs the generator automatically starts and supplies power to a minimum of 50% of the HEPA filtered fan units in operation.

AIR CIRCULATION IN THE WORK AREA:

<u>Air Circulation</u>: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

<u>Determining the Air circulation Requirements</u>: Provide a fully operational air circulation system supplying a minimum of the following air circulation rate:

Determine Number of Units needed to achieve required air circulation according to the following procedure:

Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate and multiplying by 60.

Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

Volume of work area (cu. ft.) X Number of air changes per hour 60 (minutes per hour)

Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics.

Number of Units Needed =

Air circulation_Requirement_(CFM)
Capacity of Unit with Loaded Filters (CFM)

Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

EXHAUST SYSTEM:

Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

Exhaust all units from the Work Area to meet air circulation requirement of this section.

<u>Location of HEPA Filtered Fan Units</u>: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

<u>Place End of Unit</u> an intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.

<u>Vent to Outside of Building</u>, unless authorized in writing by the Owner's Representative.

<u>Decontamination Units</u>: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only personnel or equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use.

<u>Supplemental Makeup Air Inlets</u>: Provide where required for proper air flow through the Work Area in location approved by the Owner's Representative by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

RECIRCULATION SYSTEM:

Pressure differential isolation and air circulation in the Work Area are to be accomplished by a recirculation system as described below.

<u>Recirculate air</u> in the Work Area through HEPA filtered fan units to accomplish air circulation requirements of this section.

<u>Location of Fan Units</u>: Locate HEPA filtered fan units so that air is circulated through all parts of the Work Area, and so that required pressure is maintained at all parts of Work Area geometry. Move units as necessary so that in any location where asbestos-containing materials are being disturbed the discharge from one HEPA filtered fan unit is blowing contamination away from workers. Direct air flow in these locations so that it is predominantly toward workers' backs at the breathing zone elevation.

AIR CIRCULATION IN DECONTAMINATION UNITS:

<u>Pressure Differential Isolation</u>: Continuously maintain the pressure differential required for the work area in the:

Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.

Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.

<u>Air Circulation</u>: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

<u>Air Movement</u>: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room. Maintain continuous minimum velocities of Sixty (60) feet per minute in the breathing zone area of the shower and thirty (30) feet per minute in all other locations of the shower.

USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

<u>General</u>: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities." Do not use existing branch circuits to power fan units.

<u>Testing the System</u>: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Owner's Representative.

<u>Demonstrate Condition of Equipment</u> for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

Squareness of HEPA Filter

Condition of Seals

Proper operation of all lights

Proper operation of automatic shut down if exhaust is blocked

Proper operation of alarms

Proper operation of magnehelic gauge

Proper operation and calibration on pressure monitoring equipment

<u>Demonstrate Operation</u> of the pressure differential system to the Owner's Representative will include, but not be limited to, the following:

Plastic barriers and sheeting move lightly in toward Work Area,

Curtain of decontamination units move lightly in toward Work Area,

There is a noticeable movement of air through the Decontamination Unit.

Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.

Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.

Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.

Modify the Pressure Differential System as necessary to demonstrate successfully the above.

Use of System During Abatement Operations:

Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.

Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Owner's Representative in writing. Supply sufficient pre-filters to allow frequent changes.

Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.

At completion of abatement work, allow fan units to run as specified under section 01711, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

<u>Dismantling the System:</u>

When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION - 01513

SECTION 01526 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Sections 01560, 01562 and 01564. Other Sections as specified herein.

QUALITY ASSURANCE

Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following: Spray Poly as manufactured by Isotek corporation, P.O. Box 29799, New Orleans, LA 70189-0799, or equal.

Applicable Standards. All Work shall conform to the applicable provision of code standards and Specifications as specified herein.

SUBMITTALS:

<u>Before Start of Work</u> submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Strippable Coatings: Submit following:

Product description including major components and solvents.

Test report on ASTM E84 test of surface burning characteristics.

Manufacturer's installation instructions. Indicate portions applicable to the project and selected assemblies where the manufacturer offers alternatives.

<u>Material Safety Data Sheet</u>: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for strippable coating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

Spray Cement: Submit following:

Product description including major components and solvents.

Manufacturer's installation instructions. Indicate portions applicable to the project.

<u>Material Safety Data Sheet</u>: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

Sheet Plastic: For fire retardant plastic submit test reports on NFPA 701 test.

Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

SHEET PLASTIC:

<u>Polyethylene Sheet</u>: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

STRIPPABLE COATINGS:

<u>Strippable Coatings</u>: Provide strippable coatings in aerosol cans or premixed for spray application formulated to adhere gently to surfaces and remove cleanly by peeling off at the completion of the work.

Provide only water-based latex materials.

Provide materials manufactured for the specific application required.

Wall coating: designed to be easy to remove.

Floor coating: designed to provide a tough film which resists spread of water beneath plastic layer.

Window coating: recommended by the manufacturer for use on windows. Supply materials that are designed to be stable on glass in sunlight and resist the transmission of ultraviolet radiation.

<u>Fire Safety</u>: Provide materials that meet the following requirements:

When wet or while being installed:

Do not create combustible vapors, Have no flash point Are not noxious Department of Transportation category of non-flammable.

When dry, material must have a Class A rating as a building material and meet the following requirements when tested in accordance with ASTM E-84:

Flame Spread no greater than 20 Fuel Contributed 0 Smoke Developed no more than 110

Deliver materials to the job site in unopened, factory-labeled containers.

<u>Available Manufacturers</u>: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

MISCELLANEOUS MATERIALS:

<u>Duct Tape</u>: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

<u>Spray Cement</u>: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

SEQUENCE OF WORK:

Carry out work of this section sequentially. Complete each activity before proceeding to the next.

GENERAL:

<u>Work Area</u>: the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.

<u>Completely isolate</u> the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.

<u>Place all tools, scaffolding, staging, etc.</u> necessary for the work in the area to be isolated prior to completion of Work Area isolation.

Remove all removable furniture that has been designated uncontaminated by the Contract Documents or Owner's Representative. Also remove uncontaminated equipment, and/or supplies from the Work Area before commencing work, or completely cover with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape. Such furniture and equipment shall be considered outside the work area unless covering plastic or seal is breached.

<u>Disable ventilating systems</u> or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.

<u>Lockout power to Work Area</u> by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent of Owner's designated Representative.

<u>Lockout power to circuits running through work area</u> wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of contractor's superintendent or owner's designated representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard." Label circuits in hidden locations but which may be affected by the work in a similar manner.

Inspection Windows: Install inspection windows in locations shown on the plans or as directed by the Owner's Representative. Each inspection window is to have a 24" X 24" viewing area fabricated from 1/4" acrylic or polycarbonate sheet. Install window with top at 6'-6" above floor height in a manner that provides unobstructed vision from outside to inside of the Work Area. Protect window from damage from scratching, dirt or any coatings used during the work. A sufficient number of windows are to be installed to provide observation of all portions of the Work Area that can be made visible from adjacent areas. Inspection windows that open into uncontrolled area are to be covered with a removable plywood hatch secured by lock and key. Provide keys to Owner's Representative for all such locks.

EMERGENCY EXITS:

Provide emergency exits and emergency lighting as set forth below:

<u>Emergency Exits</u>: At each existing exit door from the Work Area provide the following means for emergency exiting:

Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.

Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1" wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2" thick.

Provide lighted EXIT sign at each exit.

Provide battery-operated emergency lighting that switches on automatically in the event of a power failure.

CONTROL ACCESS:

<u>Isolate the Work Area</u> to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:

Submit to Owner's Representative a list of doors and other openings that must be secured to isolate Work Area. Include on list notation if door or opening is in an indicated exit route.

After receiving written authorization from the Owner's Representative lock all doors into Work Area. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency exits from Work Area or from building.

After receiving written authorization from the Owner's Representative: construct partitions or closures across any opening into Work Area. Partitions are to be a minimum of 8 feet high.

Fabricate partitions from 3-5/8", 25 gage metal studs with 1/2" gypsum board on both faces. Brace at 4'-0" on center.

<u>Locked Access</u>: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

Replace lock sets or passage sets on doors leading to decontamination units with temporary lock sets for duration of the project. Remove any deadbolts or padlocks. Use entry type lock sets that are key lockable from outside and always unlocked and operable from inside. After meeting contractor release criteria set forth in Section 01714 Work Area Clearance reinstall original locks, passage sets and lock sets and adjust for proper operation.

Provide one key for each door to Owner, and Owner's Representative and maintain one key in clean room of decontamination unit (3 total).

<u>Visual Barrier</u>: Where the Work Area is immediately adjacent to or within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that the work procedures are not visible to building occupants. Where this visual barrier would block natural light, substitute frosted or woven rip-stop sheet plastic in locations approved by the Owner's Representative.

Provide Warning Signs at each locked door leading to Work Area reading as follows:

<u>Legend</u> <u>Notation</u>

KEEP OUT 3" Sans Serif Gothic or Block

CONSTRUCTION 1" Sans Serif Gothic or Block

WORK AREA 1" Sans Serif Gothic or Block

PROTECTIVE CLOTHING REQUIRED 14 Point Gothic

BEYOND THIS POINT

Immediately inside door and outside critical barriers post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

LEGEND

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

Provide spacing between respective lines at least equal to the height of the respective upper line.

ALTERNATE METHODS OF ENCLOSURE:

Alternate methods of containing the Work Area may be submitted to the Owner's Representative for approval in accordance with procedures set forth in Section 01632 Product Substitution. Do not proceed with any such method(s) without prior written approval of the Owner's Representative.

RESPIRATORY AND WORKER PROTECTION:

Before proceeding beyond this point in providing Temporary Enclosures:

Provide Worker Protection per Section 01560
Provide Respiratory Protection per Section 01562
Provide Personnel Decontamination Unit per Section 01563

Submittals shall conform to applicable requirements of Section 01301

CRITICAL BARRIERS:

<u>Completely Separate</u> the Work Area from other portions of the building, and the outside by closing all openings with sheet plastic barriers at least 6 mil in thickness, or by sealing cracks leading out of Work Area with duct tape.

<u>Individually seal</u> all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with duct tape alone or with polyethylene sheeting at least 6 mil in thickness, taped securely in place with duct tape. Maintain seal

until all work including Project Decontamination is completed. Take care in sealing of lighting fixtures to avoid melting or burning of sheeting.

<u>Provide Sheet Plastic</u> barriers at least 6 mil in thickness as required to seal openings completely from the Work Area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.

<u>Mechanically Support</u> sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic.

Provide Pressure Differential System per Section 01513.

<u>Clean housings and ducts</u> of all overspray materials prior to erection of any Critical Barrier that will restrict access.

PREPARE AREA:

<u>Scaffolding</u>: If fixed scaffolding is to be used to provide access HEPA vacuum and wet clean area prior to scaffolding installation.

<u>Remove all electrical and mechanical</u> items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.

Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.

PRIMARY BARRIER:

<u>Protect building and other surfaces</u> in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

<u>Sheet Plastic</u>: Protect surfaces in the Work Area with two (2) layers of plastic sheeting on floor and walls, or as otherwise directed on the Contract Drawings or in writing by the Owner's Representative. Perform work in the following sequence.

<u>Cover Floor</u> of Work Area with 2 individual layers of clear polyethylene sheeting, each at least 6 mil in thickness, turned up walls at least 12 inches. Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer six feet from, or at right angles to, seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer.

Cover Sheet Plastic in areas where scaffolding is to be used with a single layer of 1/2" CDX plywood or 1/4" tempered hardboard. Wrap edges and corners of each sheet with duct tape. At completion of abatement work wrap plywood or hardboard with 2 layers of 6 mil polyethylene and move to next Work Area or dispose of as an asbestos-contaminated waste material in accordance with section 02084 of this specification.

<u>Cover all walls</u> in Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape or spray-glue in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints

including the joining with the floor covering with duct tape or as otherwise indicated on the Contract Documents or in writing by the Owner's Representative.

<u>Stairs and Ramps</u>: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide 3/4" exterior grade plywood treads securely held in place, over plastic. Do not cover rungs or rails with any type of protective materials.

Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

ISOLATION AREA:

Maintain isolation areas between the Work Area and adjacent building area: Form isolation area by controlling access to the space in the same manner as a Work Area. Physically isolate the space from the Work Area and adjacent areas. Accomplish physical isolation by: Erecting a second Critical Barrier a minimum of 3'-0" away from Work Area.

STOP WORK:

If the Critical or Primary barrier falls or is breached in any manner stop work immediately. Do not start work until authorized in writing by the Owner's Representative.

EXTENSION OF WORK AREA:

<u>Extension of Work Area</u>: If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

SECONDARY BARRIER:

<u>Secondary layer</u> of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work is specified in the appropriate work sections.

END OF SECTION - 01526

SECTION 01527 - REGULATED AREAS

PART 1 - GENERAL

RELATED WORK:

Required supervision and OSHA Competent Person: is specified in Section 01043

Worker Protection- Asbestos Abatement: is specified in section 01560

Respiratory Protection: is specified in Section 01562

Wet Decontamination Facilities: are described in Section 01564

DESCRIPTION OF WORK:

Work of this section consists of preparing a Regulated Area for work of the following specification sections only. Do not use procedures set forth in this section in connection with any other work.

SUBMITTALS

<u>General</u>, The Contractor shall submit to the Owner's Representative for review drawings, data and information in accordance with the applicable requirements of Section 01301 and as herein specified. Submittals shall include product specifications and descriptions, and drawings showing details together with related accessories.

<u>Before the Start of Work</u>: Submit the following to the Owner's Representative for review. Begin no work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

<u>HEPA Filtered Vacuum Cleaners</u>: Submit product data. <u>Signs</u>: Submit samples of each type of sign to be used.

Warning Tape: Submit samples.

PART 2 - EQUIPMENT

HEPA Filter Vacuum Cleaners:

<u>Available Manufacturers</u>: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include, but are not limited to, the following:

<u>Plastic Sheet</u>: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

PART 3 - EXECUTION

SECURING WORK AREA:

Secure work area from access by occupants, staff or users of the building. Accomplish this where possible, by locking doors, windows, or other means of access to the area, or by constructing temporary wood stud and plywood barriers.

DEMARCATION OF REGULATED AREA:

Demarcate each Regulated Area with a sheet plastic drop sheet as described below. Post warning signs that carry the following legends:

Provide signs in both English and Spanish:

First Sign:

Provide warning signs at each locked door leading to the controlled area reading as follows:

<u>Legend</u> <u>Notation</u>

KEEP OUT 3 inch Block

Second Sign:

Immediately inside the locked door and outside the controlled area post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

Legend:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

Where the controlled area is in a large area such as on part of a boiler room or open office area, delineate area with 3 inch wide polyethylene ribbon with the printed warning, **"CAUTION ASBESTOS REMOVAL"**. Install this ribbon at between 3 and 4 feet above the floor.

SCHEDULING:

Work may be carried out during normal working hours in those areas which can be completely secured by lockable doors from access by building occupants and staff, and which have HVAC equipment that can be shut down and locked off. Otherwise, work is to be carried out after building occupants and cleaning staff have left.

GENERAL PROCEDURES:

The following precautions and procedures have application to work of this section. Workers must exercise caution to avoid release of asbestos fibers into the air:

1. Setup and management of the controlled area is to be under the supervision of a OSHA Competent Person as described in Section 01043 Project Coordination - Asbestos Abatement.

- 2. Before start of work comply with requirement for worker protection in section 01561, and respiratory protection in section 01562.
- 3. Do not allow eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the Regulated Area.
- 4. Shut down any air handling equipment bringing air into or out of the Regulated Area.
- 5. Clean any existing dust or debris from the floor and walls, and other surface in the immediate location of the work prior to commencing work by damp-mopping or by use of a High Efficiency Particulate Air (HEPA) filtered vacuum.
- 6. Cover floor in vicinity of Work Area and six (6) feet beyond, with 6 mil polyethylene drop sheet. Where work is adjacent to wall, extend drop sheet up wall and secure at ceiling with duct tape. This drop sheet demarcates the boundary of the Regulated Area.
- 7. Seal all openings, supply and exhaust vents, and convectors within ten (10) feet of the Work Area with 6 mil polyethylene sheeting secured and completely sealed with duct tape.
- 8. Perform the work per the appropriate specification section while on plastic drop sheet.
- 9. Immediately remove any asbestos-containing debris which collects on the drop sheet either by using a HEPA vacuum or by spraying with amended water or removal encapsu|ant, collecting with wet paper towels, placing in a disposal bag while still wet, and cleaning surface of plastic sheet with wet paper towels.

Complete the following at completion of work in an area before stepping off drop sheet.

- 1. While standing on plastic sheet thoroughly HEPA vacuum ladder and any tools used and pass to worker standing off sheet
- 2. Worker standing off the sheet HEPA vacuum thoroughly the worker standing on the sheet.
- 3. Worker on the sheet thoroughly HEPA vacuum all surfaces of the plastic sheet, bags, and any other items on the sheet including his own feet.

If moving to the next Work Area in the same secured area: Worker on the drop sheet is to don clean foot covers, placing each foot, in turn, off the sheet as the foot cover is put on. Remove clean foot covers at the next Work Area while standing on the sheet. Dispose of the used foot covers along with the plastic sheet at completion of work in that area. Do not reuse foot covers to move off the sheet.

If work day is complete or if next Work Area is in another secured area: all workers remove paper suits turning them inside out while doing so. The person on the sheet step with each foot off the sheet as the foot covers are removed.

- 1. Fold sheet and all its contents toward the center.
- 2. Place the sheet in a properly labeled disposal bag.
- 3. Neck down the bag and collapse it with the HEPA vacuum.
- 4. Twist the bag shut, bend over and seal with duct tape by wrapping around bag neck at least 3 times.
- 5. Clean <u>all</u> surfaces of the Work Area by use of a HEPA filter vacuum until no visible residue remains.
- 6. At completion of work require all workers to complete wet decontamination procedures in accordance with Section 0156O Worker Protection Asbestos-Abatement.

END OF SECTION - 01527

SECTION 01560 - WORKER PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

DESCRIPTION OF WORK:

This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

RELATED WORK SPECIFIED ELSEWHERE:

Respiratory Protection: is specified in Section 01562. Certificate of Workers Acknowledgment: Section 01561

WORKER TRAINING:

AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

<u>State and Local License</u>: All workers are to be trained, certified and accredited as required by state or local code or regulation.

<u>Train</u>, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:

Methods of recognizing asbestos

Health effects associated with asbestos

Relationship between smoking and asbestos in producing lung cancer

Nature of operations that could result in exposure to asbestos

Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:

Engineering controls

Work Practices

Respirators

Housekeeping procedures

Hygiene facilities

Protective clothing

Decontamination procedures

Emergency procedures

Waste disposal procedures

Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134

Appropriate work practices for the work

Requirements of medical surveillance program

Review of 29 CFR 1926

Pressure Differential Systems

Work practices including hands on or on-job training

Personal Decontamination procedures

Air monitoring, personal and area

MEDICAL EXAMINATIONS:

<u>Provide medical examinations</u> for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber data provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926 In addition, provide an evaluation of the individuals ability to work in environments capable of producing heat stress in the worker.

SUBMITTALS:

<u>Before Start of Work:</u> Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

<u>AHERA Accreditation</u>: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

<u>State and Local License</u>: Submit evidence that all workers have been trained, certified and accredited as required by state or local code or regulation.

<u>Certificate Worker Acknowledgment</u>: Submit an original signed copy of the Certificate of Worker's Acknowledgment found at the end of this section, for each worker who is to be at the job site or enter the Work Area.

Report from Medical Examination: conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

Name and Social Security Number

Physicians Written Opinion from examining physician including at a minimum the following:

Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

Copy of information that was provided to physician in compliance with 29 CFR 1926

Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

<u>Notarized Certifications</u>: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 - EQUIPMENT

PROTECTIVE CLOTHING:

<u>Coveralls</u>: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

<u>Boots</u>: Provide work boots with non-skid soles, and where required by OSHA, foot protective, for all workers. Provide boots at no cost to workers. Paint uppers of all boots red with waterproof enamel. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Dispose of boots as asbestos-contaminated waste at the end of the work.

<u>Hard Hats</u>: Provide head protective (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Owner's Representative, Project Administrator, and Owner. Label hats with same warning labels as used on disposal bags. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

<u>Goggles</u>: Provide eye protective (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

<u>Gloves</u>: Provide work gloves to all workers and require that they be worn at all times in the Work Area Do not remove gloves from Work Area and dispose of as asbestos-contaminated waste at the end of the work.

ADDITIONAL PROTECTIVE EQUIPMENT:

Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Project Administrator, and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.

PART 3 - EXECUTION

GENERAL:

Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

<u>Each time Work Area is entered</u> remove <u>all</u> street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

DECONTAMINATION PROCEDURES:

Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

<u>Type C Supplied Air or Powered Air-Purifying Respirators</u>: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

Still wearing respirators, proceed to showers. Showering is <u>mandatory</u>. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.

Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

Carefully wash face piece of respirator inside and out.

If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.

Shower completely with soap and water.

Rinse thoroughly.

Rinse shower room walls and floor prior to exit.

Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

<u>Air Purifying-Negative Pressure Respirators</u>: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area with a half or full face cartridge type respirator:

When exiting area, remove disposable coveralls, disposable headcovers, and disposable footwear covers or boots in the Equipment Room.

Still wearing respirators, proceed to showers. Showering is <u>mandatory</u>. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos fibers while showering. The following procedure is required as a minimum:

Thoroughly wet body from neck down.

Wet hair as thoroughly as possible without wetting the respirator filter if using an air purifying type respirator.

Take a deep breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter (air purifying respirator). While still holding breath, remove respirator and hold it away from face before starting to breath.

Dispose of wet filters from air purifying respirator.

Carefully wash face piece of respirator inside and out.

Shower completely with soap and water.

Rinse thoroughly.

Rinse shower room walls and floor prior to exit.

Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedure is then completed as required above.

Within Work Area:

Require that workers <u>NOT</u> eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above ,then dress in street clothes before entering the non-Work Areas of the building.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT:

Following this section is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT PROJECT NAME_____ DATE_____ PROJECT ADDRESS CONTRACTOR'S NAME WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC. Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to vou. RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project. TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following: Physical characteristics of asbestos Health hazards associated with asbestos Respiratory protection Use of protective equipment Pressure Differential Systems Work practices including hands on or on-job training Personal decontamination procedures Air monitoring, personal and area MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer, the Contractor. Signature Social Security No

END OF SECTION - 01560

Printed Name Witness

SECTION 01562 - RESPIRATORY PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

Section 01564 Other Sections as specified herein

QUALITY ASSURANCE

North Safety Equipment Protect Respirators, Inc.
3M Company Mine Safety Appliances Co.
Wilson Safety Products Survivair Comasec, Inc.

<u>APPLICABLE STANDARDS</u>: Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

- OSHA U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001 and Section 1910.134.29 CFR 1926.1101.
- CGA Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".
- ANSI American National Standard Practices for Respiratory Protection, ANSI Z88.2-1980.
- IDPH Illinois Department of Public Health, Asbestos Abatement Act & Rules and Regulations, Title 77: Public Health, Chapter I, Subchapter P, Part 855, "Asbestos Abatement in Public and Private Schools"
- NIOSH National Institute for Occupational Safety and Health
- MSHA Mine Safety and Health Administration

SUBMITTALS:

<u>Before Start of Work</u> submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with the Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Product Data: Submit manufacturer's product information for each component used, including NIOSH

System Diagram: When a Type "C" supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.

<u>Operating Instruction</u>: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

<u>Respiratory Protection Program</u>: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.134 and 1926.1101.

<u>Respiratory Protection Schedule:</u> Submit level of respiratory protection intended for each operation required by the project. Submit this information on the "Respiratory Protection schedule" on the form included at the end of this Section.

<u>Historic Airborne Fiber Data</u>: Submit airborne asbestos fiber count data from an independent air monitoring firm to substantiate selection of respiratory protection proposed. Data submitted shall include at least the following for each procedure required by the work:

Date of measurements

Operation monitored

Sampling and analytical methods used and evidence of their accuracy

Number, duration, and results of samples taken

<u>Resume information</u>: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

Provide air used for breathing in Type "C" supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade H or CSA Z180.1 whichever presents the more stringent quality standard:

ALLOWABLE CONTAMINANTS: Supply air that has an asbestos concentration no greater than outside ambient conditions.

DELIVERY:

Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 - EQUIPMENT

AIR PURIFYING RESPIRATORS

<u>Respirator Bodies</u>: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

<u>Filter Cartridges</u>: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

SUPPLIED AIR RESPIRATOR SYSTEMS:

Provide equipment capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.

<u>Face Piece and Hose</u>: Provide full face piece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face-piece.

<u>Auxiliary backup system</u>: In atmospheres which contain sufficient oxygen (greater than or equal to 19.5% oxygen) provide a pressure-demand full face piece supplied air respirator equipped with an emergency back up HEPA filter.

<u>Escape air supply</u>: In atmospheres which are oxygen deficient (less than 19.5% oxygen) provide a pressure-demand full face piece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece.

<u>Backup air supply</u>: Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterruptable source of air automatically available to each connected face piece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.

<u>Warning_device</u>: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use in all parts of the Work Area and at the compressor. Connect alarm to warn of:

Compressor shut down or other fault requiring use of backup air supply Carbon Monoxide (CO) levels in excess of 5 PPM/V

<u>Carbon Monoxide (CO) Monitor</u>: Continuously monitor and record on a strip chart recorder Carbon Monoxide (CO) levels. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices".

<u>Compressor Shut Down:</u> Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sounded if any of the following occur:

Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply

Compressor temperature exceeds normal operating range

<u>Compressor Motor</u> - Provide a compressor driven by an electric motor. Do not use a gas or diesel engines to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.

<u>Air Intake</u>: Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

<u>After-Cooler</u>: Provide an after-cooler at entry to filter system which is capable of reducing temperatures to outside ambient air temperatures.

<u>Self Contained Breathing Apparatus (SCBA)</u>: Configure system to permit the recharging of 1/2 hour 2260 PSI SCBA cylinders.

PART 3 - EXECUTION

GENERAL:

Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910 and 1926.

Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.

<u>Regardless of Airborne Fiber Levels</u>: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

FIT TESTING:

<u>Initial Fitting</u>: Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.

On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

<u>Upon Each Wearing</u>: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

TYPE OF RESPIRATORY PROTECTION REQUIRED:

<u>Provide Respiratory Protection</u> as indicated in paragraph below. Where paragraph below does not apply, determine the proper level of protection by dividing the expected or actual airborne fiber count in the Work Area by the "protection factors" given below. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below the permissible exposure limit (PEL) is the minimum level of protection allowed.

<u>Type "C" Supplied-air respirators</u>: full face piece pressure demand supplied air respirators are to be used by all workers engaged in the removal, or demolition of pipes, structures, or equipment covered or insulated with asbestos, or in the removal or demolition of asbestos insulation or coverings, or any other activity which results in or may result in airborne asbestos fibers.

PERMISSIBLE EXPOSURE LIMIT (PEL):

<u>8-Hour Time Weighted Average</u> (TWA) of asbestos fibers to which any worker may be exposed shall not exceed the following.

<u>Fibers</u>: For purposes of this section, fibers are defined as all fibers regardless of composition as counted in the OSHA Reference Method (ORM), or NIOSH 7400 procedure.

<u>Electron Microscopy:</u> If Electron Microscopy is used to determine airborne fiber levels, only asbestos fibers will be enumerated, but fibers of any size detected by the testing of Section 01714 Work Area Clearance will be counted. Time Weighted Average (TWA) - 0.1 fibers/cubic centimeter

RESPIRATORY PROTECTION FACTOR:

Respirator Type	Protection Factor
Air purifying: Negative pressure respirator High efficiency filter Half face piece	10
Air purifying: Negative pressure respirator High efficiency filter full face piece	50
Powered Air Purifying (PAPR): Positive pressure respirator High efficiency filter Half or Full face piece	50
Type C supplied air: Positive pressure respirator Pressure demand or other positive pressure mode Half face piece	1,000
Type C supplied air: Positive pressure respirator Pressure demand or other positive pressure mode Full face piece	2,000
Type C supplied air: Positive pressure respirator Pressure demand or other positive pressure mode Full face piece Equipped with an auxiliary positive pressure Self-contained breathing apparatus (SCBA)	10,000
Self-contained breathing apparatus (SCBA): Positive Pressure respirator Pressure demand or other positive pressure mode Full face piece	10,000

AIR PURIFYING RESPIRATORS:

<u>Negative pressure - half or full face mask</u>: Supply a sufficient quantity of respirator filters approved for asbestos, so that workers can change filters during the work day. Require that respirators be wet-rinsed, and filters discarded, each time a worker leaves the Work Area. Require that new filters be installed each time a worker reenters the Work Area. Store respirators and filters at the job site in the changing room and protect totally from exposure to asbestos prior to their use.

<u>Powered air purifying - half or full face mask</u>: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

TYPE "C" RESPIRATOR:

<u>Air Systems Monitor</u>: Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation. Assign an individual, trained by manufacturer of the equipment in use or by a Certified Industrial Hygienist, in the operation and maintenance of the system to provide this monitoring. Assign no other duties to this individual which will take him away from monitoring the air system.

END OF SECTION - 01562

01563 - RESPIRATORY PROTECTION SCHEDULE

Project Name _			
•			
Location			
Date			

Based upon airborne asbestos-fiber counts encountered on previous projects of similar type working on materials similar to those found on the above referenced project. The following level of respiratory protection is proposed for the indicated operations to maintain an Airborne Fiber Count below the specified Permissible Exposure Limit (PEL) inside the respirator face-piece.

END OF SECTION - 01563

SECTION 01564 - DECONTAMINATION UNITS

PART 1 - GENERAL

RELATED DOCUMENTS:

Refer to sections 01503 Temporary Facilities- Asbestos abatement for electrical requirements and requirement relative to connection of decontamination facilities to building systems such as water, sewer, and electrical

QUALITY ASSURANCE

All Work shall conform to the applicable provisions of the codes, standards and Specifications as specified herein. Comply with specified standards as a minimum quality for the Work except where more stringent requirements apply. Where contradictions occur between codes, standards or Specifications, the more stringent shall apply.

SUBMITTALS

General. The Contractor shall submit to the Owner's Representative for review drawings, data and information in accordance with the applicable requirements of Section 01301 and as herein specified. Submittals shall include product specifications and descriptions, and drawings showing details together with related accessories.

<u>Before the Start of Work</u>: Submit the following to the Owner's Representative for review. Do not begin work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

<u>Personnel Decontamination Unit</u>: Provide shop drawing showing location and assembly of personnel decontamination units.

<u>Equipment Decontamination Unit</u>: Provide shop drawing showing location and assembly of equipment decontamination units.

Shower Pan: Provide shop drawing.

Shower Walls: Provide product data.

Shower Head and Controls: Provide product data.

Filters: Provide product data and shop drawing of installation on decontamination unit.

Hose Bib: Provide product data.

Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.

<u>Elastomeric membrane</u>: Provide product data.

Lumber: Provide product data on fire resistance treatment.

Sump Pump: Provide product data.

Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

<u>Polyethylene Sheet</u>: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

<u>Reinforced Polyethylene Sheet</u>: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

Shower Pan: Provide one piece waterproof shower pan 4' x 8' by 6" deep. Fabricate from seamless fiberglass minimum 1/16" thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seems, copper or lead with soldered seams, or a seamless liner of minimum 60 mil thick elastomeric membrane.

<u>Shower Walls</u>: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability. <u>Shower Head and Controls</u>: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

<u>Filters</u>: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

Primary Filter - Passes particles 20 microns and smaller Secondary Filter - Passes particles 5 microns and smaller

<u>Hose Bib</u>: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.

Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0" above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.

<u>Elastomeric membrane</u>: Provide uniform flat sheets of flexible sheet roofing material fabricated from EPDM (ethylene propylene diene monomers) or Neoprene (polychloroprene), in a nominal 45 mil thickness.

<u>Lumber</u>: Provide kiln dried lumber of any grade or species.

<u>Sump Pump</u>: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3" remains between top of liquid and top of sump pan.

<u>Lighting</u> Provide temporary lighting within decontamination Units as necessary to reach a lighting level of 100 foot candles.

MISCELLANEOUS MATERIALS

<u>Duct Tape</u> provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene

Spray Adhesive provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

PERSONNEL DECONTAMINATION UNIT:

Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Changing Room, Drying Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 100 foot candles.

<u>Changing Room (clean room)</u>: Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

Construct using polyethylene sheeting, at least 6 mil in thickness, to provide an airtight seal between the Changing Room and the rest of the building.

Locate so that access to Work Area from Changing Room is through Shower Room.

Separate Changing Room from the building by a sheet plastic flapped doorway.

Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.

An existing room may be utilized as the Changing Room if it is suitably located and of a configuration whereby workers may enter the Changing Room directly from the Shower Room. Protect all surfaces of room with sheet plastic as set forth in Section 01526 Temporary Enclosures. Authorization for this must be obtained from the Owner's Representative in writing prior to start of construction. Submit written request in accordance with Section 01632 "Product Substitutions" detailing layout and protective measures proposed.

Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.

Damp wipe all surfaces twice after each shift change with a disinfectant solution.

Provide posted information for all emergency phone numbers and procedures.

Provide 1 storage locker per employee.

<u>Airlock (clean Side</u>) Provide an Airlock as shown on the drawing between Drying Room and Changing "Clean" Room. This is a transit area for workers and shall satisfy the following requirements:

Separate this room from Drying Room and Changing Room by sheet plastic flapped doorways. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene. Separate this room from the Drying and Changing Rooms with airtight walls fabricated of 6 mil polyethylene.

<u>Drying Room</u>: Provide a drying room as an airlock and a place for workers to dry after showering.

Construct room by providing a pan continuous with or draining to Shower Room pan. Install a freely draining wooden or non-skid metal floor in pan at elevation of top of pan.

Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene. Separate this room from the Changing Room and Shower Room with airtight walls fabricated of 6 mil polyethylene.

Separate from Changing Room by a sheet plastic flapped doorway.

Provide a continuously adequate supply of disposable bath towels.

<u>Shower Room</u>: Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.

Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene. Separate this room from the Drying Room and Airlock with airtight walls fabricated of 6 mil polyethylene.

Provide splashproof entrances to Drying Room and Airlock with doors arranged in the following configuration:

At each entrance to the Shower Room construct a door frame out of nominal 2" x 4" lumber with 1-1/2" jambs (sides) and 1-1/2" head (top) and sill (bottom). Attach to this door frame two overlapping flaps of elastomeric membrane material, fastened at the head (top) and jambs (sides) (by clamping between a 1-1/2" x 3/4" batten and frame). Overlap the flaps a minimum of 6" in a direction that presents a shingle-like configuration to the water stream from the shower. Overlap sill (bottom) by 1-1/2" minimum. Arrange so that any air movement out of the Work Area will cause the flaps to seal against the door frame.

Provide shower head and controls.

Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.

Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.

Arrange so that water from showering does not splash into the Changing or Equipment Rooms.

Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

Provide flexible hose shower head.

Pump waste water to drain or to storage for use in amended water. If pumped to drain, provide 20 micron and 5 micron waste water filters in line to drain or waste water storage. Change filters daily or more often if necessary. Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

Provide hose bib.

<u>Airlock</u>: Provide an airlock between Shower Room and Equipment Room. This is a transit area for workers. Separate this room from Equipment Room by a sheet plastic flap doorway.

Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene.

Separate this room from the Equipment Room and Shower Room with airtight walls fabricated of 6 mil polyethylene.

Separate from Equipment Room by a sheet plastic flapped doorway.

<u>Equipment Room (contaminated area)</u>: Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

Separate this room from the Work Area by a 6 mil polyethylene flapped doorway.

Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene. Separate this room from the Shower Room and Work Area with airtight walls fabricated of 6 mil polyethylene.

Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

<u>Airlock (Dirty Side)</u>: Provide an airlock between Equipment Room and Work Area. This is a transit area for workers.

Separate this room from Equipment Room and Work Area by a sheet plastic flapped doorways. Separate this room from the rest of the building with airtight walls fabricated of 6 mil polyethylene. Separate this room from the Equipment Room and Work Area with airtight walls fabricated of 6 mil polyethylene.

<u>Work Area</u>: Separate Work Area from the Equipment Room by polyethylene barriers. If the airborne asbestos level in the Work Area is expected to be high, as in dry removal, add an intermediate cleaning space between the Equipment Room and the Work Area. Damp wipe clean all surfaces after each shift change. Provide one additional floor layer of 6 mil polyethylene per shift change and remove contaminated layer after each shift.

PERSONNEL DECONTAMINATION SEQUENCE:

<u>General.</u> Require that all workers adhere to the following sequence when entering or leaving the Work Area.

<u>Entering Work Area</u>: Worker enters Changing Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.

Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

Worker proceeds to Work Area.

Exiting Work Area:

Before leaving the Work Area, require the worker to remove all gross contamination and debris from overalls and feet.

The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.

Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.

Disposable coveralls are placed in a bag for disposal with other material.

Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.

After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

EQUIPMENT DECONTAMINATION UNIT:

<u>General</u>. Provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Room, Holding Room, Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit.

<u>Wash Down Station</u>: Provide an enclosed Shower Unit located in Work Area just outside Wash Room as an equipment, bag and container cleaning station.

Fabricate waterproof floor extending 6' - 0" beyond Wash Down station in all directions. Install seamless waterproof membrane over area and extend over curbs on all four sides. Form curbs from 2" x 4" lumber laid on the flat.

Waterproof membrane is to fabricated from elastomeric membrane.

Waterproof membrane is to fabricated from minimum 10 mil polyethylene.

Do not allow water to collect on waterproof membrane. Remove continuously with a wet vacuum or mops.

<u>Wash Room</u>: provide wash room for cleaning of bagged or containerized asbestos-containing waste materials passed from the Work Area.

Construct wash room of nominal 2" x wood framing and polyethylene sheeting, at least 6 mil in thickness and located so that packaged materials, after being wiped clean, can be passed to the Holding Room.

Separate this room from the Work Area by a single flapped door of 6 mil polyethylene sheeting.

Airlock: Provide an airlock between Wash Room and Holding Room. This is a transit area.

Separate this room from adjacent spaces by a sheet plastic flapped doorway. Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil polyethylene.

<u>Holding Room</u>: Provide Holding Room as a drop location for bagged asbestos-containing materials passed from the Wash Room.

Construct Holding Room of nominal 2" x wood framing and polyethylene sheeting, at least 6 mil in thickness and located so that bagged materials cannot be passed from the Wash Room through the Holding Room to the Clean Room.

Separate this room from the adjacent rooms by flapped doors fabricated from 1/16" +/-thick single ply elastomeric membrane material either EPDM or Neoprene.

Separate this room from the adjacent rooms by flap doors fabricated from 6 mil sheet plastic.

Airlock: Provide an airlock between Holding Room and Clean Room. This is a transit area.

Separate this room from adjacent spaces by a sheet plastic flap doorway.

Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil polyethylene.

<u>Clean Room</u>: provide Clean Room to isolate the Holding Room from the building exterior. If possible locate to provide direct access to the Holding Room from the building exterior.

Erect Critical and Primary Barriers as described in Section 01526 "Temporary Enclosures" in an existing space. If no space exists construct Clean Room of 2X wood framing and polyethylene sheeting, at least 6 mil in thickness.

Separate this room from the exterior by a single flap door of 6 mil polyethylene sheeting.

<u>Load-out Area</u>: The load-out area is the transfer area from the building to a truck or dumpster. It may be the Clean Room of the Equipment Decontamination unit or a separate room or loading dock area.

Erect Critical and Primary barriers as described in Section 01526 "Temporary Enclosures" in load-out area.

During transfer of material from load-out area erect primary barriers as described in Section 01526 "Temporary Enclosures" as necessary to seal path from load-out area to truck or dumpster.

EQUIPMENT DECONTAMINATION SEQUENCE

Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure:

At washdown station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Wash Room.

When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit, other than the doorway between the Washdown Station and the Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit.

Once inside the washroom, wet clean the bags and/or equipment.

When cleaning is complete pass items into Holding Room. Close all doorways except the doorway between the Holding room and the Clean Room.

Workers from the building exterior enter Holding Area and remove decontaminated equipment and/or containers for disposal.

Require these workers to wear full protective clothing and appropriate respiratory protection.

At no time is a worker from an uncontaminated area to enter the enclosure when a removal worker is inside.

CONSTRUCTION OF THE DECONTAMINATION UNITS:

Walls and Ceiling: Construct airtight walls and ceiling using polyethylene sheeting, at least 6 mil in thickness. Attach to existing building components or a temporary framework.

<u>Floors</u>: Use 2 layers (minimum) of 6 mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

<u>Flap Doors</u>: Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') between entrance and exit of any room. Provide a minimum of three feet (3') between doors to airlocks.

<u>Ceilings</u> If the Decontamination area is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 1/4 inch hardboard or 1/2 inch plywood "ceiling" with polyethylene sheeting, at least 6 mil in thickness covering the top of the "ceiling".

<u>Visual Barrier</u>: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area

adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.

<u>Electrical</u>: Provide subpanel at Changing Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits in Decontamination unit and particularly any pumps in shower room to a ground-fault circuit protection device.

CLEANING OF DECONTAMINATION UNITS:

Clean debris and residue from inside of Decontamination Units on a daily basis or as otherwise indicated on Contract Drawings. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

If the Changing Room of the Personnel Decontamination Unit becomes contaminated with asbestoscontaining debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as an inner section of the new Equipment Room.

SIGNS:

Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926: Provide signs in both English and Spanish.

LEGEND

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

Provide spacing between respective lines at least equal to the height of the respective upper line.

Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following: provide signs in both English and Spanish.

LEGEND

NO FOOD, BEVERAGES OR TOBACCO PERMITTED

ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE WORK AREA

ALL PERSONS SHALL SHOWER IMMEDIATELY
AFTER LEAVING WORK AREA AND BEFORE
ENTERING THE CHANGING AREA

END OF SECTION - 01564

SECTION 01601 - MATERIALS AND EQUIPMENT - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS

All other Sections related to materials and equipment.

QUALITY ASSURANCE

<u>Standards.</u> Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

<u>Compatibility of Options.</u> When the contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

<u>This Section</u> specifies administrative and procedural requirements governing the Contractor's selection of products for use in the project.

The Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals."

SUBMITTALS

<u>General.</u> The Contractor shall submit to the Owner's representative for review drawings, data and information in accordance with the applicable requirements of Sections 01301 and as herein specified. Submittals shall include product specifications and descriptions, and drawings showing details together with related accessories

<u>Required submittals.</u> Submittals requirements are found in each Specification Section. For all General materials and equipment the Contractor shall prepare a schedule in tabular form showing each product listed. Include the manufacturer's name and proprietary product names for each item listed.

<u>Product List Schedule.</u> Prepare a schedule showing products specified in a tabular form acceptable to the Owners Representative. Include generic names of products required. Include the manufacturer's name and proprietary product name for each item listed.

DEFINITIONS

<u>Definitions</u> used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.

<u>"Products"</u> are items purchased for use in performing the work or for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

"Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.

"Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

"Equipment" are products that may be either operational or fixed.

<u>Operational Equipment</u> are products with operating parts, whether motorized or manually operated, that requires temporary or permanent service connections, such as wiring or piping.

<u>Fixed Equipment</u> are products necessary for accomplishing the work that are used as a temporary facility during the work and removed afterward.

Required submittals: A general listing of products requiring submittals is included at the end of Section 01301 "Submittals." This listing may not be complete. Submittal requirements are found in each specification section. Prepare a schedule in tabular form showing each product listed.

PART 2 SUBMITTALS

GENERAL PRODUCT REQUIREMENTS

<u>General.</u> Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

<u>Complete</u>. Provide products complete with all accessories, trim finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

<u>Standard Products</u>. Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects

PRODUCT SELECTION PROCEDURES

<u>General</u>. Product selection is governed by the Contract documents and governing regulations, not by previous project experience. Minimum requirements for procedures governing product selection shall be as specified herein.

<u>Non-Proprietary Specifications</u>. When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the contractor may propose any available product that complies with contract requirements. The Contractor shall comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

<u>Descriptive Specification Requirements.</u> Where Specifications specify a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristic and otherwise complies with contract requirements.

<u>Performance Specification Requirements.</u> Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certifications of performance.

<u>Compliance with Standards, Codes and Regulations</u>. Where the specifications only require compliance with an imposed codes, standard or regulation, select a product that complies with the standard, codes or regulations specified.

<u>Allowances</u>. Refer to individual Specification Sections and "Allowance" provisions in Division-1 for allowances that control product selection, and for procedures required for processing such selections. Include the manufacturer's name and proprietary product names for each item listed.

Part 3 EXECUTION

PRODUCT DELIVERY, STORAGE, AND HANDLING

Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

Schedule delivery to minimize long-term storage at the site and overcrowding of construction spaces.

Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.

Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

Store heavy materials away from the project structure in a manner that will not endanger the supporting construction.

Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

INSTALLATION OF PRODUCTS

Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other work. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01601

SECTION 01701 - PROJECT CLOSE-OUT - ASBESTOS ABATEMENT

PART 1 - GENERAL

<u>Description</u>. This section specifies administrative and procedural requirements for Project Close-out, including but not limited to:

- 1. Inspection procedures.
- 2. Project record document submittal.
- 3. Submittal of warranties.
- Final cleaning.

PROJECT DOCUMENTS

<u>General</u> Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire resistive location; provide access to record documents for the Owner's Representative's reference during normal working hours.

Record Drawings. Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. In addition, comply with the following:

Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.

Mark new information that is important to the Owner, but was not shown on contract Drawings or Shop Drawings.

Note related Change Order numbers where applicable.

Organize Record Drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identifications on the cover of each set.

Record Specifications. Maintain one complete copy of the Project Specifications, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual work performed in comparison with the text of the Specifications, and Modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related Record Drawing information and Product Data. Upon completion of the Work, submit Record Specifications to the Owner's representative for the Owner's records.

Record Product Data. Maintain one copy of each Product Data Submittal. Mark these documents to show significant variations in the actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark up of Record Drawings and Specifications. Upon completion of markup, submit complete set of Record Product Data to the Owner's representative for the Owner's records.

SUBMITTALS

<u>General.</u> The Contractor shall submit to the Owner's Representative for review drawings, data and information in accordance with the applicable requirements of Section 01301 and as herein specified. Submittals shall include product specifications and descriptions, and drawings showing details together with related accessories.

<u>Miscellaneous record Submittals</u>. Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Owner's Representative for the Owner's records.

SUBSTANTIAL COMPLETION

<u>Preliminary Procedures</u>: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the work claimed as substantially complete. Include supporting documents for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the work is not complete.

Advise Owner of pending insurance change over requirements.

Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

Submit record drawings, final project photographs, damage or settlement survey, and similar final record information.

Make final change over of permanent locks and transmit keys to the Owner. Advise Owner of change over in security provisions.

Complete start up testing of systems. Discontinue or change over and remove temporary facilities from the site, along with construction tools, and similar elements.

Complete final clean up requirements, including touch up painting. Touch up and otherwise repair and restore marred exposed finishes.

<u>Inspection Procedures</u>: On receipt of a request for inspection, the Owner's Representative will either proceed with inspection or advise the Contractor of unfilled requirements. The Owner's Representative will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued. The Owner's Representative will repeat inspection when requested and assured that the work has been substantially completed. Results of the completed inspection will form the basis of requirements for final acceptance.

FINAL ACCEPTANCE

<u>Preliminary Procedures</u>: Before requesting final inspection for Certification of Final Acceptance and Final Payment, complete the following. List exceptions in the request.

Submit the Final Payment Request with releases and supporting documentation not previously submitted and accepted. Include Certificates of Insurance for products and completed operations where required.

Submit an updated final statement, accounting for final additional changes to the Contract Sum.

Submit a certified copy of the Owner's Representative's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Owner's Representative.

Submit final meter readings for utilities, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.

Submit consent of surety to Final Payment.

Submit a final liquidated damages settlement statement.

Submit evidence of final, continuing insurance coverage complying with insurance requirements.

Reinspection Procedure: The Owner's Representative will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Owner's Representative. Upon completion of reinspection, the Owner's Representative will prepare a Certificate of Final Acceptance, or advice the Contractor of work that is incomplete or of obligations that have not been fulfilled but are required for Final Acceptance. In the case where the contractor is advised that Work is incomplete or of unfulfilled obligations, the contractor shall perform the required work at no additional charge to the Owner. If necessary, reinspection will be repeated to the satisfaction of the Owner's Representative. If necessary, reinspection will be repeated.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

FINAL CLEANING

<u>General</u>: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".

<u>Cleaning</u>: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.

Remove labels that are not permanent labels.

Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

Clean the site, including landscape development areas, of rubbish, litter and foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction.

<u>Compliance</u>: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

END OF SECTION 01701

SECTION 01711 - PROJECT DECONTAMINATION

PART 1 - GENERAL

DESCRIPTION OF REQUIREMENTS:

General: Decontamination of the Work Area following asbestos abatement. The asbestos abatement Work of the Project is considered to be on damaged and/or friable asbestos materials. The Project Decontamination Work shall consist of a four step procedure with three cleanings of the Primary Barrier plastic prior to its removal and three cleanings of the work area surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all asbestos materials shall be considered damaged and/or friable for the purposes of this Section. During decontamination, operation of the pressure differential system shall be sued to remove airborne fibers generated by the abatement Work.

RELATED WORK SPECIFIED ELSEWHERE:

Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:

Section 02081 Removal of Asbestos-Containing Materials

<u>Work Area Clearance</u>: Air testing and other requirements which must be met before release of Contractor and reoccupancy of the work area are specified in Section 01714 Work Area Clearance.

Quality Assurance

All work shall conform to the applicable provisions of the codes, standards and Specifications as specified herein. Comply with specified standards as a minimum quality for the Work except where more stringent requirements apply. Where contradictions occur between codes, standards or Specifications, the more stringent shall apply.

SUBMITTALS

Comply with applicable requirements of Section 01301 as well as substantial completion documentation as follows:

- 1. Certified Visual Inspection
- 2. Disposal Documentation
- 3. Punch List

Submit test report from an independent testing laboratory on the fire resistance rating of the assembly of the spray back fire proofing on the lock back encapsulant

PART 3 - EXECUTION

GENERAL:

Work of This Section includes the decontamination of air in the Work Area which have been contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or

which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.

<u>Work of This Section</u> includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

Primary and Critical Barriers erected by work of Section 01526 Decontamination Unit erected by work of Section 01564 Pressure Differential System installed by work of Section 01513

Work of This Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floor) of the Work Area, and all furniture or equipment in the Work Area.

START OF WORK:

<u>Previous Work:</u> During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

<u>Start of Work</u>: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:

Primary Barrier: Two layers of polyethylene sheeting on floor and two layer on walls.

Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.

Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.

Decontamination Units: For personnel and equipment in operating condition.

Pressure Differential System: In operation.

FIRST CLEANING:

<u>First Cleaning</u>: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.

<u>Wait 96 Air Changes</u> to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period. This may vary depending upon variances that have been applied for from IDPH.

SECOND CLEANING:

<u>Second Cleaning</u>: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.

<u>Encapsulation of substrate</u>: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain Pressure Differential System in operation during encapsulation work. **Contractor will use a encapsulation product that will not jeopardize the building's current fire rating.** Perform work only after meeting the following requirements

Surfaces to be covered have met the requirements for a visual inspection in this section. Airborne fiber counts in the Work Area are at or below 0.01 fibers per cubic centimeter as measured by phase contrast microscopy.

Removal of Primary Barriers:

Immediately following the second cleaning of the Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:

Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.

Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.

Decontamination Unit: For personnel, in operating condition.

Pressure Differential System: Maintain in continuous operation.

THIRD CLEANING:

<u>Third cleaning</u>: Carry out a third cleaning of all surfaces in the work area in the same manner as the first cleaning immediately after removal of Primary plastic. This cleaning is now being applied to existing room surfaces. Take care to avoid water marks or other damage to surfaces.

<u>Contractor's Testing</u>: At the completion of the above cleaning visually inspect all surfaces. Clean again if any dust, debris, etc. is found. At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced-air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced-air equipment at any seal in any Critical Barrier. If any debris or dust is found repeat the cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced-air equipment.

Cover carpeting in the work area with 6 mil polyethylene during Contractor's testing procedures. Seal plastic to baseboards with duct tape.

<u>Cleaning Carpeting</u>: At the completion of cleaning of all surfaces except carpeting, HEPA vacuum carpeting designated to remain in Work Areas using a floor cleaning attachment adjusted so that rubber skirting is in contact with carpet surface. Use a passive (non-power brush type) floor attachment with rubber floor seals and adjustable above-floor height. Completely clean carpeting in one direction with each pass of the floor attachment overlapping the previous pass by one-half the attachment width. At the completion of one such cleaning, vacuum clean in the same manner in a direction at right angles to the initial cleaning.

<u>Wait 96 Air Changes</u> to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain pressure differential system in operation for the entire 96 air change period. This may vary depending on if any variances have been applied for from IDPH

LOCK BACK:

<u>Encapsulation of substrate</u>: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, before Removal of Work Area Isolation as specified below. Maintain Pressure Differential System in operation during encapsulation work.

VISUAL INSPECTION:

After Final Cleaning Perform a Complete Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any sources, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by Project Administrator.

<u>Temporary lighting</u>: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.

<u>Lifts</u>: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

FINAL AIR SAMPLING PCM:

<u>Phase Contrast Microscopy (PCM)</u>: After the Work Area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:

If Release Criteria are not met, repeat Final Cleaning and continue decontamination procedure from that point.

If Release Criteria are met continue with the air testing by Transmission Electron microscopy.

<u>Transmission Electron Microscopy (TEM)</u>: After the work area is found to be visually clean and PCM air sampling completed, TEM air samples will be collected and analyzed in accordance with the procedure for Transmission Electron Microscopy set forth in Section 01714 Work Area Clearance:

If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.

If Release Criteria are met, proceed to work of Article on removal of Work Area isolation.

FINAL AIR SAMPLING PCM:

<u>Work Area Size Limitation</u>: PCM without TEM sampling will be used to clear Work Areas where the asbestos-containing materials involved in the work are below the following size limitations:

Less than or equal to 160 square feet, or 260 linear feet.

<u>Phase Contrast Microscopy (PCM)</u>: After the work area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:

If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.

If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

REMOVAL OF WORK AREA ISOLATION:

Comply with applicable requirements of Section 01714 Work Area Clearance have been met:

Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.

Remove Personnel Decontamination Unit.

Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified in Section 01712 Cleaning & Decontamination Procedures.

Remove all equipment, materials, debris from the work site.

Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

<u>Asbestos Abatement Work is Substantially Complete</u> upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of: Certificate of Visual Inspection, Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material Punch list detailing repairs to be made and incomplete items.

CERTIFICATE OF VISUAL INSPECTION:

Section 01712 is a "Certificate of Visual Inspection". This certificate shall be completed by the Contractor and certified by the Project Administrator. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed. Following this section is a "Certificate of Visual Inspection". This certification is to be completed by the Contractor and certified by the Project Administrator. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed.

END OF SECTION - 01711

SECTION 01712 CERTIFICATION OF VISUAL INSPECTION

CERTIFICATION OF VISUAL INSPECTION

END OF SECTION - 01712

In accordance with Section 01711 "Project Decontamination" the Contractor hereby certifies that he has visually inspected the Work Area (<u>all</u> surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature)	Date
(Print Name)	
(Print Title)	
PROJECT ADMINISTRATOR CERTIFICATION	
	he has accompanied the contractor on his visual n thorough and to the best of his knowledge and belief, onest one.
by: (Signature)	Date
(Print Name)	_
(Print Title)	
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SECTION 01713 - CLEANING AND DECONTAMINATION PROCEDURES

PART 1 - GENERAL

RELATED WORK:

Section 01714 Other Sections as Specified

DESCRIPTION OF THE WORK: This section covers cleaning and decontamination procedures. Cleaning and decontamination Work shall be as required to satisfy requirements of related Work and as specified herein.,

RELATED WORK:

Work area clearance Section 01714. Other sections as specified herein.

PART 2 PRODUCTS - (NOT APPLICABLE)

PART 3 EXECUTION

GENERAL:

Complete the following before start of work of this section:

01527 Regulated Areas 01562 Respiratory Protection

WET CLEANING:

Accomplish wet cleaning during decontamination with paper towels or disposable rags:

Immerse paper towel or rag in container of water with surfactant, or diluted removal encapsulant. Wring out,

Fold into quarters,

Wipe surface once and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used.

<u>Dispose</u> of paper towel or rag, <u>Do not</u> place rag back in container to rinse out or for any other purpose. If a used towel or rag comes in contact with water, empty container and refill.

Material adhered to a surface with removal encapsulant may require the application of additional removal encapsulant to facilitate cleaning.

REMOVAL OF ASBESTOS-CONTAINING DEBRIS

<u>General.</u> Work of this Section is limited to the cleanup of a small quantity of amassed debris which has fallen from an architectural finish, fire-proofing, or thermal insulation on pipes boilers and other thermal equipment.

<u>Remove</u> asbestos-containing debris and decontaminate the area involved using the following sequence:

Shut down all ventilation into room.

Seal entry to work area with 6 mil polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

Start HEPA vacuum before entering the area.

Use the HEPA vacuum to clean a path at least 6 feet wide from the entry point of the work area to the site of the fallen material.

Remove all small debris with the HEPA vacuum.

HEPA vacuum surfaces of all pieces too large to be removed by the suction of the HEPA vacuum.

Pick up such pieces and place in the bottom of a 6 mil polyethylene disposal bag conforming to the requirements of Section 02084 Disposal of Asbestos-Containing Waste Material. Place pieces in the bag without dropping and avoiding unnecessary disturbance and release of material.

Remove all remaining visible debris with HEPA vacuum.

HEPA vacuum an area 3 feet beyond the location in which any visible debris was found in two directions each at right angles to the other.

Place a 6 mil polyethylene drop cloth in accordance with Section 01527, Local Area Protection, immediately on top of the HEPA vacuumed area before performing any repair work on site from which fall-out occurred.

HEPA vacuum the site from which material fell removing all loose material which can be removed by the vacuums suction.

Repair or remove remaining material.

HEPA vacuum ladder and/or any tools used and pass out of the work area.

HEPA vacuum all surfaces in the room starting at the top of wall and working downward to the floor. Then start at corner of floor farthest from Work Area entrance and work towards entrance.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one-half the width of the floor attachment. At the completion of one cleaning vacuum the floor a second time at right angles to the first.

Secure area from occupancy until air monitoring results per Section 01714 Project Decontamination indicate that area is safe for reoccupancy.

CLEANING AND DECONTAMINATING OBJECTS

Perform all work of decontaminating objects wherever possible on a plastic drop sheet installed.

HEPA vacuum all surfaces of object and immediate area before moving the object.

Pick-up object, if possible, and HEPA vacuum all surfaces.

Hand to off-sheet worker who will wet-clean object, if possible, and place in storage location.

Decontaminate area where object was located by HEPA vacuuming twice, in two perpendicular directions. Wet clean if necessary to remove any debris.

Return object to its original location.

DECONTAMINATION OF ROOMS:

Shut down all ventilation into space.

Seal entry to Work Area with 6 mil polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

Install Differential Pressure System in accordance with Section 01513.

Recirculate HEPA filtered fan units in space by operating them so that discharge from machine is back into room. Use one HEPA filtered fan unit for each 2,500 cubic feet of room volume.

HEPA vacuum all surfaces in the room starting at the ceiling, then top of wall and working downward to the floor.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time at right angles to the first.

Operate HEPA filtered fan unit in space for 24 hours minimum.

<u>At completion</u> of Decontamination Work workers decontaminate in accordance. Secure area from occupancy until air monitoring results per Section 01714 Work Area Clearance indicate area is safe for reoccupancy.

SECTION 01714 - WORK AREA CLEARANCE

PART 1 - GENERAL

Description. This Section describes work being performed by the Owner which will be used to determine if the Contractor has satisfied the requirements of the Contract Documents. This work is not in the Total Contract Price except as described herein.

This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Owner will use to measure these levels.

Contractor shall be responsible for all associated costs for providing additional Work Area Sample Clearance testing including remedial action required should the first set of clearance air tests fail to meet criteria inn this Section. Such additional Work Area air sample clearance testing shall be conducted in accordance with this Section.

RELATED DOCUMENTS:

<u>Visual Inspection</u>: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.

<u>Air Monitoring</u>: performed by the Owner during abatement work, is described in Section 01410 Test Laboratory Services.

CONTRACTOR RELEASE CRITERIA:

<u>The Asbestos Abatement Work Area is Cleared</u> when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.

VISUAL INSPECTION:

Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

AIR MONITORING:

<u>To determine if the elevated airborne asbestos structure concentration</u> encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following procedures.

Aggressive sampling All air samples will be taken using aggressive sampling technique.

<u>PCM and TEM samples</u> will be secured as indicated below. PCM samples will be analyzed and TEM samples will be transmitted to the laboratory. If the area meets the clearance criteria by PCM, then TEM analysis will proceed.

Work Area Clearance: upon meeting the TEM Clearance requirements the work of Section 01711 Project Decontamination can continue. If Contractor fails TEM Clearance, the Contractor will be responsible additional TEM clearance sample cost. This at owners discretion my also include additional project management cost.

SCHEDULE OF AIR SAMPLES:

The number and volume of air samples taken and analytical methods used by the Owner will be in accordance with **AHERA and IDPH requirements**. Minimum requirements are as follows, However the more stringent shall apply.

PHASE CONTRAST MICROSCOPY:

<u>Air Samples Taken</u> In each homogeneous Work Area after completion of all cleaning work, a minimum of 7 samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 mixed cellulose ester in a cassette with a conductive extension cord.

Location Sampled	Number of Samples	Analysis Method Fibers/o	Detection Limit cc.	Minimum Volume (Liters)	Date LPM
Each Work Area	5	PCM	0.01	1,200	1-10
or					
Each Room of Work Area	1 (5 min.)	PCM	0.01	1,200	1-10
Work Area Blank	1	PCM	0.01	0	open for 30 seconds
Laboratory Blank	1	PCM	0.01	0	Do Not Open

<u>Analysis</u>: Fibers on each filter will be measured using the NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987. <u>Fibers</u>: referred to in this section include fibers regardless of composition as counted by the phase contrast microscopy method used.

<u>Split Sample</u>: One Work Area sample will be split and both halves analyzed separately for duplicate analysis.

<u>Release Criteria</u>: Decontamination of the work site is complete when every Work Area sample is at or below the Detection Limit above. If any sample is above the Detection Limit then the decontamination is incomplete and recleaning per section 01711 Project Decontamination is required.

TRANSMISSION ELECTRON MICROSCOPY:

<u>Air Samples Taken</u> In each homogeneous work area after completion of all cleaning work, a minimum of 13 samples will be taken and analyzed as follows:

Location Sampled	Number of Samples	Analysis Method	Analytical Sensitivity Fibers/cc.	Recommended Volume (Liters)	Rate LPM	
Each Work Area	5	TEM	0.005	1,300-1,800	1-10	
Outside Each Work Area	5	TEM	0.005	1,300-1,800	1-10	

Work Area Blank	1	TEM	0.005	0	Open for
Outside Blank	1	TEM	0.005	0	30 Seconds Open for
Laboratory Blank	1	TEM	0.005	0	30 Seconds Do Not Open

Analysis will be performed using the analysis method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.

<u>Asbestos Structures</u> referred to in this Section include asbestos fibers, bundles, clusters or matrices, as defined by method of analysis.

Release Criteria: Decontamination of the work site is complete if either of the following two sets of conditions are met:

Work Area Samples are below filter background levels

All Work Area sample volumes are greater than 1,199 liters for a 25 mm. sampling cassette.

The average concentration of asbestos on the five Work Area Samples does not exceed the filter background level of 70 structures per square millimeter of filter area.

Work Area Samples are not statistically different from Outside samples

All sample volumes except for blanks are greater than 560 liters for a 25 mm. sampling cassette.

The average asbestos concentration of the three blanks is below the filter background level of 70 structures per square millimeter of filter area.

Average asbestos concentrations in Work Area Samples are not statistically different from Outside samples, as determined

by the Z-test calculation found in 40 CFR Part 763, Subpart E, Appendix A (Z is less that or equal to 1.65)

If these conditions are not met then the decontamination is incomplete and the cleaning procedures of Section 01710 shall be repeated.

<u>Termination of Analysis</u>: if the arithmetic mean (average) asbestos concentration on the blank filters exceed 70 structures per square millimeter of filter area the analysis will cease and new samples collected.

LABORATORY TESTING:

PHASE CONTRAST MICROSCOPY:

The services of a testing laboratory will be employed by the Owner to perform laboratory analysis of the air samples. A microscope and technician will be set up at the job site, so that verbal reports on air samples can be obtained immediately. A complete record, certified by the testing laboratory, of all air

monitoring tests and results will be furnished to the Owner's Representative, the Owner and the Contract

TRANSMISSION ELECTRON MICROSCOPY:

Samples will be sent by overnight courier for analysis by Transmission Electron Microscopy. Samples will not be carried on weekends, so that samples shipped on Friday will arrive on the following Monday. Verbal results will normally be available 24 hours after receipt of samples by the laboratory. The laboratory is capable of analyzing a maximum of 13 such samples from this project at any one time. All Transmission Electron Microscopy results will be available to the Contractor.

End of Section 01714

SECTION 01800 FINAL INSPECTION AND ACCEPTANCE

FINAL INSPECTION AND ACCEPTANCE

PART 1- GENERAL

WALK THROUGH INSPECTION

Upon completion of all Work specified in the Contract Documents, the Contractor shall perform final field walk-through inspection to verify that the overall requirements of the Contract Documents have been satisfied, and that all furniture, furnishings, material, equipment, and/or other items which were removed, shut-down disassembled, etc. during the abatement Work have been satisfactorily replaced, re-built, reinstalled, placed back into operation and/or otherwise restored to a condition equal to or exceeding the condition prior to the abatement Work. Acceptance inspections conducted on the completed Work will be witnessed and subject to the approval of the Owner.

FINAL ACCEPTANCE

When all Work has been completed, a thorough inspection will be made by the Owner in the company of the Contractor, and if the Work is found to comply with the Specifications, the Work will be formally accepted and the Contractor so notified in writing as to the Final Acceptance of the Work by the Owner.

CORRECTIVE ACTION PRIOR TO FINAL ACCEPTANCE

Should any Work be found to be inadequate, faulty, or otherwise not in accordance with these Specifications, it shall be the Contractor's responsibility to correct such Work at his/her own expense, prior to Final Acceptance.

GUARANTEE PERIOD

The period of guarantees shall commence immediately after Final Acceptance. Upon being notified of the Final Acceptance, the Contractor shall supply, to the Owner, a certificate of guarantee which shall guarantee all equipment and workmanship for a period of not less than one year or as otherwise specified in subsequent Sections of the Specifications.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

<u>Description.</u> The Work in this Section includes the removal of asbestos-containing materials from surfaces and/ or installations where such materials are present.

RELATED WORK:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.

Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos-Containing Waste Material.

QUALITY ASSURANCE

All work shall conform to the applicable provisions of the codes, standards and Specifications as specified herein. Comply with specified standards as a minimum quality for the Work except where more stringent requirements apply. Where contradictions occur between codes, standards or Specifications, the more stringent shall apply.

<u>Before Start of Work</u>: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

<u>Surfactant</u>: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.

<u>NESHAP Certification</u>: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).

<u>Material Safety Data Sheet</u>: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

Wetting Materials::

Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

MISCELLANEOUS MATERIALS

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black as indicated.

Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.

Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

Felt: Standard felt approximately 1/16" thick and 36" to 72" in width.

PART 3 - EXECUTION

SECONDARY BARRIER:

Secondary Barrier: Over the Primary Barrier, install as a drop cloth a clear 6 mil sheet plastic in all areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10'-0" of a wall extend the Secondary Barrier up wall to ceiling. Support sheet plastic on wall with duct tape, seal top of Secondary plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations.

Install Secondary Barrier at the beginning of each work shift. Install only sufficient plastic for work of that shift.

Remove Secondary Barrier at end of each work shift or as work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags. Keep material on sheet continuously wet until bagged.

Install Walkways of black 6 mil plastic between active removal areas and decontamination units to protect Primary Layer from tracked material. Install walkways at the beginning of, and remove at the end of, each work shift.

WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

WET REMOVAL:

<u>Thoroughly wet</u> to satisfaction of Owner's Representative Asbestos-Containing Materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

Remove saturated Asbestos-Containing Material in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit. Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

<u>Fireproofing or Architectural Finish on Scratch Coat</u>: Spray asbestos-containing fireproofing or architectural acoustic finish with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate materials to substrate. Do not over-saturate to cause excess dripping. Scrape materials from substrate. Remove materials in manageable quantities and control the descent to

staging or floor below, if over 20' use drop chute to contain material during decent. If using amended water, spray mist surface continuously during work process. If using removal encapsulant follow manufacturer's written instructions. Remove residue remaining on scratch coat after scraping using stiff nylon bristled hand brush. Use high pressure washer only with written authorization of Owner's Representative. If a removal encapsulant is used remove residue completely before encapsulant dries. If substrate dries before complete removal of residue re-wet with amended water or removal encapsulant.

<u>Fireproofing or Architectural Finish on Wire Lath</u>: Spray asbestos-containing fireproofing or architectural acoustic finish with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate material completely. Do not over-saturate to cause excess dripping. If surface of material has been painted or otherwise coated cut small holes as required and apply amended water or removal encapsulant from above. Cut wire lath into 2' X 6' sections and cut hanger wires. Roll or fold up complete with Asbestos-Containing Material and hand place in container. Do not drop on floor. After removal of lath and Asbestos-Containing Material remove any overspray on decking and structure above using stiff nylon bristled brush. Use high pressure washer only with written authorization from Owner's Representative. Use one of the following methods for containing waste.

Deposit material in corrugated paper board box. When box is full duct tape closed and place in disposal bag.

Wrap material in felt and place in fiberboard drum lined with two disposal bags. Use caution to insure that all edges of wire lath that could cut plastic are covered with felt.

Place material directly in a steel drum. Seal drums when full with leak tight seal. Drum is to be leak tight in any orientation.

<u>Pipe Insulation</u>: Spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. If a removal encapsulant is used, use in strict accordance with manufacturer's instructions. Cut bands holding performed pipe insulation, slit jackets at seams, remove and hand-place in a disposal bag. Remove job-molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush. In locations where pipe fitting insulation is removed from pipe with straight runs insulated with fibrous glass or other non-asbestos-containing fibrous material, remove fibrous material 6" from the point where it contacts the asbestos-containing insulation.

SECTION 02084 - DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

PART 1 - GENERAL

RELATED DOCUMENTS:

Section 01092 Codes and Regulations - Asbestos Abatement describes applicable federal, state and local regulations.

QUALITY ASSURANCE

All work shall conform to the applicable provisions of the codes, standards and Specifications as specified herein. Comply with specified standards as a minimum quality for the Work except where more stringent requirements apply. Where contradictions occur between codes, standards or Specifications, the more stringent shall apply.

DESCRIPTION OF THE WORK:

This section covers the disposal of Asbestos-Containing Materials. Disposal includes packaging of asbestos-containing waste materials. Disposal may be accomplished either by landfilling or converting asbestos containing materials to non asbestos waste.

SUBMITTALS:

<u>Before Start of Work</u>: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Copy of state or local license for waste hauler.

Name and address of landfill where asbestos-containing waste materials are to be buried. Include contact person and telephone number.

Product data on process to be used

Letters or other documents from the United States Environmental Protection Agency relative to the process.

Indicating that the process to be used can produce an asbestos-free product and is capable of satisfying the requirement for an acceptable "alternative" means of complying with Section 61.152(a) of the NESHAP for asbestos

Identifying process parameters or operating conditions important to the successful operation of the process

Chain of Custody form and form of waste manifest proposed

On a weekly basis submit copies of all manifests and disposal site receipts to Owner's Representative.

PART 2 - PRODUCTS:

<u>Disposal Bags</u>: Provide 6 mil thick leak-tight polyethylene bags labeled with three labels with text as follows:

First Label:

CAUTION
CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

Midwest Environmental Consulting Services, Inc.

Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS SUBSTANCE, SOLID, NOS, ORM-E, NA 9188 (ASBESTOS)

PART 3 - EXECUTION

Comply with the following sections during all phases of this work:

Section 01560 Worker Protection - Asbestos Abatement Section 01562 Respiratory Protection

GENERAL:

All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.

LOADING AND TRANSPORTING

Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following

Two 6 mil disposal bags or Two 6 mil disposal bags and a fiberboard drum or Sealed steel drum with no bag.

Protect interior of truck or dumpster with Critical and Primary Barriers as described in Section 01526 Temporary Enclosures.

Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestoscontaining waste and dispose of in accordance with this specification.

Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered.

AT DISPOSAL SITE UNLOAD CONTAINERIZED WASTE:

At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.

At a processing site truck and loading dock are arranged as a controlled work area and containerized waste is transferred to storage area by site personnel. All bags including broken ones will be transferred. Clean truck, using procedures set forth in section 01711 Project Decontamination.

Retain receipts from landfill or processor for materials disposed of.

At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to Owner's Representative.

ASBESTOS ABATEMENT PROJECT DESIGN

PREPARED ESPECIALLY FOR:

CRAWFORD, MURPHY & TILLY 2750 W. WASHINGTON STREET SPRINGFIELD, IL 62702-3497

PROJECT LOCATION:

AIRFIELD ELECTRICAL VAULT BUILDING - GREATER KANKAKEE AIRPORT 813 E. 4000 S. ROAD KANKAKEE, IL 60901

MEC PROJECT #: 21-08-505-PD



SITE LOCATION MAP



ASBESTOS ABATEMENT DRAWING INDEX

GENERAL:

G - 0 COVER SHEET

G - 1 SCOPE OF WORK / GENERAL NOTES

G - 2 COVID-19 POLICY

ASBESTOS ABATEMENT PLAN:

ASB - 1 1ST FLOOR - ASBESTOS ABATEMENT PLAN

Midwest
Environmental
Consulting Services, Inc.
Consulting Services Scientists

Consultant:

Midwest Environmental Consulting Services, Inc. 2551 N. Bridge Street Yorkville, IL 60560 Ph. 630.553.3989 Fax 630.553.3990 www.mec-us.com

CONTRACTOR TO FIELD VERIFY ALL QUANTITIES:

Project Designer:

LIC #:

Project Location:
Airfield Electrical Vault
Building
Greater Kankakee Airport
813 E. 4000 S. Road
Kankakee, IL 60901

Reference Surveys: 21-08-505-INSP

Client:

Crawford, Murphy & Tilly 2750 W. Washington Street Springfield, IL 62702-3497

REVISIONS

Drawn By:	R	Scale	: NTS

Date:

11/18/2021

Project No:

21-08-505-PD

Dwg. No:

G - 0

COVER SHEET

REVIEWED BY:

SCOPE OF WORK:

The Contractor shall follow all applicable IDPH, EPA, and OSHA rules and regulations. The Contractor shall install plywood barriers and/or lock doors with sufficient signage to isolate the building in order to prevent access by unauthorized personnel. Barriers shall be constructed in accordance with IDPH rules and regulations, Title 77 of the Illinois Administrative Code (77IAC), Section 855.430.

Owner will be responsible for removing all moveable objects from rooms where abatement is scheduled.

Contractor shall provide all worker paperwork to MEC's on-site Project Manager at the beginning of the shift on the first day of the project. If additional workers arrive during the duration of the project, their paperwork shall also be provided to the MEC Project Manager. For Asbestos Workers and Supervisors, this includes copies of the current IDPH license, training certificate, physical, and fit test for each person. All persons involved shall have his/her IDPH "hard card" license on-site each and every day said person is on-site. Any and all workers who do not provide the required documentation shall not be admitted to the project site by the MEC Project Manager.

Contractor shall be responsible for the removal of asbestos-containing window, door, and wall caulking and glazing utilizing non-friable removal methods within work areas as identified on the accompanying drawings. The Contractor shall regulate all work areas with caution tape and "ASBESTOS DANGER" demarcation. The Contractor shall install a 6-mil poly critical seal over all exterior air vent openings as applicable.

If the contractor chooses to remove the windows and doors from the exterior of the building, then 6-mil poly critical seals shall be installed over all window and door frames on the interior of the building. If the contractor chooses to remove the windows and doors from the interior of the building, then 6-mil poly critical seals shall be installed over all window and door frames on the exterior of the building.

Whether removal of window, door, or wall caulking and glazing is from the interior or exterior, one layer of 6-mil poly dropcloth shall be placed on the ground below the applicable area prior to removal. Dropcloths shall be discarded as ACM waste daily, and replaced with a new dropcloth the following shift. All windows, doors, glass, and frames shall be removed from the building and double-wrapped with 6-mil poly and disposed of as ACM waste. The Contractor shall remove all residual caulking around the perimeter of the window and door openings following the removal process. The Contractor shall walk the perimeter of the work areas at the end of each work shift to pick up and dispose of any suspect ACM debris. PCM air sampling will be conducted during window, door, and wall caulking and glazing removal to monitor fiber levels for the duration of the project.

No change orders will be entertained due to weather-related conditions.

Contractor shall protect all landscaping. Contractor shall repair or replace any damage that occurs to landscaping components not intended for removal.

A remote 3-chamber decon shall be constructed inside of a structure provided by the Contractor (e.g. trailer, plywood structure, etc.)

All waste shall be adequately wet and double-bagged. Waste containers shall be labeled and leak-proof. All waste with sharp-edged components shall be placed into drums for disposal. All equipment and double-bagged/labeled waste shall be transported from the work area directly to an enclosed, lockable, signed and poly-lined receptable. All double-bagged and labeled waste shall be transported from the work area in a covered gondola. No waste shall be left within the building overnight.

NOTES - GENERAL

- 1. Contractor is required to visit the project site in order to submit a bid.
- 2. Drawing identifies the scope of work and is identified as "WORK AREA".
- 3. Work will be completed following all applicable requirements.
- 4. The Owner will not accept any change orders based on the Contractor's failure to recognize unique conditions.
- 5. All permits and fees that need to be filed, are the responsibility of the Contractor. A copy of these permits and receipts shall be supplied to the Owner's representative prior to start of work.
- The replacement of the abated materials is not of this contract.
- 7. Contractor shall supply a licensed electrician to hook up electrical equipment if need be.
- 8. It is the Owner's responsibility to remove all moveable objects.
- 9. Contractor to use only IDPH-licensed workers.
- 10. Contractor's IDPH-licensed supervisor must be on site at all times.
- 11. Contractor is responsible for supplying electrical power and water.
- 12. All negative air shall be exhausted outside the building.
- Contractor shall be responsible for supplying adequate protection for workers.
- 14. Contractor shall comply with applicable building and safety requirements.
- 15. Walk-off mats shall be required at all entrances to work areas.
- 16. Contractor may be responsible for additional Project Management and Air Sampling, and any Additional Associated Costs (including Sampling) incurred due to Contractor delays and/or Contractor failure to perform.

SCOPE REVIEW				
INITIAL	SIGNATURE	DATE		



Consultant:

Midwest Environmental Consulting Services, Inc. 2551 N. Bridge Street Yorkville, IL 60560 Ph. 630.553.3989 Fax 630.553.3990 www.mec-us.com

CONTRACTOR TO FIELD VERIFY ALL QUANTITIES:

Project Designer:

LIC #:

Project Location:
Airfield Electrical Vault
Building
Greater Kankakee Airport
813 E. 4000 S. Road
Kankakee, IL 60901

Reference Surveys: 21-08-505-INSP

Client:

Crawford, Murphy & Tilly 2750 W. Washington Street Springfield, IL 62702-3497

REVISIONS

Number:	Date:	Rev. B

JWR Scale: NTS

Date:

11/18/2021

Project No:

21-08-505-PD

Dwg. No:

G - 1

SCOPE OF WORK / GENERAL NOTES

COVID-19 POLICY

While present on any of the building owners properties, all contractors shall be required to abide by the building owners COVID-19 document or their own company's internal COVID-19 policy, whichever is more strict. The Contractor shall provide their own company's internal COVID-19 policy/protocol, to be submitted with their bid. Any employee who does not at least meet the building owners protocols relating to COVID-19 may, at the building owners discretion, be permanently removed from the job site. The Contractor understands and acknowledges that any document relating to COVID-19 is subject to change at any time as more information is found out about this novel coronavirus, and as changes are made to documents, policies, and/or protocols, employees will be required to meet the expectations of those changes.

SCOPE REVIEW					
INITIAL	SIGNATURE	DATE			



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Project No:

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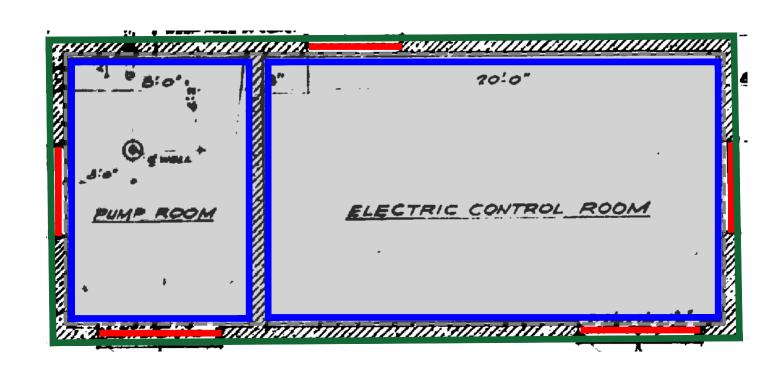
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COVID-19 POLICY

GENERAL ASBESTOS ABATEMENT NOTES:

- CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD.
- CONTRACTOR SHALL CHAIN AND LOCK DOOR OR INSTALL SEPARATION BARRIERS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO
- CONTRACTOR SHALL ERECT A DECONTAMINATION STRUCTURE.
- CONTRACTOR SHALL INSTALL A REMOTE 3-CHAMBER DECON.
- THE CONTRACTOR SHALL REMOVE ASBESTOS CONTAINING MATERIAL UTILIZING NON-FRIABLE REMOVAL METHODS ON THE INTERIOR AND EXTERIOR OF THE BUILDING.
- CONTRACTOR SHALL PLACE ONE LAYER OF 6-MIL POLY DROPCLOTH ON THE GROUND BELOW ALL APPLICABLE AREAS PRIOR TO REMOVAL. ALL DROPCLOTHS SHALL BE DISPOSED OF AS ACM WASTE.



LOCATION OF ACM WINDOW/DOOR CAULKING/GLAZING Environm LOCATION OF ACM Consulting जेवल्लंडक्ट, फिट INTERIOR CAULKING

ABATEMENT LEGEND:

1 2 3 3-CHAMBER DECON

LOCATION OF ACM EXTERIOR CAULKING

Consultant:

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Consulturita Englnaara Sciantists

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1ST FLOOR - ASBESTOS ABATEMENT PLAN