

# GENERAL PROVISIONS FOR CONSTRUCTION OF AIRPORTS

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## **SECTION 10 DEFINITION OF TERMS**

**10-01 Abbreviations.** Wherever the following abbreviations are used in these specifications or on the plans, they are to be construed the same as the respective expressions represented. Where used to designate a person, they shall mean the Administrator, Director or other principal executive officer thereof, or a duly authorized representative of such officer:

AAN	American Association of Nurseryman, Inc.
AASHTO	American Association of State Highway & Transportation Officials
AC	An FAA Advisory Circular
AGC	The Associated General Contractors of America, Inc.
ACE	American Iron and Steel Institute
ANSI	American National Standards Institute, Inc., (formerly ASA and USASI)
ARBA	American Road Builders' Association
AREA	American Railway Engineering Association
ASME	American Society for Testing and Materials
AWS	American Welding Society
CRSI	Concrete Reinforcing Steel Institute
DOL	United States Department of Labor
DOT	United States Department of Transportation
FAA	Federal Aviation Administration, U.S. DOT
FHWA	Federal Highway Administration, U.S. DOT
LEEE	Institute of Electrical and Electronics Engineers (formerly AIEE)
LES	Illuminating Engineering Society
NEC	National Electric Code (National Fire Protection Association)
MAC	Michigan Aeronautics Commission
MDOT	Michigan Department of Transportation
MSTC	Michigan State Transportation Commission
HEMA	National Electrical Manufacturers Association
SAE	Society of Automotive Engineers
SSPC	Steel Structures Painting Council
USDA	United States Department of Agriculture

**10-02 Definition of Terms.** Whenever the following terms are used in these specifications, in the contract, in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be interpreted as follows:

**10-03 Access Road.** The right-of-way, the roadway and all improvements constructed thereon, connecting the airport to a public highway. Also referred to as the airport entrance road.

**10-04 ADAP.** An acronym for the "Airport Development Aid Program," which is a federal grant-in-aid program administered by the FAA.

**10-05 Addendum.** A Special Provision issued to all prospective bidders by the Department, in collaboration with the Bureau and the consultant, after the date of advertising and prior to the date of bid opening, as a formal notice of any required change or interpretation of the plans, specifications or other contract documents.

**10-06 Administrator.** Aviation Administration or his duly authorized representative.

**10-07 Advertisement.** The public announcement or notice to contractors, as required by Law, inviting bids or proposals for work to be performed and materials to be furnished.

**10-08 Advisory Circular.** A document issued by the FAA containing informational material and guidance. When referred to in the plans and specifications, advisory circulars have the same force as supplemental specifications.

**10-09 Agency Agreement.** An agreement between the sponsor and the Michigan Aeronautics Commission authorizing the Aeronautics Commission to act for the sponsor in the receipt and disbursement of funds, the supervision of the preparation and execution of legal documents, the supervision of the preparation of plans, specifications, and the letting of contracts, the making of periodic inspections of construction and the performance of incidental administrative acts and coordination necessary for the successful accomplishment of the project within the laws of the State and the charters, laws, ordinances and resolutions of the sponsor. The administration of the agency has been delegated by the Aeronautics Commission, to the Department's Bureau of Aeronautics, which acts laterally through the other Bureaus of the Department to perform the necessary administrative functions under the jurisdiction of the Michigan State Transportation Commission.

**10-10 Agent.** The Michigan Aeronautics Commission acting as agent within the agency agreement with the sponsor. Also, the Bureau and the Department acting within delegated administrative authority.

**10-11 Air Operations Area.** Any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.

**10-12 Airport.** Any area of land or water which is used, or intended for use, for the landing and takeoff of aircraft, and any appurtenant areas which are used, or intended for use, for airport buildings and facilities located thereon.

**10-13 Authorization.** An approved change order.

**10-14 Award.** Acceptance of the successful bidders proposal and execution of a contract form by the airport owner for locally signed contracts, or by the Michigan State Transportation Commission for state signed contracts, as appropriate.

**10-15 Base Course.** The layer or layers of specified or selected material of designed thickness placed on a subbase or subgrade to support a surface course.

**10-16 Bidder.** The prequalified (where required) individual, partnership, firm, corporation, or a combination thereof, acting directly or through a duly authorized representative, formally obtaining proposal documents and submitting a proposal for the work contemplated.

**10-17 Building Area.** That part of an airport which is used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.

**10-18 Bureau.** The Bureau of Aeronautics, a bureau of the Michigan Department of Transportation, which bureau administers the agency agreement for the Michigan Aeronautics Commission.

**10-19 Calendar Day.** Every day shown on the calendar beginning and ending at midnight.

**10-20 Change Order.** A written order to the contractor prepared by the project engineer and approved by the Bureau, and, for ADAP contracts, the FAA, ordering a change that has been found necessary in the work from that originally shown on the plans and specifications but which is still within the general scope of the contract. If the work is of a nature involving an adjustment of unit prices, the executed Change Order shall become a Supplemental Agreement. Approved Change Orders

duly signed and executed by the contractor constitute authorized modifications of the contract.

**10-21 Commission.** The State Transportation Commission of the State of Michigan, a constitutionally established commission, or the Michigan Aeronautics Commission, a statutory commission of the State, each when referred to in applicable context.

**10-22 Consultant.** An engineer, architect or qualified firm engaged by the sponsor, with the assent of the Department, to prepare plans, specifications and other contract documents or to provide project engineering services and review of the material and work of the construction contract; also their principals, assistants and representatives.

**10-23 Contract.** The written agreement between the Owner and the contractor setting forth the obligations of the parties thereunder. The awarded contract includes, but is not limited to, the advertisement or invitation for bids, proposal, contract form, contract bond, specifications, general provisions, supplemental provisions, special provisions, general, detailed and standard plans, affidavits, notices, attachments, addenda, progress schedules, and notice to proceed, also any change orders and agreements which are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

**10-24 Contract Bond.** The approved form of security, executed by the contractor and his surety or sureties, guaranteeing execution of the contract and the payment of legal debts pertaining to the construction of the project.

1. **Lien (Payment) Bond.** The security furnished by the contractor and his surety to guarantee payment of the debts covered by the bond.

2. **Performance (Contract) Bond.** The security furnished by the contractor and his surety to guarantee performance of the work in accordance with the contract.

**10-25 Contract Item (Pay Item).** A specifically described item of work for which a price is provided in the contract. A major item is construed to be any item listed in the proposal, the total cost of which is equal to or greater than 5 percent of the total awarded contract amount. All other items shall be considered to be minor items.

**10-26 Contract Time.** The period of time, inclusive, from the date 10 days after the contractor is notified by the Department of the award of the contract, or from the date specified in the progress schedule for commencing work, to the specified completion date or until the specified number of calendar days has elapsed and in each case including authorized extensions of time. The starting date shall be confirmed to the contractor by a written Notice to Proceed.

**10-27 Contract Unit Price.** The price provided in the contract for a specifically described item or work.

**10-28 Contractor.** The individual, partnership or corporation, or any other combination thereof, primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work, who acts directly or through lawful agents or employees to complete the work.

**10-29 Department.** The Department of Transportation of the State of Michigan, acting through the State Transportation Commission. The Department is the parent organization for the Michigan Aeronautics Commission and the Bureau of Aeronautics and thereby performs certain executive and

administrative functions in the administration of the State Airport Program.

**10-30 Director.** The principal executive officer of the Department, as established by law, acting for the State Transportation Commission.

**10-31 Drainage System.** The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

**10-32 Earth Grade.** The completely graded surface before placing the pavement structure.

**10-33 Engineer.** The Director of the Department or the Chief Engineer of the Bureau and their designated representatives, the engineer or architect representing the owner, each when referred to in proper context.

**10-34 Engineer of the Bureau.** The Chief Engineer of the Bureau of Aeronautics, the Chief Construction Engineer of the Bureau, and their designated representatives.

**10-35 Equipment.** All machinery, together with the necessary supplies for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the work.

**10-36 Estimate.**

1. **Final Estimate.** A compilation of final quantities showing work performed, upon which basis final payment is made.

2. **Periodic or Progress Estimate.** An estimate made periodically as the work progresses showing estimated work performed and materials furnished and upon which basis periodic payments are made.

**10-37 Extension of Time.** The additional contract time authorized by the Owner, through the Department, beyond the original calendar date, or number of calendar days, specified in the contract.

**10-38 Extra Work.** Any work which is determined to be essential to the satisfactory completion of the contract and which does not appear in the proposal as a specific item of work and which is not included in the price bid for other items in the contract.

**10-39 Federal Specifications.** The Federal Specifications and Standards, and supplements, amendments, and indices thereto, are prepared and issued by the General Services Administration of the Federal Government. They may be obtained from the Specifications Activity, Printed Materials Supply Division, Building 197, Naval Weapons Plant, Washington, D.C. 20407.

**10-40 Inspector.** An authorized representative of the project/engineer assigned to make all necessary inspections and/or tests of the work performed or being performed, or of the materials furnished or being furnished by the contractor.

**10-41 Intention of Terms.** Whenever, in these specifications or on the plans, the words, "directed," "required," "permitted," "ordered," "designated," "prescribed," or that the direction, requirement, permission, order, designation, or prescription of the Engineer or project engineer is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to such engineer, subject in each case to the final determination of the owner.

Any reference to a paragraph or subparagraph within a section

shall include the general provision of the section or sections and paragraph pertinent thereto.

**10-42 Laboratory.** The official testing laboratories of the owner of such other laboratories as may be designated by the engineer or project engineer. The testing laboratory of the Department, if designated.

**10-43 Lighting.** A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

**10-44 Materials.** Any substance specified for use in the construction of the contract work.

**10-45 MIL Specifications.** The Military Specifications and Standards, and indices thereto, are prepared and issued by the Department of Defense. They may be obtained from the Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120, Attn: Code CDS.

**10-46 Net Prequalification.** A bidder's net prequalification is the current unencumbered balance of his established prequalification rating and will be obtained by subtracting his uncompleted contractual obligation from his established rating.

**10-47 Notice or Written Notice.** A written message or directive from the Department or project engineer to the contractor; or a message from the contractor to the project engineer. Notices shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if necessary, delivered at or sent by certified or registered mail to the last business address known to him who gives notice.

**10-48 Notice of Award.** A written notice to the successful bidder stating that his bid has been accepted and that, in accordance with the terms of the advertisement, proposal and the specifications, he is required to execute the contract and furnish satisfactory contract bond.

**10-49 Notice to Proceed.** A written notice to the contractor to proceed with the contract work including, when applicable, the date of beginning of contract time.

**10-50 Owner.** The owner or sponsor is any public agency which, either individually or jointly with one or more other public agencies is the party of the first party signatory to the contract. See also Sponsor.

**10-51 Pavement.** Any combination of subbase, base course, and surface course, placed on a subgrade and considered as a single unit.

**10-52 Plan Grade.** Vertical control grade shown on plans.

**10-53 Plans.** The official approved plan drawings, profiles, typical cross sections, applicable standard plans, working drawings and supplemental drawings, or exact reproductions thereof, which show the location, character, dimensions, and details of the airport and the work to be done, and which are to be considered as a part of the contract.

**10-54 Prequalification.** The limitations or the process, in accordance with the "Administrative Rules Governing the Prequalification of Bidders," by which the Department establishes limitations on amounts and types of work contractors are permitted to bid on.

**10-55 Progress Schedule.** A part of the contract

pertaining to the order of proceeding with the various items of the work to be done and the rate of progress for completing said items of work.

**10-56 Project.** The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

**10-57 Project Engineer.** The engineer architect or qualified consulting firm engaged and authorized by the sponsor, with the assent of the Department, to provide specified field and administrative engineering services, review materials and workmanship, and monitor the performance of the construction contract to enforce its intent; also the designated representatives of such engineer, architect or consulting firm working within the policies and procedures of the principal or firm.

**10-58 Proposal.** The written offer of the bidder, on the furnished proposal form, to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.

**10-59 Proposal Forms and Documents.** The forms furnished by the Department, on which the written offer or formal bid is to be prepared and submitted for the construction to be done, including all attached certificates, specifications, provisions and requirements.

**10-60 Proposal Guaranty.** The security designated in the proposal and furnished by the bidder as a guaranty of good faith to enter a contract for the work proposed if his proposal is accepted by the owner.

**10-61 Public Agency.** Public agency means the United States Government or any agency thereof; a State, or any agency of any of them; a municipality or other political subdivision; a tax-supported organization; or an authority combining or acting for several political entities.

**10-62 Right-of-Way.** All lands or other property interests provided or acquired for the development and operation of an airport and its appurtenances.

**10-63 Runway.** The area on the airport prepared for the landing and taking off of aircraft

**10-64 Shoulders.** That portion of the runway or taxiway adjacent to the pavement areas.

**10-65 Special and Supplemental Provisions.** The specific clauses setting forth conditions or requirements peculiar to the project under consideration. See also "Specifications."

**10-66 Specifications.** A general term applied to all written directions, provisions and requirements pertaining to performance of the work and which are to be considered as a part of the contract.

1. **Standard Specifications.** All specified requirements and general provisions extracted from the FAA Standards for Specifying Construction of Airports, or prepared by the Bureau or the designer and included with the proposal and contract.

2. **Supplemental Specifications.** Detailed specifications, prepared by the Bureau or the designer, supplemental to or superseding the Standard Specifications.

3. **Special and Supplemental Provisions.** The special requirements, regulations, or directions prepared to cover work on a particular project not provided by the Standard Specifications or Supplemental Specifications. An addendum is a Special Provision.

**10-67 Sponsor.** A public agency or a political subdivision of the State of Michigan in whom rests the title to the airport at which the construction under this contract is to be performed. Political subdivision refers to a County, City, Village, Township, or any combination or authority thereof as provided by law for the construction and operation airports. The sponsor may also be referred to as the owner in the several parts of the contract.

**10-68 Standard Plans.** Those plans which contain standard details of contract items and materials which are in general use.

**10-69 Structures.** Airport facilities such as bridges; culverts; catch basins; inlets; retaining walls; cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts; manholes, handholes, lighting fixtures and bases; transformers; flexible and rigid pavements; navigational aids; buildings; vaults; and other manmade features of the airport that may be encountered in the work and not otherwise classified herein.

**10-70 Subbase.** The layer of specified material of designed thickness placed directly on the subgrade and beneath the base course as a part of the pavement structure.

**10-71 Subcontractor.** The prequalified (where required) individual, partnership or corporation, or a combination thereof, undertaking the execution of a part of the work under the terms of the contract, by virtue of an agreement.

**10-72 Subgrade.** That portion of the soil or earth grade upon which the pavement structure is to be placed.

**10-73 Superintendent.** The contractor's executive representative present on the work during progress, authorized to receive and fulfill instructions from the project engineer, and who shall supervise and direct the construction.

**10-74 Supplemental Agreement.** A written proposal and agreement executed by the contractor and by the owner, with the approval of the Department and the contractor's surety, covering work not included in the proposal or on the plans as specified in Section 40, which is necessary to the proper completion of the project. See also "Change Order."

**10-75 Surety.** The legal entity which is bound with and for the contractor for the performance of the contract and for the payment of all lawful indebtedness pertaining thereto.

**10-76 Surface Course.** The top layer of designed thickness of the pavement structure.

**10-77 Taxiway.** The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.

**10-78 Words in Contract.** In interpreting the contract documents, words describing materials or work which have a well-known technical or trade meaning, unless otherwise specifically defined in the contract documents, shall be construed in accordance with such well-known meaning as commonly used and recognized by architects, engineers and the construction trades.

**10-79 Work.** The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all duties and obligations imposed by the contract.

**10-80 Working Day.** Any day other than a legal holiday, Saturday, or Sunday, on which the normal working forces of the contractor may proceed with regular work for at least 6 hours

toward the completion of the contract. Unless work is suspended for causes beyond the contractor's control, Saturdays, Sundays and holidays on which the contractor's forces engage in regular work, requiring the presence of an inspector will be considered as working days.

**10-81 Work Drawings.** Stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplementary plans or similar data which the contractor is required to submit to the engineer for approval.

**10-82 Working Time.** The working time stated in the proposal and contract as a definite number of working days or calendar days or as a final date of completion of the work. Said working time shall be considered an essential part of the contract.

**10-83 Work Order.** A written order of contractual status, when the Department is the contracting agency, signed by the engineer and requiring performance by the contractor.

## **SECTION 20 BIDDING REQUIREMENTS AND CONDITIONS**

**20-01 Competency of Bidders** Unless otherwise provided, Bidders must be prequalified for the categories of work on which they submit a proposal. A Bidder's net prequalification must be equal to or greater than that required for the proposed contract. When required in the proposal, the Bidder must designate other prequalified Contractors to whom they will subcontract those categories of work for which they lack prequalification, according to Subsection 80-01.

**20-02 Contents of Proposal Form** Prequalified Bidders and Certified DBE's, for whom prequalification has been waived, will be furnished a Proposal Form that will give the following:

- a. Location and description of the contemplated work;
- b. Estimate of the various item quantities and kinds of work to be performed and/or materials to be furnished;
- c. Schedule of items for which proposed unit prices are invited;
- d. Specified days or date in which the work must be completed;
- e. Amount of the proposal guaranty;
- f. Date, time and place for filing and opening of proposals; and
- g. Special Provisions, Supplemental Specifications or other requirements that vary from or are not contained in the Standard Specifications or on the plans.

If the basis of Proposal comparisons is to be other than total cost, the comparison basis to be used will be defined.

The plans, specifications, and other documents designated in the Proposal Form are considered part of the Proposal whether attached or not.

The prospective Bidder will be required to pay the Department's contracted agent at the rate stated in said contract for each copy of the proposal and each set of plans obtained.

### **20-03 Interpretation of Bid Items in the Proposal Form**

The quantities appearing in the listing of Bid Item are estimated and will be used in the comparison of proposals. Payment to the Contractor will be for the actual quantities of work performed and accepted or materials furnished according to the contract. The quantities of work and materials as provided in the contract may be increased, decreased, or deleted, as provided herein.

### **20-04 Examination of Plans, Specifications, and Work Site**

Bidders shall carefully examine the Proposal Form, plans, specifications and the work site until the Bidder is satisfied as to all local conditions affecting the contract and the detailed requirements of construction. The submission of a proposal shall be considered prima facie evidence that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and the requirements of the contract. Bidders shall familiarize themselves with all the requirements of Federal, State, and local laws, ordinances, and permits that may directly or indirectly affect prosecution of work and furnishing of necessary materials.

**20-05 Preparation of Proposal** The proposal shall be legibly prepared in ink, or typed, on the form provided or may be computer generated. The Bidder shall specify a unit price for each item, except where a lump sum item is called for. Prices for lump sum items shall be entered only in the Amount column.

The proposal shall be signed by an authorized representative

of the Bidder and include the complete address of the Bidder. Authorized representatives of the Bidder are those individuals designated under "Persons Authorized to Execute Contracts" on the MDOT form 1313 *Prequalification Application*. Form 1313 must be properly completed and submitted in accordance with the Bureau of Finance and Administration's *Classification and Rating of Bidders* procedures.

A Bidder may alter a unit or lump sum item price entered on the Proposal. To make an alteration, the Bidder shall cross out the entry, and enter the new figure above or below the deleted entry. An authorized representative of the Bidder must initial on the line of the change. Any alteration and initials shall be handwritten in ink.

**20-06 Irregular Proposals** By submitting a proposal, a Bidder agrees to the procedures and standards for accepting or rejecting irregular proposals. Unless this section is expressly modified by the Department in the Proposal Form, a statement that a proposal may or will be rejected for a specified reason will be acted upon pursuant to the following:

a. Proposals will be considered irregular and will be rejected for any of the following reasons:

1. The proposal does not contain a unit price for each pay item listed in the Unit Prices column or Lump Sum price in the Amounts column, as applicable. While a blank space is unacceptable, the explicit quotation of zero does constitute a price and, if awarded the contract, the Bidder would be bound to perform that item of work for zero payment and to do so to the same extent as if a positive numeric price had been quoted.

2. A unit price in the Unit Price column or Lump Sum price in the Amounts column is not capable of being read or deciphered by the Department. In attempting to read or decipher a price, the Department may consider other information in the proposal which tends to confirm what the digit(s) in question represent.

3. The proposal is not signed by a authorized representative of the Bidder who has been designated in writing in accordance with Subsection 20-5.

4. The Bidder, except as otherwise provided in this Subsection, is not prequalified or has insufficient prequalification for the category(s) of work specified as necessary for purposes of submitting bids.

b. Proposals will be considered irregular and may be rejected for any of the following reasons:

1. A Unit Price or a lump sum item, has been altered and has not been revised as provided in Subsection 20-05.

2. The form is altered or any part of the form is detached.

3. There is an unauthorized addition, deletion, or alteration to the proposal.

4. There is an unauthorized alternate proposal or conditional proposal.

5. There is an irregularity of any kind which tends to make the proposal incomplete, indefinite, or ambiguous as to its meaning.

6. The proposal fails to comply with any other proposal requirement.

7. Any provision is added to the proposal reserving the right, for the Bidder, to accept or reject an award of the contract.

c. It is the intention of the Department to waive irregularities in Subsection 20-06.b and accept the lowest qualified proposal whenever the

considerations set forth in this subsection do not justify rejection of the proposal. In determining whether to waive an irregularity and accept a proposal, the Department will consider whether the nature or extent of the irregularity is such that acceptance of the proposal might confer on the Bidder an unfair advantage or possibility for proposal manipulation; jeopardize funding for the project; impose unreasonable administrative burdens on the Department; or, otherwise undermine the integrity of a fair, open and honest competitive bidding process. Where to do so would not be contrary to those considerations, the Department may allow a Bidder to remedy a proposal irregularity but in no event will a Bidder be permitted to do so by increasing or decreasing its proposal price for the project as specified in the proposal documents. The authority to waive irregularities is not intended to allow the Department to choose among multiple prices improperly quoted for the same item of work where only one of those choices would make that proposal the lowest accepted proposal.

- d. Only a Bidder whose proposal has been rejected pursuant to Subsection 20-06 and who would otherwise be the lowest Bidder has an opportunity to appeal a proposed rejection in subsection 30-03. Once all administrative appeals are exhausted under subsections 30-01 and 30-02, the decision of the Department or the Commission is final and binding on all Bidders.

**20-07 Reserved for Future Use**

**20-08 Delivery of Proposal** The proposal shall be submitted in a sealed envelope. The envelope must plainly show the proposal item number from the cover page of the Proposal Form and the name and address of the Bidder. All proposals must be received by the Department prior to the time and at the place specified in the advertisement.

**20-09 Withdrawal or Revision of Proposal** A proposal may be withdrawn or revised prior to the time set for opening proposals. A request to withdraw the unopened proposal may be done in person or writing. An authorized representative of the Bidder must appear in person to revise the proposal.

**20-10 Public Opening of Proposals** Proposals will be opened publicly and the total amount of each proposal will be read aloud at the time and place specified in the advertisement.

## **SECTION 30 EXECUTION AND AWARD OF CONTRACT**

Bidders.

**30-01 Proposal Review** All proposals will be reviewed for mathematical errors by appropriate departmental staff to determine the apparent low Bidder. The proposal of the apparent low Bidder will then be reviewed to verify compliance with all proposal requirements. If the apparent low bid is determined to be subject to possible rejection due to bidding irregularities, this process of verification will be repeated until a proposal meeting all requirements is found. Apparent low bids which are found to be subject to rejection will be referred to the Proposal Review Committee for review and decision. After an acceptable low bid is determined, the proposal prices will be published.

**30-02 Proposal Rejection** Contractors, whose proposals are rejected after review by the Proposal Review Committee, will be notified by the Administrator, Contract Services Division or designee of the intended rejection, the reasons for that action, the availability of an appeal to the Proposal Appeal Committee, and the appeal procedure. Where circumstances warrant and permit, the Administrator, Contract Services Division or designee may meet with the Contractor or have a telephone discussion to facilitate an understanding of the problem and the Contractor's position. Only a Bidder whose proposal has been rejected pursuant to Subsection 20-06 and who would otherwise be the lowest Bidder, has a right to file an appeal. Where successive rejections of the proposals of low Bidders occur pursuant to Section 20-06, each such Bidder may file an appeal.

**30-03 Proposal Rejection Appeal** The appeal process shall proceed very quickly to a final decision so that the process does not impede the award of a contract. The Contractor's written appeal of a proposal rejection must be received at the office of the Administrator, Contract Services Division, within five calendar days (or a shorter time period, if so designated by the Administrator, Contract Services Division or designee) after the Contractor has been notified of the decision to reject the proposal. The appeal shall state why the Contractor disputes the decision and shall supply pertinent information. If circumstances are deemed to warrant a time period less than five calendar days for filing the appeal, the Administrator, Contract Services Division or designee will notify the Contractor of the shortened period within which to file the appeal.

**a. Proposal Appeal Committee.**-The Administrator, Contract Services Division, or designee, will assemble and submit all relevant information, including the decision of the Proposal Review Committee, along with material and information submitted by the Contractor, to the Proposal Appeal Committee.

The Proposal Appeal Committee will review the information provided by the Administrator, Contract Services Division or designee, conduct any further inquiry or review it deems appropriate, and decide the issue. Although the Committee will usually decide the issue on the basis of the written appeal of the Contractor and other information supplied by the Administrator of the Contract Services Division or designee, the Committee may request that the Contractor meet with the Committee to review the issue.

The Deputy Director, Bureau of Finance and Administration, or designee, will notify the Contractor, and other appropriate persons, in writing, of the decision by the Proposal Appeal Committee. If the contract must be approved by the Commission, the Contractor will also be notified of the right to file an appeal with the Commission and the appeal procedure. Only a Bidder whose proposal has been rejected pursuant to Subsection 20.06 has a right to file an appeal. If the contract does not require approval of the Commission, the decision of the Proposal Appeal Committee is final and binding on all

**b. Appeal to the Commission.**-A Contractor's written appeal of a bid rejection by the Proposal Appeal Committee, on a contract which must be approved by the Commission, must be filed not later than five calendar days after the decision of the Proposal Appeal Committee, or by 3:00 p.m. on the day immediately preceding the date on which the Commission is scheduled to consider approval of the contract, whichever is sooner. If the Contractor has less than 24 hours notice (verbal or written) of the decision of the Proposal Appeal Committee, before the appeal submission deadline, the Contractor may file the written appeal not later than 9:00 a.m. on the day of the Commission meeting.

The Commission will review the information provided by the Department and the Contractor and decide the issue. The decision of the Commission is final and binding on all Bidders.

**30-04 Consideration of Proposals** To determine the lowest Bidder, the proposals will be compared on the basis of the sum of the products of the quantities and the unit bid prices. In case of discrepancy between this calculated total and the total shown in the proposal, the unit prices as written in the proposal shall govern and all errors found in said computations will be corrected.

A Bidder may be considered eligible for award, even though the bid exceeds the Bidder's prequalification, when the Bidder was properly issued the Proposal Form and is determined to be the lowest Bidder on only one proposal. If a Bidder is the determined lowest Bidder on more than one proposal, and the total amount of the proposals exceeds the Bidder's net prequalification, the Department will award the contract(s) in a manner best suited to the Department's interest.

The Department may reject proposals, waive irregularities according to Subsection 20-06, advertise for new proposals, or proceed to do the work in other ways as it determines to be in its best interest. These actions will not entitle Bidders to payment for costs of preparation of the proposal or anticipated profits.

**30-05 Construction Progress Schedule** In addition to any progress schedule in the Proposal Form, the successful Bidder will be required to submit a progress schedule (see Subsection 80-03). When approved, the progress schedule will become part of the contract.

The Contractor must update the progress schedule within 14 days of the occurrence of any of the following events. Failure to do so may result in biweekly pay estimates being withheld.

- a. The project falls behind the schedule detailed in the approved progress schedule
- b. Extra work, changes in quantities, or adjustments to the contract, when ordered by the Engineer, impact a controlling operation identified in the approved progress schedule.
- c. There is a revised sequence of operations that impacts the approved progress schedule.
- d. The reasons for the overlap of controlling operations change.

Failure on the part of the Contractor to carry out the provisions of the approved progress schedule may be considered sufficient cause to prevent bidding future projects until a satisfactory rate of progress is again established.

**30-06 Execution and Award of Contract** The Department

will provide the contract and bond forms to the determined lowest Bidder, at the address given on the proposal. Within 28 days of transmittal, the fully executed contract, bond forms, and all other documents required by the Department must be returned. An extension of the deadline may be requested during the 28 days which will not be denied without cause. If the required documents are not returned to the Department within 28 days, the Department may award the contract to the second lowest Bidder. If the contract is not executed by the Department within 49 days of opening of the proposals, plus all approved extension of the Bidder's deadline, a determined lowest Bidder may withdraw the proposal without penalty. The contract will be awarded and binding on the signers only when it has been fully executed by both the determined lowest Bidder and the Owner.

### **30-07 Reserved for Future Use**

**30-08 Requirements of Contract Bond** The determined lowest Bidder shall furnish performance and lien bonds each for not less than 100 percent of the total contract price. The bonds shall be on the forms provided by the Department. The bonds shall meet the requirements of Michigan law and of the Department and include other items such as the powers of Attorney and Endorsement as specified by the Department.

**30-09 Proposal Guaranty Payment** Failure on the part of the determined lowest Bidder to execute the contract form and file satisfactory bonds and other required documents necessary for the award of the contract within the 28 day period provided, or within such extended period as may be approved by the Department, will result in the payment of the proposal guaranty to the awarding authority.

Each Bidder has a positive duty to carefully prepare its proposal and to check its accuracy. A non-payment proposal guaranty will be returned under this subsection only if the Bidder clearly demonstrates that:

- a. It made a substantial error such that acceptance of the contract would impose a substantial and unjustified hardship on the Bidder, given the size and nature of the project, or
- b. There exist extraordinary circumstances beyond the control of the Bidder in which acceptance of the contract would impose a substantial and unjustified hardship on the Bidder, given the size and nature of the project.

A mistake in judgement in preparing the proposal will not warrant non-payment of the proposal guaranty absent a compelling showing that enforcing payment of the guaranty would be unconscionable under all circumstances. The burden is on the Contractor to clearly and convincingly satisfy the criteria for non-payment of the proposal guaranty.

A request for non-payment of a proposal guaranty under this section shall be made in writing to the Administrator, Contract Services Division, or designee, and will be considered and decided upon by the Proposal Appeal Committee. The Committee may require that the Bidder produce original bid documentation and submit other information to enable the Committee to decide the matter. The Committee may also request that Department staff review the documentation and other information and make a recommendation to the Committee. Where the Committee, in its sole determination, finds the documentation and other information provides a partial justification, the committee may make a correspondingly partial reduction of the proposal guaranty. The decision by the Committee is final and binding on the Bidder.

Bidding practices, competitive considerations and last minute price changes commonly result in item prices which, in

isolation, could be mischaracterized as proposal errors. Payment of the proposal guaranty is intended to deter Bidders from manipulating the competitive process by mischaracterizing such item prices as proposal errors to justify withdrawal of low proposals, after all proposals have been publicly opened. Payment of the proposal guaranty also constitutes liquidated damages for failure to accept award of the contract, since it is difficult to determine the actual damages for the breach as they are uncertain in nature and impossible to estimate with certainty. The damages include the various administrative costs as well as other losses, damages, and costs resulting from the failure of the Bidder to accept award of the contract.

**30-10 Subletting Contract Work to Disadvantaged Business Enterprises (DBE)**. The DBE portion of work set for a project, as specified in the notice of advertisement, shall be made available to Department certified Disadvantaged Business Enterprises (DBEs). Compliance with the designated DBE participation goal must be met by the utilization of DBEs to perform commercially useful functions as required by 49 CFR 26.55 of the Federal Register.

The names of the DBEs and the description of work to be performed by each will be submitted by the apparent low Bidder to the Contract Services Division of the Department within 14 days after the furnishing of the contract and bond forms to the apparent low Bidder. This information will be submitted on the forms provided by the Department and signed by an authorized signer for each certified DBE and the prime Contractor.

A Bidder who fails to submit the names of certified DBEs and the description and value of work to be performed by each DBE, sufficient to meet the DBE participation goal, will be deemed ineligible for award of the contract unless the Bidder submits a request for consideration of waiver or modification of the DBE participation goal on the form and in the format required by the Department or is granted additional time to correct an inadvertent error.

- a. Pre-Award Waivers or Modifications. If an apparent low Bidder submits a request for waiver or modification of the DBE participation goal the contract will not be awarded until a determination is made by the Department. The Contractor must submit evidence of good faith efforts to meet the DBE participation goal. The Department will advise the Contractor of its decision by certified mail.

If the Department denies the request, the Department will notify the Bidder of the determination by certified mail. The determination will include a statement of any additional good faith efforts that the Bidder may take in order to effect compliance. The Bidder will have ten calendar days from the date of the Bidder's receipt of such determination to comply or appeal. If the Bidder fails to comply with the Department's determination within the ten calendar day period, the Bidder will be deemed ineligible for award of the contract.

- b. Post-Award Waivers or Modifications. 49 CFR 26.53 provides that prime Contractors may not terminate for convenience an approved DBE working on a federally-assisted contract, and then perform the work of the terminated DBE. Additionally, the Department will be notified immediately of a DBE's inability to perform any and all of its work and the Contractor's intent to obtain a substitute DBE. Contractors are required to make a good faith effort to replace a DBE that is unable to perform with another DBE. The substitute DBE must be approved by the Department prior to starting work.

The Contractor may, after award, request a waiver or modification of the DBE participation goal. The Contractor must submit evidence of good faith efforts to meet the DBE participation goal and include proof that on the date the Contractor became aware the DBE goal would not be met, the amount of contract work remaining was carefully reviewed to identify other work which could be subcontracted to DBE firms.

If the Department determines the Contractor has demonstrated a sufficient good faith effort to achieve the goal, the Department will modify or waive the goal as requested. If the Department denies the request or modifies the goal in a manner other than that requested, the Department will notify the Contractor by certified mail within 20 calendar days of receipt of the request.

Requests for waiver or modification of the goal for DBE participation will be submitted to the Office of Equal Opportunity (OEO). The Department will evaluate the good faith efforts of the Contractor based on the direction provided by 49 CFR, Appendix A to Part 26-Guidance Concerning Good Faith Efforts of the Federal Register. Where deemed appropriate and/or required, the concurrence to the Federal Aviation Administration will be sought.

- c. Appeals. A Contractor receiving an adverse determination, related to their request for waiver or modification of the DBE participation goal, may appeal the determination. Written appeals must be submitted to the Office of Equal Opportunity (OEO) within ten calendar days of the Contractor's receipt of the Good Faith Determination Committee's decision. The Appeal Panel's determination will be provided by certified mail to the Contractor with 15 calendar days of the determination. Determination of the Appeals Panel are administratively final.

The Department reserves the right to modify any requirement or shorten any time period where the need to place the project under contract is such that the public interest warrants such action and would be impaired by further delay. If the Department waives any of these requirements, except the length of a time period, it will assure that no Bidder is given a material competitive advantage by these actions.

- d. Reports. The prime Contractor is required to submit to the Engineer a complete MDOT Form 164 *Prime Contractor Statement of DBE, Subcontractor Payments* once every three months according to the form schedule.

A Final statement will be submitted within 30 days after the Engineer's submission of the final pay estimate.

- e. Penalties. Failure to fulfill the DBE subcontracting requirement may result in the Department exercising the rights and remedies available in accordance with the provisions of the contract and may be considered a breach of contract. These may also include suspension, reduction, or removal of the Contractor's prequalification as stated in the *Administrative Rules Governing the Prequalification of Bidders for Highway and Transportation Construction Work*.

## **SECTION 40 SCOPE OF WORK**

**40-01 Intent of Contract.** The intent of the contract is to provide for construction and completion, in every detail, of the work described by the plans and documents. It is further intended that the contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract. Any work that may reasonably be inferred from the drawings, specifications, or other contract documents, as required to produce the intended results, shall be furnished whether or not it is specifically called for.

**40-02 Alteration of Work and Quantities.** The owner, through the Engineer of the Bureau, reserves and shall have the right to make such alterations in the work as may be necessary or desirable to complete the work originally intended in an acceptable manner.

Unless otherwise specified herein, the project engineer, with the concurrence of the Engineer of the Bureau, shall be and is hereby authorized to make such alterations in the work as may increase or decrease the originally awarded contract quantities, provided that the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item, as defined in 10-25, Contract Item, by more than 25 percent (total cost being based on the unit prices and estimated quantities in the awarded contract).

Alterations which do not exceed the 25 percent limitation shall not invalidate the contract nor release the surety, and the contractor agrees to accept payment for such alterations as if the altered work had been a part of the original contract. These alterations which are for work within the general scope of the contract shall be covered by approved "Change Orders" issued by the project engineer in accordance with 40-09, Change Orders. Change orders for altered work shall include extensions of contract time where, in the project engineer's opinion, such extensions are commensurate with the amount and difficulty of added work.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement in the form of an approved change order. If the owner, its agent, and for the contract are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

For ADAP (Federal-aid) contracts, all supplemental agreements require approval of the FAA. They shall include valid wage determinations of the U.S. Secretary of Labor when the amount of the supplemental agreement exceeds \$2,000. However, if the contractor elects to waive the limitations on work that increases or decreases the originally awarded contract or any major contract item by more than 25 percent, the supplemental agreement shall be subject to the same U.S. Secretary of Labor wage determination as was included in the originally awarded contract.

All supplemental agreements require consent of the contractor's surety and separate performance and lien bonds.

The contractor shall not start work on any alteration requiring a supplemental agreement until the agreement setting forth the adjusted prices has been executed by the owner and the contractor.

**40-03 Omitted Items.** The project engineer, with the concurrence of the Engineer of the Bureau, may, in the owner's best interest, omit from the work any contract item, except major contract items. Major contract items may be omitted by

a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be nonperformed, the contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with 90-04, Payment for Omitted Items.

**40-04 Extra and Force Account Work.** Should acceptable completion of the contract require the contractor to perform an item of work for which no basis of payment has been provided in the original contract or previously issued change orders or supplemental agreements, the same shall be called Extra Work. Extra work that is within the general scope of the contract shall be covered by written change order. Change orders for such extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the project engineer's opinion, is necessary for completion of such extra work.

When determined by the project engineer to be in the owner's best interest and with the concurrence of the Engineer of the Bureau, the project engineer may order the contractor to proceed with extra work by force account as provided in 90-05, Payment for Extra and Force Account Work.

Extra work that is necessary for acceptable completion of the project, but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as hereinbefore defined.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement), approved by the Engineer of the Bureau, shall be rejected by the owner.

**40-05 Maintenance of Traffic.** It is the explicit intention of the contract that the safety of aircraft, as well as the contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the contractor shall provide for the free and unobstructed movement of aircraft in the air operations area of the airport with respect to his own operations and the operations of all his subcontractors as specified in 80-04, Limitation of Operations. It is further understood and agreed that the contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in 70-15, Contractor's Responsibility for Utility Service and Facilities of Others.

With respect to his own operations and the operations of all his subcontractors, the contractor shall provide marking, lighting, and other acceptable means of identifying: personnel; equipment; vehicles; storage areas; and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport.

When the contract requires the maintenance of vehicular traffic on an existing road, street, or highway during the contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the contractor shall keep such road, street, or highway open to all traffic and shall provide such maintenance as may be required to accommodate traffic. The contractor shall furnish, erect, and maintain barricades, warning signs, flagmen, and other traffic control devices in reasonable conformity with the Michigan Manual of Uniform Traffic Control Devices, unless otherwise specified. The contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets

or highways. Unless otherwise specified, the contractor will not be required to furnish snow removal for such existing road, street, or highway.

Where the contractor is required to construct temporary crossing for streams, culverts, ditches, or trenches, his responsibility for accidents shall include the approaches as well as the structure of such crossings.

The contractor shall make his own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic as specified herein.

The cost of maintaining the aircraft and vehicular traffic specified herein shall not be measured or paid for directly, but shall be included in the various contract items.

**40-06 Removal of Existing Structures.** All existing structures within the established lines, grades, or grading sections shall be removed by the contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. Unless designated as separate pay items, the cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

The removal of large or complicated existing structures such as box-culverts, underground storage tanks, large underground electrical vaults, large reinforced concrete structures or foundations, or similar existing airport facilities shall be accomplished as provided for in the technical specifications.

Should the contractor encounter an unexpected existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the project engineer shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the project engineer in accordance with the provisions of the contract.

Except as provided in 40-07, Rights in and Use of Materials Found in the Work, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be utilized in the work as otherwise provided for in the contract and shall remain the property of the owner when so utilized in the work.

**40-07 Rights in and Use of Materials Found in the Work.**

Should the contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be either embankment or waste, he may at his option either:

- a. Use such material in another item, providing such use is approved by the project engineer and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the project engineer; or,
- c. Use such material for his own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the contractor wish to exercise option a., b., or c., he shall request the project engineer's approval, in writing, in advance of such use.

Should the project engineer issue written approval of the contractor's request to exercise option a., b., or c., the contractor shall be paid for the excavation or removal of such material at the applicable contract price. The contractor shall replace, at his own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The contractor shall not be charged for his use of such material so used in the work or removed from the site.

Should the project engineer approve, in writing, the contractor's exercise of option a., the contractor shall be paid, at the applicable contract price for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the contractor shall make no claim for delays by reason of his exercise of option a., b., or c.

The contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

**40-08 Final Cleaning Up** Upon completion of the work and before acceptance and final payment will be made, the contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the contractor has obtained the written permission of such property owner and the project engineer. Any fences cut or damaged shall be renewed or replaced and all property, both public and private, shall be restored in an acceptable manner.

**40-09 Change Orders.** Change orders shall be prepared by the project engineer, on behalf of the owner, to cover increases or decreases in quantities and for all changes requiring a supplemental agreement. Change orders for major changes in the plans or work, may be prepared by the Bureau or the consultant in coordination with the project engineer.

All change orders shall have the approval of the Engineer of the Bureau, and for ADAP (Federal-aid) contracts, the approval of the FAA, prior to becoming a valid part of the contract. The contractor shall not start any increased, extra or force account work, as delineated in 40-02, Alteration of Work and Quantities, and 40-04, Extra and Force Account Work, until he is in receipt of an approved change order. Approved supplemental agreements, in the form of change orders are also required when the intent of the plans, specifications or provisions are to be altered or major items are to be omitted from the contract, as delineated in 40-02, Alteration of Work and Quantities, and 40-03, Omitted Items.

Normal increases or decreases in the work required to adjust the bid quantities to meet field conditions may be accomplished prior to the preparation of a change order. Payment for such work, however, will not be made until the change order is approved.

Normal increases in the work required to adjust the bid quantities to meet field conditions may be accomplished prior to the preparation of a change order. Payment for such work, however, will not be made until the change order is approved.

The project engineer is authorized to correct obvious errors or

make necessary minor changes in the plans or specifications and order the immediate prosecution of the changed work without the prior approval of the Bureau, if such corrections and changes are required to accomplish the intent of the plans and prevent critical delays in the progress of the work. If, in the opinion of the project engineer, immediate action is required, verbal approval of the Bureau and, for ADAP (Federal-aid) contracts, the FAA, will be permitted for issuing an order for change. All corrections or changes made under the provisions of this paragraph shall be confirmed by the project engineer immediately, in writing, to the contractor and the Bureau.

Within a reasonable time after final acceptance of the work, the project engineer shall prepare a final change order adjusting the contract quantities to agree with the work actually performed in accordance with all contract requirements. The project engineer and the contractor shall resolve any disputes concerning the measurement and contractor's receipt of the final change order. Disputes not settled within this period shall be submitted as a claim in accordance with 50-16, Claims for Adjustment and Disputes.

No payment shall be made to the contractor for work included in, or to be included in, a change order until such change order has been approved in writing by the Bureau and, where appropriate, the FAA.

## **SECTION 50 CONTROL OF WORK**

**50-01 Authority of the Project Engineer.** The project engineer shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of said work. He shall decide all questions which may arise as to the interpretation of the specifications or plans relating to the work, the fulfillment of the contract on the part of the contractor, and the rights of different prime contractors on a multi-contract project. The project engineer shall determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the contract.

The project engineer shall have authority to suspend the work wholly or in part, for such period or periods as he may deem necessary, due to unsuitable weather or such other conditions as are considered unfavorable for the prosecution of the work or for any other condition or reason deemed to be in the interest of the public. The contractor shall not suspend the work or remove therefrom equipment, materials, or personnel necessary for the prosecution of the work without permission from the project engineer.

Upon suspension, the work shall be put in proper and satisfactory condition, carefully covered and properly protected. In all cases of project engineer ordered suspension of construction operations, the work shall not be resumed until permitted by written order of the project engineer.

In order to avoid cumbersome and needless repetition of such phrases as "to the engineer" and "by the engineer" throughout the specifications it shall be understood that when an order, instruction, decision, exercise of judgment or other similar action is indicated, such order, instruction, decision, exercise of judgment or other similar action will be issued, given, made by or reserved to the project engineer.

All orders and instructions, pertaining to the accomplishment of the work, will be issued to the contractor through the project engineer. The contractor shall not accept any such orders or instructions directly from the sponsor, the airport management, the Department or the FAA, without the concurrence of the project engineer, except in the case of emergency or where the protection of life and property is involved. In such cases, the contractor shall take the actions necessary and shall notify the project engineer, as soon as possible, giving all circumstances and details.

All contracts, concerning the prosecution or coordination of the work, between the contractor and the airport management or the other governmental agencies involves, shall be either through the project engineer or in accordance with procedures established by the project engineer.

Nothing in the foregoing paragraphs shall prevent contacts between the contractor and the governmental agencies concerning administrative matters, nor the making of bona fide inspections by accredited representatives of the sponsor, the Department or the FAA.

**50-02 Conformity With Plans and Specifications.** Plans for the project show such details as are necessary to give a comprehensive idea of the construction contemplated. Dimensions on the contract drawings which are omitted or needed to complete the work will be furnished by the project engineer.

The contractor shall submit to the project engineer for review such shop plans or working drawings not furnished, as may be required for any part of the furnished structure or airport. The contractor may also be required to submit for the project

engineer's information working drawings for any falsework, forms, cofferdams or other incidental details required in the construction and not a part of the finished structure. The shop plans or working drawings must be submitted to the project engineer in accordance with the construction schedule and will be reviewed to meet the construction schedule review time. Shop plans shall be furnished in the number of copies specified by the project engineer, or, at the project engineer's option, by one reproducible transparency and one opaque print. The contractor shall be fully responsible for the correctness of working drawings.

All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the project engineer finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications but that the portion of the work affected will, in his opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the owner and the Bureau, he will advise the owner of his determination that the affected work be accepted and remain in place. In this event, the project engineer will document his determination and recommend to the owner and the Bureau a basis of acceptance which will provide for an adjustment in the contract price for the affected portion of the work. The project engineer's determination and recommended contract price adjustment will be based on good engineering judgement and such tests or retests of the affected work as are, in his opinion, needed. Changes in the contract price shall be covered by contract specifications (change order or supplemental agreement) as applicable.

If the project engineer finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the contractor in accordance with the project engineer's written order.

For the purpose of this subsection, the term "reasonably close conformity" shall not be construed as waiving the contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the project engineer's right to insist on strict compliance with the requirements of the contract, plans, and specifications during the contractor's prosecution of the work, when, in the project engineer's opinion, such compliance is essential to provide an acceptable finished portion of the work.

For the purpose of this subsection, the term "reasonably close conformity" is also intended to provide the project engineer with the authority to use good engineering judgement in his determinations as to acceptance of work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the contract, plans and specifications.

For ADAP (Federal-aid) contracts, the sponsor, through the Bureau, will advise the FAA of the engineer's determinations as to acceptance of work that is not in reasonably close conformity to the contract, plans, and specifications.

**50-03 Coordination of Contracts, Plans, and Specifications.** The contract, specifications, plans, special provisions, and all supplementary plans and documents are essential parts of the contract requirements. A requirement occurring in one is just as binding as though occurring in all.

They are intended to be complementary and to describe and provide for a complete work.

In resolving conflicts, discrepancies, or errors in the various contract documents, the contracts shall be given the order of precedence, as follows: Contract, Supplemental Agreement, Change Order, Addenda, Special Provision, Supplemental Provision, Plans, Supplemental Specifications, Standard Specifications, General Provisions. In case of discrepancy, figured dimensions, unless obviously incorrect, shall govern over scaled dimensions. Cited standards for materials or testing, and cited FAA Advisory Circulars shall be considered as standard specifications.

Any table, gradation, size, dimension, rate, mix, method, nomenclature, pay item number, basis of payment or method of measurement shown on the plans, which is at variance with the standard specifications, shall be considered an amendment or supplement to the applicable specification.

The contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the contractor discovers any apparent error or discrepancy, he shall immediately call upon the project engineer for his interpretation and decision, and such decision shall be final.

**50-04 Cooperation of Contractor.** The Contractor, at their own expense, shall furnish each Subcontractor, Project Supervisor, Superintendent, and Foreman with a copy of that part of the plans and specifications pertaining to the work being performed. These plans and specifications shall be kept at the work site at all times. The contractor shall keep one current copy of all plans and specifications on the work, in good order, available to the Engineer of the Bureau, his representatives, and the project engineer.

The contractor shall give constant attention to the work to facilitate the progress thereof, and he shall cooperate with the project engineer and his inspectors and with other contractors in every way possible. The project engineer shall allocate the work and designate the sequence of construction in case of controversy between contractors. The contractor shall have a competent superintendent on the work at all times who is fully authorized as his agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the project engineer or his authorized representative.

**50-05 Cooperation Between Contractors.** The owner reserves the right to contract for and/or perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress of completion of the work being performed by other contractors, utilities or any public authority. Contractors working on the same project shall cooperate with each other as directed by the contract documents or by the project engineer.

Each contractor involved shall assume all liability, financial or otherwise, in connection with his contract and shall protect and save harmless the owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other contractors working within the limits of the same project, or for any reasonable delays encountered because of existing utilities shown on the plans or described in the contract documents.

The contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractors within the limits of the

same project. He shall join his work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

In case of a dispute arising between two or more prime contractors as to the respective rights of each under these specifications, the project engineer shall determine the matters at issue and shall define the respective rights of the various interests involved, in order to secure the completion of all parts of the work in general harmony and with satisfactory results. His decision shall be final and binding on all parties concerned and shall not in any way be cause for a claim for extra compensation by any of the parties.

**50-06 Construction Layout and Stakes.** The project engineer shall furnish the contractor with one set of all lines, grades, and measurements considered by the project engineer as necessary to the proper prosecution and control of the work contracted for under these specifications. The contractor shall furnish any additional staking required by his forces to accomplish the work. The contractor shall also satisfy himself as to the accuracy of all measurements before constructing any permanent structure and shall not take advantage of any errors which may have been made in laying out the work. Such stakes and markings as the project engineer may set for either his own or the contractor's guidance shall be scrupulously preserved by the contractor. In case of negligence on the part of the contractor, or his employees, resulting in the destruction of such stakes or markings, an amount equal to the cost of replacing the same may be deducted from subsequent estimates due the contractor, at the discretion of the project engineer.

The contractor shall furnish to the project engineer such survey stakes, lumber and incidentals as are required by him for use in establishing the lines, grades and measurements and for the control of his surveys. The project engineer shall furnish all personnel, instruments, and equipment required for his survey party.

**50-07 Automatically Controlled Equipment** Whenever batching or mixing plant equipment is required to be operated automatically under the contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period of not more than 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract. The project engineer shall make the determination as to the granting or denial of this temporary waiver of the specification.

**50-08 Authority and Duties of Inspectors.** The project engineer and his inspectors employed by the owner shall be authorized to inspect all work done and all material furnished. Such inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provisions of the contract. Inspectors are authorized to call to the attention of the contractor any failure of the work or materials to conform to the specifications and contract. They shall have the authority to reject materials or suspend the work until any questions at issue can be referred to and decided by the project engineer.

If the contractor refuses to correct deviations or deficiencies noted by the inspector or suspend operations on verbal order, the inspector shall issue a written stop order giving the reason for shutting down the work. After placing the order in the hands of the contractor's person in charge, the inspector shall immediately leave the job and report his actions to the project engineer. Work done during the absence of the inspector will not be accepted or paid for. Such stop order will be applicable only to the affected work and shall remain in effect until

resolved by the project engineer.

The inspector shall in no case act as foreman or perform other duties for the contractor, nor interfere with the management of the work by the latter. Inspectors are not authorized to issue instructions contrary to the plans and specifications. Any advice which the inspector may give the contractor shall in no way be construed as binding to the project engineer in any way or releasing the contractor from fulfilling all of the terms of the contract.

**50-09 Inspection of the Work.** All materials and each part or detail of the work shall be subject to inspection by the project engineer. The project engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the contractor as is required to make a complete and detailed inspection.

If the project engineer requests it, the contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the contractor's expense.

Any work done or materials used without supervision or inspection by an authorized representative of the project engineer may be ordered removed and replaced at the contractor's expense unless the project engineer's representative failed to inspect after having been given reasonable notice (72 hours minimum) in writing that the work was to be performed.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) owner, authorized representatives of the owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

**50-10 Removal of Unacceptable and Unauthorized Work.** All work which does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the project engineer as provided in 50-02, Conformity With Plans and Specifications.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in a acceptable manner in accordance with the provisions of 70-14, Contractor's Responsibility for Work.

No work shall be done without lines and grades having been given by the project engineer. Work done contrary to the instructions of the engineer, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without proper authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the contractor's expense.

Upon failure on the part of the contractor to comply forthwith with any order of the project engineer made under the provisions of this subsection, the project engineer will have

authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the owner) from any monies due or to become due the contractor.

**50-11 Load Restrictions.** The contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the contractor of liability for damage which may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction or surfaces will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed by the project engineer. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The contractor shall be responsible for all damage done by his hauling equipment and shall correct such damage at his own expense.

**50-12 Maintenance During Construction.** The contractor shall maintain the work during construction and until the work is accepted. This maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the contractor will not be paid an additional amount for such work.

**50-13 Failure to Maintain the Work.** Should the contractor at any time fail to maintain the work as provided in 50-12, Maintenance During Construction, the project engineer shall immediately notify the contractor of such noncompliance. Such notification shall specify a reasonable time within which the contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the contractor fail to respond to the project engineer's notification, the project engineer may suspend any work necessary for the owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the owner, shall be deducted from monies due or to become due the contractor.

**50-14 Partial Acceptance.** If at any time during the prosecution of the project the contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the owner, he may request the project engineer to make inspection of that unit. If the project engineer finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, he may accept it as being completed, and the contractor may be relieved of further responsibility for that unit, subject to the provision of 50-15, Final Acceptance, and except that he shall remove any obstructions and repair any damage caused by him subsequent to such partial approval and prior to final acceptance of the entire project. Such partial acceptance and beneficial occupancy by the owner shall not void or alter any provision of the contract.

**50-15 Final Acceptance.** Upon written notice from the contractor of presumptive completion of the entire project, the project engineer, the owner, the Engineer of the Bureau or his

representative, and, when applicable, a representative of the FAA will make an inspection with the contractor. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contractor, plans, and specifications, such inspection shall constitute the final inspection. The Bureau, as agent for the owner, shall notify the contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the project engineer will give the contractor the necessary instructions for correction of same, and the contractor shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the project engineer will make the final acceptance and notify the contractor in writing of this acceptance as of the date of final inspection.

**50-16 Claims for Adjustment and Disputes.** If for any reason the contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the project engineer in writing of his intention to claim such additional compensation before he begins the work on which he bases the claim. If such notification is not given or the project engineer is not afforded proper opportunity by the contractor for keeping strict account of actual costs required, then the contractor hereby agrees to waive any claim for such additional compensation. Such notice by the contractor and the fact that the project engineer has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the contractor shall, within 10 calendar days, submit his written claim to the project engineer who will present it to the owner and the Bureau for consideration in accordance with state and local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the contractor's right to dispute final payment based on differences in measurements or computations.

## **SECTION 60 CONTROL OF MATERIALS**

**60-01 Source of Supply and Quality Requirements.** The materials used on the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the contractor shall furnish complete statements and test reports to the project engineer as to the origin, composition, and manufacture of all materials to be used in the work. Such statements shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials. The contractor shall make arrangements with an independent laboratory to perform all of the tests of materials proposed to be furnished. The required tests are listed in the applicable specification for each work item listed in the proposal. The specification for which the material testing is required, this contract, are listed on the detailed plans. The contractor is obligated to pay all charges, including shipping expenses to transport the test samples to the laboratory, incurred in performing these tests. The sampling of the materials for these tests shall be conducted under the observation of the project engineer or his authorized representative.

The contractor shall furnish both the project engineer and the Bureau of Aeronautics with two copies of each of the test reports from the approved independent laboratory that performs those tests required of the contractor. The test reports shall be forwarded by mail directly to both the project engineer and the Bureau of Aeronautics by the laboratory. The independent testing laboratory shall make a definite statement on each test report furnished, that the material tested either does or does not meet the applicable specification.

The results obtained from testing such samples may be used for preliminary approval but shall not be used as a final acceptance of the materials. At the project engineer's option, materials may be approved at the source of supply before delivery is started. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the contractor shall furnish materials from other sources. Only materials conforming to the requirements of these specifications and which have been approved by the project engineer or his authorized representative shall be used in the work. Any material which, after approval, has for any reason become unfit for use shall not be incorporated into the work.

The contractor shall furnish airport lighting equipment that conforms to the requirements of cited materials specifications. In addition, where an FAA specification for airport lighting equipment is cited in the plans or specifications, the contractor shall furnish such equipment that is:

- a. Listed in the FAA Advisory Circular (AC) 150/5345-1, Approved Airport Lighting Equipment, that is in effect on the date of advertisement, and,
- b. Produced by the manufacturer qualified (by FAA) to produce such specified and listed equipment.

The airport lighting equipment required for this contract and to be furnished by the contractor, in accordance with the requirements of this subsection, is listed on the plans with the pertinent material specification numbers and effective dates.

**60-02 Samples, Tests, and Cited Specifications.** All materials used in the work shall be inspected, tested, and approved by the project engineer before incorporation in the work. Any work in which untested materials are used without approval or written permission of the project engineer shall be

performed at the contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the project engineer, shall be removed at the contractor's expense.

The project engineer or his representative will execute the quality control or performance tests which are required to be performed in the field to determine whether or not the quality of the contractor's work and the materials as produced or furnished by the contractor, conforms to the applicable specifications. (The cost of these tests are not part of the contractor's costs for this contract). One copy of each test will be furnished to the contractor on request. The contractor shall provide such facilities as the project engineer or his representative may require for conducting field tests and for collecting and forwarding samples.

When designated, materials, sampling, testing, laboratory methods, and testing equipment shall conform to the current requirements of cited AASHTO, ASTM, FAA, MIL, or Federal Specifications applicable to the same materials adopted and in effect on the date of the invitation for bids.

The contractor shall furnish the required samples without charge. The contractor shall give sufficient notification of the placing of orders for materials to permit testing.

The Materials Testing Requirements, included as a part of the contract, further defines the responsibilities of the contractor and the project engineer for sampling and testing of materials. Costs of sampling and testing shall be borne as specified therein.

**60-03 Certification of Compliance.** The project engineer may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The project engineer reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

When a material or assembly is specified by "brand name or equal" and the contractor elects to furnish the specified "brand name," the contractor shall be required to furnish the manufacturer's certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

Should the contractor propose to furnish an "or equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly, or the technical requirements specified on the plans. The project engineer shall be the sole judge as to whether the proposed "or equal" is suitable for use in the work.

**60-04 Plant Inspection.** The project engineer or his authorized representative may inspect, at its source, any

specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for his acceptance of the material or assembly.

Should the project engineer conduct plant inspections, the following conditions shall exist:

a. The project engineer shall have the cooperation and assistance of the contractor and the producer with whom he has contracted for materials.

b. The project engineer shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the project engineer, the contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.

It is understood and agreed that the owner, through the project engineer, shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The project engineer shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

**60-05 Engineer's Field Office and Laboratory.** When specified and provided for a contract item, the contractor shall furnish a building for the exclusive use of the engineer as a field office and field testing laboratory. The building shall be furnished and maintained by the contractor as specified in the plans or proposal documents and shall become property of the contractor when the contract work is completed.

**60-06 Storage of Materials and Equipment.** Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. The contractor shall coordinate the storage of all materials with the project engineer.

Materials and equipment to be stored on airport property shall not create an obstruction to air navigation or air navigational aids, nor shall they interfere with the free and unobstructed movement of aircraft. Materials or equipment shall not be stored on air operations areas that are temporarily closed to aircraft due to construction. Unless otherwise shown on the plans, the storage of materials and the location of the contractor's plant and parked equipment or vehicles shall be in accordance with the limitations specified in 80-04, Limitations of Operations, and as directed by the project engineer.

Private property shall not be used for storage purposes without written permission of the owner or lessee of such property. The contractor shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the contractor shall furnish the project engineer a copy of the property owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the contractor at his entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

**60-07 Unacceptable Materials.** Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and

shall be rejected. The contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the project engineer.

No rejected material or assembly, the defects of which have been corrected by the contractor, shall be returned to the site of the work until such time as the project engineer has approved its use in the work.

**60-08 Owner-Furnished Materials.** The contractor shall furnish all materials required to complete the work, except those specified in the plans and documents (if any) to be furnished by the owner. Owner-furnished materials shall be made available to the contractor at the location specified therein.

All costs of handling, transportation from the specified location to the site of work, storage, and installing owner-furnished materials shall be included in the unit price bid for the contract item in which such owner-furnished material is used.

After any owner-furnished material has been delivered to the location specified, the contractor shall be responsible for any demurrage, damage, loss, or other deficiencies which may occur during the contractor's handling, storage, or use of such owner-furnished material. The owner will deduct from any monies due or to become due the contractor any cost incurred by the owner in making good such loss due to the contractor's handling, storage, or use of owner-furnished materials.

## **SECTION 70 LEGAL RELATIONS AND RESPONSIBILITY**

**70-01 Laws to be Observed.** The contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the owner and all his officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees.

If the contractor observes that the drawings and specifications are at various with any laws, codes, ordinances, and regulations, he shall promptly notify the project engineer in writing, any necessary changes shall be adjusted as provided in the contract for changes in the work. If the contractor performs any work contrary to such laws, codes, ordinances, and regulations, and without such notice to the project engineer, he shall bear all costs arising therefrom.

Pursuant to the requirements of Section 4 of Act No. 251, Public Acts of the State of Michigan of 1955, as amended, the contractor agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of the contract, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of age or sex, except where based on a bona fide occupational qualification, or race, color, religion, national origin, or ancestry. The contractor further agrees that every subcontract entered into for the performance of the contract will contain a provision requiring non-discrimination in employment, as herein specified, binding upon each subcontractor. Breach of this covenant may be regarded as a material breach of the contract.

**70-02 Permits, Licenses and Taxes.** The contractor shall procure all temporary permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

**70-03 Patented Devices, Materials, and Processes.** If the contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or patent owner. The contractor and the surety shall indemnify and save harmless the owner and its agents, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the owner and its agents for any costs, expenses, and damages which they may be obligated to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

**70-04 Restoration of Surfaces Disturbed by Others.** The owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the owner, at the time of advertising this contract, such authorized work (by others) is indicated on the plans.

Except as listed on the plans or contract documents, the contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written

permission of the project engineer.

Should the owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the contractor shall cooperate with such owners by arranging and performing the work in this contract so as to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed. When ordered as extra work by the project engineer, the contractor shall make all necessary repairs to the work which are caused by such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

**70-05 Federal and State Aid Participation.** For ADAP (Federal-aid) contracts, the United States Government has agreed to reimburse the owner for some portion of the contract costs. Such reimbursement is made from time to time upon the owner's (sponsor's) request, through its agent, to the FAA. In consideration of the United States Government's (FAA's) agreement with the owner, the owner has included provisions in this contract pursuant to the requirements of the Airport and Airway Development Act of 1970 (84 stat. 219), as amended, and the Rules and Regulations of the Federal Aviation Administration that pertain to the work.

As required by the Act, the contract work is subject to the inspection and approval of duly authorized representatives of the Administrator, Federal Aviation Administration, and is further subject to those provisions of the rules and regulations that are cited in the contract, plans, or specifications.

No requirement of the Act, the rules and regulations implementing the Act, or this contract shall be construed as making the Federal Government a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

The attention of the contractor is also invited to the fact that pursuant to the provisions of Act No. 327, Public Acts of 1945, State of Michigan, as amended, and subsequent acts enacted by the State Legislature appropriating funds for airport construction, the State of Michigan may pay a portion of the cost of the improvement. In accordance with said Act and any agent agreement, or rules and regulations promulgated pursuant to said Act or Acts, the construction work will be subject to such inspections of the Director of the Michigan Department of Transportation, the Director of the Bureau of Aeronautics, the Engineer of the Bureau or his representative, as may be deemed necessary to protect the interests of the people of the State of Michigan. The contractor shall furnish the inspecting party with every reasonable assistance to ascertain whether or not the requirements and intent of the contract are being met. Such inspection will in no way infer that the State or the Department are parties to the contract, except for those contracts wherein the Michigan State Transportation Commission is a signatory.

**70-06 Sanitary, Health, and Safety Provisions.** The contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State and local Board of Health, or of other bodies or tribunals having jurisdiction.

Attention is directed to Federal, State, and local laws, rules and regulations concerning construction safety and health standards. The contractor shall not require any worker to work in surroundings or under conditions which are unsatisfactory,

hazardous, or dangerous to his health or safety.

All temporary sanitary installations for use during construction shall be removed from the project by contractor before acceptance of the work. The cost of construction, maintenance, and removal of all temporary sanitary facilities shall be incidental to the construction of the project.

**70-07 Public Convenience and Safety.** The contractor shall control his operations and those of his subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to his own operations and those of his subcontractors and all suppliers in accordance with 40-05, Maintenance of Traffic, and shall limit such operations for the convenience and safety of the traveling public as specified in 80-04, Limitation of Operations.

The contractor shall provide initial and continuing instructions to all supervisors, employees, subcontractors, and suppliers to enable them to conduct their work in a manner that will provide the maximum safety with the least hindrance to air and ground traffic, the general public, airport employees, and to the workmen employed on the site.

All safety provisions specified by the plans and documents or received from the project engineer, and those required by laws, codes and ordinances, shall be thoroughly disseminated and rigidly enforced.

**70-08 Barricades, Warning Signs, and Hazard Marking.**

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.

Per 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 Michigan Manual of Uniform Traffic Control Devices.

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 shown in the plans and contract documents or such temporary markings and warning lighting as the project engineer may determine to be reasonably required to prevent aircraft from entering or attempting to use the hazardous area.

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

The contractor shall furnish, erect, and maintain markings and associated lighting of open trenches, excavations, temporary stock piles, and his parked construction equipment that may be hazardous to the operation of emergency fire-rescue, maintenance or other authorized vehicles on the airport by the prominent use of 20-inch square (minimum) red flags, lighted during periods of restricted visibility by lighting units acceptable to the project engineer.

Such contractor's vehicles, as are designated by the project engineer, shall be equipped with 3-foot square (minimum) flags with a checkered pattern of 1-foot (minimum) orange and white squares and suitable warning lights acceptable to the project engineer.

On tower controlled airports, contractors motorized equipment entering active air operations areas shall have assigned

designating letters or numbers prominently displayed on each side for identification of individual vehicles. Such symbols may be applied in a temporary manner, but shall remain readily distinguishable during the life of the contract. Each character shall be a minimum of 8-inches high and shall be block style in a color easily distinguishable from the background.

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 project engineer.

The cost of furnishing, erecting, maintaining and removal of temporary barricades, warning signs, hazard marking and lighting shall be incidental to the contract work.

**70-09 Use of Explosives.** When the use of explosives is necessary for the prosecution of the work, the contractor shall exercise the utmost care not to endanger life or property, including new work. The contractor shall be responsible for all damages resulting from the use of explosives. He shall employ a person competent and experienced in the use of explosives to supervise the work.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, all such storage places shall be clearly marked and shall be in the care of competent watchmen at all times. Where no local laws or ordinances apply, storage shall be provided satisfactory to the project engineer and, in general, not closer than 1,000 feet from the work or from any building, road, or other place of human occupancy.

The contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficient in advance to enable them to take such steps as they may deem necessary to protect their property from injury.

The use of electrical blasting caps shall not be permitted on or within 1,000 feet of the airport property or airport radio transmitters.

**70-10 Protection and Restoration of Property and Landscape.**

The contractor shall not enter upon private property for any purpose without first obtaining permission. He shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property marks until the project engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

If the contractor neglects to repair or make restoration, the owner or its agent may after 48 hours written notice to the contractor proceed to make such repairs or restoration, and will deduct the cost thereof from any monies that are or may

become due the contractor.

**70-11 Responsibility for Damage Claims.** The contractor and his surety shall indemnify and save harmless the consultant or project engineer and the owner and their officers, and employees, including the Department and its representatives, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the contractor under and by virtue of his contract as may be considered necessary by the owner for such purpose may be retained for the use of the owner or, in case no money is due, his surety may be held until such suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the owner and its agent, except that money due the contractor will not be withheld when the contractor has produced satisfactory evidence that he is adequately protected by public liability and property damage insurance in accordance with the following:

a. **Workmen's Compensation Insurance.** The contractor shall file with the Department prior to the execution of the contract, a certification that he carries Workmen's Compensation Insurance.

b. **Bodily Injury and Property Damage.** The contractor, prior to execution of the contract, shall file with the Department copies of complete certificates of insurance, as evidence that he carries adequate insurance, satisfactory to the owner and its agent, to afford protection against all claims for damages to public or private property, and injuries to persons, arising out of and during the progress of the work, and to its completion and, where owner of premises on or near which construction operations are to be performed.

1. **Body Injury and Property Damage Other Than Automobile.** Unless otherwise specifically required by provisions in the proposal, the minimum limits of property damage and bodily injury liability covering each contract shall be:

Bodily Injury Liability

<b>Each Occurrence</b>	<b>Aggregate</b>
\$1,000,000	\$2,000,000

Property Damage Liability

<b>Each Occurrence</b>	<b>Aggregate</b>
\$1,000,000	\$2,000,000

2. **Bodily Injury Liability and Property Damage Liability Automobiles.** Unless otherwise specifically required by provisions in the proposal, the minimum limits of bodily injury liability and the property damage liability shall be:

Bodily Injury Liability      Property Damage Liability

<b>Each Person</b>	<b>Each Occurrence</b>	<b>Each Occurrence</b>
\$500,000	\$1,000,000	\$1,000,000

Combined Single Limit for Bodily Injury & Property Damage Liability:

<b>Each Occurrence</b>
\$2,000,000

3. The requirements for 1 and 2 above, may be met through an Umbrella policy.

4. **Owner's Protective Liability.** Where required as an incident to compliance with Federal laws and regulations, bodily injury and property damage protection shall be extended to the owner and its agents, including the Department and the project engineer or consulting firm.

c. **Comprehensive Building Loss.** When the contract includes a terminal or other building structure, (except for minor incidental shelters), the contractor shall provide adequate insurance, with the owner named as co-insured under each policy, covering all work, labor, and materials furnished by such contractor and all his subcontractors against loss of such building by fire, wind, storm, lightning, flood, or explosion. A certificate of proof of adequate coverage for such insurance, shall be filed with the Department prior to execution of the contract.

d. **Notice.** The contractor shall not cancel or reduce the coverage of any insurance required by this Section without providing 30-day prior written notice to the Department. All such insurance must include an endorsement whereby the insurer shall agree to notify the Department immediately of any reduction by the contractor. The contractor shall cease operations on the occurrence of any such cancellation or reduction, and shall not resume operations until new insurance is in force.

e. **Reports.** At the request of the owner or its agent, the contractor or his insurance carrier shall report claims received, inspections made, and disposition of claims.

Any claim for damages arising under this contract shall be made in writing to the contractor within a reasonable time of the first observance of such damage, except as expressly stipulated otherwise in case of faulty work or materials, and shall be adjusted under the terms of this contract. Provided, however, that nothing contained herein shall be construed as preventing the filing, at any time, of claims against the contractor by reason of damage to public or private property not under the jurisdiction of the owner.

**70-12 Third Party Beneficiary Clause.** It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create the public or any member thereof a third party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage to the terms or provisions of the contract.

**70-13 Opening Sections of the Work to Traffic.** Should it be necessary for the contractor to complete portions of the contract work for the beneficial occupancy of the owner prior to completion of the entire contract, such "phasing" of the work shall be specified and indicated on the plans. When so specified, the contractor shall complete such portions of the work on or before the date specified or as otherwise specified. The contractor shall make his own estimate of the difficulties involved in arranging his work to permit such beneficial occupancy by the owner as so described or specified and shall not claim any added compensation by reason of delay or increased cost due to such opening of a portion of the contract work.

Upon completion of any portion of the work listed above, such portion shall be accepted by the owner in accordance with 50-14, Partial Acceptance.

No portion of the work may be opened by the contractor for public use until ordered by the project engineer in writing. Should it become necessary to open a portion of the work to

public traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the project engineer, such portion of the work is in an acceptable condition to support the safe operation of the intended vehicular or aircraft traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the owner shall be repaired by the contractor at his expense.

**70-14 Contractor's Responsibility for Work.** Until the final written acceptance of the entire completed work, except as provided for under 50-14, Partial Acceptance, the contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of governmental authorities.

If the work is suspended for any cause whatever, the contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at his expense. During such period of suspension of work, the contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under his contract, and shall take adequate precautions to protect new tree growth and other important vegetation growth against injury.

**70-15 Contractor's Responsibility for Utility Service and Facilities of Others.** As provided in 70-04, Restoration of Surfaces Disturbed by Others, the contractor shall cooperate with the owner of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA), or a utility service of another government agency that may be authorized by the owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the contractor shall control his operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the owners and the approximate locations have been indicated on the plans.

It is understood and agreed that the owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the contractor of his responsibility to protect such existing features from damage or unscheduled interruption of services.

It is further understood and agreed that the contractor shall, upon execution of the contract, notify the owners of all utility services or other facilities of his plan of operations. Such notification shall be in writing addressed to the person to contact as provided on the plans for this subsection and for 70-

04, Restoration of Surfaces Disturbed by Others. If a contact person has not been indicated on the plans, the contractor shall direct his notification to a responsible representative of the applicable utility or facility owner. A copy of each notification shall be given to the project engineer.

In addition to the general written notification hereinbefore provided, it shall be the responsibility of the contractor to keep such individual owners advised of changes in his plan of operations that would affect such owners.

Prior to commencing the work in the general vicinity of an existing utility service or facility, the contractor shall again notify each owner of his plan of operation. If, in the contractor's opinion, the owner's assistance is needed to locate the utility service or facility or the presence of a representative of the owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's person to 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 project engineer.

The contractor's failure to give the two days notice herein above provided shall be cause for the project engineer to suspend the contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the contractor shall be required to use excavation methods acceptable to the project engineer within 3 feet of such outside limits at such points as may be required to insure protection from damage due to the contractor's operations.

Should the contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, he shall immediately notify the proper authority and the project engineer and shall take all reasonable measures to prevent further damage or interruption of service. The contractor, in such events, shall cooperate with the utility service or facility owner and the project engineer continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The contractor shall bear all costs of damage and restoration of service to any utility service or facility due to his operations whether or not due to negligence or accident. The contract owner reserves the right to deduct such costs from any monies due or which may become due the contractor, or his surety.

**70-16 Furnishing Rights-of-Way.** The owner is responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the contractor's operations. The plans indicate the limits of the right-of-way provided by the owner. Unless otherwise specified, the contractor may use any land as may be reserved for other purposes. The approval of the project engineer shall be obtained prior to any occupancy of land by the contractor.

Except for space designated in the plans or documents for the contractor's use, the contractor shall, without expense to the owner and at any time during progress of the work, when space outside of the contract limits is needed within the airport site for other purposes, promptly vacate and clean up any part of the grounds that have been in use by him when directed to do so by the project engineer.

Should the contractor acquire additional lands or easements at his own expense, the owner shall be held free of all damages due to such negotiations or easements.

The contractor shall keep the buildings and grounds in use by him at the site of the work in an orderly and sanitary condition and all land occupied shall be returned to its original or an improved condition.

**70-17 Personal Liability of Public Officials.** In carrying out any of the contract provisions or in exercising any power or authority granted to him by this contract, there shall be no liability upon the Department and the consultant or project engineer or their authorized representatives, or any official of the owner either personally or as an official of the owner. It is understood that in such matters they act solely as agents and representatives of the owner.

**70-18 No Waiver of Legal Rights.** Upon completion of the work, the owner, the project engineer or consultant, the Engineer of the Bureau or his representative, and, when applicable, a representative of the FAA will expeditiously make final inspection with the contractor. The Bureau, as agent for the owner, will notify the contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the owner or its agent from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the owner or its agent be precluded or stopped from recovering from the contractor or his surety, or both, such overpayment as may be sustained, or by failure on the part of the contractor to fulfill his obligations under the contract. A waiver on the part of the owner or its agent of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The contractor, without prejudice to the terms of the contract, shall be liable to the owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the owner's rights under any warranty or guaranty.

**70-19 Environmental Protection.** The contractor shall comply with all Federal, State, and local laws and regulations controlling pollution of the environment. He shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, bitumens, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

In the event of conflict between Federal, State or local laws, codes, ordinances, rules and regulations concerning pollution control, the most restrictive applicable ones shall apply.

The contractor shall pay special attention to the pollution control requirements of the several specifications and supplemental specifications. Work items which may cause excessive pollution and shall be closely controlled by the contractor are:

- a. Clearing, grubbing, burning or other disposal.
- b. Stripping, excavation, and embankment.
- c. Drainage and ditching.
- d. Aggregate production, handling and placing.
- e. Cement, lime or other stabilization.
- f. Concrete and bituminous materials handling, production, and paving.
- g. Seeding, fertilizing, mulching and use of herbicides or insecticides.
- h. Contractor's own housekeeping items; haul roads; sanitary facilities; water supply; equipment fueling, servicing and cleaning; job clean up and disposal.

When the contractor submits his tentative progress schedule in accordance with 80-03, Prosecution and Progress, he shall also submit for acceptance of the project engineer, his schedules for accomplishment of temporary and permanent erosion control work, as are applicable for clearing, grading, structures at watercourses, construction, and paving, and his proposed method of erosion control on haul roads and borrow pits and his plan for disposal of waste materials. No work shall be started until the erosion control schedules and methods of operations have been accepted by the project engineer.

All bituminous and portland cement concrete proportioning plants shall meet the requirements of the rules of the Michigan Air Pollution Control Commission. The Contractor shall notify the Air Pollution Control Division, Michigan Department of Natural Resources, Lansing, in writing, as to the proposed location of any bituminous or concrete plant at least 2 weeks prior to the production of a mixture.

The following listed stipulations shall apply to this contract unless more restrictive ones are specified by the plans, contract provisions, laws, codes, ordinances, etc. Cost of pollution control shall be incidental to the appropriate work items unless otherwise specified.

1. Control of Water Pollution and Siltation.
  - (a) All work of water pollution and siltation control is subject to inspection by the local governmental enforcing agent or the Department of Natural Resources.
  - (b) All applicable regulations of fish and wildlife agencies and statutes relating to the prevention and abatement of pollution shall be complied with in the performance of the contract.
  - (c) Construction operations shall be conducted in such manner as to reduce erosion to the practicable minimum and to prevent damaging siltation of water courses, streams, lakes or reservoirs. The surface area of erodible land, either on or off the airport site, exposed to the elements by clearing, grubbing or grading operations, including gravel pits, waste or disposal areas and haul roads, at any one time, for this contract, shall be subject to approval of the project engineer and the duration of such exposure prior to final trimming and finishing of the areas shall be held to the minimum practical. The project engineer shall have full authority to order the suspension of grading and other operations pending adequate and proper performance of trimming, finishing and maintenance work or to restrict the area of erodible land exposed to the elements.
  - (d) Materials used for permanent erosion control measures shall meet the requirements of the applicable specifications. Gravel or stone, similar to the coarse aggregate 6A shown in Supplemental Specification P-501, consisting of durable particles of rock and containing only negligible quantities of fines, shall be used for construction pads, haul roads and temporary roads in or across streams.
  - (e) Where called for on the plans, a stilling basin shall be constructed to prevent siltation in the stream from construction operations.
  - (f) The disturbance of lands and alters that are outside the limits of construction as staked is prohibited, except as found necessary and approved by the project engineer.
  - (g) The contractor shall conduct his work in such manner as to prevent the entry of fuels, oils, bituminous materials, chemicals, sewage or other harmful materials into streams, rivers, lakes or reservoirs.
  - (h) Water from aggregate washing or other operations containing sediment shall be treated by filtration, by use of a

settling basin or other means to reduce the sediment content to a level acceptable to the local governmental enforcing agent or the Department of Natural Resources.

(i) All waterways, shall be cleared as soon as practicable of falsework, piling, debris or other obstructions placed during construction operations and not a part of the finished work. Care shall be taken during construction and removal of such barriers to minimize the muddying of a stream.

(j) The contractor shall care for the temporary erosion and siltation control measures during the period that the temporary measures are required and for the permanent erosion control measures until the contract has been completed and accepted. Such care shall consist of the repair of areas damaged by erosion, wind, fire or other causes.

(k) Permanent and temporary erosion control work that is damaged due to the contractor's operations or where the work required is attributed to the contractor's negligence, carelessness, or failure to install permanent controls at the proper time, shall be repaired at the contractor's expense.

## 2. Opening Burning of Combustible Wastes.

(a) The contractor shall obtain a burning permit from local authorities, where applicable, prior to any burning.

(b) All burning shall conform to the conditions of the permit, except that the conditions herein shall apply if they are more restrictive.

(c) No tires, oils (except atomized fuels applied by approved equipment), asphalt, paint, or coated metals shall be permitted in combustible waste piles.

(d) Burning will not be permitted within 1,000 feet of a residential or built-up area nor within 100 feet of any standing timber or flammable growth unless otherwise specified.

(e) Burning shall not be permitted unless the prevailing wind is away from a nearby town or built-up area.

(f) Burning shall not be permitted during a local air inversion or other climatic condition as would result in a pall of smoke over a nearby town or built-up area.

(g) Burning shall not be permitted when the danger of brush or forest fires is made known by Federal, State, or local officials.

(h) The size and number of fires shall be restricted to avoid the danger of brush or forest fires. Burning shall be done under surveillance of a watchman who shall have fire-fighting equipment and tools readily available.

## 3. Control of Other Pollutants

(a) Minimum possible areas of open grading, borrow or aggregate excavation shall be exposed at one time, consistent with the progress of the work.

(b) Grading areas shall be kept at proper moisture conditions.

(c) Sand or dust blows shall be temporarily mulched, with or without seeding, or otherwise controlled with stabilizing agents.

(d) Temporary roads, haul routes, traffic or work areas shall be stabilized with dust palliatives, penetration asphalt, or wood chips or other measures.

(e) Cements, fertilizers, chemicals, volatiles, etc. shall be stored in proper containers or with proper coverings to prevent accidental discharge into the air.

(f) Aggregate bins, cement bins, and dry material batch trucks shall be properly covered to prevent loss of material to the air.

(g) Drilling, grinding and sand blasting apparatus shall be equipped with water, chemical, or vacuum dust controlling systems.

(h) Applications of chemicals and bitumens shall be held to recommended systems.

(i) Bituminous mixing plants shall be equipped with dust collectors as noted in the specifications.

(j) Quarrying, batching, and mixing operations and the transfer of materials between trucks, bins, or stockpile shall be properly controlled to minimize dust diffusion.

(k) When necessary, certain operations shall be delayed until proper wind or climatic conditions exist to dissipate or inhibit potential pollutants to the satisfaction of the project engineer.

**70-20 Archaeological and Historical Findings.** Unless otherwise specified in the plans or contract documents, the contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the contractor encounter, during his operations, any building, part of a building, structure, or object which is incongruous with its surroundings, he shall immediately cease operations in that location and notify the project engineer. The project engineer will immediately investigate the contractor's finding and will direct the contractor to either resume his operations or to suspend operations as directed.

## **SECTION 80 PROSECUTION AND PROGRESS**

**80-01 Subcontracting of Contract Work.** The owner and its agent will not recognize any subcontractor on the work. The contractor shall at all times when work is in operation be represented either in person, by a qualified superintendent, or other designated, qualified representative who is duly authorized to receive and execute orders of the project engineer.

The term "Subcontracting" shall be understood to mean the arrangement with any party or parties to execute a part of the contract work. No subcontract will be issued unless the Subcontractor is prequalified by the Department to perform the classification of work proposed, when applicable. The Contractor shall submit the subcontract cover page and line items to the Engineer of the Bureau responsible for the administration of the contract, prior to the start of the work associated with the subcontract. It is understood and agreed that the Department's prequalification of the Subcontractor is for the benefit of the Department and is not for the benefit of the Contractor or any other person. The Department's prequalification is not a guarantee or warranty of the Subcontractor's ability to perform or complete the work subcontracted. The Contractor remains fully responsible for completion of the work in accordance with the contract as if no portion of it had been subcontracted.

It is expressly agreed and understood by the Contractor that a Subcontractor of the work to be performed under the contract shall perform with the Subcontractor's own organization, not less than 50 percent of the total value of the contract work sublet to it. It is the intent of the contract that this requirement is also applicable to and binding upon successive subcontracts.

Contract work amounting to not less than 40 percent of the original total contract price shall be performed by the Contractor's own organization, except that any items designated as Specialty Items may be performed by subcontract and the amount of any such Specialty items so performed may be deducted from the original total contract price before computing the amount of work required to be performed by the Contractor's own organization. The Contractor's "own organization" shall be construed to include only workmen employed and paid directly by the Contractor and equipment owned or rented by the Contractor, with or without operators. The 60 percent available for subletting shall include work identified in the contract as "Designated Items" and all other work except Specialty Items. Designated items are work classifications which the Department lists in the proposal as the major classifications required to construct the project. Specialty Items are work classifications which the Department considers to require specialized equipment or crafts to an extent warranting being listed in the proposal separately from the Designated Items.

The value of the work sublet will be determined by multiplying the number of units sublet of any contract item by the unit price as set forth in the contract. If any portion of a contract item is subcontracted, only that portion of the work to be performed by the subcontractor will be used for the purpose of determining the percentage of the total work subcontracted. Both the subdivision of the item sublet and the unit cost thereof shall be reasonable as determined by the Engineer of the Bureau.

The Contractor shall not subcontract any portion of the contract, other than the furnishing of necessary materials, except as provided for in the Department's procedures for Subcontracting. Subcontracting any portion of the work shall not relieve the Contractor of full responsibility for the performance of the contract. The Contractor shall not sell or assign any portion of the contract without the written consent of the Engineer of the Bureau and the Surety.

Any bonds furnished by the Subcontractor shall not reduce the Contractor's bonding requirements.

The Engineer of the Bureau may direct the removal from the job forthwith of any subcontractor or his equipment operating in violation of these requirements, and any costs or damages thereby incurred are assumed by the contractor by the acceptance of the contract. It is further understood that the contractor's responsibilities in the performance of his contract, in case of a subcontract, are the same as if he had handled the work with his own organization.

A contractor found to be in violation of the subcontracting requirements herein will be subject to changes in his prequalification, in accordance with the "Administrative Rules Governing the Prequalification of Bidders".

**80-02 Notice to Proceed.** The notice to proceed will be issued to the contractor by the Department on behalf of the owner. The notice shall state the date on which it is expected the contractor will begin the construction and from which date contract time will be charged. The contractor shall begin the work to be performed under the contract within 10 days of the date set by the Engineer of the Bureau in the written notice to proceed, but in any event, the contractor shall notify the project engineer at least 72 hours in advance of the time actual construction operations will begin.

**80-03 Prosecution and Progress.** Unless otherwise specified, the contractor shall present his tentative progress schedule for the project engineer's approval at the preconstruction meeting scheduled by the Engineer of the Bureau. The tentative schedules shall include, where applicable any erosion control schedules required by 70-19, Environmental Protection. The detailed progress schedule shall be established at the meeting. A copy of the approved progress schedule, as established, shall be furnished to the Bureau, by the contractor, within 10 days of the date of the preconstruction meeting.

If the contractor falls significantly behind the submitted schedule, the contractor shall, upon the project engineer's request, submit a revised schedule for completion of the work within the contract time and modify his operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the prosecution of the work be discontinued for any reason, with the consent of the project engineer, the contractor shall notify the project engineer at least 24 hours in advance of resuming operations.

The contractor shall not commence any actual construction prior to the date specified in the notice to proceed issued by the Department.

**80-04 Limitation of Operations.** The contractor shall control his operations and the operations of his subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the air operations areas of the airport.

When the work requires the contractor to conduct his operations within an air operations area of the airport, the work shall be coordinated with airport management (through the project engineer) at least 48 hours prior to commencement of such work. The contractor shall not close an air operations area until so authorized by the project engineer and until the necessary temporary marking and associated lighting is in place as provided in 70-08, Barricades, Warning Signs, and Hazard Markings.

For the protection of the air operations areas, the minimum clearances maintained for runways shall be in agreement with Part 77 of the Federal Aviation Regulations unless otherwise specified. Affected air operations areas must be closed, unless

otherwise directed by the project engineer with the concurrence of proper FAA authority, when the work requires construction equipment, material stockpiles, rough grades, or open excavation in excess of 4-inch depth to be present in or penetrate the following areas:

Air Carrier or Transport Airport Category Facilities

Within 125 feet of a runway pavement edge or edge extended.

Within 75 feet of a taxiway pavement edge.

Above a 34:1 slope in a runway approach area.

Utility Airports Category Facilities

Within 75 feet of a runway pavement edge or edge extended.

Within 100 feet of centerline of a taxiway.

Within 40 feet of a taxiway pavement edge.

Within 50 feet of centerline of a turf taxiway.

Above a 20:1 slope in a runway approach area.

When the contract work requires the contractor to work within an air operations area of the airport on an intermittent basis (intermittent opening and closing of the air operations area), the contractor shall maintain constant communications to vacate the air operations area; immediately obey all obstructions to resume work in such air operations area. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the contractor's operations in the air operations area until the satisfactory conditions are provided. Air operations areas that cannot be closed to operating aircraft to permit continuous contractor's operations are noted on the plans. During the period that air operations areas are closed to the contractor he shall not start new work that is prejudicial to work already started.

Vehicular traffic crossing active air operations areas on tower controlled airports will be controlled by two-way radio between the tower and the contractor's flagperson or escort vehicles. The contractor will provide the appropriate radio equipment to his safety control personnel and construction superintendents incidental to the cost of the work. Vehicles will be marked, when applicable, in accordance with 70-08, Barricades, Warning Signs, and Hazard Markings.

When radio control is not required, vehicular traffic crossing active operational areas shall be controlled by flagperson or signalmen provided by the contractor and instructed in the necessary airport safety requirements.

In all cases of contractor activity within an active air operations area, the contractor shall instruct all drivers of contractor's vehicles that any clearance given to cross an active air operations area shall be confirmed by the driver's own personal observation that no aircraft is approaching his position prior to proceeding.

Equipment not actually in operation shall be kept clear of air operations areas; personnel shall not enter air operations areas without specific permission of the project engineer.

All coordination required between the contractor and the airport management or airport occupants will be accomplished only through the project engineer or in accordance with the instructions established by the project engineer.

**80-05 Character of Workers, Methods, and Equipment**

The contractor shall, at all times, employ such superintendents foremen, labor and equipment sufficient for prosecuting the work to full completion in the manner and time required by the

contract plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the contractor or by any subcontractor who, in the opinion of the project engineer, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the project engineer, be removed forthwith by the contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the project engineer.

Should the contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the project engineer may suspend the work by written notice until compliance with such orders.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall be of such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

When the methods and equipment to be used by the contractor in accomplishing the work are not prescribed in the contract, the contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the project engineer. If the contractor desires to use a method or type of equipment other than specified in the contract, he may request authority from the Engineer of the Bureau, through the project engineer, to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given by the Engineer of the Bureau, it will be on the condition that the contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the project engineer determines that the work produced does not meet contract requirements, the contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the project engineer may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this subsection.

The failure to provide adequate labor and equipment may be considered cause for terminating the contract.

**80-06 Temporary Suspension of the Work**

The project engineer shall have the authority to suspend the work wholly, or in part, for such period or periods as he may deem necessary, due to unsuitable weather, or such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as is necessary, due to the failure on the part of the contractor to carry orders given or perform any or all provisions of the contract.

In the event that the contractor is ordered by the project engineer, in writing, to suspend work for some unforeseen

cause not otherwise provided for in the contract and over which the contractor has no control, the contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the project engineer's order to suspend work to the effective date of the project engineer's order to resume the work. Claims for such compensation shall be filed with the project engineer within the time period stated in the engineer's order to resume work. The contractor shall submit with his claim, information substantiating the amount shown on the claim. The engineer will forward the contractor's claim to the Bureau, as agent for the owner, for consideration in accordance with State and local laws or ordinances. No provision of this article shall be construed as entitling the contractor to compensation for delays due to inclement weather, for suspensions made at the request of the contractor, or for any other delay provided for in the contract, plans, or specifications.

If it should become necessary to suspend work for an indefinite period, the contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. He shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

The contractor shall not suspend the work without written authority from the project engineer and shall proceed with the work promptly when notified by the project engineer to resume operations.

The written authority issued as "stop and start orders" shall be prepared and signed by the project engineer. The contractor is required to acknowledge the receipt of the instruction by signing the written order. Three copies of the signed and acknowledged order shall be furnished to the Bureau by the project engineer, without delay.

**80-07 Determination and Extension of Contract Time.**

The number of calendar days allowed for completion of the work or a specified completion date shall be stated in the proposal and contract and shall be known as the Contract Time. Extension of the contract time shall be made only by approved change order. Should the contract time require extension for reasons beyond the contractor's control, it shall be adjusted as follows:

a. Contract time based on calendar days shall consist of the number of calendar days stated in the contract counting from the start of the contract time and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the project engineer's orders to suspend and resume all work, due to causes not the fault of the contractor, shall be excluded. The start of the contract time is defined as "ten days after the date the contractor is authorized to start work, or, the date of actual start of work, whichever date occurs first."

The project engineer shall prepare for each payment estimate a statement of the calendar days charged during the period, the calendar days allowed in the contract, and the calendar days remaining under the contract. Copies of such statement shall be promptly submitted to the contractor for his approval signature. The contractor shall sign the statement or submit his objection within 7 days, specifying the days he should be allowed, or the project engineer's statement will be accepted as correct.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually

completed quantities bears to the cost of the actually estimated quantities in the proposal. Such increase in the contract time shall not consider either the cost of the work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of the final acceptance.

b. When the contract time is a specified completion date, it shall be the date on which all contract work shall be substantially completed.

If the contractor finds it impossible for reasons beyond his control to complete the work by the completion date as specified, or as extended in accordance with the provisions herein, he may, at any time prior to the expiration of the contract time as extended, make a written request to the project engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the project engineer finds that the work was delayed because of conditions beyond the control and without the fault of the contractor, he may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

**80-08 Failure to Complete on Time.** For each calendar day that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in 80-07, Determination and Extension of Contract Time) the sum specified in the proposal and contract as liquidated damages, or if not so specified the applicable sum as shown in Table 80-08, Schedule of Liquidated Damages, will be deducted from any money due or to become due to the contractor or his surety, or if no money is due the contractor or his surety, the owner and its agent shall have the right to recover said sum or sums from the contractor, from the surety, or from both. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages incurred by the owner and the State of Michigan should the contractor fail to complete the work or any part of the work within the specified time provided in the contract.

Permitting the contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the owner of any of its rights under the contract.

Payment estimates will be regularly paid to the contractor only if the contract time has not elapsed at the time the work included in the estimate was performed. Estimates for work accomplished subsequent to the elapse of the contract time are subject to the deductions specified for liquidated damages.

The applicable Liquidated Damages per Calendar Day, as set forth in the proposal or Table 80-08, will be reduced to 50 percent of the amount specified after the date all phases of the project are accepted for airport traffic; provided however, that the minimum reduced amount shall not be less than 50 dollars a day.

**Table 80-08 Schedule of Liquidated Damages.**

<u>Original Contract Amount:</u>	<u>Liquidated Damages Per Calendar Day:</u>
\$0 to 49,999	\$125.00
\$50,000 to \$99,999	\$200.00
\$100,000 to 499,999	\$350.00
\$500,000 to 999,999	\$700.00
\$1,000,000 to 1,999,999	\$1,000.00
\$2,000,000 to 4,999,999	\$1,125.00
\$5,000,000 and above	\$2,000.00

The above table establishes minimum liquidated damages to be assessed. When greater liquidated damages are necessitated by the exigencies of the project, the amounts per calendar day, as stated in the proposal, shall be assessed. Such amounts shall be established to cover damages of anticipated losses of revenue and additional administrative, architectural/engineering and other costs that would be incurred by the contractor's failure to complete the work within the specified time.

**80-09 Default and Termination of Contract.** The contractor shall be considered in default of his contract and such default will be considered as cause for the owner to terminate the contract for any of the following reasons if the contractor:

- a. Fails to begin the work under the contract within the time specified in the "Notice to Proceed," or
- b. Fails to perform the work or fails to provide sufficient workers, equipment or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the prosecution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgement to stand against him unsatisfied for a period of 5 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner, or
- j. In the case of a federally assisted contract, is in default of a mandatory federal requirement.

Should the Engineer consider the contractor in default of the contract for any reason hereinbefore, the Engineer of the Bureau shall immediately give written notice to the contractor and the contractor's surety as to the reasons for considering the contractor in default and the owner's intentions to terminate the contract.

If the contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the owner will, upon written notification from the Bureau of the facts of such delay, neglect, or default and the contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the contractor. The owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the Engineer of the Bureau will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the owner and its agent, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the contractor. If such expenses exceeds the sum which would have been payable under the contract, then the contractor and the surety shall be liable and shall pay to the

owner and its agent the amount of such excess.

**80-10 Termination for National Emergencies or Other Unforeseen Conditions.** The owner, through its agent, shall terminate the contract or portion thereof by written notice when the contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the prosecution of war or in the interest of national defense.

The owner and its agent may, in the event that the construction is prevented by order of any court of competent jurisdiction, defer such construction in whole or in part or terminate the contract or any part thereof. The owner may additionally terminate the contract or any part thereof when, as a result of unforeseen conditions beyond the control of the contractor, the owner and its agent deems construction to be impossible or impracticable.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the contractor.

Acceptable materials, obtained or ordered by the contractor for the work and that are not incorporated in the work shall, at the option of the contractor, be purchased from the contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the project engineer.

Termination of the contract or a portion thereof shall neither relieve the contractor of his responsibilities for the completed work nor shall it relieve his surety of its obligation for an concerning any just claim arising out of the work performed.

The Engineer of the Bureau and the project engineer shall be given full access to all books, cost records, correspondence and papers of the contractor relating to the contract in order to determine amounts to be paid the contractor due to any termination of the contract.

## **SECTION 90 MEASUREMENT AND PAYMENT**

### **90-01 Measurement of Quantities**

a. General. All work completed under the contract will be measured by the engineer, or his authorized representatives, using United States customary units of measure.

The methods of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be in accordance with those described in the applicable specifications. When methods are not so specified, the methods used shall be those methods generally recognized as conforming to good engineering practice.

A station when used as a definition or term of measurement will be 100-linear feet.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9-square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the project engineer.

When the Method of Measurement specifies measurements in feet, rods, stations, square yards, or acres, the measurements will be horizontal measurements unless otherwise specified.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

When the Method of Measurement for a particular item specifies that it will be "measured in place" the measurements will be taken at the surface of the completed item, parallel to the base, to obtain the linear or area measurement. Depth measurements of "measured in place" materials, when required, will be in accordance with the applicable construction specification.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

In computing volumes of excavation the average and area method will be used unless some other acceptable method is agreed upon and approved in advance.

The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches. If the plans or specifications refer to a "Gauge" number, conversion to decimals of inch will be made using the former U.S. Standard Gauge.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered as nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

The size of wire for electrical conductors shall be measured in accordance with the Specifications for Standard Nominal Diameters and Cross-Sectional Areas of AWG Sizes of Solid Round Wires Used as Electrical Conductors, ASTM B 258, or in thousand circular mils as provided in the Specifications for Tinned Hard-Drawn and Medium-Drawn Copper Wire for Electrical Purposes, ASTM B 246.

Materials to be measured by loose volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery, unless otherwise provided. Vehicles for this purpose may be of any size or type acceptable to the engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity and all loads shall be leveled when the vehicles arrive at the point of delivery. The capacity of all vehicles shall be plainly marked on said vehicle and the capacity or marking shall not be changed without permission of the project engineer. The project engineer may require all vehicles to have uniform capacity.

When requested by the contractor and approved by the project engineer in writing, with the concurrence of the Engineer of the Bureau, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the project engineer and shall be agreed to by the contractor before such method of measurement of pay quantities is used.

Bituminous materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60° F. or will be corrected to the volume at 60° F. using ASTM D 1250 for asphalt or ASTM D 633 for tars.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.

Cement will be measured by the ton or hundredweight.

Timber will be measured by the thousand feet board measure (M.F.B.M.) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered by the project engineer in connection with force account work will be measured as agreed in the change order or supplemental agreement authorizing such force account work as provided in 90-05, Payment for Extra and Force Account Work.

When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the project engineer. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

When required by the project engineer, the contractor shall furnish him with original copies of paid freight bills, trucking

slips, bills of lading, and paid invoices for any or all materials used in the work.

b. Scales. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half per cent of the correct weight throughout the range of use. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and inspector can safely and conveniently view them.

Scale installations shall have available, ten standard fifty-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

The contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The accuracy of the scale will be checked and sealed by a state agency scale inspector, a local official sealer of weights and measures, or an approved independent laboratory, all at the contractor's expense; or the project engineer may give approval, based on check truckloads weighed on other scales which bear an official seal placed in the current calendar year.

A scale shall not be used for weighing a load totaling more than the nominal capacity marked on the scale by the manufacturer. Any portion of the load in excess of the nominal scale capacity will not be considered for payment.

The total weight of a single highway vehicle shall be weighed as a single draft and shall not be determined by adding together the results obtained by separately weighing each end of such vehicle except the weighing of a coupled combination may be determined without uncoupling under the following conditions:

1. The brakes are released.
2. There is no tension or compression on the drawbar.
3. The approaches are straight and in the same level plane as the scale platform.
4. The approaches are paved at least 50 feet in each direction with a seal coat or higher type surfacing.

When a print-out system is employed, the platform scale shall be equipped with a printer which shall print the following information on a triplicate ticket for each truckload:

1. Time.
2. Date.
3. Sequential ticket number (may be pre-printed on ticket).
4. Gross truckload weight.
5. Truck tare weight (trucks shall be tared at least twice a day).
6. Net truckload weight.
7. Net accumulated job daily total.

The system shall be so interlocked as to allow printing only when the scale has come to a complete rest. The scales and recorder shall be of sufficient capacity and size to accurately weigh the heaviest loaded trucks that are used for the delivery of the bituminous mixture from that plant.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate and all materials received

subsequent to the last previous correct weighing-accuracy-test will be reduced by the percentage of error in excess of one-half of one percent.

In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight) they shall be adjusted and no additional payment to the contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection; for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

**90-02 Scope of Payment** The contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of 70-18, No Waiver of Legal Rights.

When the "basis of payment" subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

**90-03 Compensation for Altered Quantities**. When the accepted quantities of work vary from the quantities in the proposal, the contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in 40-02, Alteration of Work and Quantities, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the contractor which results directly from such alterations or indirectly from his unbalanced allocation of overhead and profit among the contract items, or from any other cause.

**90-04 Payment for Omitted Items**. As specified in 40-03, Omitted Items, the project engineer, with the concurrence of the Engineer of the Bureau, shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the owner.

Should the project engineer so omit or order nonperformance of a contract item or portion of such item from the work, the contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the project engineer's order to omit or non-perform such contract item.

Acceptable materials ordered by the contractor or delivered on the work prior to the date of the project engineer's order will be paid for at the actual cost to the contractor and shall thereupon become the property of the owner.

In addition to the reimbursement hereinbefore provided, the contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the project engineer's order. Such additional costs incurred by the contractor must be directly related to the deleted contract item and shall be supported by certified statements by the contractor as to the nature and amount of such costs. No allowance will be made for anticipated profits in reimbursements to the contractor for omitted items of work.

**90-05 Payment for Extra and Force Account Work.**

Extra work, performed in accordance with 40-04, Extra and Force Account Work, will be paid as follows:

a. Unit Price or Lump Sum Basis. When work performed is to be paid for on a unit price or lump sum basis, payment will be made at the contract prices or agreed prices specified in the approved change order or supplemental agreement authorizing such extra work.

b. Force Account Work. When extra work is required, it shall be performed in accordance with the requirements and provisions of Subsection 40.04. Payment for such work will be on the unit price or lump sum basis agreed to in the Authorization. When such agreement cannot be reached, the Engineer may order such work, including any required off-site work, to be done by force account. The compensation as herein provided shall be accepted by the Contractor as payment in full for extra work done by force account, and the said percentages shall cover profit, superintendence, general expense, overhead, miscellaneous unforeseen costs, and the use of small tools and equipment. For subcontract work, the Prime Contractor will be paid an amount equal to 6 percent of the total cost of the subcontract work, as reimbursement for administrative costs incurred in connection with the subcontract work.

When it is necessary for the Contractor to hire a firm to perform a specialized type of work or service for which the Contractor or Subcontractors are not qualified to do, payment will be made at the invoice cost. The Prime Contractor will be paid an amount equal to 6 percent of the invoice cost, as reimbursement for administrative costs. prior approval by the Engineer is required.

Reports. The contractor shall furnish to the Engineer, itemized reports of the costs of all force account work. The reports shall be furnished each week and shall include a certified copy of the weekly payroll and copies of bills for the materials used and the freight charges paid on same. discount for prompt payment or penalty for late payment sill not be considered in determining the net amount of the bill. The net amount of the bill shall be charged to the force account work. Where materials used are not specifically purchased for use on extra work but are taken from the Contractor's stock, the Contractor shall submit a certification of the quantity price, and freight on such materials in lieu of original bills and invoices.

The Contractor shall prepare, on regulation MDOT forms, itemized statements containing the following detailed information:

1. Name, class, dates, number of hours worked each day, total hours computed to nearest half hour, rate, and extension for each labor and foreman engaged.
2. Designation, number of hours computed to nearest half hour, worked each day, total hours, rental rate, and extension for each unit of equipment engaged.
3. Quantities of materials, prices, and extensions.
4. Freight on materials.

The Contractor and the Engineer shall compare records of force account work and bring them into agreement at the end of each day.

Labor. For all labor and all craft foremen directly engaged in the specific work, the Contractor will be paid the actual rate of wages and the number of hours paid said labor and foremen in accordance with approved labor agreements, computed to nearest half hour, to which sum 26 percent will be added (this sum included a one percent allowance for the Single Business Tax). project Foremen will be classified as Superintendents and their compensation will not be included in the payment provided herein.

Bond premium; Workmen's Compensation Insurance; Personal Injury Public Liability and Property Damage Public Liability Insurance; Unemployment Compensation; Federal Social Security; and payments required to be made to employer and Employee Trusteeships, the proceeds from which accrue exclusively to the benefit of the employee; will be paid for at actual cost, to which sum 20 percent will be added except that 26 percent will be added to the taxable fringe benefits. The Contractor shall furnish satisfactory evidence of the amounts paid for each of these required costs as related to force account work.

Materials. For materials, the Contractor will receive the actual cost delivered on the work including freight charges, as shown by copies of bills, to which sum 20 percent will be added.

if a change in the amount or type of force account work results in a surplus of the material ordered and delivered to the project site, the Department will reimburse the Contractor for the costs incurred in returning the surplus material to the supplier.

Small Hand and Power Tools. No payment will be allowed for small hand and power tools which are not listed in the Rental Rate Blue Book for Construction Equipments as published by the Equipment Guide-Book Company. All small hand and power tools listed in the Rental Rate Blue Book at a rate of less than one dollar per hour will be considered part of overhead and will not be paid for separately.

Equipment. For any machinery and equipment, including the foreman's transportation unit, which the Engineer approves for use on extra work done by force account, the Contractor will be paid as follows:

The time paid for shall be the period that the equipment is required at the site of the extra work and, in addition, shall include traveling time to the location of the extra work when the equipment is moved under its own power. When transportation from one site to another is by other than its own power, the actual operating time during periods of loading and unloading will be paid for at the regular rental rate and transportation costs will be allowed.

When the periods of work are not consecutive and the interval between the termination of a period of work and the commencement of the subsequent period does not exceed 30 days, the rates allowed will be the same as if the periods of work were consecutive.

The rental rate established for each piece of Contractor owned equipment, including appurtenances and attachments to equipment, used will be determined by use of the Rental Rate Blue Book for Construction Equipment Volume 1, 2 or 3, as applicable; the edition which is current at the time the force account work was started will apply. The established rental rate will be equal to the "Monthly" rate divided by 176; modified by the rate adjustment factor and the applicable map adjustment factor, plus the "Estimated Operating Costs per Hour," to which sum 10 percent will be added.

For equipment not listed in the Rental Rate Blue Book, Volume 1, 2 or 3, the rental rate will be determined by using the rate listed for a similar piece of equipment or by proportioning a rate listed so that the capacity, size, horsepower, and age are properly considered.

For equipment for which there are no comparable in the Rental Rate Blue Book, Volume 1,2 or 3, the monthly rate shall be reasonable, but not more than 5 percent of the current list price, or invoice, of the equipment. The base hourly rate shall then be determined by dividing the monthly rate by 176 to which sum 20 percent will be added. The 20 percent includes adjustments and operating costs.

The rates used for Contractor owned trucks used to haul material will be published by the Department. These rates shall include all adjustments and operating costs. Separate payment for the driver will be allowed. The rates will be reviewed and adjusted periodically.

The rental rate for the foreman's transportation unit will be 7 dollars per hour, to which sum 20 percent will be added.

When leased or rented equipment is used on force account work, the hourly rate used in computation of payment will be the leased or rental rate, except that if the leased or rental rate exceeds the rental rate established by the Rental Rate Blue Book, the established rate determined from the Blue Book will apply. In either case, the Estimated Operating Cost per Hour will be added to the appropriate hourly rate to which sum 10 percent will be added.

In all cases, the "Estimated Operating Cost per Hour" includes all fuel, oil, lubricants, tires, parts, and other operating expendables such as truck and labor assigned to the truck for servicing the equipment.

The rental rates allowed herein include the cost of insurance covering the usual insurable risks, including fire and theft. The Department will not be liable for losses which can be covered by insurance.

In no instance, however, will the Department pay, on a total project basis, equipment costs in excess of the equipment's original invoice cost plus any documented improvements to the piece of equipment. The Contractor shall furnish to the Engineer either original bills and invoices or a certification documenting the equipment's original invoice price plus improvements in any instance in which equipment costs are being sought under this subsection for a period in excess of 30 days.

**90-06 Partial Payment.** Partial payments will be made as specified herein for work completed and for fabricated or processed non-perishable materials delivered for use on the project.

Processing of payments will be completed as soon as practicable, however, no claim will be considered for late payment of estimate.

a. Complete Work. Partial payments will be made to cover monthly or bi-weekly work periods, as determined by the project engineer to be necessary, on the basis of the value of work completed during the estimate period, less the percentage retained as specified herein, provided the work is progressing in accordance with the established progress schedule, provided the written orders of the project engineer and the Engineer of the Bureau have been or are being fulfilled, provided the time for completion has not elapsed, and provided that at least one-half the contract amount or \$1,000 has been earned during the estimate period. Said payments will be based upon estimates prepared by the project engineer of the value of the work performed and materials complete in place in accordance with the contract.

The owner through its agent will retain 2% of the total amount earned from each partial payment processed.

When the project has been substantially completed and upon the Engineer of the Bureau's approval of the Contractor's documented request, the retainage may be reduced to the amount determined by the Department as necessary to withhold; before the reduction of reserve is made, the Contractor will file with the Department the written consent of the Surety for such reduction and will furnish an affidavit that all the indebtedness by reason of the contract has been paid in full

or satisfactorily secured.

The final payment will be made after final measurements are completed and the final estimate is prepared, provided the contractor shall file with the Department the written consent of the surety to such final payment and shall furnish an affidavit that all his indebtedness by reason of the contract has been paid in full.

b. Delivered Materials. Non perishable materials which meet specification requirements, specifically produced or purchased for incorporation into contract items of work, may be paid for under the following conditions:

The delivered material is not scheduled to be incorporated into the work within 90 days of delivery.

Received bills and freight bills are presented to the project engineer, except where the prime contractor is the fabricator or producer, payment will be based on proven production cost.

The materials are stored or stockpiled on the project or at approved locations in the vicinity of the project. Aggregates stockpiled at a commercial source will not be eligible for payment.

The unit price for delivered materials will be based on amounts actually paid for the materials delivered to the project not to exceed 50 percent of contract unit price.

Payment will not be made for materials in excess of contract quantities. When partial payment is made for materials, such materials shall become the property of the owner, and the contractor shall be entirely responsible for any loss or damage to such materials until materials are incorporated in the work.

The contractor shall assume the cost of any additional testing necessitated by partial payment of stockpiling.

Approval of partial payment for stockpiled materials will not constitute final acceptance of such materials for use in completing items or work.

c. Reimbursement to the Owner for Defective Work or Materials. Should any defective work or material be discovered or should a reasonable doubt arise as to the integrity of any part of the work completed previous to the final acceptance and payment, there will be deducted from the first estimate rendered after the discovery of such work an amount equal in value to the defective or questioned work, and this work will not be included in a subsequent estimate until the defects have been remedied or the causes for doubt removed.

**90-07 (Reserved for Future Use)**

**90-08 (Reserved for Future Use)**

**90-09 Acceptance and Final Payment.** The joint inspection party as described in 50-15, Final Acceptance, shall make inspection of all work included in the contract, or such portions thereof eligible for acceptance, as soon as possible after written notice by the contractor that the work is completed or after the project engineer's records show that the work is completed. If the work is not acceptable to the joint inspection party at the time of such inspection, the project engineer will advise the contractor in writing as to the particular defects to be remedied before final acceptance.

When the work has been completed and the Engineer of the Bureau has ascertained that each and every part of the work has been performed in accordance with the plans and specifications, or such modifications thereof as he may have approved, the same will be accepted, and the project engineer will make a final estimate, as soon as practical, for the

completed work, and the total amount due the contractor, less the total amount of all previous payments, will be paid. The final estimate will be based on the final change order stipulated by 40-09, Change Order.

Final payment will not be made until the contractor has filed with the Department the consent of the surety to payment of the final estimate and satisfactory evidence by affidavit that all his indebtedness by reason of the contract has been fully paid or satisfactorily secured. In case such evidence is not furnished, the owner through its agent may retain out of any amount due said contractor sums sufficient to cover all lienable claims unpaid. The filing of willfully false affidavits will disqualify the contractor from bidding on future work.

Any claim for additional compensation which has not been approved on or before the date that the contractor is notified by certified mail that the final estimate is approved for payment shall be considered as denied by the owner and its agent as of that date.

The contractor shall also submit any and all other reports or documents required by the owner, the Department or the Federal Aviation Administration before final payment will be made. Failure to submit the required documents may subject the contractor to reduction in the numerical rating of his prequalification in accordance with the Administrative Rules Governing the Prequalification of Bidders.

**90-10 Prompt Payment.** The prime Contractor agrees to pay each subcontractor for the satisfactory completion of work associated with the subcontractor no later than ten (10) calendar days from the receipt of each payment the prime Contractor receives from the Department. The prime Contractor agrees further to return retainage payments to each subcontractor within ten (10) calendar days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from these time frames may occur only upon receipt of written approval from the Engineer. These requirements are also applicable to all sub-tier subcontractors and shall be made a part of all subcontract agreements.

## SUBJECT INDEX

Does not include a detailed listing of definitions. Defined terms are listed alphabetically in Section 10.

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