Manchester - Boston Regional Airport
Project Documents

City of Manchester - Department of Aviation

STANDARD SPECIFICATIONS – 2007 EDITION

Project Requirements
General Conditions
Supplemental Conditions for AIP Projects

VOLUME II of III

THIS PAGE INTETNIONALLY LEFT BLANK

Manchester - Boston Regional Airport
Project Documents

City of Manchester - Department of Aviation

PROJECT REQUIREMENTS

(February 2007 Edition)

THIS PAGE INTENTIONALLY LEFT BLANK

PROJECT REQUIREMENTS

TABLE OF CONTENTS

Section 01010: **SUMMARY OF WORK AND WORK BY OTHERS**
1.01 Description 01010-1
1.02 Protective Measures 01010-1
1.03 Contractor Management 01010-1
1.04 Review of Other Contract Documents 01010-1
1.05 Coordination With Other Contractors 01010-1

Section 01020: **ALLOWANCES**
1.01 Description 01020-1

Section 01030: **ADD-ALTERNATES**
1.01 Description 01030-1
1.02 Process and Prosecution 01030-1

Section 01045: **CUTTING AND PATCHING**
1.01 Description 01045-1
1.02 Quality Assurance 01045-1
1.03 Submittals 01045-1
1.04 Materials 01045-2
1.05 Inspection 01045-2
1.06 Preparation Prior to Cutting 01045-2
1.07 Performance 01045-3

Section 01070: **SELECTIVE DEMOLITION**
1.01 Summary 01070-1
1.02 Submittals 01070-1
1.03 Job Conditions 01070-1
1.04 Preparation 01070-3
1.05 Demolition 01070-3
1.06 Salvaged Materials 01070-4
1.07 Disposal of Demolished Materials 01070-4
1.08 Cleanup and Repair 01070-4

Section 01317: **BLASTING**
1.01 Description 01317-1
1.02 Operations 01317-1

Section 01510: **TEMPORARY FACILITIES**
1.01 Summary 01510-1
1.02 Submittals 01510-1
1.03 Quality Assurance 01510-1
1.04 Project Conditions 01510-2
1.05 Materials 01510-2
1.06 Equipment 01510-3
1.07 Installation 01510-4
1.08 Temporary Utility Installation 01510-4
1.09 Temporary Construction and Support Facilities Installation 01510-5
1.10 Security and Protection Facilities Installation 01510-9
1.11 Operation, Termination and Removal 01510-10

Section 01520: **FIELD OFFICE EQUIPMENT**
1.01 Description 01520-1
1.02 Field Office Equipment 01520-1
1.03 Payment 01520-2

Section 01550: **TEMPORARY ROADS AND ACCESS**
1.01 Description 01550-1

Section 01710: **CLEANING**
1.01 Description 01710-1
1.02 Materials 01710-1
1.03 Coordination 01710-1
1.04 Cleaning During Construction 01710-1
1.05 Final Cleaning 01710-2

END OF TABLE OF CONTENTS

SECTION 01010

SUMMARY OF WORK AND WORK BY OTHERS

1.01 DESCRIPTION

a. This section includes a description of the Contractor's responsibilities in regards to the scope of work included in the Contract, the progress and completion of the project, examination of the site and work, the Contractor's use of the premises, the protection of existing utilities, protective measures, and contractor management.

b. In addition, this Section describes associated construction activities being provided under separate contracts.

1.02 PROTECTIVE MEASURES

a. The Contractor shall provide and maintain substantial and adequate protection as may be required to protect new and existing work and all items of equipment and furnishing for the duration of work.

b. The Contractor shall repair or make good any and all damage or loss he may cause to the building or other Owner property to the full satisfaction of the Owner.

1.03 CONTRACTOR MANAGEMENT

a. The Contractor will provide a project manager and superintendent which have previously constructed projects of similar size and scope. The project manager/superintendent shall be on the job-site at all times while work is in progress, including overtime operations by the Contractor's forces or by subcontractors. The Contractor will provide the names and resumes of the project manager and superintendent to the Owner.

b. The project manager and superintendent shall not be changed except with the consent of the Owner, unless the project manager/superintendent proves to be unsatisfactory to the Contractor or the Owner, or ceases to be in the Contractor's employ. The Owner shall be notified immediately of any pending change of project manager or superintendent appointed to the work and the Contractor shall submit qualifications for approval.

1.04 REVIEW OF OTHER CONTRACT DOCUMENTS

a. Contract Documents for the above projects are available at the Manchester-Boston Regional Airport Engineering and Planning Office – 6 Industrial Drive, Suite 2, Londonderry, NH for review. The Contractor shall become familiar with the documents and current site conditions.

1.05 COORDINATION WITH OTHER CONTRACTORS

a. Cooperation and coordination between contractors working for the Manchester-Boston Regional Airport will be required. Refer to specification Section 00730; subsection 5 located in project document entitled General Conditions.

END OF SECTION 01010

SECTION 01020

ALLOWANCES

1.01 DESCRIPTION

a. All Allowances under this Section shall be included in the Base Bid and shall be carried by the Contractor, unless specifically noted to be carried by a subcontractor.

b. The Contractor shall cause the work covered by these Allowances to be performed for such amounts and by such persons as the Owner may direct but he will not be required to employ persons against whom he makes a reasonable objection.

c. If the cost, when determined, is more than or less than the Allowance, the Contract Sum shall be adjusted accordingly by Change Order, which will include additional or reduced handling costs on the site, labor, installation costs, overhead, profit and other expenses resulting to the Contractor from any increase over or decrease from the original Allowance.

d. Refer to related Drawings and Specifications for additional information regarding Work to be included as part of Allowances.

END OF SECTION 01020

SECTION 01030

ADD-ALTERNATES

1.01 DESCRIPTION

a. The Contractor shall provide all labor, materials, equipment and services, etc., necessary for the proper and complete execution of accepted Alternates. Amount of Alternate prices to be added to or deducted from the Base Bid shall be stated on the Proposal Form and shall include cost of any and all modifications made necessary by Owner's acceptance of Alternates.

b. Related Work Described Elsewhere:

1. Materials and methods to be used in the Base Bid and in the Alternatives are generally described in the Contract Documents.

2. Method for stating the proposed Contract Sum is described in the Proposal Form.

1.02 PROCESS AND PROSECUTION

a. If the Owner elects to proceed on the basis of one or more of the described Alternates, make all modifications to the Work required in order to furnish and install the selected Alternate or Alternates to the approval of the Architect and at no additional cost to the Owner, other than as proposed on the Proposal Form.

b. Immediately after award of the Contract, or as soon thereafter as the Owner has made a decision on which, if any, Alternates will be selected, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of Alternates selected by the Owner. Use all means necessary to alert those personnel and suppliers involved as to all changes in the Work caused by the Owner's selection or rejection of Alternates.

c. It shall be the responsibility of the Contractor to properly coordinate work related to Alternates with all other Work of this Contract in order to ensure that a complete and proper job is provided.

END OF SECTION 01030

SECTION 01045

CUTTING AND PATCHING

1.01 DESCRIPTION

a. The Contractor shall perform all cutting, fitting or patching required to:

1. Make parts fit properly.

2. Uncover work to permit the installation of ill-timed work.

3. Remove and replace work not conforming to requirements of Contract Documents.

4. Remove samples of installed work as may be required for testing.

b. In addition to Contract requirements, upon the Owner's written instructions the Contractor shall:

1. Uncover work to permit the Owner's observation of covered work.

2. Remove samples of installed materials for testing.

3. Perform any other cutting and patching directed by the Owner.

c. The Contractor shall not endanger any work by cutting or altering work or any part of it.

1.02 QUALITY ASSURANCE

a. Design Criteria:

1. Patching shall achieve security, strength, and weather protection, and shall preserve continuity of existing fire ratings.

2. Patching shall successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles. Where there is dispute as the whether duplication is successful or has been achieved, the Owner's judgment will be final.

1.03 SUBMITTALS

a. The Contractor shall submit written notice to the Owner requesting permission to proceed with cutting before any cutting, which affects:

1. Structural integrity of any element of the Work.

2. Integrity of weather-exposed or moisture-resistant element.

3. Efficiency, maintenance, or safety of any operational element.

4. Visual qualities of sight-exposed elements.

5. Work of separate contractor.

b. Include in request:

1. Identification of the Work.

2. Location and description of affected work.

3. Necessity for cutting or alteration.

4. Description of proposed work, and products to be used.

5. Alternatives to cutting and patching.

6. Effect on work of separate contractor.

7. Written permission of affected separate contractor.

8. Date and time-work will be executed.

c. Should conditions of work or schedule indicate change of materials or methods, the Contractor shall submit written recommendation to the Owner, including:

1. Conditions indicating change.

2. Recommendations for alternative materials or methods.

3. Submittals as required for substitutions.

d. The Contractor shall submit 2 working days advanced written notice to the Owner designating the time the work will be uncovered.

1.04 MATERIALS

a. Materials shall be as specified in the applicable sections of the specifications (and as required to match existing construction).

1.05 INSPECTION

a. Inspect existing conditions of work, including elements subject to movement or damage during cutting and patching, and excavating and backfilling.

b. After uncovering work, inspect conditions affecting installation of new products.

c. Beginning of cutting or patching means acceptance of existing conditions.

1.06 PREPARATION PRIOR TO CUTTING

a. Provide shoring, bracing and support as required to maintain structural integrity.

b. Provide protection for other portions of Project.

c. Provide protection from elements.

1.07 PERFORMANCE

a. Fit and adjust products to permit the finished installation to comply with specified tolerances and finishes.

b. Perform cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

c. Perform cutting, associated structural reinforcing, and patching not required to be performed as part of the work of other Sections.

d. Perform cutting, associated structural reinforcing, and patching to prevent damage to other work and to provide proper surfaces for the installation of materials, equipment, and repairs.

e. Do not cut or alter structural members without prior approval of the Owner.

f. Employ original installer or fabricator providing work under this Contract to perform cutting and patching for new:

   1. Weather -exposed and moisture-resistant products.
   2. Fireproofing.
   3. Finished surfaces exposed to view.

g. Adjust and fit products to provide a neat installation.

h. Finish or refinish cut and patched surfaces to match adjacent finishes. Paint over complete surface plane, unless otherwise indicated. Over patched wall or ceiling surfaces, paint to nearest cutoff line for entire surface, such as intersection with adjacent wall or ceiling, beam pilasters, or to neatest opening frame, unless otherwise indicated. Surfaces shall not present a spotty, touched-up appearance.

END OF SECTION 01045

SECTION 01070

SELECTIVE DEMOLITION

1.01 SUMMARY

This Section requires the selective removal and subsequent offsite disposal of all items identified or shown in the contract documents.

1.02 SUBMITTALS

a. General: Submit the following in accordance with specification Section 01300 SUBMITTALS.

b. Schedule indicating proposed sequence of operations for selective demolition work to the Owner for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required, together with details for dust and noise control protection.

   1. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

   2. Coordinate with Owner's continuing occupation of portions of existing building and with Owner's partial occupancy of completed new addition.

c. Photographs of existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's Representative prior to start of work.

1.03 JOB CONDITIONS

a. Occupancy: Owner will occupy portions of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities that will affect Owner's normal operations.

b. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.

   1. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable. However, minor variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.

c. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.

   1. Storage or sale of removed items on site will not be permitted.

d. Protections: Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to selective demolition work.

   1. Provide protective measures as required to provide free and safe passage of Owner's

personnel and general public to occupied portions of building.

2. Erect temporary covered passageways designed by a Structural Engineer as required by phasing and coordination for continuous operation of this facility.

3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain. Structural Engineer shall be employed to design such shoring.

4. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

5. Protect floors with suitable coverings when necessary.

6. Construct temporary insulated dustproof partitions where required to separate areas where noisy dirty, or dusty operations are performed. Equip partitions with dustproof doors and security locks.

7. Excessively noisy demolition operations, as determined by the Owner, may be prohibited during normal operating hours. These operations, when designated, shall be completed during non-operational hours.

8. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building. Insulate all temporary weather barriers where possible.

9. Remove protections at completion of work.

e. Damages: Promptly repair damages caused to adjacent facilities by demolition work.

f. Traffic: Conduct selective demolition operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

1. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

g. Flame Cutting: Do not use cutting torches for removal until work area is cleared of flammable materials. At concealed spaces, such as interior of ducts and pipe spaces, verify condition of hidden space before starting flame-cutting operations. Maintain portable fire suppression devices during flame-cutting operations.

h. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.

1. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

2. Maintain fire protection services during selective demolition operations.

i. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.

1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

1.04 PREPARATION

a. General: Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of areas to be demolished and adjacent facilities to remain.

1. Cease operations and notify the Owner immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.

b. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.

c. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.

1. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4-inch studs, 5/8-inch drywall (joints taped & drywall painted to match existing condition or as directed by the Owner) on occupied side, 1/2-inch fire-retardant plywood on demolition side. Fill partition cavity with sound-deadening insulation.

2. Provide weatherproof closures for exterior openings resulting from demolition work. Materials used for exterior weatherproof are to be fire-retardant.

d. Locate, identify, stub off, and disconnect utility services that are not indicated to remain.

1. Provide bypass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shutdown of service is necessary during changeover.

1.05 DEMOLITION

a. General: Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.

1. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.

2. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors, or framing.

3. Provide services for effective air and water pollution controls as required by local

authorities having jurisdiction.

4. Demolish foundation walls to a depth of not less than 12 inches below existing ground surface. Demolish and remove below-grade wood or metal construction. Break up below-grade concrete slabs.

5. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.

6. Completely fill below-grade areas and voids resulting from demolition work. Provide fill consisting of approved earth, gravel, or sand, free of trash and debris, stones over 6 inches in diameter, roots, or other organic matter.

b. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to the Owner in written, accurate detail. Pending receipt of directive from the Owner, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.

1.06 SALVAGED MATERIALS

a. Salvaged Items: Where indicated on Drawings as "Salvage - Deliver to Owner," carefully remove indicated items, clean, store, and turn over to Owner and obtain receipt.

1. Historic artifacts, including cornerstones and their contents, commemorative plaques and tablets, antiques, and other articles of historic significance, remain property of Owner. Notify Owner's Representative if such items are encountered and obtain acceptance regarding method of removal and salvage for Owner.

1.07 DISPOSAL OF DEMOLISHED MATERIALS

a. Remove from building site debris, rubbish, and other materials resulting from demolition operations. Transport and legally dispose off site.

b. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.

c. Burning of removed materials is not permitted on project site.

1.08 CLEANUP AND REPAIR

a. General: Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.

1. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to condition existing prior to start operations. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 01070

SECTION 01317

BLASTING

1.01 DESCRIPTION

a. Blasting will be permitted only when proper precautions are taken for the safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the Contractor's expense. All operations of the Contractor in connection with the transportation, storage, and use of explosives shall conform to all state and local regulations and explosive manufacturer's instructions, with applicable approved permits reviewed by the Owner. Any approval given, however, will not relieve the Contractor of his/her responsibility in blasting operations.

b. The Contractor shall employ a vibration consultant, approved by the Owner, to advise on explosive charge weights per delay and to analyze records from seismograph recordings. The seismograph shall be capable of producing a permanent record of the three components of the motion in terms of particle velocity, and in addition shall be capable of internal dynamic calibration.

c. In each distinct blasting area, where pertinent factors affecting blast vibrations and their effects in the area remain the same, the Contractor shall submit a blasting plan of the initial blasts to the Owner for approval. This plan must consist of hole size, depth, spacing, burden, type of explosives, type of delay sequence, maximum amount of explosive on any one delay period, depth of rock, and depth of overburden, if any. The maximum explosive charge weights per delay included in the plan shall not be increased without the approval of the engineer.

d. The Contractor shall keep a record of each blast fired --its date, time and location; the amount of explosives used, maximum explosive charge weight per delay period, and, where necessary, seismograph records identified by instrument number and location.

e. These records shall be made available to the Owner on a daily basis or in tabulated form at other times as required.

1.02 OPERATIONS

a. Blasting Operations. The required slopes or configurations shown on the plans or ordered shall be constructed in a safe and stable condition while ensuring the safety and convenience of the public.

All loose and unstable material, all breakage, and all potentially unstable rock slides, even if located beyond the payment lines, shall be removed or stabilized to the Owner's satisfaction during or upon completion of the excavation in each lift. Drilling of the next lift will not be allowed until this work has been completed. It shall then be the responsibility of the Contractor to perform all phases of this work to produce the required slopes.

Prior to commencing full-scale blasting operations, the Contractor shall demonstrate the adequacy of the proposed blasting plan by drilling, blasting, and excavating short test sections, up to 100 ft in length, to determine which combination of method, hole spacing, and charge works best. When field conditions warrant, as determined by the Owner, the Contractor may be allowed to use test section lengths more than 100 ft. Requirements for controlled and production blasting operations covered elsewhere in this specification shall also apply to the blasting carried out in conjunction with the test shots.

The Contractor will not be allowed to drill ahead of the test shot area until the test section has been excavated by the Owner. If the results of the test shot(s), in the opinion of the Owner, are unsatisfactory, then the Contractor shall adopt such revised methods as are necessary to achieved the required results. Unsatisfactory test shot results include and excessive flyrock, and/or violation of other requirements within these specifications.

All blasting operations, including storage and handling of explosives and blasting agents, shall be performed in accordance with the applicable provisions of the Standard Specifications and all other pertinent Federal, State and local regulations. Whenever explosives are used, they shall be of such character and in such amount as are permitted by the State and local laws and ordinances, and all respective agencies having jurisdiction over them.

The Contractor shall observe the entire blast area to guard against potential hazards before commencing work in the cut. The Contractor shall not be allowed to store explosives on the project site unless prior approval is granted by the Owner.

Drill hole conditions may vary from dry to filled with water. The Contractor will be required to use whatever type(s) of explosives and/or blasting accessories necessary to accomplish the specified results.

b. Blasting Plan. The Contractor shall submit for approval its propose drilling pattern and loading plan, hereinafter, referred to as the blasting plan. No drilling or blasting shall take place until approval is received from the Owner. The blasting plans shall be submitted at least fifteen working days prior to commencing drilling and blasting operations. The blasting plan shall include the following information.

1. Sequence and schedule of production blast rounds, including the general method of developing the excavation, lift heights, starting locations, estimated starting dates, estimated rates of progress, etc.
2. Written evidence of the licensing, experience, and qualifications of the blaster who shall be directly responsible for the loading and firing of each shot.
3. Name and qualification of the person responsible of the blaster who shall be directly responsible for designing and directing the Contractor's blasting operation.
4. Name and qualifications of the independent seismologist or blasting consultant proposed for use in conducting pre-blast condition surveys.
5. The seismologist or blasting consultant shall be subject to the Owner's approval.
6. Name and qualifications of the independent seismologist or blasting consultant proposed for use in monitoring blast vibration. The seismologist or blasting consultant shall be subject to the Owner's approval.
7. A sample of a previous vibration analysis or report or both shall be included with the qualifications.
8. Listing of instrumentation which the seismologist or blasting consultant proposes to use to monitor vibrations together with performance specifications, instrumentation user's manual supplied by the manufacturer(s).
9. A diagrammatic description of the "Typical Blasting Pattern" to be used for the required rock excavation, including the presplitting pattern if presplitting is required. This description shall include the spacing and depth dimensions for the holes drilled along the presplit lines (presplit holes) and for fragmentation charge holes (production holes). The relative position of the "free face" and the burden shall also be shown, along with the anticipated cap delays to be used at each hole in the pattern. An example of such diagrammatic plan is shown in Figure 1.
10. A diagrammatic description of the loading plan for a "Typical Production Hole"

and, if presplitting is required on the project, for a "Typical Presplit Hole". This description shall include for each type of hole the fuse and cap locations, the percent strength and type of primer, the proposed hole diameter, the percent strength and type of explosives, with brand name and density of explosive, and the anticipated location and depth of stemming. An example of such a diagrammatic plan is shown in Figure 2.

11. Sub-drilling depth; amount of explosives, primers and initiators in each hole; initiation sequence of blast holes including delay times and delay system; and manufacturer's data sheet for all explosives, primers, and initiators to be used.

The blasting plan is required. It shall form the basis for all blasting operations on the project. If, in the judgment of either the Owner or the Contractor, changes in the plan appear to be necessary, drilling or blasting operations shall be suspended and a revised plan shall be submitted to the Owner reflecting the proposed changes. No Further drilling or blasting shall take place until the approval of the revisions is received from the Owner.

Approval of the blasting plan will not relieve the Contractor of full and complete, responsibility for the results of the blasting operations. The Contractor also has full responsibility for the accuracy and adequacy of the blasting plan when implemented in the field.

c. Blasting Log. A blasting log must be completed daily for every primary blast, and copies must be provided to the Owner. An example of a typical blasting log is shown in Figure 3. The blasting contractor may use a different format for its blasting log subject to the approval of the Owner.

d. Blast Vibration Control and Monitoring. The Contractor shall be required to comply with the blasting vibration limits established herein. The vibration limits shall be incorporated in the Contractor's blasting plan. The Contractor shall provide for monitoring of the blasting vibrations (both ground and air concussions) produced as a result of the construction activities and shall provide a Pre-Blast Condition survey of structures. The Contractor shall adjust the blasting plan and procedures to maintain the vibration limits specified herein and to minimize vibration-related claims and complaints.

1. Vibration Limits. Ground limits. The maximum peak particle velocity (PPV) of ground vibration, in any of the three mutually perpendicular components of particle velocity, for above-ground, residential structures shall not exceed the following limits:

Ground Vibration Limits for Residential Structures
Maximum PPV, mm/s (in/s)

Type of Structure	Frequencies Below 40 Hz	Frequencies 40 Hz or Greater
Modern Homes - Drywall Interiors	19 (0.75)	50 (2.0)
Older Homes - Plaster on Wood Lath for Interior Walls	13 (0.50)	50 (2.0)

The Maximum PPV of ground vibrations, in any of the three mutually perpendicular components of particle velocity, for non-residential structures shall not exceed 50 mm/s (2.0 in/s).

The maximum PPV of ground vibrations, in any of the three mutually perpendicular components of particle velocity, for underground utilities shall not exceed mm/s (2.0 in/s). Buried pipelines and other utilities, owned by private utility companies are sometimes subject to lower limiting values imposed by the owner. The Contractor shall verify the maximum allowable of ground vibrations allowed by the individual utilities.

Deteriorated structures or utilities, structures housing computers or other sensitive equipment, and manufacturing processes that are sensitive to vibrations may require lower PPV limits than stated in this specification. If lower limits are required, a special provision describing the limits or conditions required will be included in the proposal.

The Contractor shall not conduct blasting operations within 6 m (20 ft) of newly placed concrete regardless of the age of the concrete. For blasting greater than 6 m (20 ft) away from new concrete, the following PPV ground vibration limits shall apply.

Ground Vibration Limits for New Concrete
Maximum PPV, mm/s (in/s)

Distance to Blasting m (ft)	Type I Concrete <24 h	Type I Concrete >24 h Old	Type II Concrete <24 h	Type II Concrete >24 h Old
6 - 15 (20 - 50)	50 (2.0)	100 (4.0)	38 (1.5)	75 (3.5)
15 - 45 (50 - 150)	38 (1.5)	88 (3.5)	25 (1.0)	63 (2.5)
> 45 (150)	25 (1.0)	75 (3.0)	13 (0.5)	50 (2.0)

Type I concrete construction shall be considered to be concrete that is not designed to undergo structural bending or deflection. In general, a concrete section shall be considered Type I if the vertical dimension is not more than twice the horizontal dimension. Examples, of Type I concrete construction are fill or mass concrete, spread footings, and slabs cast on grade. Type II concrete construction shall be considered to be concrete that is not Type I, and includes structural walls and slabs over an open span.

2. Air Concussion. The Contractor shall conduct all blasting activities in such a manner that the peak airblast overpressure at all above-ground, occupied structures in the vicinity of blasting does not exceed 128 db.

If blast induced ground vibrations exceed the limits for maximum PPV, then alternative rock excavation techniques may be necessary. All non-explosive, methods of rock excavation are subject to approval by the Owner.

e. Seismologist or Blasting Consultant. The Contractor will be required to retain a seismologist or blasting consultant to monitor, record, analyze, and report the seismic vibrations being caused by blasting activities. The name and resume of qualifications of the

seismologist or blasting consultant shall be submitted to the Owner for approval. No drilling or blasting shall take place until such approval is given. The seismologist or blasting consultant shall not be an employee of the Contractor, subcontractor, explosives manufacturer or explosives distributor.

1. Seismologist or Blasting Consultant Qualifications. The seismologist or blasting consultant shall be experienced in the subject of vibrations emanating from construction activities. The seismologist or blasting consultant shall be qualified to thoroughly analyze seismic parameters of the energy source, the energy transmission path, the recording site, and the ground motion spectra. The minimum qualifying requirement to perform the necessary documentation and analysis is a Bachelor of Science degree with accredited course work in at least three of the following disciplines: Seismology, Geophysics, Geophysical, Data Processing, Geomechanics, Geophysical Engineering, Vibration Engineering, Soil and/or Rock Mechanics, Foundation and a Explosive Engineering, Advanced Calculus, and Time-Series (Fourier) Analysis.

2. Seismologist or Blasting Consultant Duties. The seismologist or blasting consultant shall direct and instruct the Contractor in its operations to control vibrations within acceptable levels. The seismologist or blasting consultant shall be in charge of making the pre-blast and post-blast surveys and, unless otherwise permitted in writing, shall be present at the site of the blasting during all blasts. The seismologist or blasting consultant shall provide and use all necessary equipment to observe and record vibrations to ascertain that acceptable levels of vibrations are not exceeded. The seismologist or blasting consultant shall monitor, report findings, and submit recommendations on a daily basis to the Owner. The seismologist or blasting consultant shall determine the level of observed vibrations attributed to the project's blasting activities and their subsequent effect on surrounding structures.

f. Pre-blast Condition Survey. The seismologist or blasting consultant shall conduct a pre-blast condition survey of all existing structures and conditions on the site, adjacent to the site, or in the vicinity of the site. This survey shall extend to such structures or conditions as may be affected by the Contractor's construction operations. As a minimum, condition surveys shall be performed on all structures, including swimming pools and mobile homes, within 1000 ft of anticipated blasting areas.

The pre-blast condition survey shall consist of a written description of the interior and exterior condition of each of the structures examined. Descriptions shall locate any existing cracks, damage, or other defects and shall include such information so as to make it possible to determine the effect, if any, of the construction operations on the defect. Where significant cracks or damage exist, or for defects too complicated to describe in words, photographs shall be taken. A good quality videotape survey with the appropriate audio description of locations, conditions, and defect can be used. Prior to the start of work, a copy of the pre-blast condition survey shall be submitted to the Owner for review.

The seismologist or blasting consultant shall give written notice to the owner of the property concerned, tenants of the property, and any representative of local authorities required to be present at the pre-blast survey. The notice shall state the dates on which Survey's are to be made. Copies of all notices shall be provided to the Owner.

Prior to the start of blasting activities, the Contractor shall place an advertisement in the local newspaper and provide a notice to adjacent property owners or tenants identifying the project, blasting contractor, site location, warning signals, and precautions being taken by

the blasting contractor to minimize disturbance to residents.

g. Post-blast Condition Survey. Upon completion of all earth/rock excavation and blasting work, the Contractor shall conduct a post-blast survey of the properties, structures, and conditions for which pre-blast condition surveys were made as well as any properties or structures for which complaints of damage have been received or damage claims have been filed. Notice shall be given to all interested parties do that they may be present during the final examination. Records of the final examination shall be distributed the same as the original pre-blast condition survey.

h. Vibration Monitoring Instrumentation. All vibration monitoring instrumentation proposed for use on thee project by the Contractor shall comply with the following requirements:

1. Measure, display, and provide a permanent record on a strip chart of particle velocity components.
2. Measure the three mutually, perpendicular components of particle velocity in directions vertical, radial, and perpendicular the vibration source.
3. Have a velocity frequency response of 2 Hz to 150 Hz, and be capable of measuring PPV of up to 250 mm/s (10 in/s).
4. All seismographs used on the project shall display the date of the most recent calibration.
5. Calibration must have been performed within the last 12 months and must be performed to a standard traceable to the National Institute of Standards and Technology.

i. Report of Monitoring Results. Following each blast, the Contractor shall immediately report the measured vibrations to the Owner. In the event seismic vibrations caused by the Contractor's operations approach the established limits for this project, the Owner may require the Contractor to modify the blasting operations to reduce the vibrations. If the seismic ground vibration or air concussions or both ground vibration and air concussions caused by the Contractor's blasting operation attain or surpass the established limits, the operations shall cease. Blasting shall not be resumed until measures have been taken to reduce, to the satisfaction of the Owner, the produced vibrations and/or air concessions below the established limits. The seismologist or blasting consultant should assist the Contractor in the design of the Contractor's blasting to eliminate the problems and to avoid liability claims.

Within 24 hours following each blast, the Contractor shall submit to the Owner in writing the following items:

1. Details of the round as shot to include the information shown on the sample blasting log.
2. Results of blast monitoring at each instrument location including PPV in millimeters per second (inches per second), as well as a copy of the strip chart recording for each monitoring location, marked with the date, time, location of the equipment, and signature of seismograph operator.

j. Pre-blast Meeting. A pre-blast meeting shall be held at least five working days prior to the start of any blasting activities. The purpose of the meeting shall be to review the blasting procedures and vibration monitoring requirements and to facilitate coordination between all parties involved. Individuals attending the pre blast meeting should include the Contractor, the Contractor's seismologist or blasting consultant, the Contractor's blaster, the Owner, the Airport Operations Supervisor, representatives from the FAA Air Traffic Control Tower and Airways Facilities, any utility affected by the blasting operation, and any other personnel the

Owner or the Owner deems appropriate.

k. Blast Scheduling. The Contractor shall notify the Owner of blast round schedules in accordance with the following requirements.

1. At least 96 hours in advance of the start of blasting operations to allow the Airport to issue the appropriate NOTAMs 72 hours in advance of the blasting.
2. At least 24 hours in advance, notification of estimated time of blast.
3. At 60 minutes prior to a blast, stand-by notification.
4. 15 minutes to 30 minutes prior to communication with tower via Airport Operations to get exact blast window.

l. Warning Signals. Adequate warning signals shall be given to all personnel in proximity to the blast site at least three minutes in advance of each blast. The Contractor shall use sirens or horns or both sirens and horns with sufficient intensity such that they can be heard for a minimum distance of 1,000 ft.

m. Fly Rock Control. Before the firing of any blast in areas were flying rock or debris may result in personal injury or damage to property, the rock to be blasted shall be covered with appropriate blating mats, soil, or other equally serviceable material to prevent flyrock. The method of flyrock control shall be subject to approval by the Owner.

n. Pre-splitting. The Contractor shall determine if presplitting will be required. Rock slopes are designed at a slope of 2:1 (horizontal to vertical). The rock is 10 ft or more in depth above the subgrade, measured along the slope.

Pre-splitting is defined a the establishment of a free surface of a shear plane in rock by the controlled usage of explosives and blasting accessories in appropriately aligned and spaced drill holes so that the resulting split rock is not affected by subsequent blasting and excavation operations adjacent thereto. The purpose of presplitting is to minimize damage to the rock backslope and to help ensure long-term stability. When presplitting, the detonation of the presplit line shall be before the detonation of any production holes. Production blasting refers to the main fragmentation blasting resulting from more widely spaced production holes drilled throughout the main excavation area adjacent to the presplit line. Production holes shall be detonated in a controlled delay sequence.

No payment will be made for additional excavated quantity caused by offsetting of presplit holes beyond the specified presplit lines in the top or successive lifts.

Pre-splitting holes in successive lifts shall be designed to offset 2 ft inside of the previously presplit face.

Before placing the charge, each hole will be inspected and tested for its entire length to ascertain the possible presence of any obstructions. No loading will be permitted until the hole is free of all obstructions for its entire depth. All necessary precautions shall be exercised so as to prevent debris from falling into holes prior to loading and so that the placing of the charge does not cause caving of material from the walls of the hole.

The spacing of the blast holes specified above, the distribution and type of explosives, methods of detonation, and blasting techniques specified below shall be adjusted as necessary according to the breakage characteristics and structure of the bedrock encountered so as to presplit the rock along the required face.

Results of pre-splitting shall be exposed for the Owner's examination and evaluation. Based

upon the Owner's judgment of results obtained during the progress of the excavation, changes ordered in drilling or blasting methods shall be implemented by the Contractor.

Continuous column cartridge explosives manufactured especially for presplitting shall be used for all presplitting. The maximum diameter of explosives used in presplit holes shall not be greater than one-half the diameter of the pre-split hole, unless otherwise approved. The bottom charge of a presplit hole may be larger than the line charges but shall not be large enough to cause overbreak. The upper portion of all presplit holes, from the top most charge to the hole collar, shall be stemmed. Unloaded and unstemmed guide holes (gas release holes), when used between presplit holes, shall be drilled in the same place and to the same tolerance as the presplit holes. The guide holes shall extend the full depth of the lift, unless otherwise permitted.

If pre-splitting charges are fired with detonating cord, the cord shall extend the full depth of each hole. Stemming material shall be clean stone chips or other approved angular, granular material as shown in Table 1.

Table 1 - Required Grading or Stemming Material

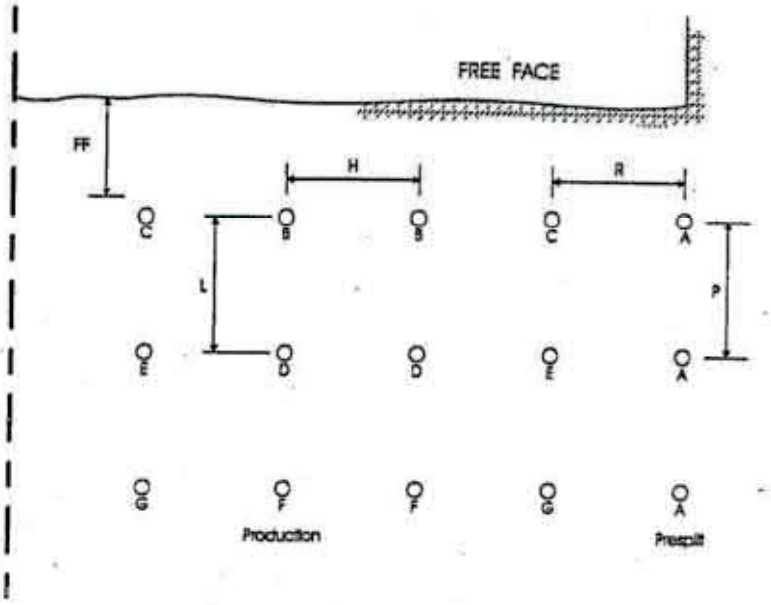
Sieve Size	Percentage by Weight Passing
3/8 inch (9.5 mm)	100
No. 4 (4.75 mm)	20 – 25
No. 8 (2.36 mm)	0 – 10

All presplit holes may be detonated simultaneously or delayed providing the hole to hole delay is no more than 25 milliseconds. The detonation of presplit charges shall precede the detonation of adjacent fragmentation charges within the section by a minimum of 25 milliseconds.

The line of blast holes immediately adjacent to the presplitting slope holes shall be drilled 4 ft from and on a plane approximately parallel to the plane of the presplitting slope holes. No portion of these holes or any other blast holes will be permitted closer than 4 ft to the presplit lines. All precautions as necessary shall be taken so as to avoid fracturing the rock beyond the presplit face.

The Contractor may use cushion (trim) blasting if conditions warrant it and if, in the opinion of the Owner, satisfactory results are obtained during the test shots.

Cushion blasting is similar to presplitting except that the detonation along the cut face shall be performed after the detonation of all production holes. Difference in delay time between the trim line and the nearest production row shall not be greater than 75 milliseconds nor less than 5 milliseconds. With the exception of the above criteria, requirements previously given for presplitting shall also apply to cushion blasting.



DEPTH

TO_____m (ft)

OVER_____m (ft)

HOLE DIAMETER

_____mm (in)

_____mm (in)

PATTERN DIMENSIONS, METERS (FEET)

P=_____ m (ft): PRESPLITTING HOLE SPACING

R=_____ m (ft): FRONT ROW OFFSET

H=_____ m (ft): SPACING PARALLEL TO FREE FACE

L=_____ m (ft): SPACING PARALLEL TO PRESPLIT FACE

FF=_____ m (ft): DISTANCE TO FREE FACE

CAP DELAYS (NO.)

A= (CAP NO. 0, 1, 2, 3, ETC.)

B=

C=

D=

E=

F=

FIGURE 1 - TYPICAL BLASTING PATTERN

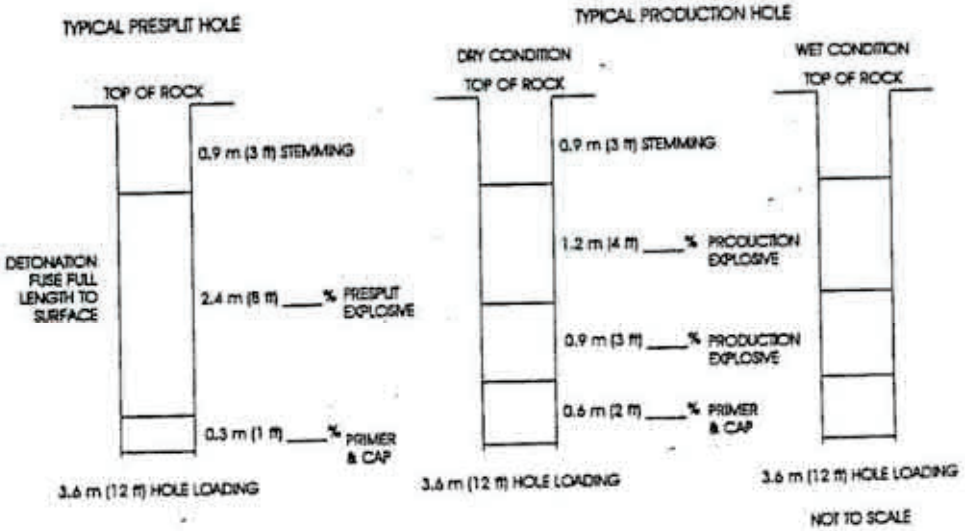


FIGURE 2 - SAMPLE LOADING PLAN

FIGURE 3
BLASTING LOG (English)

NHDOT Project Name _____

Federal Project No. _____ State Project No. _____

1. Company Name: _____
2. Location of Shot (Stations): _____
3. Shot Number: _____ 4. Time: _____ 5. Date: _____
6. Weather: _____

_____

7. Wind Direction: _____ 8. Temperature: _____
9. Distance & Direction to Nearest Structure: _____ & _____
10. Depth of Water (ft): _____
11. Total Explosives Allowed Per Delay Period:

$$\text{Weight of Explosive(s) (lb)} = \left[\frac{\text{Distance in Feet}^*}{50}\right]^2 = _____$$

* Distance is to the nearest structure.

12. Diameter of Holes (in): Production _____ Presplit _____
13. Depth of Holes (ft): _____
14. Total Number of Holes: _____
15. Drill Pattern – Burden times Spacing (ft): _____
16. Type and Height of Stemming (ft): _____
17. Depth of Sub-Drilling (ft): _____
18. Mats or Other Protection Used: _____
19. Types of Explosive(s) Used: Presplit _____

    Production _____
20. Density of Explosive(s) Used: _____
21. Kind of Delay Periods: _____
22. Total Number of Delay Periods: _____
23. Length of Delay Periods (milliseconds): _____
24. Total Amount of Explosives Used (lbs): _____
25. Maximum Number of Holes Per Delay Period: _____
26. Maximum Amount of Explosive(s) Per Delay Period (lbs): _____

FIGURE 3 (continued)

27. Powder Factor = $\frac{\text{Pounds of Explosives Per Hole}}{\text{Cubic Yards of Rock Per Hole}}$

Powder Factor (lbs/yd^3) = _____

28. Scale Distance = $\frac{\text{Distance in Feet}}{\sqrt{\text{Weight Per Delay Period in Pounds}}}$

Scale Distance = _____

29. Method of Firing: _____

30. Number of Series Circuits: _____

31. Location of Seismograph: _____

_____

a. Distance from Shot and Direction: _____

b. Person Taking Reading: _____

c. Seismograph Reading: _____

d. Peak Sound Pressure Levels: _____

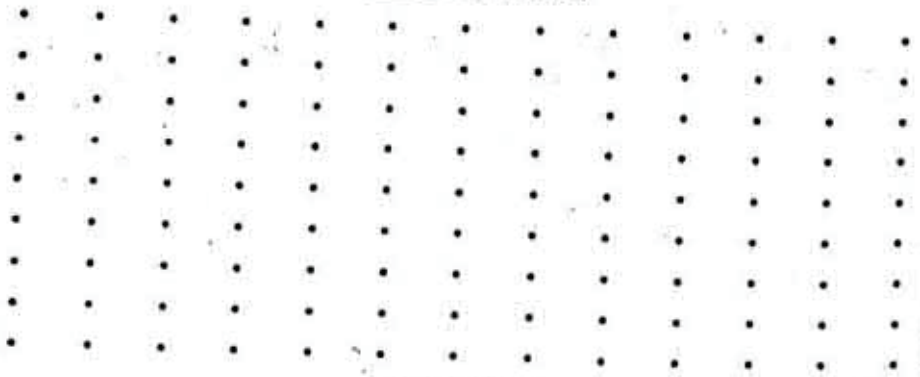
e. Vibration Measurements: _____

Transverse

Vertical

Longitudinal

DIAGRAM OF SHOT



Name of Blaster: _____

License Number of Blaster: _____

END OF SECTION 01317

SECTION 01510

TEMPORARY FACILITIES

1.01 SUMMARY

This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection. *All costs associated with temporary facilities are to be paid by the Contractor until substantial completion. The Contractor is to set up a separate new account with all utility agencies for billing purposes. Utility billed invoices are to be addressed and paid by the Contractor under this new account.*

a. Temporary utilities required include but are not limited to:

Water service and distribution.
Temporary electric power and light.
Telephone service.
Storm and sanitary sewer.

b. Temporary construction and support facilities required include but are not limited to:

Temporary heat.
Field offices and storage sheds.
Temporary roads and paving.
Sanitary facilities, including drinking water.
Dewatering facilities and drains.
Temporary enclosures.
Hoists and temporary elevator use.
Temporary Project identification signs and bulletin boards.
Waste disposal services.
Rodent and pest control.
Construction aids and miscellaneous services and facilities.

c. Security and protection facilities required include but are not limited to:

Temporary fire protection.
Barricades, warning signs, lights.
Sidewalk bridge or enclosure fence for the site.
Environmental protection.
Temporary security fence.

1.02 SUBMITTALS

a. Temporary Utilities: Submit reports of tests, inspections, meter readings and similar procedures performed on temporary utilities.

b. Implementation and Termination Schedule: Submit a schedule indicating implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work.

1.03 QUALITY ASSURANCE

a. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:

Building Code requirements.
Health and safety regulations.
Utility company regulations.
Police, Fire Department and Rescue Squad rules.
Environmental protection regulations.
Federal Aviation Administration.

b. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."

Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.

For detour roads and maintenance of traffic, refer to applicable sections of the NHDOT standard specifications for road and bridge construction.

c. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).

d. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

a. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.

b. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

1.05 MATERIALS

a. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended.

b. Lumber and Plywood:

All lumber used for temporary enclosures shall be UL labeled, fire treated lumber and plywood for framing, sheathing and siding.

For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated.

For fences and vision barriers, provide exterior type, minimum 3/8" thick plywood.

For safety barriers, sidewalk bridges and similar uses, provide minimum 5/8" thick exterior plywood.

c. Gypsum Wallboard: Provide gypsum wallboard complying with requirements of ASTM C 36 on interior walls of temporary offices.

d. Roofing Materials: Provide UL Class "A" standard weight asphalt shingles complying with ASTM D 3018, or UL Class "C" mineral surfaced roll roofing complying with ASTM D 249 on roofs of job- built temporary offices, shops and sheds.

e. Paint:

For job-built temporary offices, shops, sheds, fences and other exposed lumber and plywood, provide exterior grade acrylic-latex emulsion over exterior primer.

For sign panels and applying graphics, provide exterior grade alkyd gloss enamel over exterior primer.

For interior walls of temporary offices, provide two coats interior latex flat wall paint.

f. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.

g. Water: Provide potable water approved by local health authorities.

h. Open-Mesh Fencing: Provide 11-gage, galvanized 2-inch, chain link fabric fencing 6-feet high with galvanized barbed wire top strand and galvanized steel pipe posts, 1-1/2" I.D. for line posts and 2-1/2" I.D. for corner posts. Fence posts may be mounted to concrete filled barrels to allow for ease of movement and for not destroying any tarmac or other paved areas.

1.06 EQUIPMENT

a. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.

b. Water Hoses: Provide 3/4" heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.

c. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.

d. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

e. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages on all lights. Provide exterior fixtures where exposed to moisture.

f. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.

g. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

h. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.

i. First Aid Supplies: Comply with governing regulations.

j. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.

Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

1.07 INSTALLATION

a. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

b. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

1.08 TEMPORARY UTILITY INSTALLATION

a. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.

Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.

Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.

b. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis of claims for a Change Order.

c. Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.

d. Sterilization: Sterilize temporary water piping prior to use.

e. Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.

Except where overhead service must be used, install electric power service underground.

f. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.

g. Temporary Lighting: Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.

Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.

h. Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants.

At each telephone, post a list of important telephone numbers. Follow OSHA requirements for emergency numbers.

Each prime contractor shall provide an answering machine at the jobsite and each prime contractor shall have a fax machine in the temporary office.

i. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.

Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.

Connect temporary sewers to the municipal system as directed by the sewer department officials.

Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.

Provide earthen embankments and similar barriers in and around excavations and sub grade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

1.09 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

a. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.

Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

Provide incombustible construction for offices, shops and sheds located within the construction area, as indicated on the phasing plan. Comply with requirements of NFPA 241.

b. Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

c. Heating/Cooling Facilities: Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control.

The General Contractor shall provide and pay for all temporary heat (to maintain a minimum 45 degrees Fahrenheit space temperature in work areas). In those areas occupied by the Owner, area temperatures shall be maintained between 65 and 75 degrees Fahrenheit. All temporary heat that may be required for the protection of the Work shall be provided by the General Contractor, until such time that the Designer may allow the use of the permanent heating system. If the use of the permanent systems is allowed, the Mechanical Contractor shall maintain, protect and service all such equipment during the construction period (at the General Contractor's expense).

Regardless of the reason for preliminary operation, the guarantees specified under the respective Sections of the Specification for systems or equipment will not be changed or voided in any way due to such prior use. Refer to Division 1 - "General Requirements" for specific directions. Any expenses to extend warranties to one year from substantial completion shall be borne by the General Contractor if equipment is used for temporary heat.

If the permanent heating/cooling system is operated and used for temporary heat/cooling, the Mechanical Contractor shall provide (at the General Contractor's expense) filters for the affected equipment on a weekly basis. The filters shall be medium efficiency pleated type equal to Farr 30/30 of the depth equal to the filter rack and shall be sprayed with "Filter Coat." At the completion of the project, a new set of filters shall be installed. Infiltration of dust, smoke, drywall sandings and other construction related contamination is to be prevented. Failure to comply will require that the existing ductwork be cleaned of all contaminates resulting from the construction.

The Contractor shall have the option of using permanent heating/cooling equipment after all drywall sanding is completed and proper protection and filtration has been installed. The Contractor also agrees to extend the manufacturer's warranty for the equipment for the time used during the construction process. The Contractor also agrees to clean all equipment, grills and controls, and to replace damaged or worn out parts, including but not limited to, filters, pulleys, belts, etc.

d. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at the Project site. Keep the office clean and orderly

for use for small progress meetings. Furnish and equip offices adequately and as required to operate in an efficient manner.

e. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site.

f. Temporary Paving: Construct and maintain temporary roads and paving to adequately support the anticipated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Civil Engineer.

g. Paving:

Coordinate temporary paving development with subgrade grading, compaction, installation and stabilization of subbase, and installation of base and finish courses of permanent paving.

Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas that are without damage or deterioration when occupied by the Owner.

Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.

Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.

h. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.

Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.

i. Toilets: Use of the Owner's existing toilet facilities will not be permitted.

Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.

j. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.

Provide safety showers, eye-wash fountains and similar facilities for convenience, safety and sanitation of personnel.

k. Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.

l. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections. Where feasible, utilize the same facilities. Maintain the site, excavations and construction free of water.

m. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.

Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.

Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.

Where temporary wood or plywood enclosure exceeds 100 square feet in area, use UL-labeled fire-retardant treated material for framing and main sheathing.

Where ticket counters are being reused for the temporary Regional Hold Room, provide all required conduit and wiring for power, data and communications.

Any temporary wall that will not be removed in less than 5 working days shall be painted, color as selected by Architect.

n. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

o. Temporary Elevator Use: Provide temporary elevators in accordance with rules, regulations and safety requirements of current building codes, OSHA safety requirements, local, state and federal laws.

p. Project Identification and Temporary Signs: See "Signage Package" for temporary signs. Do not permit installation of unauthorized signs.

q. Temporary Exterior Lighting: Install exterior yard and sign lights so that signs are visible when Work is being performed.

r. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

s. Rodent and Pest Control: Before deep foundation Work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of pests and

their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.

t. Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished permanent stairs with a protective covering of plywood or similar material so finishes will be undamaged at the time of acceptance.

1.10 SECURITY AND PROTECTION FACILITIES INSTALLATION

Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by the Architect.

a. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."

Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.

Store combustible materials in containers in fire-safe locations.

Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.

Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

b. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.

c. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.

d. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.

e. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

f. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site. Proper storage, handling, and

disposal of hazardous materials are required at temporary facilities, and TSA will inspect temporary facilities during biweekly and rain event inspections. Additionally, installation and maintenance erosion and sediment controls may be necessary dependent upon site conditions. These controls should be included in the Contractor's submittal of the Temporary Erosion and Sediment Control Plan.

1.11 OPERATION, TERMINATION AND REMOVAL

a. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

b. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.

Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.

c. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

d. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.

Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.

Remove temporary paving that is not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances which might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at the temporary entrances, as required by the governing authority.

At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:

Replace air filters and clean inside of ductwork and housings.

Replace significantly worn parts and parts that have been subject to unusual operating conditions.

Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 01510

SECTION 01520

FIELD OFFICE EQUIPMENT

1.01 DESCRIPTION

a. This Section provides for field office equipment, supplies, and vehicle for use by the Owner during the life of the project and describes the requirements for furnishing and installing construction facilities and temporary controls.

1.02 FIELD OFFICE EQUIPMENT

a. Equipment required for use by the Owner:

1. Contractor to provide a computer to be used by the designated resident engineer assigned for this contract. Specifications for this computer must meet at a minimum the following requirements:

   - Intel Pentium-IV 2.8GHZ Processor
   - 512 K Cache memory
   - *512 MB* RAM Memory
   - *80 GB Hard Drive*
   - 1.44 MB Floppy Drive
   - 10/100 Ethernet Network Interface Controller
   - *128* MB PCI Video Controller
   - 17" SVGA Color Monitor
   - Enhanced Keyboard
   - MS Mouse
   - CD-R/W Drive
   - *Windows XP with Microsoft Office 2000*

   This computer shall be available to be used by the Owner's representative assigned for this contract within 5 days from Notice to Proceed until 30 days after contract closeout as mutually agreed upon by the owner and the contractor.

   All information stored on that computer is the property of the owner. Unauthorized tampering with this information will constitute a breach of contract. All information stored on this computer by the resident engineer will be transferred to the owner within 30 days after contract closeout as mutually agreed upon by the owner and the contractor. The computer will be returned to the contractor with the same information as received.

   Specifications for this computer must be submitted by the contractor for approval within 5 days from date of contract award.

2. The contractor shall provide for use by the Engineer, a current model 4 door 4 wheel drive or approved equal with automatic transmission and A/C. The contractor shall provide all necessary insurances, registration, fees, maintenance, and a light beacon. Fuel for the vehicle shall be provided by the Owner.

This vehicle shall be available to be used by the Owner's representative assigned for this contract from the day of Notice to Proceed until contract closeout as mutually agreed upon by the owner and the contractor. The vehicle shall be available to be used by the Owner's representative assigned for this contract within five (5) days from Notice to proceed until thirty (30) days after the closeout as mutually agreed upon by the Owner and the Contractor.

Specifications for this vehicle must be submitted by the contractor for approval within 5 days from date of contract award.

1.03 PAYMENT

a. Cost for providing a field office vehicle, equipment and supplies as outlined under 1.02 will be incidental to the overall contract price. Contractors are to include these costs in their overall contract price regardless whether the contract is a lump sum contract or unit price contract with or without a mobilization line form.

END OF SECTION 01520

SECTION 01550

TEMPORARY ROADS AND ACCESS

1.01 DESCRIPTION

a. Provide temporary roads and drainage required to maintain access to all areas of the project including the field trailers throughout all weather conditions.

b. Access to the site for workmen and the delivery or removal of construction materials and/or equipment shall be made only from locations approved by the Owner. Existing roads, lanes and other required fire access shall remain accessible to fire vehicles at all times. Hauling permits and route approvals shall be obtained from governing authorities as applicable.

END OF SECTION 01550

SECTION 01710

CLEANING

1.01 DESCRIPTION

a. This Section describes the requirements for cleaning.

1. Keep premises and public properties free from accumulations of waste, debris, and rubbish, caused by operations.

2. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave Project clean and ready for occupancy.

1.02 MATERIALS

a. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

b. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

1.03COORDINATION

a. The Contractor shall assume all financial responsibilities incurred by the Airport, its tenants, and/or customers in the event life safety systems of the Airport are activated by Contractor's cleaning activities (e.g. sweeping dust and tripping a smoke alarm).

b. The Contractor shall coordinate cleaning activities with the Owner. The Contractor shall comply with all Airport policies regarding cleaning activities.

1.04 CLEANING DURING CONSTRUCTION

a. Keep premises and public properties free from accumulations of waste materials and rubbish.

b. Wet down materials and rubbish to lay dust and prevent it from blowing.

c. At least once a week, or sooner if required, clean site and public properties, and dispose of waste materials, debris and rubbish off the site in a legal manner. Remove combustible materials such as paper and cardboard daily.

d. Provide on-site containers for collection of waste materials, debris and rubbish. Provide a collection can at each location used as an eating area. Pick up all garbage daily.

e. Remove waste materials, debris and rubbish from site and legally disposes of at legal public or private dumping areas off Owner's property. Do not bury or burn waste materials at the site.

f. Vacuum clean interior areas when ready to receive finish painting, and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.

g. All rubbish shall be lowered by way of chutes or taken down on hoists or lowered into receptacles. Under no circumstances shall rubbish or waste be dropped or thrown from one

level to another within or outside the building.

h. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet newly painted surfaces.

1.05 FINAL CLEANING

a. Employ experienced workmen or professional cleaners for final cleaning.

b. In preparation for Substantial Completion or Occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.

c. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed interior finished surfaces; polish bright surfaces to shine finish.

d. Repair, patch and touch-up marred surfaces to specified finish to match adjacent surfaces.

e. Broom clean paved surfaces; rake clean other surfaces of grounds.

f. Keep Project clean until it is occupied by Owner.

g. Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar equipment, remove excess lubrication and other substances.

h. Replace all used filters.

i. Clean non-occupied spaces and limited-access spaces (such as plenums, shafts, equipment vaults, attics, and similar spaces) broom clean and free of surface dust.

j. Vacuum clean carpeted surfaces and similar soft surfaces.

k. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.

l. Clean light fixtures and lamps so as to function with full efficiency.

m. Wash exterior surfaces to remove dirt, dust, efflorescence and stains.

n. Except as otherwise indicated or requested by Owner, remove temporary protection devices and facilities.

o. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage system; remove waste materials from site and dispose of in a lawful manner.

p. Where extra materials of value remain dispose of these to Owner's best advantage as directed.

q. Clean all electronic detectors so as to function with full efficiency.

END OF SECTION 01710

Manchester – Boston Regional Airport
Project Documents

City of Manchester - Department of Aviation

GENERAL CONDITIONS

(February 2007 Edition)

THIS PAGE INTENTIONALLY LEFT BLANK

GENERAL CONDITIONS

TABLE OF CONTENTS

Section 00710: **DEFINITION OF TERMS** 00710-1

Section 00720: **CONDITIONS RELATING TO THE SCOPE OF WORK**
- 1.01 Intent of Contract 00720-1
- 1.02 Alteration of Work and Quantities 00720-1
- 1.03 Omitted Work 00720-2
- 1.04 Extra Work 00720-2
- 1.05 Maintenance of Traffic 00720-2
- 1.06 Removal of Existing Structures 00720-3
- 1.07 Rights in and Use of Materials Found in the Work 00720-3
- 1.08 Protection of Work and Property 00720-4
- 1.09 Final Clean Up 00720-4

Section 00722: **CONDITIONS RELATING TO SITE CONDITIONS**
- 1.01 Site Investigation and Conditions Affecting the Work 00722-1
- 1.02 Differing Site Conditions 00722-1

Section 00730: **CONDITIONS RELATING TO CONTROL OF WORK**
- 1.01 Authorities and Limitations 00730-1
- 1.02 Conformity with Plans and Specifications 00730-1
- 1.03 Coordination of Contract, Plans, and Specifications 00730-2
- 1.04 Cooperation of Contractor 00730-2
- 1.05 Cooperation Between Contractors 00730-3
- 1.06 Construction Layout and Stakes 00730-3
- 1.07 Automatically Controlled Equipment 00730-3
- 1.08 Authority and Duties of Inspectors 00730-4
- 1.09 Inspection of the Work 00730-4
- 1.10 Removal of Unacceptable and Unauthorized Work 00730-4
- 1.11 Load Restrictions 00730-5
- 1.12 Maintenance During Construction 00730-5
- 1.13 Failure to Maintain the Work 00730-5
- 1.14 Partial Acceptance 00730-5
- 1.15 Final Acceptance 00730-6
- 1.16 Claims for Adjustment and Disputes 00730-6
- 1.17 Additional Instructions and Detail Drawings 00730-6
- 1.18 Shop Drawings and Samples 00730-6
- 1.19 Record Drawings and Operations & Maintenance Data 00730-8

Section 00731: **SPECIFICATIONS AND DRAWINGS**
- 1.01 Description 00731-1
- 1.02 Summary of the Order of Precedence 00731-1

Section 00740: **CONTROL OF MATERIALS**
- 1.01 Source of Supply and Quality Requirements 00740-1
- 1.02 Samples, Tests, and Cited Specifications 00740-1
- 1.03 Certification of Compliance 00740-1
- 1.04 Plant Inspection 00740-2
- 1.05 Storage of Materials 00740-2

1.06 Unacceptable Materials 00740-3
1.07 Owner-Furnished Materials 00740-3
1.08 Contractor's Title to Materials 00740-3
1.09 Engineer's Field Office 00740-3

Section 00750: **LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**
1.01 Laws to be Observed 00750-1
1.02 Permits, Licenses, and Taxes 00750-1
1.03 Patented Devices, Materials, and Processes 00750-1
1.04 Restoration of Surfaces Disturbed by Others 00750-1
1.05 Federal Aid Participation (AIP Projects) 00750-1
1.06 Sanitary, Health, and Safety Provisions 00750-2
1.07 Public Convenience and Safety 00750-2
1.08 Protection and Restoration of Property and Landscape 00750-2
1.09 Responsibility for Damage Claims 00750-3
1.10 Third Party Beneficiary Clause 00750-3
1.11 Opening Sections of the Work to Traffic 00750-3
1.12 Contractor's Responsibility for Work 00750-4
1.13 Contractor's Responsibility for Utility Service and Facilities of Others 00750-4
1.14 Furnishing Rights-of-Way 00750-5
1.15 Personal Liability of Public Officials 00750-5
1.16 No Waiver of Legal Rights 00750-5
1.17 Environmental Protection 00750-6
1.18 Archaeological and Historical Findings 00750-7
1.19 Additional or Substitute Bond 00750-9
1.20 General Guaranty 00750-9
1.21 Notice and Service Thereof 00750-9
1.22 Press Releases 00750-9
1.23 FAA Facilities and Cable Runs 00750-9

Section 00760: **PROSECUTION AND PROGRESS**
1.01 Subletting of Contract 00760-1
1.02 Notice to Proceed 00760-1
1.03 Prosecution and Progress 00760-1
1.04 Control of Operations 00760-1
1.05 Character of Workers, Methods, and Equipment 00760-1
1.06 Temporary Suspension of the Work 00760-2
1.07 Determination and Extension of Contract Time 00760-3
1.08 Failure to Complete on Time 00760-3
1.09 Default and Termination of Contract 00760-3
1.10 Termination for National Emergencies 00760-4
1.11 Termination for Convenience 00760-5
1.12 Work Area, Storage Area and Sequence of Operations 00760-6
1.13 Fulfillment of Contract 00760-6

Section 00765: **MEASUREMENT AND PAYMENT**
1.01 Description 00765-1
1.02 Payment 00765-1
1.03 Compensation for Altered Quantities 00765-1
1.04 Submittal Procedure 00765-1
1.05 Timing and Turnaround of Progress Payments 00765-2
1.06 Payment for Materials on Hand 00765-2
1.07 Payment of Withheld Funds 00765-4

1.08 Retainage 00765-4
1.09 Interim Withholds 00765-4
1.10 Payment for Extra and Force Account Work 00765-5
1.11 Partial Payments 00765-5
1.12 Measurement of Quantities 00765-6
1.13 Payment of Subcontractors 00765-8
1.14 Payment for Omitted Work 00765-9
1.15 Acceptance and Final Payment 00765-11
1.16 Audit 00765-11
1.17 Payment Application Forms 00765-11

Section 00822: **INSURANCE REQUIREMENTS**
1.01 Insurance 00822-1
1.02 Special Hazards 00822-2

Section 00840: **LIQUIDATED DAMAGES AND EXTENSIONS**
1.01 Liquidated Damages 00840-1
1.02 Unavoidable Delays 00840-1

Section 00850: **DISPUTES/CLAIMS**
1.01 General 00850-1
1.02 Procedure 00850-1
1.03 Certification 00850-1
1.04 Claim Format 00850-2

Section 01014: **CONTRACTOR'S WORK PLAN**
1.01 Description 01014-1
1.02 Contractor's Work Plan 01014-1

Section 01035: **CHANGE ORDER PROCEDURES**
1.01 Changes 01035-1
1.02 Change Order Work Notification 01035-1
1.03 Change Order Process 01035-1

Section 01036: **CLARIFICATION AND INSTRUCTION**
1.01 Description 01036-1

Section 01040: **PROJECT COORDINATION**
1.01 Contractor's Responsibilities 01040-1
1.02 Mutual Responsibility 01040-2
1.03 Notice and Utility Services 01040-2
1.04 Overtime and Holiday Work 01040-2
1.05 Coordination With Owner Personnel 01040-3

Section 01043: **PROJECT ADMINISTRATION**
1.01 Description 01043-1

Section 01050: **FIELD ENGINEERING**
1.01 Field Measurements and Layouts 01050-1
1.02 Qualifications of Engineer or Surveyor 01050-1
1.03 Survey Reference Points 01050-1
1.04 Project Survey Requirements 01050-1
1.05 Records 01050-2

1.06 Submittals 01050-2
1.07 Verification of Layout 01050-2

Section 01090: **REFERENCE STANDARDS**
1.01 Reference Standards and Specifications 01090-1

Section 01092: **ABBREVIATIONS**
1.01 Abbreviations 01092-1

Section 01200: **PROJECT MEETINGS**
1.01 Pre-Construction Conference 01200-1
1.02 Bi-Weekly Progress Meetings 01200-1
1.03 Monthly Progress Meetings 01200-2
1.04 Special Meetings 01200-2
1.05 Contractor Meetings 01200-2
1.06 Schedule Approval Meetings 01200-2
1.07 Other Required Meetings 01200-3

Section 01300: **SUBMITTALS**
1.01 Description 01300-1
1.02 Schedule of Submittals 01300-1
1.03 Submittal Transmittal Form and Submittal Requirements 01300-2
1.04 Submittal Numbering System 01300-2
1.05 Contractor's Responsibilities 01300-3
1.06 Owner's Responsibilities 01300-4
1.07 Resubmission Requirements 01300-4
1.08 Distribution of Submittals After Review 01300-5

Section 01310: **PROGRESS SCHEDULE**
1.01 Description 01310-1
1.02 Requirements 01310-1
1.03 Preparation Guidelines 01310-1
1.04 Schedule of Submittals 01310-3
1.05 Form of Submittal 01310-4
1.06 Analysis and Updating of the Schedule 01310-5
1.07 Recovery Schedule 01310-5
1.08 Liquidated Damages 01310-6
1.09 Owner's Approval of CPM Progress Schedule 01310-6
1.10 Performance of Work 01310-6

Section 01340: **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**
1.01 Shop Drawings 01340-1
1.02 Product Data 01340-1
1.03 Samples 01340-2

Section 01360: **QUALITY CONTROL SUBMITTALS**
1.01 Calculations 01360-1

Section 01380: **CONSTRUCTION PHOTOGRAPHS**
1.01 Quality Assurance 01380-1
1.02 Submittals 01380-1

Section 01400: **QUALITY CONTROL**

1.01 General 01400-1
1.02 Owner's Duties and Responsibilities 01400-1
1.03 Contractor's Duties and Responsibilities 01400-1
1.04 Description of Program 01400-2
1.05 Quality Control Organization 01400-3
1.06 Project Progress Schedule 01400-4
1.07 Submittals Schedule 01400-5
1.08 Inspection Requirements 01400-5
1.09 Quality Control Testing Plan 01400-5
1.10 Documentation 01400-6
1.11 Corrective Action Requirements 01400-7
1.12 Surveillance by the Engineer 01400-7
1.13 Noncompliance 01400-8

Section 01410: **TESTING LABORATORY SERVICES**
1.01 Owner's Independent Testing Agency 01410-1
1.02 Quality Control/Assurance 01410-1
1.03 Contractor's Responsibilities 01410-1
1.04 Test Procedures 01410-2
1.05 Payment for Testing Performed by the Owner 01410-3
1.06 Code Compliance Testing 01410-3
1.07 Contractor's Convenience Testing 01410-3
1.08 Request for Testing Procedures 01410-3
1.09 Inspection Requirements 01410-4
1.10 Quality Control Testing Plan 01410-4
1.11 Documentation 01410-5
1.12 Corrective Action Required 01410-6

Section 01540: **GENERAL SITE SECURITY**
1.01 Description 01540-1
1.02 Protection 01540-2
1.03 Work in the Air Operations Area 01540-2
1.04 Control of Site 01540-2

Section 01545: **SAFETY PROGRAM**
1.01 Description 01545-1
1.02 Safety Requirements 01545-1
1.03 Environmental Control Officer 01545-3

Section 01560: **TEMPORARY CONTROLS**
1.01 Description 01560-1

Section 01590: **CONTRACTOR'S FIELD OFFICES AND SHEDS**
1.01 Description 01590-1

Section 01600: **MATERIALS AND EQUIPMENT**
1.01 Summary 01600-1
1.02 Definitions 01600-1
1.03 Submittals 01600-1
1.04 Quality Assurance 01600-2
1.05 Product Delivery, Storage and Handling 01600-3
1.06 Product Selection 01600-3
1.07 Installation of Products 01600-4

Section 01610: **DELIVERY, STORAGE, AND HANDLING**
1.01 Transportation and Handling 01610-1
1.02 Storage 01610-1

Section 01630: **PRODUCT OPTIONS AND SUBSTITUTIONS**
1.01 Products 01630-1
1.02 List of Products 01630-1
1.03 Contractor's Options 01630-1
1.04 Requirements for Substitutions 01630-2
1.05 Requests for Substitutions 01630-3
1.06 Requests for Substitutions After Time Specified 01630-4
1.07 Substitution Processing 01630-4

Section 01700: **PROJECT CLOSEOUT**
1.01 Preparation for Substantial Completion 01700-1
1.02 Achieving Substantial Completion 01700-1
1.03 Substantial Completion 01700-1
1.04 Final Completion 01700-2
1.05 Closeout/Acceptance 01700-2

Section 01720: **RECORD DOCUMENTS**
1.01 Description 01720-1
1.02 Documents Required 01720-1
1.03 Maintenance of Documents and Samples 01720-1
1.04 Marking Devices 01720-1
1.05 Recording 01720-1
1.06 Conversion of Schematic Layouts 01720-3
1.07 Submittal 01720-3
1.08 Payment 01720-4
1.09 Responsibility 01720-4

Section 01730: **OPERATING AND MAINTENANCE DATA**
1.01 Description 01730-1
1.02 Quality Assurance 01730-1
1.03 Form of Submittal 01730-1
1.04 Content of Manual 01730-2
1.05 Manual for Materials and Finishes 01730-3
1.06 Manual for Equipment and Systems 01730-3
1.07 Submittal Schedule 01730-5
1.08 Instruction of Owner Personnel 01730-5
1.09 Payment 01730-6

Section 01740: **GUARANTEES/WARRANTIES AND BONDS**
1.01 Description 01740-1
1.02 Submittal Requirements 01740-1
1.03 Form 01740-1
1.04 Correction of Guaranteed/Warranted Work 01740-3

END OF TABLE OF CONTENTS

SECTION 00710

DEFINITION OF TERMS

DESCRIPTION

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:

AASHTO. The American Association of State Highway and Transportation Officials, the successor association to AASHTO

ACCEPTANCE. "Acceptance" is when the Owner determines that all of the contract requirements have been completed (based on the closeout procedures set forth herein). A copy of Owner's acceptance will be sent to the Contractor. Upon receipt of the acceptance, the Contractor will be relieved of the duty of maintaining and protecting the work. After acceptance of the work, the Owner will initiate final settlement and payment in accordance with state statutes.

ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.

ACT OF GOD. "Act of God" means an earthquake of magnitude 4.5 or greater on the Richter scale, flood, tornado, or other cataclysmic phenomenon of nature or rain, snowstorm, windstorm, high water, or other natural phenomenon in excess of the norm as established by NOAA weather data.

ADDENDUM. A document issued by the Owner during the bidding period which modifies, supersedes, or supplements the original contract documents.

ADVERTISEMENT. A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.

AIP. The Airport Improvement Program, a grant-in-aid program, administered by the Federal Aviation Administration.

AIR OPERATIONS AREA (AOA). For the purpose of these specifications, the term air operations area shall mean 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.

AIRPORT. Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

ARCHITECT/ENGINEER. When designated, the Architect/Engineer shall mean the Owner's duly authorized representative to the Contractor with respect to this project during construction and until the final completion of the Project.

ASTM. The American Society for Testing and Materials.

AUTHORITY. The term, where used herein, shall mean the Manchester – Boston Regional Airport (MHT).

AWARD. The acceptance, by the Owner, of the successful bidder's proposal.

AWARDING AUTHORITY OR AGENT OF CITY. The person or group authorized by the Owner to award the Contract.

BENEFICIAL OCCUPANCY. The right of the Owner to occupy all or any portion of the project prior to final completion of the work. Such occupancy does not constitute acceptance or substantial completion by the Owner of the work or any portion thereof, nor will it relieve the Contractor of the responsibility for correcting the defective work or materials at any time before acceptance of the work.

BID. The offer of the bidder to perform the work when made out and submitted on the prescribed bid form, properly executed and guaranteed (see PROPOSAL).

BID FORM. The approved form upon which the Owner requires a formal bid be prepared and submitted for the work (see PROPOSAL).

BIDDER. Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.

BUILDING AREA. An area on the airport to be 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.

CALENDAR DAY. Every day shown on the calendar.

CHANGE ORDER. A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for the work affected by such changes. This order may contain one or several Cost Proposals.

CONSTRUCTION CHANGE DIRECTIVE. The form and procedure established when the Owner and the Contractor are not in total agreement on the terms of a Cost Proposal Request. The Owner may issue a Construction Change Directive instructing the Contractor to proceed with the change in the Work, for subsequent inclusion in a Change Order.

CONTRACT. The written agreement covering the work to be performed. The awarded contract shall include, but is not limited to: The Advertisement; The Contract Form; The Proposal; The Performance Bond; The Payment Bond; any required insurance certificates; The Specifications; The Plans, and any addenda issued to bidders.

CONTRACT BOND. The approved form of security furnished by the Contractor and his/her Surety as a guarantee of good faith and ability on the part of the Contractor to execute the work in accordance with the terms of the plans, specifications, and contract; this may include either or both a payment bond and a performance bond.

CONTRACT DOCUMENTS. All documents listed in the Contract Agreement as being component parts of the Contract Documents. Also, all applicable Federal and State laws, Municipal ordinances, and Rules and regulations of all authorities having jurisdiction over construction of the Project shall be deemed to be included in the Contract Documents the same as therein written out in full.

CONTRACT DRAWINGS. "Contract drawings" or "drawings" means and includes (a) all drawings which have been prepared on behalf of the Owner and are included in the Contract Documents and all modifying drawings issued by addenda thereto; (b) all drawings submitted pursuant to the terms of the Contract by the Contractor with his/her proposal to the Owner during the progress of the work which are accepted by the Owner; and (c) all drawings submitted by the Owner to the Contractor during the progress of the work.

CONTRACT ITEM (PAY ITEM). A specific unit of work for which a price is provided in the contract.
CONTRACT TIME. The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.

CONTRACTOR. The individual, partnership, firm, or corporation 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 contract work.

COST PROPOSAL. The form and procedure established to identify and communicate the cost related to changes in the Work for consideration and approval prior to inclusion in a Change Order.

CRITICAL PATH METHOD (CPM). "Critical path method" is a schedule technique.

DAY. "Day" or "working day" means calendar day and shall include every day including Saturdays, Sundays, and legal holidays.

DIRECTED. "Directed," "designated," "permitted," "required," "accepted," and words of like import, wherever and in whatever manner used, with or without reference to the Owner, means as directed, designated, permitted, required, and accepted by the Owner.

DRAINAGE SYSTEM. The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.

EQUIPMENT. All machinery, together with the necessary supplies for upkeep and maintenance. Also, all tools and apparatus necessary for the proper construction and acceptable completion of the work.

EXTRA WORK. An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner to be necessary to complete the work within the intended scope of the contract as previously modified.

FAA. The Federal Aviation Administration of the U.S. Department of Transportation. When used to designate a person, FAA shall mean the Administrator or his/her duly authorized representative.

FEDERAL SPECIFICATIONS. The Federal Specifications and Standards, and supplements, amendments, and indices thereto prepared and issued by the General Services Administration of the Federal Government.

FIELD INSTRUCTION. Is an instruction given during the course of the work.

FINAL COMPLETION. "Final completion" is that point in the contract as determined by the Owner through a final inspection that the Contractor has completed all physical work and is ready to prepare for final closeout and acceptance as prescribed herein. All work is complete, accessible, operable, and usable by the Owner, all parts, systems and site work are 100% complete and cleaned for the Owner's use. The Owner will issue a certificate of final completion.

FORCE ACCOUNT. Force account construction work is construction that is accomplished through the use of material, equipment, labor, and supervision provided by the Owner or by another public agency pursuant to an agreement with the Owner.

GENERAL NOTES. The written instructions, provisions, conditions, or other requirements appearing on the drawings, and so identified thereon, which pertain to the performance of the work.

HEREIN. "Herein," "hereinafter," and words of similar import shall refer to the contract documents.

INFORMATION NOTICE. The form and procedure established to transmit information to the Contractor from the Owner to clarify or interpret the contract documents and to notify the Contractor of changes in the work.

INSPECTOR / RESIDENT ENGINEER. An authorized representative of the Owner 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.

INSTALL. "Install," wherever and in whatever manner used, shall mean the installation complete in place of any item or equipment or material.

INTENTION OF TERMS. Whenever, in these specifications or on the plans, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", or words of the like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Owner is intended; and similarly, the words "approved", "acceptable", "satisfactory", or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Owner, subject in each case to the final determination of the Owner.

Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.

LABORATORY. The official testing laboratories of the Owner.

LESSEE. A person, company or corporation leasing space at the Airport from the Manchester-Boston Regional Airport Authority.

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.

LIQUIDATED DAMAGES. The amount prescribed in the Contract to be paid to the Owner or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the work beyond the time allowed in the Contract plus approved time extensions.

MAJOR AND MINOR CONTRACT ITEMS. A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20 percent of the total amount of the award contract. All other items shall be considered minor contract items.

MATERIALS. Any substance specified for use in the construction of the contract work.

MAY. "May", wherever and in whatever manner used, is permissive.

NETWORK. The graphic representation of the construction Project Schedule prepared using the Critical Path Method. The Network shows the sequence and interdependence of activities, and planned and actual progress by activity, required for complete performance of the Work.

NOTAM. Notice to Airmen.

NOTICE OF AWARD. A written notice to the successful bidder stating that his/her bid has been accepted and that, in accordance with the terms of the notice and the specifications, he is required to execute the contract and furnish satisfactory contract bond.

NOTICE TO PROCEED. A written notice to the Contractor to begin the actual contract work on a previously agreed-to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.

OTHERS. Other Contractors, this Contractor under another contract agreement, organizations not connected with this Contractor which are performing functions in relation to this project, or personnel retained by the Owner.

OWNER. City of Manchester, Department of Aviation, or the Program Manager, or the Architect/Engineer, or other designee acting as the Owner's representative with respect to this project and its administration.

OWNER'S REPRESENTATIVE. Whosoever the Owner may designate as his/her representative.

PAVEMENT. The combined surface course, base course, and subbase course, if any, considered as a single unit.

PAYMENT BOND. The approved form of security furnished by the Contractor and his/her Surety as a guaranty that he will pay in full all bills and accounts for materials and labor used in the construction of the work.

PERFORMANCE BOND. The approved form of security furnished by the Contractor and his/her Surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.

PLANS. The official drawings or exact reproductions 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, supplementary to the specifications.

PROGRAM MANAGER. When designated, the Program Manager will be the Owner's duly authorized representative to the Contractor with respect to this project during construction and until the final completion.

PROJECT. The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the Contract Documents.

PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if his/her proposal is accepted by the Owner.

PROVIDE. "Provide," wherever and in whatever manner used, shall be understood to mean provide complete in place, that is, furnish and install.

RECORD DOCUMENTS. A complete set of contract drawings indicating as constructed conditions prepared by the contractor throughout the project work and delivered to the owner for acceptance review upon substantial completion of the project. Also Operation and Maintenance data provided by the contractor to the owner providing the operating instructions and maintenance data for the contract specified equipment.

REQUEST FOR CHANGE. Shall mean any detailed request for a contract change or equitable adjustment.

REQUEST FOR INFORMATION. The form and procedure established, for requesting information, between the Contractor and Owner to clarify or interpret the contract documents or discover conflicts, omissions, or errors in these documents. In addition, the Request for Information may be a precursor to Cost Proposals and Change Orders.

RIGHT-OF-WAY. All lands or other property interests provided or acquired for the development and operation of an airport and its appurtenances.

RUNWAY. The area on the airport prepared for the landing and takeoff of aircraft.

SHALL OR WILL. "Shall" or "will", whenever used to stipulate anything is mandatory, means shall or will be done or be performed by either the Contractor or the Owner and means that the Contractor or the Owner has thereby entered into a covenant with the other party to do or perform the same.

SHOWN. "Shown", "indicated", "detailed", and words of like import, wherever and in whatever manner used, with or without reference to the drawings, means shown, indicated, or detailed on the drawings (or other documents).

SITE. An area or areas on the Airport provided to the Contractor in which to work, store materials and/or equipment, and perform other activities associated with performing the Work.

SPECIALIST. The term "Specialist" as used in the contract specification shall mean an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular work force of workmen skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specifications require installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.

SPECIFICATIONS. A part of the contract documents containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.

SPECIFIED. "Specified", "described", or "noted", wherever and in whatever manner used, means as specified, described, shown or noted in the contract documents.

SPONSOR (OWNER). For AIP contracts, the term sponsor shall have the same meaning as the term OWNER.

STRUCTURES. Airport facilities such as bridges, culverts, catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; under drains; electrical ducts, manholes, hand holes, 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.

SUBCONTRACTOR. A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, approved by the owner, and under separate contract or agreement with, the Contractor.

SUBGRADE. The soil which forms the foundation.

SUBMITTALS. The term "submittals" shall include shop drawings, calculations, samples, schedules, procedures, manufacturer's brochures, pamphlets, catalog cuts, color charts, or other descriptive data, clearly

defining the article, material, equipment, or device proposed for use in the work. The shop drawings are the drawings and diagrams showing details of fabrication and erection which the Contractor is required to submit to the Owner or authorized representative.

SUBMITTED. "Submitted", wherever and in whatever manner used, means submitted to the Owner for review or acceptance.

SUBSTANTIAL COMPLETION. "Substantial completion" is when the Owner determines the contract work can be used for its intended purpose as prescribed by the closeout procedures contained herein. The Contractor will be so notified when the work is substantially complete and it is the point at which guarantees or warranties begin. Substantial completion does not constitute acceptance or final completion of the work. Remaining omissions and defects must be completed prior to final completion and acceptance.

SUFFICIENT. "Sufficient", "necessary", "proper", "acceptable", "satisfactory", "desirable", and words of like import wherever and in whatever manner used, with or without reference to the Owner, means sufficient, necessary, proper, acceptable, satisfactory, and desirable in the judgment of the Owner.

SUPERINTENDENT. The Contractor's executive representative who is present on the work site during progress, authorized to receive and fulfill instructions from the Owner, and who shall supervise and direct the construction.

SUPPLEMENTAL AGREEMENT. A written agreement between the Contractor and the Owner which amends or supplements the original agreement. (1) work that would increase or decrease the total amount of the awarded contract, or any major contract item, by more than 25 percent, such increased or decreased work being within the scope of the originally awarded contract; or (2) work that is not within the scope of the originally awarded contract.

SUPPLIER. "Supplier" shall mean an individual, partnership, firm, or corporation, or legally-constituted Joint Venture entering into an agreement with the Owner, Contractor or subcontractor for furnishing materials or equipment to be incorporated in the work by the Owner, Contractor or Subcontractor.

SURETY. The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds which are furnished to the Owner by the Contractor.

TAXIWAY. For the purpose of this document, the term taxiway means 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.

TSA. The Transportation Security Administration. When used to designate a person, TSA shall mean the Administrator or his/her duly authorized representative.

WORK. The furnishing of all plant labor, materials, tools, equipment, supplies, services, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract documents, plans, and specifications.

WORKING DAY. A working day shall be 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 completion of the contract. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work, requiring the presence of an inspector, will be considered working days.

END OF SECTION 00710

SECTION 00720

CONDITIONS RELATING TO THE SCOPE OF WORK

1.01 INTENT OF CONTRACT

The intent of the contract documents is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all plans, labor, materials, equipment, tools, transportation, services, and supplies required to complete the work in accordance with the contract documents,

1.02 ALTERATION OF WORK AND QUANTITIES

The Owner 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 Owner shall 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 by more than 25 percent. 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 "Change Orders" issued by the Owner. Change orders for altered work shall include extensions of contract time where, in the Owner's opinion, such extensions are commensurate with the added work.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the engineer may determine to be fair and equitable. The term "significant change" shall be construed to apply only to the following circumstances:

a. When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or

b. When a major item of work is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

Should the aggregate amount of altered work exceed the 25 percent limitation hereinbefore specified, such excess altered work shall be covered by supplemental agreement. If the Owner and the Contractor are unable to agree on an adjustment for any contract work that requires a supplemental agreement, the Owner reserves the right to omit any work from the contract scope and make other arrangements for its completion.

Supplemental agreements-to contracts funded with FAA monies shall be approved by the FAA and 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 shall require consent of the Contractor's surety and separate or increased existing performance and payment bonds.

1.03 OMITTED WORK

The Owner may, in the Owner's best interest, omit any work. Work may be omitted by a supplemental agreement and shall not invalidate any other contract provision or requirement. Should any contract work be omitted or otherwise ordered to be non-performed, 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 the subsection titled PAYMENT FOR OMITTED WORK of Section 00765.

1.04 EXTRA 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 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 Owner's opinion, is necessary for completion of such extra work.

When determined to be in the Owner's best interest, the Owner may order the Contractor to proceed with extra work by force account as provided in the subsection entitled, PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of Section 00765.

Extra work 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 in Section 00710, DEFINITIONS.

Any claim for payment of extra work not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

1.05 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 areas of the airport, pedestrians and vehicles outside the Air Operations Area with respect to his/her own operations and the operations of all his/her subcontractors as specified in the subsection entitled, CONTROL OF OPERATIONS of Section 00760. 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 and vehicles while operating to, from, and upon the airport as specified in the subsection entitled CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS in Section 00750.

With respect to his/her own operations and the operations of all his/her 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, road traffic, fire-rescue equipment, or maintenance vehicles at the airport.

The contract requires the maintenance of vehicular traffic on an existing road, street, highway, parking lots, pedestrian walkways 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, guards and other traffic control devices in reasonable conformity with the manual of Uniform Traffic Control Devices for Streets and Highways (published by the United States Government Printing Office), unless otherwise specified herein. 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, highways, parking lots, ramps and pedestrian bridges. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

The Contractor shall make his/her own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft, vehicular and pedestrian traffic as specified in this subsection.

The Owner can assess a monetary fine of up to $2,500 per day for the non-conformance of any aspect of this section.

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

1.06 EXISTING STRUCTURES

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

Except as provided in the subsection titled RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK of this section, 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.

1.07 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/her option either:

a. Use such material in another contract item, providing such use is approved by the Owner 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 Owner; or

c. Use such material for his/her 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 Owner’s approval in advance of such use.

Should the Owner approve 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/her 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/her use of such material so used in the work or removed from the site.

Should the Owner approve 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/her 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.

1.08 PROTECTION OF WORK AND PROPERTY

The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this contract. He shall at all times safely guard and protect his own work, and that of adjacent property from damage. The Contractor shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the Contract or by the Owner, or the Owner's duly authorized representatives.

In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Owner, in a diligent manner. He shall notify the Owner immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Owner for approval.

Where the Contractor has not taken action but has notified the Owner of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Owner.

The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in subsection entitled EXTRA WORK of this section.

1.09 FINAL CLEAN 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. When a project is consists of separate phases, the Contractor shall perform clean up at the end of each project phase. 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. Additional clean-up requirements are shown in Division 1 of the Contract Documents.

END OF SECTION 00720

SECTION 00722

CONDITIONS RELATING TO SITE CONDITIONS

1.01 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK

The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to: (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, water table, river stages, tides, or similar physical conditions at the site; (4) the conformation and condition of the ground; and (5) the scope of work to be executed by others under other projects; (6) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Owner.

The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Owner. Nor does the Owner assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in these contract documents.

1.02 DIFFERING SITE CONDITIONS

The Contractor shall promptly (no more than one day), and before the conditions are disturbed, give a written notice to the Owner as to (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site of an unusual nature, which differ materially from those normally encountered and generally recognized as inherent in the work of the character provided for in the contract documents.

The Owner shall investigate the conditions related to the Contractor’s Notice-To-Proceed promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, a change order shall be made under this clause and the contract documents modified in writing in accordance with the changes clause and the contract documents modified in writing accordingly.

No request by the Contractor for an equitable adjustment to the contract documents under this clause shall be allowed unless the Contractor has given the written notice required.

No request by the Contractor for a change to the contract for differing conditions shall be allowed if not made within 7 days of discovering the condition.

END OF SECTION 00722

SECTION 00730

CONDITIONS RELATING TO CONTROL OF WORK

1.01 AUTHORITIES AND LIMITATIONS

The Owner may designate a Program Manager as its representative during the work. If so designated, all work shall be performed under the general direction of the Program Manager. The City of Manchester alone shall have the power to exercise the rights, responsibilities, authorities, and functions vested therein by the contract documents, except that it shall have the right to designate authorized representatives to act for them. Wherever any provision in this contract specifies an individual (such as, but not limited to, Program Manager, Resident Engineer, Inspector, Custodian, Designee or other agent or other representative) or organization, whether governmental or private, to perform any act on behalf of or in the interests of the Owner, that individual or organization shall be deemed to be the City of Manchester authorized representative under this contract but only to the extent so specified. The Owner may, at any time during the performance of this contract, vest in any such authorized representatives additional power and authority to act for him/her or designate additional representatives, specifying the extent of their authority to act for him/her; a copy of each document vesting additional authority in an authorized representative or designating an additional authorized representative shall be furnished to the Contractor.

When the Owner has hired a Program Manager to act as their representative for the course of the project or program, the Program Manager will act as the single focal point for contract administration, program coordination, monitor quality, cost and schedule monitoring, and overall program management.

The Owner shall provide an Operations Coordinator who shall have the authority to open and close facilities, issue and remove NOTAMs, and to coordinate with airport users. At the completion of work each day and prior to the opening of the taxiways or apron area to aircraft operations, the Operations Coordinator, the Program Manager, and the Contractor superintendent shall inspect the facility to be opened to insure it is free of debris, properly marked and ready for use. The Contractor shall immediately correct any deficiencies to the satisfaction of the Operations Coordinator in accordance with these specifications.

The Contractor shall perform the contract in accordance with any order (including, but not limited to, instruction, direction, interpretation, or determination) issued by an authorized representative in accordance with his/her authority to act for the Owner but the Contractor assumes all the risk and consequences of performing the contract in accordance with any order (including but not limited to instruction, direction, interpretation, or determination) of anyone not authorized to issue such order.

1.02 CONFORMITY WITH PLANS AND SPECIFICATIONS

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 Program Manager 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/her opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, he will advise the Owner of his/her determination that the affected work be accepted and remain in place.

In this event, the Program Manager will document his/her determination and recommend to the Owner a basis of acceptance providing for an adjustment in the contract price for the affected portion of the work. The Owner and/or the Program Manager's determination and recommended contract price adjustments will be based on good engineering judgment and such tests or retests of the affected work as are, in his/her opinion,

needed. Changes in the contract price shall be covered by contract modifications (change order or supplemental agreement) as applicable.

If the Owner 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 Owner's written orders.

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 Owner’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 Owner’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 Owner with the authority to use good engineering judgment in his/her 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.

The Owner and/or Program Manager will not be responsible for the Contractor’s means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

1.03 COORDINATION OF CONTRACT, PLANS, AND SPECIFICATIONS

The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

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 submit a **Request for Information** to the Owner and/or Program Manager for his/her interpretation and decision, and such decision shall be final.

The entire work provided in these technical specifications and on the drawings shall be constructed and finished in every respect. All parts necessary for the proper and complete execution of the work whether the same may have been specifically mentioned or not, or indicated on the drawings, shall be done and furnished and installed in a manner corresponding with the rest of the work as if the same were particularly described and specifically provided for herein. It is not intended that the drawings shall show every detailed piece of material or equipment, but such parts and pieces as may be necessary to satisfactorily complete any system in accordance with the best practices and regulatory requirements, even though not shown, shall be furnished and installed.

1.04 COOPERATION OF CONTRACTOR

The Contractor will be supplied with six (6) copies each of the plans and specifications. He shall have available on the work site at all times one copy each of the plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor from the Owner for the cost of reproduction.

The Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents. The Contractor shall cooperate with the Owner and his/her inspectors and with other contractors in every way possible. The Owner 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 site at all times who is fully authorized as his/her agent to supervise and direct the

work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Owner or his/her authorized representative. The superintendent shall not be replaced without written notice to and approval by the Owner. The superintendent shall speak and fully understand the English language.

The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of the construction of the work. The Contractor shall be responsible to see that all completed work complies with the Contract Documents.

1.05 COOPERATION BETWEEN CONTRACTORS

The Owner reserves the right to contract for and 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/her work so' as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with his/her 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/her because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange his/her 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/her work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

In the event of a conflict arising between contractors, or a coordination dispute which cannot resolved by the contractors, the Owner will decide the conflict and his decision shall be final.

1.06 CONSTRUCTION LAYOUT AND STAKES

The contract plans will identify horizontal and vertical control only. The Contractor must establish all layouts required for the construction of the work. Such stakes and markings as the Owner may set for either his/her own or the Contractor’s guidance shall be preserved by the Contractor. In case of negligence on the part of the Contractor, or his/her 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 Owner.

The Contractor shall furnish assistance to the Owner’s representative as requested to check the layout or otherwise control the work. Such assistance shall be understood to include the provision of suitable manpower to assist the Owner’s representative in taping measurements, holding a survey rod for checking lines, grades, and the like. The Contractor’s obligations for layout and furnishing assistance to the Owner’s representative shall be deemed incidental to the completion of the various work items and no separate payment will be made for such layout and assistance.

1.07 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 48 hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the contract.

1.08 AUTHORITY AND DUTIES OF INSPECTORS

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 provision of the contract. Inspectors are not authorized to issue instructions contrary to the contract documents, plans and specifications or to act as foreman for the Contractor.

Inspectors employed by the Owner are authorized to notify the Contractor or his/her Representatives of any failure of the work or materials to conform to the requirements of the contract documents, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the Owner for his/her decision.

1.09 INSPECTION OF THE WORK

All materials and each part or detail of the work shall be subject to inspection by the Owner of his representatives. The Owner 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 Owner requests it, the Contractor, at the time of the request or at a time acceptable to both parties, 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 Owner may be ordered removed and replaced at the Contractor's expense unless the Owner's representative failed to inspect after having been given reasonable notice 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 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.

1.10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

All work not conforming to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the Owner as provided in the subsection titled **CONFORMITY WITH PLANS AND SPECIFICATIONS** of this section.

Unacceptable work, whether the result of non-conformance, 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 an acceptable manner in accordance with the provisions of the subsection titled **CONTRACTOR'S RESPONSIBILITY FOR WORK,** Article 1.12 of Section 00750.

Work done contrary to the instructions of the Owner, work done beyond the lines shown on the plans or as given, except as herein specified, or any extra work done without 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 with any order of the Owner made under the provisions of this subsection, the Owner 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.

1.11 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 resulting from the moving of material or equipment. The contractor shall be responsible for confirming all haul routes in accordance with all local and state requirements.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. 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/her hauling equipment and shall correct such damage at his/her own expense.

1.12 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 sub grade previously constructed, the Contractor shall maintain the previous course or sub grade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the bid and the Contractor will not be paid an additional amount for such work.

1.13 FAILURE TO MAINTAIN THE WORK

Should the Contractor at any time fail to maintain the work as provided in the subsection titled **MAINTENANCE DURING CONSTRUCTION** of this section, the Owner shall immediately notify the Contractor of such non-compliance. 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 situation that exists.

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

1.14 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 Owner to make final inspection of that unit. If the Owner 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. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract. Partial acceptance must be made in writing to the Contractor.

1.15 FINAL ACCEPTANCE

Upon due notice from the Contractor of substantial completion of the entire project, the Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be completed in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. 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 Owner 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 Owner will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

1.16 CLAIMS FOR ADJUSTMENT AND DISPUTES

If for any reason the Contractor deems that additional compensation is due him/her for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the Owner in writing of his/her 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 Owner is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the Owner 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/her written claim to the Owner for consideration in accordance with 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. Additional details and procedures for claims and disputes are shown in Section 00850.

1.17 ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

The Contractor will be furnished additional instructions and detail drawings if necessary to carry out the work included in the contract. The drawings enumerated in Section 00731 may be supplemented or superseded by such additional general and/or detail drawings as may be necessary or desirable as the work progresses. Any such additional drawings shall become part of the Contract and shall be as binding upon the parties hereto as if they were enumerated herein.

The Contractor shall carry out the work in accordance with the additional detail drawings and instructions. The Contractor and the Owner will prepare jointly (a) a schedule, fixing the dates at which special detail drawings will be required, such drawings, if any, to be furnished by the Owner in accordance with said schedule, and (b) a schedule fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment, and the completion of the various parts of the work; each such schedule to be subject to change from time to time in accordance with the progress of the work.

1.18 SHOP DRAWINGS AND SAMPLES

a. General

The Owner may require shop drawings and/or samples for any materials or equipment to be furnished or for any construction methods to be employed. No work will be allowed to proceed for

which shop drawings or samples have been requested until such drawings or samples have been provided by the Contractor and approved by the Owner. (Reference Section 01340.)

b. Contractor's Responsibilities

All materials and construction shall be in accordance with finally reviewed shop drawings, material tests, or the like as required. The purchase of, manufacture, or delivery to the site of any materials before final approval of applicable shop drawings, material tests, etc. will be entirely at the risk of the Contractor.

The Contractor shall be solely responsible for the correctness of all shop drawings, material quantities, and for the correct fitting of the members and parts shown on the shop drawings. The Owner's review shall be only for conformance with the design concepts of the Contract work and for conformance with the information given in the plans and specifications. The Owner's review of separate items shall not be taken as an approval of any complete assembly in which the separate items are incorporated.

It shall be understood that the Owner's review of shop drawings does not in any way relieve the Contractor of his/her sole responsibility for completing all work in strict accordance with the plans and specifications nor of his/her sole responsibility to see that all parts of the work fit with each other so that the completed work is entirely satisfactory to the Owner.

c. Submission to Owner

Before submittal to the Owner, the Contractor shall check all shop drawings or samples for conformance with the Contract Documents, including the plans and specifications, for suitability and satisfactory incorporation in the completed Contract work, and for correct dimensions, ratings and assembly, and shall note legibly on each drawing or sample that he has verified its acceptability and that he approves it. If there are any deviations in the shop drawings or samples from the plans and specification, the Contractor shall so note it legibly on the shop drawings or samples and also inform the Owner separately in writing of any such deviation. The Contractor shall submit shop drawings and samples in orderly sequence matched to the construction work, with sufficient completeness to enable review, with reasonable promptness, and allowing sufficient time for the Owner to review them. All shops drawings related to building finishes shall be submitted at one time, so that all finishes may be reviewed simultaneously; All shop drawings and samples shall be properly identified as to their location and application in the Contract work and as to their association with various parts of the plans and specifications.

d. Form of Shop Drawings

Shop drawings may include general, assembly and detail drawings, diagrams, illustrations, material and equipment schedules with manufacturer's name and catalog numbers and description, performance charts, catalog cuts, brochure and such other information and data as is necessary and required by the Owner for any part of the Contract work.

e. Resubmittal

If shop drawings or samples are not accepted by the Owner, the Contractor shall correct or make changes as noted and shall resubmit revised shop drawings or new samples until accepted by the Owner.

f. Shop Drawings Required

The Owner may require, and the Contractor shall provide, shop drawings giving information on any part of the Contract work which in the opinion of the Owner are necessary or desirable to evaluate conformance to the plans and specifications.

1.19 RECORD DOCUMENTS AND OPERATIONS & MAINTENANCE DATA

A complete set of contract drawings shall be kept at the job site that shall have all approved changes clearly and accurately marked on them by the Contractor in accordance with Section 01720 RECORD DOCUMENTS. The Owner shall be entitled to rely upon the completeness and accuracy of the record document information provided by the Contractor without further verification.

Operations and maintenance data required by the contract shall be provided in accordance with Section 01730 Operations and Maintenance Data.

Retainage shall not be released by the Owner until complete and accurate Record Documents and Operations and Maintenance Data are delivered to and accepted by the Owner. The Owner shall require a minimum of 30 days to review the Record Documents and Operating & Maintenance Data.

END OF SECTION 00730

SECTION 00731

SPECIFICATIONS AND DRAWINGS

1.01 DESCRIPTION

For convenience, the specifications are arranged into several sections, but such separation shall not be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between the Contractor and his/her subcontractors. Requirements contained in any section are required as if contained in all sections and are the responsibility of the Contractor. The Contractor, prior to awarding subcontracts, will assure the work required as a whole has been coordinated among the subcontracts.

1.02 SUMMARY OF THE ORDER OF PRECEDENCE

In case of conflicts between the contract documents the order of precedence shall be as follows:

a. Modifications or changes last in time are first in precedence.

b. Addenda.

c. Project Requirements.

d. General Conditions.

e. Supplemental Conditions for Airport Improvement Program (AIP) Projects (For AIP Projects only).

f. Technical Specifications.

g. Drawings; as between detailed drawings and standard plates bound within the specifications, the detailed drawings govern. In case of discrepancy, calculated dimensions will govern over scaled dimensions.

h. Cited standards for materials or testing.

i. Cited FAA advisory circulars.

j. In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.

- Note: Should there be a conflict among the Project Requirements, the General Conditions, the Supplemental Conditions for AIP projects, and the Technical Specifications, the more stringent will apply.

END OF SECTION 00731

SECTION 00740

CONTROL OF MATERIALS

1.01 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 to the Owner 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.

At the Owner's option, materials may be approved at the source of supply before delivery is stated. 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.

It is the intent of this Contract that the use of asbestos containing materials and/or other hazardous materials be prohibited. Prior to Substantial Completion, the Contractor shall submit written certification that no asbestos and/or other hazardous substances have been incorporated into the Work.

1.02 SAMPLES, TESTS, AND CITED SPECIFICATIONS

All materials used in the work shall be inspected, tested, or approved by the Owner before incorporation in the work. *Type and frequency of these tests are to conform to what is specified in the contract documents. All costs to perform these tests are to be absorbed by the Contractor and treated as incidental to the total contract amount.* Any work in which materials are used without approval or written permission of the Owner 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 Owner, shall be removed at the Contractor's expense. Unless otherwise designated, tests in accordance with the cited standard methods of AASHTO or ASTM which are current on the date of advertisement for bids will be made by and at the expense of the Contractor. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Owner's representative. Owner's right to inspect and test materials to be used in the work shall not diminish in any way the Contractor's responsibility for determining that all materials furnished for the work fully meet all requirements of the contract documents.

1.03 CERTIFICATION OF COMPLIANCE

The Owner 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 form and distribution of certificates of compliance shall be as approved by the Owner.

When a material or an assembly is specified by "brand name or approved equal" and the Contractor elects to furnish the specified "approved equal", 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 approved equal" material or assembly, he shall furnish the manufacturer's certificates of compliance as hereinbefore described for the specified brand name material or assembly. However, the Owner shall be the sole judge as to whether the proposed "or approved equal" is suitable for use in the work.

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

1.04 PLANT INSPECTION

The Owner or his/her 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/her acceptance of the material or assembly.

Should the Owner conduct plant inspections, the following conditions shall exist:

a. The Owner shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.

b. The Owner 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 Owner, 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 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 Owner shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

1.05 STORAGE OF MATERIALS

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 Owner. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. 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 as directed by the Owner. 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 Owner 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/her entire expense, except as otherwise agreed to (in writing) by the owner or lessee of the property.

1.06 UNACCEPTABLE MATERIALS

Any material or assembly that does not conform to the requirements of the contract documents, 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 Owner.

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 Owner has approved its used in the work.

1.07 OWNER-FURNISHED MATERIALS

The Contractor shall furnish all materials required to complete the work, except those specified herein (if any) to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified herein.

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 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.

1.08 CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales contract or other agreement by which an interest is retained by the seller. The Contractor warrants that he/she has good title to all materials and supplies used by him/her in the work, free from all liens, claims or encumbrances.

1.09 ENGINEER'S FIELD OFFICE

When specified in the contract documents, the Contractor shall furnish for the duration of the project one building for the use of the field engineers and inspectors, as a field office. This facility shall be an approved weatherproof building meeting the current State Highway Specifications (for example, Class I Field Office or Type C Structure). This building shall be located conveniently near to the construction and shall be separate from any building used by the Contractor. A land line telephone and answering machine shall be provided. The Contractor shall be responsible for payment of the basic monthly charge and local calls only. Any Long Distance Tolls shall be the responsibility of the caller. The Contractor shall furnish [FAX machine, photocopy machine, water, sanitary facilities, heat, air conditioning, and electricity]. No direct payment will be made for this building or labor, materials, ground rental, or other expense in connection therewith. The cost hereof shall be included in the price bid for the various items of the contract. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

END OF SECTION 00740

SECTION 00750

LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

1.01 LAWS TO BE OBSERVED

The Contractor shall keep fully informed of all Federal and State laws, all local laws including Manchester – Boston Regional Airport rules and regulations, ordinances, regulations and security directives 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/she 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/her officers, agents, representatives 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/herself or his/her representatives, employees, subcontractors, suppliers, or material men.

1.02 PERMITS, LICENSES, AND TAXES

The Contractor shall procure all 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.

1.03 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 owner and shall pay all appropriate license fees, royalties and all costs incident to the use in performance of the work. The Contractor and the Surety shall indemnify and save harmless the Owner, 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 any third party for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

1.04 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, or a utility service of another government agency at any time during the progress of the work.

Should the owner of a public or private utility service, 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. When ordered as extra work by the Owner, the Contractor shall make all necessary repairs to the work which are due to 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.

1.05 FEDERAL AID PARTICIPATION

For Airport Improvement Program (AIP) projects, reference the project document entitled <u>Supplemental Conditions for Airport Improvement Projects</u> for additional requirements related to this section.

1.06 SANITARY, HEALTH, AND SAFETY PROVISIONS

Before beginning its work, the Contractor shall notify the Owner in writing that the Contractor has prepared a Contractor's safety program that implements all of the Contractor's responsibilities hereunder. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. The Contractor shall take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to:

a. All employees on the Project and other persons and organizations who may be affected thereby;

b. All the work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

c. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated or removal, relocation or replacement in the course of construction.

The Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss and shall erect and maintain all necessary safeguards for such safety and protection.

In emergencies affecting the safety or protection of persons of the work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Owner, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Owner prompt written notice if the Contractor believes that any significant changes in the work or variations from the Contract Documents have been caused thereby.

The Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. The person shall be designated in writing by the Contractor to and accepted by the Owner.

1.07 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall control his/her operations and those of his/her 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/her own operations and those of his/her subcontractors and all suppliers in accordance with the subsection titled MAINTENANCE OF TRAFFIC of Section 00720 hereinbefore specified and shall limit such operations for the convenience and safety of the traveling public as specified in the subsection titled CONTROL OF OPERATIONS of Section 00760 hereinafter.

1.08 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

The Contractor 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 markers until the Owner has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall notify owners of adjacent property and of underground facilities and utility owners when prosecution of the work may affect them and shall cooperate with them in the protection, removal, relocation and replacement of their property.

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/her 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/her own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

1.09 RESPONSIBILITY FOR DAMAGE CLAIMS

The Contractor shall indemnify, defend and hold harmless the Architect/Engineer, and the Owner and their officers, employees, representatives, and agents from all suits, actions, claims, damages or costs (including attorneys' fees and costs) 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/her 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/her Surety may be held until such suit or 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, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

1.10 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 in the public or any member thereof a third party beneficiary of any right created by the Contract Documents or by operation of law.

1.11 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 herein 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/her own estimate of the difficulties involved in arranging his/her work to permit such beneficial occupancy by the Owner.

Upon completion of any portion of the work to allow beneficial occupancy by the Owner, such portion shall be accepted by the Owner in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 00730.

No portion of the work may be opened by the Contractor for public use until ordered by the Owner 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 Owner, such portion of the work is in an acceptable condition to support the intended 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/her expense.

The Contractor shall make his/her own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

1.12 CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the Owner's final written acceptance of the entire completed work, excepting only the portions of the work accepted in accordance with the subsection titled PARTIAL ACCEPTANCE of Section 00730, 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 government 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/her expense. The Contractor is responsible for maintaining the integrity of all sediment and erosion controls throughout the life of a project, including when work is temporarily suspended, unless otherwise directed by the Owner. 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 planting, seedlings, and soddings furnished under his/her contract, and shall take adequate precautions to protect new tree growth and other vegetative growth against injury.

1.13 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS

As provided in the subsection titled RESTORATION OF SURFACES DISTURBED BY OTHERS of this section, the Contractor shall cooperate with the owner of any public or private utility service, FAA, 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/her operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations may be 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/her responsibility to protect such existing features from damage or unscheduled interruption of service.

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/her plan of operations. A copy of each notification shall be given to the Owner.

In addition to the general written notification hereinbefore stated it shall be the responsibility of the Contractor to keep such individual owners advised of changes in his/her 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 such owner of his/her 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. The Contractor shall furnish a written summary of the notification to the Owner.

The Contractor's failure to give two (2) business days' notice herein above provided shall be cause for the Owner 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 Owner within 3 feet (90 cm) of such outside limits at such points as may be required to ensure 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 Owner 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 Owner 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/her operations whether or not due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or his/her Surety.

1.14 FURNISHING RIGHTS-OF-WAY

The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

1.15 PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the contract provisions or in exercising any power or authority granted to him/her by this contract, there shall be no liability upon the Owner, his/her authorized representatives, or any officials 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.

1.16 NO WAIVER OF LEGAL RIGHTS

Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or his/her Surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill his/her obligations under the contract. A waiver on the part of the Owner 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.

1.17 ENVIRONMENTAL PROTECTION

The Contractor shall be knowledgeable of, and comply with all federal, state, and local permits and laws and regulations controlling pollution of, or undue harm to, the environment. The Contractor shall request through the Owner to review applicable permits and conditions at the Manchester Airport Engineering and Planning Office – 6 Industrial Drive, Suite 2, Londonderry, NH. The Contractor shall take all necessary precautions to prevent air pollution, water pollution, and non-permitted damage to regulated natural and cultural resources in accordance with these laws and regulations.

a. Air Pollution

1. Control of dust and other airborne particulates shall be the responsibility of the Contractor, and the Contractor will adhere to specifications found in the Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5370-10B, "Standards for Specifying Construction of Airports" in order to control or minimize construction-related particulate emissions.

2. Additionally, the Contractor will exercise Best Management Practices (BMP's) relating to dust control as described in the New Hampshire Department of Environmental Services' (NHDES) "Storm water Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire", August of 1992 (known informally as the "Green Book"). This information is found within Chapter 7, on pages 7-257 and 7-258.

b. Water Pollution

1. The Contractor will be held to be in compliance with all applicable environmental regulations and permit conditions. This includes following all performance objectives set forth in the contract's Storm water Pollution Prevention Plan (SWPPP) in accordance with the regulations governing such plans in the US Environmental Protection Agency's (US EPA) National Pollutant Discharge Elimination System (NPDES) construction general permit for New Hampshire NHR10*### (as described in the 2/17/98 Federal Register Part II EPA Re-issuance of NPDES General Permits for Storm Water Discharges from Construction Activities; Notice).

2. The Contractor will adhere to conditions set forth in the permit issued for New Hampshire Administrative Rules Env-Ws 415 of NH State Statute RSA 485-A:17 (known as the "Alteration of Terrain Permit Program", or the "Site Specific Permit Program"), with reference to the BMP and all permit specifications (Application #).

3. The Contractor will be expected to meet conditions specified in the New Hampshire Water Quality Certificate issued under Section 401 of the Clean Water Act, as amended.

4. In following the Storm water Pollution Prevention Plan (SWPPP) performance objectives, the Contractor will abide by all Best Management Practices (BMP) so indicated for the project within the SWPPP. These will include, but are not limited to: US Department of Transportation "Best Management Practices for Erosion and Sediment Control" Report Number FHWA-FLP-94-005, June 1995; and its reliance upon American Association of State Highway and Transportation Officials (AASHTO) "Guidelines for Erosion and Sediment Control in Highway Construction", AASHTO Highway Subcommittee on Design, 1992; and all guidelines set forth in the Federal-Aid Policy Guideline 23 CFR 650B (dated 12/7/94), including Section 650.211 Guidelines and in the State of New Hampshire: NHDES Water Supply and Pollution Control

Division's "Best Management Practices for Urban Storm water Runoff", January of 1996; and NHDES' "Storm water Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire", August of 1992 (known informally as the "Green Book").

5. The Contractor shall also be aware of erosion and sediment control language within section 4.07 (Storm Drain Plans) of the Town of Londonderry, New Hampshire "Site Plan Regulations"; and VI.5 (Surface Water Drainage) within the Manchester, New Hampshire "Subdivision and Site Plan Regulations".

6. The Contractor is required to comply with the requirements of any and all applicable Federal, State and local permits.

7. Any staging areas utilized by the Contractor during construction operations, and meeting the definition of a support activity area (as defined in the US Environmental Protection Agency's [US EPA] National Pollutant Discharge Elimination System [NPDES] construction general permit for New Hampshire NHR10*### [Section V, Part 1.B]) will be subject to BMP's and other guidance specified in the SWPPP that the Contractor is responsible for implementing. It should be noted that these staging areas do <u>not</u> have to be located at the construction site in order to be covered under provisions of the SWPPP.

c. Wetlands and Shorelands Protection

1. The Contractor will follow all conditions set forth in any and all Department of the Army Permits as authorized pursuant to Section 404 of the Clean Water Act (33 USC 1344). This includes understanding and following all Special Conditions as described in such permits.

2. The Contractor will follow all conditions set forth in any and all the New Hampshire Department of Environmental Services (NHDES) Wetlands Permits, as authorized pursuant to NH RSA 482-A, and shall be subject to all listed permit specific conditions.

3. The Contractor shall follow all instructions regarding resources that fall under the jurisdiction of the New Hampshire Comprehensive Shoreland Protection Act (RSA 438-B).

4. The Contractor will adhere to all relevant guidance found within Federal Aviation Administration (FAA) Advisory Circular (AC) #150/5200-33a "Hazardous Wildlife Attractants on or Near Airports" dated 7/27/04. This includes following siting criteria for wildlife attractants as set forth in Sections 1-3.

5. If applicable, the Contractor will take note of all Mitigation Measures recorded in Section VI of the FAA Draft Record of Decision (ROD) titled "Approval of Airport Layout Plan and Federal Funding of Airport Development, Manchester Airport, Manchester, New Hampshire", and dated 8/4/97. The Contractor will assure that all applicable procedures within this section are followed.

1.18 ARCHAEOLOGICAL AND HISTORICAL FINDINGS

a. Unless otherwise specified in the contract documents, the Contractor is advised that the site 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 the Interior.

b. Should the Contractor encounter, during his/her operations, any building, part of a building, structure, or object which is incongruous with its surroundings, he/she shall immediately cease

operations in that location and notify the Owner. The Owner will immediately investigate the Contractor's finding and will direct the Contractor to either resume his/her operations or to suspend operations as directed.

c. Should the Owner order suspension of the Contractor's operations in order to protect an archeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract modification (change order or supplemental agreement) as provided in the subsection titled EXTRA WORK of Section 00720 and the subsection titled PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT WORK of Section 00765. If appropriate, the contract modification shall include an extension of contract time in accordance with the subsection titled DETERMINATION AND EXTENSION OF CONTRACT TIME of Section 00760.

a. Threatened and Endangered Species Protection

1. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within the habitat of any federally listed or proposed threatened or endangered species under the jurisdiction of the US Fish and Wildlife Service, pursuant to the Endangered Species Act. State listed sensitive species and plant communities in the vicinity of Manchester Airport are outside the project area.

b. Hazardous Materials

1. The Contractor is responsible for the proper handling, storage, and/or disposal of hazardous materials used or generated during the course of the project. Such materials may include, but are not limited to motor vehicle fuels, waste oils and lubricants, paints, lacquers, paint thinners, and solvents. Should a spill or accidental release of hazardous materials occur during the course of the project, the Contractor shall be responsible for transmitting all pertinent data through the Airport Communications Center. As directed by the Owner, the Contractor shall be required to subsequently report the spill to the New Hampshire Department of Environmental Services (NHDES) and proceed under NHDES direction to effect such clean up measures as may be deemed necessary by the NHDES. The Contractor shall be responsible for cost of testing, removal, and proper disposal of any hazardous material released as a result of their actions, or those of their employees, consultants, or subcontractors. The Airport's Environmental Compliance Specialist will inspect hazardous material storage, including petroleum products. Hazardous materials should be properly labeled to identify contents, should be stored out of contact with storm water, and should not adversely affect water, soil, or air quality. The Contractor will contact the Resident Engineer.

2. In the event of a spill, the Contractor's EPA Generator Identification number will be used on all documents for all disposal/removal purposes.

3. Should potentially hazardous materials other than that generated or released by the Contractor be encountered in soil, surface water, or groundwater at any time during the completion of the project, all work shall be ceased until such time as it can be determined that it is safe to proceed. Upon discovery of any suspected hazardous material, the Contractor shall notify the Airport's Environmental Compliance Specialist. It will thereafter be the responsibility of the Airport or their designated consultant to determine the nature of the material, to notify the appropriate regulatory agencies, effect appropriate remedial measures, and approve the commencement of work activities.

4. At no time shall any Contractor personnel work in a potentially hazardous environment unless certified to do so under 29 CFR 1910.

5. At all times the Contractor shall be responsible for satisfying the City of Manchester Department of Aviation, State of New Hampshire, US Environmental Protection Agency, and the Occupational Safety and Health Administration requirements for handling, storage, and disposal of potentially hazardous materials.

c. Additional Considerations

1. Aside from the environmental regulations and permit conditions specified above, the Contractor is responsible for understanding and following all other applicable federal, state, and local laws and regulations.

1.19 ADDITIONAL OR SUBSTITUTE BOND

If at any time the Owner for justifiable cause shall be or become dissatisfied with any Surety or sureties, then upon the Performance or Payment Bonds, the Contractor shall within five (5) days after notice from the Owner to do so, substitute an acceptable bond (or bonds) in such form and sum signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the Owner.

1.20GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the Owner, shall constitute any acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting there from, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. The Owner will give notice of observed defects with reasonable promptness.

1.21 NOTICE AND SERVICE THEREOF

Any notice to any Contractor from the Owner relative to any part of the contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted, by certified or registered mail, to the said Contractor at his last given address, or delivered in person to the said Contractor or his authorized representative on the work.

1.22 PRESS RELEASES

All press releases or other published information in any way concerning this Contract or the Work hereunder, which the Contractor of any of its subcontractors desires to make, shall be subject to approval by the Owner prior to release. Request for such releases shall be sent to the Owner for review and approval.

1.23 FAA FACILITIES AND CABLE RUNS

The Contractor is hereby advised that the construction limits of the project may include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the prosecution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall notify the above named FAA Airway Facilities Point-of-Contact seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. If prosecution of the project work requires a facility outage, the Contractor shall contact the above named FAA Point-of-Contact a minimum of 48 hours prior to the time of the required outage.

d. If prosecution of the project work results in damages to existing FAA equipment or cables, the Contractor shall repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.

If the project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact shall be contacted a minimum of 48 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

END OF SECTION 00750

SECTION 00760

PROSECUTION AND PROGRESS

1.01 SUBLETTING OF CONTRACT

The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Owner.

Should the Contractor elect to assign his/her contract, said assignment shall be concurred in by the Surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner. In case of approval, the Contractor shall file copies of all subcontracts with the Owner.

1.02 NOTICE TO PROCEED

The Notice To Proceed 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 on the date set by the written Notice To Proceed and shall notify the Owner at least 72 hours in advance of the time actual construction operations will begin.

1.03 PROSECUTION AND PROGRESS

As specified in Section 01310, PROGRESS SCHEDULE, the Contractor shall submit his/her progress schedule for the Owner's approval on or before the effective date of the Notice To Proceed. The Contractor's progress schedule, when approved by the Owner, may be used to establish major construction operations and to check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the contract.

1.04 CONTROL OF OPERATIONS

When the Contractor is required to work within the AIRCRAFT OPERATIONS AREAS (AOA), the Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft in the AOA. The Contractor shall be required to adhere the AOA safety requirements in the specification entitled, “AIRPORT OPERATIONS AND SAFETY REQUIREMENTS” located in the Airport Improvement Program (AIP) Project Requirements.

1.05 CHARACTER OF WORKERS, METHODS, AND EQUIPMENT

The Contractor shall, at all times, employ sufficient competent labor and equipment 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, any subcontractor and their agents who in the opinion of the Owner, does not perform the work in proper and skillful manner, is disorderly or disrespectful, argumentative, or otherwise deemed undesirable, shall, at the written request of the Owner, be removed forthwith by the contractor, subcontractor, or their agents employing such person and shall not be employed again in any portion of the work without prior approval of the Owner.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the 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 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 such that no injury to previously completed work, adjacent property, or existing airport facilities will result from its use.

The Contractor shall not proceed with any work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings, specifications, or instructions from the Owner by means of *a Request for Information (RFI)*. If the Contractor proceeds with such work without obtaining further drawings or instructions, he shall assume full responsibility for the results thereof, and if such work is discovered to be incorrect he shall correct it at his/her own expense.

The Contractor shall supervise and direct the work, using the Contractor's best skill and judgement. The Contractor shall be solely responsible and have control over construction means, methods, techniques, sequences, procedures, safety precautions, and for coordinating all portions of the work under the Contract. Should the Contract Documents refer to particular construction means, methods, techniques, sequences or procedures, or indicate or imply that such are to be used on the work, such mention is intended only to indicate that the operations of the Contractor shall be such as to produce at least the quality of work implied by the operations described, but that the actual determination of whether or not the described operations may be safely and suitably employed on the work shall be the sole responsibility of the Contractor. All injury, loss, damage or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences or procedures shall be the sole responsibility of the Contractor, notwithstanding that such construction means, methods, techniques, sequences or procedures are referred to, indicated or implied by the Contract Documents, unless the Contractor has given timely notice to the Owner in writing that such means, methods, techniques, sequences or procedures are not safe or suitable, and the Contractor has then been instructed in writing to proceed at the Owner's risk.

1.06 TEMPORARY SUSPENSION OF THE WORK

The Owner may 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 such time as is necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract documents 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 Owner's order to suspend work to the effective date of the Owner's order to resume the work. Claims for such compensation shall be filed with the Owner within the time period stated in the Owner's order to resume work. The Contractor shall submit with his/her claim information substantiating the amount shown on the claim.
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 is responsible for maintaining the integrity of all sediment and erosion controls throughout the life of the project, including when work is temporarily suspended, unless otherwise directed by

the Owner. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the airport.

1.07 DETERMINATION AND EXTENSION OF CONTRACT TIME

The number of calendar or working days allowed for completion of the work is stated in the proposal and contract documents and will be known as the CONTRACT TIME.

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 effective date of the notice to proceed and including all Saturdays, Sundays, holidays, and non-work days. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

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

If the Contractor finds it impossible for reasons beyond his/her control to complete the work within the contract time as specified, or as extended in accordance with the provisions of this subsection, he/she may, at any time prior to the expiration of the contract time as extended, made a written request to the Owner for an extension of time setting forth the reasons which he/she believes will justify the granting of his/her request. The Contractor's pleas that insufficient time was specified is not a valid reason for extension of time. If the Owner finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Owner 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.

1.08FAILURE TO COMPLETE ON TIME

For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extension and adjustments as provided in subsection 7 of this section, titled DETERMINATION AND EXTENSION OF CONTRACT TIME) the sum specified in the contract and proposal as liquidated damages will be deducted from any money due or to become due the Contractor or his/her Surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in contract documents.

Permitting the Contractor to continue and finish the work or any part of it after the time allowed 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 documents.

1.09DEFAULT AND TERMINATION OF CONTRACT

The Contractor shall be considered in default of his/her 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 unsuitable 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 do so; or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency; or

g. Allows any final judgment to stand against him/her unsatisfied for a period of 10 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.

Should the Owner consider the Contractor in default of the contract for any reason hereinbefore, he 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 have full power and authority to take the prosecution of the work out of the hands of the Contractor. The Owner may appropriate or sue 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 revisions thereof, or use such other methods for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, 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 expense 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 the amount of each excess.

1.10TERMINATION FOR NATIONAL EMERGENCIES

The Owner 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.

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 over head 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 as such points of delivery as may be designated by the Owner.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his/her responsibilities

for the completed work nor shall it relieve his/her Surety of its obligation for and concerning any just claim arising out of the work performed.

1.11TERMINATION FOR CONVENIENCE

The Owner may whenever the interests of the Owner so require, terminate this Contract, in whole or in part, for the convenience of the Owner. The Owner shall give written notice of the termination to the Contractor specifying the extend of termination and the effective date of termination.

a. The Contractor shall incur no further obligations in connection with the terminated work, and, on the date set in the notice of termination, the Contractor shall stop work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated work. With approval or ratification of the Owner, the Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. The Owner may direct the Contractor to assign the Contractor's right, title, and interest under the terminated orders of subcontracts to the Owner. The Contractor must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.

b. The Owner may require the Contractor to transfer title and deliver to the Owner in the manner and to the extent directed by the Owner: (I) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated; and (ii) the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to the Owner. The Contractor shall, upon direction of the Owner, protect and preserve property in the possession of the Contractor in which the Owner has an interest. If the Owner does not exercise this right, the Contractor shall use its best efforts to sell such supplies and manufacturing materials. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Owner, credited to the price or cost of the Work, or paid in any other manner directed by the Owner.

c. After termination, the Contractor shall submit a final termination settlement proposal to the Owner in the form and with the certification prescribed by the Owner. The Contractor shall submit the proposal promptly, but no later than four (4) months from the effective date of termination, unless extended in writing by the Owner upon written request of the Contractor within this 1-year period. However, if the Owner determines that the facts justify it, a termination settlement proposal may be received and acted on after four (4) months or any extension. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

d. Subject to paragraph c. above, the Contractor and the Owner may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (d), or paragraph (f) below, exclusive of costs shown in subparagraph (e)(2) below, may not exceed the total Contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The Contract shall be amended, and the Contractor paid the agreed amount.

e. If the parties are unable to agree on the amount of a termination settlement, the Owner shall pay the Contractor the following amounts:

    1. For Contract Work performed before the effective date of termination, the total (without duplication of any item) of:

2. the cost of this work;

3. the cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the Contract if not included in subparagraph (I) above; and

4. a sum, as profit on 1. above, determined by the Owner to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, the Owner shall allow no profit under this subparagraph, and shall reduce the settlement to reflect the indicated rate of loss.

f. The reasonable costs of settlement of the work terminated, including:

1. accounting, legal, clerical, and other expenses reasonable necessary for the preparation of termination settlement proposals and supporting data;

2. the termination and settlement of subcontracts (excluding the amounts of such settlements); and

3. storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

1.12WORK AREA, STORAGE AREA AND SEQUENCE OF OPERATIONS

The Contractor shall obtain approval from the Engineer prior to beginning any work in all areas of the airport. No operating runway, taxiway, or Air Operations Area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate his/her work in such a manner as to insure safety and a minimum of hindrance to flight operations. All Contractor equipment and material stockpiles shall be stored a minimum or 250 feet from the centerline of an active runway.

All equipment and materials shall not hinder the Runway Visual Range per AC 150/5300 nor hinder a runway to taxiway line of sight. No equipment will be allowed to park within the approach area of an active runway at any time. No equipment shall be within 250 feet of an active runway at any time, unless approved by Owner's representative.

1.13FULFILLMENT OF CONTRACT

The contract will be considered fulfilled when all the work has been completed, and the final inspection acceptance has been made. The Contractor will then be released from further obligation except as may be required by law, by his/her Surety, and by the general guarantee provided for herein by subsection entitled GENERAL GUARANTY of Section 00750.

END OF SECTION 00760

SECTION 00765

MEASUREMENT AND PAYMENT

1.01 DESCRIPTION

This Section describes the process involved in payment of the Contractor, including payment and submittal procedures, payment for stored materials, retainage, interim withholds, payment for extra and force account work, measurement, payment of subcontractors, payment of omitted items, acceptance and final payment, and audits.

1.02 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 the subsection titled NO WAIVER OF LEGAL RIGHTS of Section 00750.

Payment for work performed on this contract shall be based on the dollar value of completed work in place.

The Contractor will break out itemized payments for major stored materials as individual activities.

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.

1.03 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 the subsection titled ALTERATION OF WORK AND QUANTITIES of Section 00720 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/her unbalanced allocation of overhead and profit among the contract items, or from any other cause.

1.04 SUBMITTAL PROCEDURE

a. Requests for payment will include the following steps:

1. The Contractor submits to the Owner a marked-up copy of the previous month's schedule including his evaluation of the work which has been completed in that period by percentage of activity complete.

2. The Contractor, Owner and Architect/Engineer (when applicable) shall conduct a joint review of all Record Documents to ensure that the field set is being maintained properly in accordance with section 01720 -RECORD DOCUMENTS. Lack of current as-built conditions being noted on Record Documents can result in payment delay.

3. The Owner reviews submission within 5 days.

4. The Contractor meets with the Owner and Architect/Engineer (when applicable) to review and reach an agreement upon percentages. When an agreement cannot be reached, the Owner's value will be used.

5. The Contractor submits an Application for Payment (8 copies).

b. The Contractor shall execute certification with signature of a responsible officer of the Contractor's firm, as the first signature on the Application for Payment.

c. Progress Payments shall not be construed as acceptance of any part of the work.

1.05 TIMING AND TURNAROUND OF PROGRESS PAYMENTS

Prior to submitting the first payment request, the Contractor shall have an approved construction schedule and a schedule of values for each element of work. Once the schedule of values has been accepted, it will be the basis of payment.

The Progress Payment Estimate prepared by the Contractor shall indicate the percentages of completion and the materials for which payments are to be requested. A review will be performed by the Owner's field representatives to confirm that the general accounts are acceptable.

After agreement on final determination of quantities and their associated value, based on percent complete, the Contractor shall submit a completed Request for payment for that pay period, and shall perform all extensions and arithmetic, and provide backup documentation, etc., on the prescribed forms.

The end date for each monthly pay period shall be established as the last day of each month. The payment request will be accompanied by certified payrolls, where required.

Where progress payments are approved prior to the 15th of the month, it is the intention of the Owner to make payments to the Contractor by the 20th of the following month. Failure on the part of the part of the Owner to make said payment shall not be cause for an increase to cost unless such delay of payment exceeds 90 days from date of approval.

Final payment shall be in accordance with the Construction Agreement and General Conditions after all of the requirements of Specifications Section 01700 have been met.

1.06 PAYMENT FOR MATERIALS ON HAND

a. Submit separate schedule of prices of material and/or equipment to be stored on or off the work site. The schedule will show the quantities, prices and types of materials to be stored. Stored material prices shall be shown separately.

b. Payment Requests may include the value of acceptable equipment and materials not yet incorporated into the work, provided that all of the following conditions are met:

1. Such acceptable material/equipment are either furnished and delivered to the site or furnished and stored for use.

2. Stockpiled material shall inspected by the Owner's authorized agents and shall be segregated and marked as the property of the City of Manchester/Department of Aviation. Transportation and travel expense to verify stored material will be at the Contractor's expense.

3. After delivery of the material, if any inherent or acquired defects are discovered, defective material shall be removed and replaced with suitable material at the Contractor's expense.

4. At his expense, the Contractor shall insure material against theft, fire, vandalism and malicious mischief and shall deliver the policy or certificate of such insurance to the Owner naming the City of Manchester, Department of Aviation as the insured. Insurance shall not be cancelable for at least 30 days and cancellation shall not be effective until certificate thereof is given to the Owner. Proof of insurance must be presented with each Request for Payment.

5. Submit bills of sale or paid invoices for all stored materials on which payment is requested. Payment for stored materials will only be approved for major equipment and materials in excess of $10,000.

6. Nothing in the above conditions shall relieve the Contractor of his responsibility for incorporating material into the work in conformity with the Contract Documents.

7. Maximum payment for stored products will be the cost of the item plus applicable taxes. Submit supplier's invoice and receipt as evidence of purchase and payment. Such payment shall in no case exceed the bid price for the item of work for which the equipment or material is furnished.

8. The Contractor has furnished the Engineer with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

9. The Contractor has furnished the Engineer with satisfactory evidence that the material and transportation costs have been paid.

c. The Contractor, in submitting an Application for Payment certifies that he has visited all locations of materials and equipment stored off-site and verified the types and quantities of materials and equipment stored, as well as the suitability and security of the storage facilities.

d. Title to stockpiled material shall be vested in the Owner at time of payment to the Contractor.

e. It is understood and agreed that the transfer of title and the Owner’s payment for such stored or stockpiled materials shall in no way relieve the Contractor of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

f. In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

g. No partial payment will be made for stored or stockpiled living or perishable plant materials.

h. The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

1.07 PAYMENT OF WITHHELD FUNDS

For Airport Improvement Program (AIP) projects, reference the project documents entitled <u>Supplemental Conditions for Airport Improvement Projects</u> for instructions related to this section.

1.08 RETAINAGE

From the total of the amount determined to be payable on a progress payment, 10 (ten) percent of such total amount will be deducted and retained by the Owner as further security for the full performance of the Contract work. The balance (90 percent) of the amount payable, less all previous payments, shall be certified for payment.

Upon substantial completion of all work the Contractor shall make a request in writing to the Owner requesting the remainder of the Contract price for the work be paid to him. If the work is substantially and satisfactorily completed; (each as determined by the Owner) the Contractor will be paid the remainder of the Contract price for the work, as increased or decreased in accordance with the terms of the Contract, less two times the value of any remaining items to be completed (as determined by the Owner) less an amount necessary to satisfy claims, liens or judgments against the Contractor which have not been satisfactorily resolved, and subject to the deduction of liquidated damages for delay; if any, and to any other provision of the Contract expressly permitting the withholding or deduction of monies by the Owner.

The Owner may, at its discretion, withhold the retainage or any part thereof, as satisfactory payment of liquidated damages assessed per the provision in Section 00840.

The Owner shall retain the right to withhold full retainage until such time as acceptable Record Documents and Operations & Maintenance manuals and data are submitted to and accepted by the Owner.

1.09 INTERIM WITHHOLDS

If, at any time during the performance of the Work, the current monthly schedule update indicates that the Contractor is fourteen (14) calendar days or more behind schedule in completing the performance of Work for any milestone activity called out in the contract Article 4 Time for Completion; The Owner shall have the right, in its sole discretion, to withhold out of any payment a sum (hereinafter "Interim Withhold") determined in accordance with paragraph C. The Interim Withhold shall be deducted from the Contractor's compensation and the Contractor’s right to any portion of such Interim Withhold shall be subordinate to the rights of the Owner under this paragraph.

The Interim Withhold will be computed by assessing $<u>2,000.00</u> per day for each and every contract day that the Contractor is in delay of a milestone date. The Interim Withhold will accrue consistent with the number of contract days in delay. In no case shall the Interim Withhold exceed $<u>2,500.00</u> per day.

In the event there has been an Interim Withhold, then to the extent that contract day(s) of delay is decreased, the Contractor's withhold will be decreased by $<u>2,000.00</u> for each decrease in the contract day(s) of delay, until such time that the contract day(s) of delay has been decreased to zero (0). All such releases, if any, will be included in the next payment due.

If, prior to the time of issuance of the certificate of total compensation earned, the contract day(s) of delay has not been decreased to zero (0) and the Interim Withhold has been deducted from the Contractor's compensation in accordance with this paragraph, such Interim Withhold shall be credited against any liquidated damages which are due to the Owner.

Omission by the Owner to make an Interim Withhold in connection with the contract day(s) of delay, even though such contract day(s) of delay has occurred, shall not be deemed to indicate that the Owner does not intend to exercise its right with respect to such Interim Withhold. Neither the above provisions for rights of

the Owner to make an Interim Withhold nor any exercise or attempted exercise of, or omission to exercise, such right by the Owner shall create any obligation of any kind to material men, subcontractors, workmen or other third persons.

The Owner's right to make an Interim Withhold under this section shall not be deemed to limit and/of impair any other rights or remedies which the Owner has under this Contract.

Where the Contractor's current monthly update indicates that the contract is seven or more days behind schedule, the Contractor shall submit a recovery schedule per 01310 1.07 D.

1.10 PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK

Extra work, performed in accordance with the subsection titled EXTRA WORK of Section 00720, will be paid for at the agreed prices specified in the change order (Section 01035) or supplemental agreement authorizing the extra work. When the change order or supplemental agreement authorizing the extra work requires that it be done by force account, such force account shall be measured and paid for based on expended labor, equipment, and materials plus a negotiated and agreed upon allowance for overhead and profit.

a. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

b. Comparison of Record. The Contractor and the Owner shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor and the Owner or their duly authorized representatives.

c. Statement. No payment will be made for work performed on a force account basis until the Contractor has furnished the Owner with duplicate itemized statements of the cost of such force account work detailed as follows:

    1. Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.

    2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

    3. Quantities of materials, prices, and extensions.

    4. Transportation of materials.

    5. Cost of property damage, liability and workman's compensation insurance premiums, unemployment insurance contributions, and social security tax.

Statements shall be accompanied and supported by a receipted invoice for all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from his/her stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

1.11 PARTIAL PAYMENTS

Partial payments will be made at least once each month as the work progresses. Said payments will be based upon estimates prepared by the Engineer of the value of the work performed and materials complete in place in accordance with the contract, plans, and specifications. Such partial payments may also include the

delivered actual cost of those materials stockpiled and stored in accordance with the subsection titled PAYMENT FOR MATERIALS ON HAND of this section.

a. No partial payment will be made when the amount due the Contractor since the last estimate amounts to less than five hundred dollars.

b. From the total of the amount determined to be payable on a partial payment, 10 percent of such total amount will be deducted and retained by the Owner until the final payment is made, except as may be provided (at the Contractor's option) in the subsection titled PAYMENT OF WITHHELD FUNDS of this section. The balance (90 percent) of the amount payable, less all previous payments, shall be certified for payment. Should the Contractor exercise his/her option, as provided in the subsection titled PAYMENT OF WITHHELD FUNDS of this section, no such 10 percent retainage shall be deducted.

c. When not less than 95 percent of the work has been completed, the Engineer may, at the Owner's discretion and with the consent of the surety, prepare an estimate from which will be retained an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

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

e. No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in the subsection titled ACCEPTANCE AND FINAL PAYMENT of this section.

f. In accordance with State and Local regulation that shall not void the contract, the Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final retained percentage or final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

1.12 MEASUREMENT OF QUANTITIES

All work completed under the contract will be measured by the Owner or his/her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

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 (0.8 square meter) 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 Owner.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions. Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, under drains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

In computing volumes of excavation the average end area method or other acceptable methods will be used.

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.

The term “ton” will mean the short ton consisting of 2000 pounds (907 kilograms) avoirdupois. All materials which are measured or proportioned by weights shall be weighed on accurate, approved scales by competent, qualified personnel at locations designed by the Owner. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material be paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the Owner directs, and each truck shall bear a plainly legible identification mark.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Owner, 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.

When requested by the Contractor and approved by the Owner in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Owner 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 (liter) or ton (kilogram). When measured by volume, such volumes will be measured at 60 F (15 C) or will be corrected to the volume at 60 F (15 C) 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 (kilogram) or hundredweight (kilogram). 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” or “stipulated sum" when used as an item of payment will mean complete (total) 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 Owner 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 the subsection titled PAYMENT FOR EXTRA AND FORCE ACCOUNT WORK of this section.

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

Scales for weighing materials which are required to be proportioned or measured 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 percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated of marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (23 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

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 1 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 contract price.

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 Owner. 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.

1.13 PAYMENT OF SUBCONTRACTORS

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than ten (10) days from the receipt of each payment the prime contractor receives from the City of Manchester, Department of Aviation. The prime contractor agrees further to return retainage payments to each subcontractor within ten (10) days after the subcontractor’s work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City of Manchester, Department of Aviation. This cause applies to both DBE and non-DBE subcontractors.

The AIRPORT shall monitor and enforce compliance with prompt payment requirements by requiring release and waiver of liens from all subcontractors and major material suppliers on a monthly basis. The prime contractor shall submit the release and waiver liens with their submittal of any partial or final payment request. The subcontractors or suppliers shall certify that they have received payment current to the previous prime contractor's payment request for which the AIRPORT had processed payment. A sample release for is provided at the end of this section.

1.14 PAYMENT FOR OMITTED WORK

As specified in the subsection titled OMITTED WORK of Section 00720, the Owner shall have the right to omit from the work (order nonperformance) any contract item, including major contract items, in the best interest of the Owner. Omitted work will be deleted by change order. Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Owner'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 Owner'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 the amount of such costs.

CONSENT OF
SURETY COMPANY
TO FINAL PAYMENT

TO: City of Manchester, Dept. of Aviation
One Airport Road, Suite #300
Manchester, NH 03103

CONTRACT NO:

CONTRACT FOR:

CONTRACT DATE:

PROJECT:

In accordance with the provisions of the Contract between Manchester Airport Authority and the Contractor, as indicated above, the (here insert name and address of Surety Company)

,SURETY COMPANY,

on bond of (here insert name and address of Contractor)

,CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to

The Manchester Airport
One Airport Road Suite #300
Manchester, NH 03103

As set forth in the said Surety Company's Bond.

IN WITNESS WHEREOF,
The Surety Company has hereunto set its hand this day of_____20_____

_____
Surety Company

_____
Signature of Authorized Representative

Attest:
(Seal):

_____
Title

1.15 ACCEPTANCE AND FINAL PAYMENT

When the contract work has been accepted in accordance with the requirements of the subsection titled FINAL ACCEPTANCE of Section 00730, the Contractor will prepare the final cost statement of work actually performed. The Owner shall approve the Contractor's final cost statement or advise the Contractor of his/her objections to the final cost statement which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the Owner shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Owner's receipt of the Contractor's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may accept the Owner's final quantities under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with the subsection titled CLAIMS FOR ADJUSTMENT AND DISPUTES of Section 00730.

After the Owner has approved, the Contractor's final cost statement, final payment will be processed based on the entire sum, or the undisputed sum in case of acceptance under protest determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior progress estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of the subsection titled CLAIMS FOR ADJUSTMENTS AND DISPUTES of Section 00730 or under the provisions of this subsection, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final cost statement.

1.16 AUDIT

a. The Owner shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy, completeness, and currency of the cost or pricing data at no additional cost to the Owner.

b. The Contractor shall make available at its office at all reasonable times the materials described in paragraph (a) above, for examination, audit, or reproduction, until 4 years after final payment under this contract.

c. The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (c), in all subcontracts over $10,000 under this contract.

1.17 PAYMENT APPLICATION FORMS

a. Use AIA Document G702 and continuation sheets G703 for lump sum contracts.

b. Use FAA Form 5100-8 for unit price contracts.

c. Contractor computer generated formats may be used subject to approval from the Owner.

d. Subcontractor and Supplier release and waiver of liens and claims forms

END OF SECTION 00765

SECTION 00822

INSURANCE REQUIREMENTS

1.01 INSURANCE

CONTRACTOR AGREEMENT

INDEMNIFICATION AND INSURANCE REQUIREMENTS:

In consideration of the utilization of Contractor's services by the City of Manchester and other valuable considerations, the receipt of which is hereby acknowledged, Contractor agrees that all persons furnished by Contractor shall be considered the Contractor's employees or agents and that Contractor shall be responsible for payment of all unemployment, social security and other payroll taxes including contributions from them when required by law.

CONTRACTOR hereby agrees to protect, defend, indemnify and hold the Owner, Authority and Architect/Engineer and their respective employees, agents, officers and servants free and harmless from any and all losses, claims, liens, demands and causes of action of every kind and character including but not limited to, the amounts of judgements, penalties, interests, court costs, legal fees and all other expenses incurred by the Owner, Authority and Architect/Engineer arising in favor of any party, including claims, liens, debts, personal injuries, including employees of the Owner, Authority or Architect/Engineer death or damages to property (including property of the Owner, Authority or Architect/Engineer) and without limitation by enumeration, all other claims or demands of every character occurring or in any way incident to, in connection with or arising or directly indirectly out of this Contractor Agreement. CONTRACTOR agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suits at the sole handle, of the CONTRACTOR. CONTRACTOR also agrees to bear all other costs and expense related thereto, even if the claim or claims alleged are groundless, false or fraudulent. This provision is not intended to create any cause of action in favor of any third party against Contractor or the City or to enlarge in any way the CONTRACTOR'S liability but is intended solely to provide for indemnification of the City from liability for damages or injuries to third persons or property arising from CONTRACTOR'S performance hereunder.

CONTRACTOR agrees to maintain in full force and effect:

a. General Liability insurance written on occurrence form, including completed operations coverage, personal injury liability coverage, broad form property damage liability coverage, XCU coverage and contractual liability coverage insuring the agreements contained herein. The minimum limits of liability carried on such insurance shall be $5,000,000 each occurrence and, where applicable, in the aggregate combined single limit for bodily injury and property damage liability; $5,000,000 annual aggregate personal injury liability.

b. Automobile liability insurance for owned, non-owned and hired vehicles. The minimum limit of liability carried on such insurance shall be $1,000,000 each accident, combined single limits for bodily injury and property damage.

c. Workers' Compensation insurance whether or not required by the New Hampshire Revised Statutes Annotated, with statutory coverage and including employer's liability insurance.

d. The Contractor will provide All-Risks Builder's Risk Insurance in an amount equal to 100% of the insurable value of the work, Completed Value Form including materials delivered and labor performed. This policy will be written in the name of the City of Manchester, Department of Aviation, the Contractor, Sub-Contractors, and Sub-subcontractors as their interests may appear. Such policy will also be endorsed so that loss, if any, shall be adjusted with and made payable to the Owner as Trustee for the insureds as their interests may

appear; such insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained as the present premises. The All-Risks insurance includes full flood and earthquake coverage. Materials stored off-site and materials in transit will be covered up to $100,000 per occurrence.

e. Any and all deductibles on the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of contractor.

f. Insurance companies utilized must be admitted to do business in New Hampshire or be on the Insurance Commissioner's list of approved non-admitted companies and shall have a rating of (A) or better in the current edition of Best's Key Rating Guide.

g. CONTRACTOR agrees to furnish certificate(s) of the above mentioned insurance to the City of Manchester, Department of Aviation within fourteen (14) days from the date of this agreement and, with respect to the renewals of the current insurance policies, at least thirty (30) days in advance of each renewal date. Such certificates shall, with respect to comprehensive general liability and auto liability insurance, name the City of Manchester, Department of Aviation, the Manchester Airport, Architect/Engineer firms designated by Owner. As an additional insured (except workers' compensation) and, with respect to all policies shall state that in the event of cancellation or material change, written notice shall be given to the City of Manchester, Office of Risk Management, 27 Market Street, Manchester, New Hampshire 03101 at least thirty (30) days in advance of such cancellation or change.

h. The purchase of the insurance required or the famishing of the aforesaid certificate shall not be a satisfaction of CONTRACTOR'S liability hereunder or in any way modify the CONTRACTOR'S indemnification responsibilities to the Owner, Authority or Architect/Engineers.

i. It shall be the responsibility of CONTRACTOR to ensure that all subcontractors comply with the same insurance requirements that he is required to meet.

1.02 SPECIAL HAZARDS

The Contractor's and Subcontractor's Public Liability, Property Damage, Vehicle Liability, and Vehicle Property Damage insurance coverages shall provide adequate protection against the following special hazards:

a. Damage or injury to aircraft or persons in aircraft operating on or near the project site, resulting from any operations under this Contract.

b. Damage or injury resulting from the use, storage, handling or transportation of explosives in connection with the Contract work.

END OF SECTION 00822

SECTION 00840

LIQUIDATED DAMAGES AND EXTENSIONS

1.01 LIQUIDATED DAMAGES

a. If the Contractor fails to substantially complete the Work and/or any intermediate phases of the work which may be required within the time specified in the Contract, or any extension, the Contractor shall pay the Owner, or the Owner will deduct payments due under this Contract or any other contract with the Owner, as liquidated damages, the sum of Two thousand dollars ($ 2,000.00) for each calendar day of delay.

b. The amount of liquidated damages provided in this Contract is neither a penalty nor a forfeiture and shall compensate the Owner solely for the Owner's inability to use the Work for its intended purpose and is not intended to, and does not, include: (1) any damages, additional or extended costs, incurred by the Owner, for extended administration of this Contract, or by the Owner's agents, consultants, or independent contractors for extended administration of this Contract, (2) any additional services, relating to or arising as a result of the delay in the completion of the Work. The Owner shall be entitled to claim against the Contractor for its actual damages and amounts not specifically included within the liquidated damages as set forth herein. Such costs shall be computed separately. Together with liquidated damages, they shall be either deducted from the Contract Amount or billed to the Contractor.

c. If the Owner terminates the Contractor's right to proceed under subsection 9, Section 00760 titled DEFAULT AND TERMINATION OF CONTRACT, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the Work together with all items not covered in liquidated damages, as specified in paragraph (b) above, and any increased costs occasioned by the Owner in completing the Work.

d. If the Contractor is in default and the Owner does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the Work is completed or accepted.

1.02 UNAVOIDABLE DELAYS

a. Time Extension

1. The Contractor will be granted an extension of time for completion of the work beyond that named in the Contract Documents, for delays which may result through causes beyond the control of the Contractor and which he could not have avoided by the exercise of care, prudence, foresight and diligence.

2. The Contractor shall be allowed extensions of time in which to complete the-work equal to the sum of all unavoidable delays plus any adjustments of contract time due to contract change orders. During such extension of time liquidated damages shall not be charged to the Contractor.

3. Unavoidable delays within the meaning of this section shall be those caused by acts or neglect of the Owner, its employees, or those under it by contract or otherwise; by Acts of God (including weather or of the public enemy, fire, epidemics, or strikes). Material shortages and delays in utility company connections may be classified as

an unavoidable delay if the Contractor can produce satisfactory evidence that he acted in a timely manner. There will be no damages for delays caused by Acts of God, public enemy, fire, epidemics, strikes, material shortages, and utility companies.

4. Delays in the prosecution of parts of the work which may in themselves be unavoidable, but do not necessarily prevent or delay the prosecution of other parts of the work nor the completion of the work within the time specified, which do not necessarily prevent the completion of the whole work within the time herein specified, will not be considered as unavoidable delays within the meaning of the contract.

b. Weather

1. The Contractor will not be allowed a time extension for weather delay when the contract is bid to be constructed during a period that will normally include inclement weather. The Contractor will only be allowed a time extension for unusually severe weather if it results in precipitation or other conditions, which in the amount, frequency, or duration is in excess of the norm at the location and time of the year in question as established by NOAA weather data. A day for day extension will only be allowed for those days proven to be in excess of the norm.

2. If the weather is unusually severe (or conditions resulting therefrom) in excess of the NOAA data norm and prevents the Contractor from beginning at the usual starting time, or prevents the Contractor from proceeding with seventy-five percent (75%) of the normal labor and equipment force towards completion of the day's current controlling item on the accepted schedule for a period of at least five hours, and the crew is dismissed as a result thereof, the Owner will designate such time as unavoidable delay and grant one (1) calendar-day extension.

c. Notice

1. Whenever the Contractor foresees any delay in the prosecution of the controlling (critical path) work activity, and in any event immediately upon the occurrence of any delay which he regards as an unavoidable delay, the Contractor shall notify the Owner in writing of such delay and its cause, in order that the Owner may take immediate steps to prevent, if possible, the occurrence or continuance of the delay, and may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the work are to be delayed thereby.

2. After the completion of any part or the whole of the work, the Owner, in calculating the amount of time due the Contractor, will assume that any and all delays which have occurred have been avoidable delays, except such delays as shall have been called to the attention of the Owner at the time of their occurrence and found by the Owner to have been unavoidable as substantiated by a change order. The Contractor will make no claims that any delay not called to the attention of the Owner at the time of its occurrence has been an unavoidable delay.

d. Request for Time Extension

In the event the Contractor requests an extension of contract time for unavoidable delay, or for changes, such justification shall be submitted no later than seven (7) days after the initial occurrence of any such delay. When requesting time for proposed change orders they must

be submitted with the proposed change order with full justification. If the Contractor fails to submit justification with the proposed change order they will waive their right to a time extension at a later date. Such justification must be based on the official contract schedule as updated at the time of occurrence of delay or execution of work related to any changes to the scope of work. The justification must include, but is not limited to, the following information:

1. The duration to perform the activity relating to the changes in the work and the resources (manpower, equipment, material, etc) required to perform these activities within the stated duration.

2. Logical ties to the contract schedule for the proposed changes and/or delay showing the activity/activities in the schedule whose start or completion dates are affected by the change and/or delay.

The Owner, after receipt of such justification and supporting evidence, shall make its finding of fact. The Owner's decision shall be final and conclusive and the Owner will advise the Contractor in writing of such decision. If the Owner finds that the Contractor is entitled to any extension of contract time, the Owner's determination as to the total number of days of extension shall be based upon the latest updated version of the contract schedule. Such data will be included in the next monthly updating of the schedule.

END OF SECTION 00840

SECTION 00850

DISPUTES/CLAIMS

1.01 GENERAL

"Dispute" or "Claim," as used in this section, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by that claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim or dispute under the contract. The submission may be converted to a claim under the contract, by complying with the submission requirements of this clause, if it is disputed either as to liability or amount.

Disputes under this agreement shall not be submitted to arbitration. Should any dispute arise respecting the true value of any work done, of any work omitted, or of any extra work which said Contractor may be required to do, or respecting the size of any payment to said Contractor during the performance of this contract, said dispute shall be decided by the Owner and the decision of the latter shall be final and conclusive.

A claim by the Contractor shall be made in writing and submitted to the Owner for a written decision. A claim by the Owner against the Contractor shall be provided to the Contractor in writing.

1.02 PROCEDURE

Contractor and Owner shall make good-faith attempts to resolve any and all claims/disputes that may from time to time arise during the performance of the work covered by this contract. If the Contractor considers any work demanded of him/her to be outside the requirements of the contract, or if he considers any instruction, meaning, requirement, ruling, or decision of the Owner or its representative to be unauthorized, he shall, within seven (7) calendar days after such demand is made, or instruction is given, file a written protest (dispute) with the Owner stating clearly and in detail his/her objections, and reasons therefore. The Contractor shall promptly comply with the work demanded of him/her even though a written protest has been filed. If a written protest is not issued within seven days, the Contractor shall waive his/her right to further claim on the specific issue.

The Owner will review the Contractor's written protest (dispute) and recommend a resolution from which the Owner will make a decision. If, after receiving the decision, the Contractor still considers the work demanded of him/her to be outside the requirements of the contract, he shall so notify the Owner in writing within seven days after receiving the decision that a formal claim will be submitted. Within thirty (30) days of receiving the decision the Contractor shall submit his/her claim and all arguments, justification, cost or estimates, CPM schedule analysis, and detailed documentation' supporting his/her position. Failure to provide notification within (7) seven days and all justifying documentation within (30) thirty days will result in the Contractor waiving his/her night to the subject claim.

Upon receipt of the Contractor's formal claim including all arguments, justification, cost or estimates, CPM schedule analysis, and documentation supporting his/her position as outlined above, the Owner or his/her designer will review the issue and within thirty (30) days from receipt of the Contractor's claim render a final determination.

1.03 CERTIFICATION

The Contractor (and subcontractors) shall submit with the claim a certification that:

a. The claim is made in good faith;

b. Supporting data are accurate and complete to the best of the Contractor's knowledge and belief.

c. The amount requested accurately reflects the contract adjustment for which the Contractor believes the Owner is liable.

d. If the Contractor is an individual, the certification shall be executed by that individual.

e. If the Contractor is not an individual, the certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

Failure to provide certification in accordance with paragraph 3(e) above will result in the Contractor waiving the right to the subject claim. If a false claim is submitted it will be considered fraud and the contractor may be subject to criminal prosecution.

1.04 CLAIM FORMAT

The Contractor will submit the claim justification in the following format:

a. Summary of claim merit and quantum plus clause under which the claim is made.

b. List of documents relating to claim:

1. Specifications
2. Drawings
3. Clarifications INFORMATION NOTICES (IN) - REQUEST FOR INFORMATION (RFI).
4. CONSTRUCTION CHANGE DIRECTIVES (CCD)
5. COST PROPOSAL (CP).
6. Other

c. Chronology of events and correspondence.

d. Analysis of claim merit.

e. Analysis of claim cost.

f. Cover letter and certification.

g. Attachments:

1. Relevant Specifications
2. Relevant Drawings
3. Relevant Clarifications
4. Relevant Correspondence
5. Other

END OF SECTION 00850

SECTION 01014

CONTRACTOR'S WORK PLAN

1.01 DESCRIPTION

This Section describes the requirements for finishing a work plan describing Contractor's approach and methods for prosecuting the work.

It is expressly agreed that time is of the essence of this Contract, and the Contractor agrees to perform the work within the time and in the manner specified, or within the time of such extensions as may be granted. The Contractor shall be liable for liquidated damages for failure to meet the final completion date specified herein. (Section 00840).

The Contractor's scheduling of work crews, equipment and materials will be of utmost importance for completing the work within the time allowed. The Contractor may be required to employ one or more of the following measures to build the project within the time constraints:

a. Utilize extra equipment and manpower.

b. Work more than the normal 8-hour shift per day, 5-day week. Overtime, two or three 8-hour shifts per day, 6 or 7 days per week may be required.

c. Employ extra staff to plan, schedule, coordinate and expedite the work.

In addition to employing additional resources as described above, the Contractor will be expected to take whatever additional steps are necessary to ensure timely completion of the project.

Submission of a bid by the Contractor constitutes acknowledgment that the foregoing requirements have been taken into account in the Contractor's bid price.

1.02 CONTRACTOR'S WORK PLAN

Ten working days after notice to proceed, the lowest responsive, responsible bidder is required to submit a Work Plan describing in detail the Contractor's approach and methods for prosecuting the work in accordance with the Construction and time constraints. The Work Plan shall include but not be limited to the following:

a. A summary schedule of the work with milestone completion dates clearly indicated. The schedule shall show the major critical path trades and their respective activity constraints. As a minimum, the Contractor shall show the activities for concrete, enclosures, masonry, miscellaneous steel, carpentry, roof accessories, dampproofing and sealing, insulation, doors and windows, curtain walls, glass and glazing, mechanical and electrical systems, elevators and escalators, special airport systems, interior and exterior finishes, and sitework and landscaping.

b. A narrative and schedule describing how the Contractor intends to staff, equip and supply the job by trade in order to meet contractual time constraints. Include number of crews, crew sizes, total workers for each phase, activity, number and types of major equipment to be used, method of material procurement, hours per work shift, work shifts per day, anticipated production rates, etc. Production rates shall be provided for at least the concrete, enclosures, masonry, miscellaneous steel, carpentry, roof accessories, dampproofing and sealing, insulation, doors and windows, curtain walls, glass and glazing, mechanical and electrical systems, elevators and escalators, special airport systems, and interior and exterior finishes.

c. A breakdown, by specification Section, of the work Contractor, subcontractor, or major supplier is responsible to complete.

d. An organization chart describing: (a) the hierarchy and relationships of the Contractor's project management staff and the hierarchy of subcontractors and suppliers including the trade(s) or portion(s) of work for which each is responsible. Of particular interest is how the Contractor intends organize and coordinate off-site work that involved the combined effort of subcontractors and suppliers.

e. A description of what additional methods will be used by the Contractor, should actual progress of the work not meet the time constraints specified herein, as defined in Section 01310.

f. A directory of the Contractor and all subcontractors including 24-hour emergency telephone numbers.

The Owner will review the Contractor's Work Plan for reasonableness and for conformance with Contract requirements. If the Work Plan does not meet specific Contract requirements or if, in the Owner's opinion, the Work Plan does not give a reasonable assurance of the Contractor's commitment to timely completion, the Owner will notify the Contractor of the deficiencies or his concerns with the Work Plan. Preconditions for payment shall be that the Contractor responds satisfactorily to the Owner's concerns. A completed and approved construction schedule is required prior to a submission of an application for payment.

END OF SECTION 01014

SECTION 01035

CHANGE ORDER PROCEDURES

1.01 CHANGES

There will be no changes to the contract except as by written notification in the form of an approved change order signed by the Owner.

Should the Owner at any time during the progress request any extra work including but not necessarily limited to alterations, deviations, additions, or omissions from the specifications, plans, other contract documents, it shall be at liberty to do so. Changes may include but may not be limited to:

a. Scope or materials;

b. The Owner-furnished facilities, equipment, materials, services, or site;

c. Directing acceleration in the performance of the work; or

d. Extra terms or time.

1.02 CHANGE ORDER WORK NOTIFICATION

If any change causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Owner will make an equitable adjustment and modify the contract in writing as a Change Order.

No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

Changes will be performed in accordance with the original contract requirements unless otherwise indicated.

1.03 CHANGE ORDER PROCESS

a. Where the Owner concurs that a change is due or requests a change, a proposal request will be issued. Proposal requests issued by the Owner are for information only. Do not consider any of them as instruction either to stop work in progress, or to execute the proposed change. This information will be issued by means of a numbered **Information Notice (IN)** form.

b. Upon receipt of the Information Notice, the Contractor shall submit a cost proposal, in accordance with the requirements and limitations set forth below, for work involving contemplated changes covered by the proposed change. The Contractor's written proposal for an equitable adjustment for a change shall be submitted in the following form:

1. The proposal shall include a lump sum amount supported by a detailed itemized breakdown of all increases and decreases in the contract, including all labor, equipment and materials, as required by the following paragraphs. The Contractor will use the prescribed Owner-furnished **Cost Proposal (CP)** form. The Contractor shall upon request by the Owner permit inspection of the original unaltered contract bid estimate, subcontract agreements, or purchase orders relating to the change; and documents substantiating all costs associated with the Cost Proposal.

2. The Contractor shall identify any adjustment in time of the final completion of the work as a whole which is directly attributable to the changed work. The Contractor's

request for a change in time will be supported by a detailed schedule analysis indicating the activities which have been affected and the additional time being requested. For a change in time for the work, the Contractor shall be entitled only to such adjustments in time by which completion of the entire work is delayed due to the performance of the changed work. Failure to request extra time when submitting such estimate shall constitute waiver of the right to subsequently claim adjustment in time for final completion based upon such changed work. *When submitting a CP the Contractor must include as an attachment a copy of the document(s) that indicate the necessity for the extra work. These documents include but are not limited to IN's, RFI's, Memo's and/or Letters.*

3. If the Owner disagrees with the request for change it will notify the Contractor in writing and the Contractor may elect to issue a dispute notification according to the disputes clause.

4. The Contractor must submit the Cost Proposal within ten (10) days upon receipt of the IN. The Contractor must submit Cost Proposals in less than 10 days if requested by the Owner or as required by schedule limitations. *The Owner, if so desired, reserves the right to request from the Contractor a Cost Proposal (CP) that reflects 3 distinct quotes for subcontractor or for supplier procured work.*

c. If the Contractor fails to submit the proposal within the 10-day period (or as requested), the Owner has the right to order the Contractor in writing to commence the work immediately on a force account basis and/or issue a lump sum change to the contract price in accordance with the Owner's estimate of cost. If the change is issued based on the Owner estimate, the Contractor will waive his right to dispute the action unless within 10 days following completion of the added/deleted work, the Contractor presents proof that the Owner's estimate was in error.

d. If the Owner and the Contractor fail to agree as to the proposed change order, the Contractor upon written order from the Owner shall proceed immediately with the changed work. This written notice will be issued as a **Construction Change Directive (CCD)**. The Contractor shall be directed to proceed according to one or more of the following methods:

1. Unit Prices, as provided in the Contract proposal.
2. Unit Prices, as subsequently and mutually agreed upon by the Owner and the Contractor.
3. Lump Sum Amount, mutually agreed upon by the Owner and the Contractor.
4. Time and Material, on a time and materials (T&M) (force account) basis.

When there has been failure to agree as to the cost, no payment will be made to the Contractor until completion of the work called for in the change order or in the written order authorizing performance of the work.

e. The Owner will establish a budget not-to-exceed (NTE) price for the T&M change order which may be increased with the approval of the Owner. The Contractor will notify the Owner when he has reached 80% of the not-to-exceed budget. The Contractor shall proceed and shall maintain a daily job force account record containing detailed cost summary of labor, materials, and equipment required for the changed work. Upon being signed and agreed to by the Owner on a daily basis, the force account record will become the basis for payment of the changed work, but such agreement shall not preclude subsequent adjustment based upon later audit by the Owner. The Contractor will provide a weekly accounting of cost compared to the NTE budget.

f. Upon completion of the work under the T&M change order, the Contractor shall submit its invoice therefore containing only the items of labor, materials, and equipment which are in addition to the requirements of the contract and as approved by both parties, together with the allowable markups.

g. A change order may adjust the contract price either upward or downward in accordance with one or a combination of the following bases as the Owner may elect:

1. On a lump sum basis as supported by the breakdown of estimated costs.
2. On a unit price basis.
3. On a time and material (force account) basis.

h. Costs associated with change orders include:

1. Overhead Rates

a) The overhead rate shall include profit, small tools, cleanup, bonds, engineering, supervision, warranties, job-site overhead and Home Office overhead.

b) The Contractor will provide at the beginning of the project a certified statement and detailed calculation from its accountant establishing the job site and prorate home office overhead rates for itself and its major subcontractors. The overhead and profit shall be against labor and materials only. Where work is subcontracted, no mark up will be allowed on overhead or profit of others including second and third layer subcontractors or material suppliers. In no case shall the total accumulated overhead and profit on any change order work exceed 15% on a lump sum or unit price basis and 10% on a time and materials basis. In a credit situation the Contractor will utilize the same overhead and profit rates against labor and materials in preparing the Change order.

.

c) The Owner shall have the right to review and approve the overhead rate. Where the Contractor and Owner fail to come to an agreement for Contractor's overhead rate, the Owner shall set such rate based in current industry and the Contractor shall be entitled to dispute the action if he does so within 15 days following notice.

d) The Contractor at the beginning of the project shall provide a complete listing of all Contractor and subcontractor hourly labor rates.

2. Direct Costs

a) Cost for labor shall include any employer payments to or on behalf of the workmen for health, welfare, pension, vacation, and similar purposes. Labor rates will not be recognized when in excess of those prevailing in the locality and time the work is being performed. The costs for all supervision including General Superintendents and Foremen will be included in the markups established by the Contract. The only exception to this will be working foremen who perform actual manual labor. No labor charges will be accepted for engineering or proposal preparation. These costs will be included in the markups established by the Contract. A breakdown of the payroll rates for each trade will be provided for all change orders 15 days

after notice to proceed including the base rate, benefits, payroll taxes, and insurance.

Overtime and premium time pricing will only be allowed for labor which, based on mutual agreement, shall be performed after normal working hours.

b) The actual cost to the Contractor for the materials directly required for the performance of the changed work. Such cost of materials may include the cost of transportation and no delivery charges will be allowed unless the delivery is specifically for the changed work

.

If a trade discount by an actual supplier is available to the Contractor, it shall be credited to the Owner. If the materials are obtained from a supplier or source owned wholly by or in part by the Contractor, payment thereof will not exceed the current wholesale price for the materials. The term 'trade discount' includes the concept of cash discounting.

If in the opinion of the Owner, the cost of the materials is excessive or if the Contractor fails to furnish satisfactory evidence of a cost to him from the actual supplier thereof, then, in either case, the cost of the materials shall be deemed to be the lowest current wholesale price at which similar materials are available in the quantities required. The Owner reserves the right to furnish such materials as it deems advisable and the Contractor shall have no claims for cost or profits on materials furnished by the Owner.

c) The actual cost to the Contractor for the use of equipment directly required in the performance of the changed work. In computing the hourly rental of equipment, any time less than 30 minutes shall be considered one-half hour. No payment will be made for time while equipment is inoperative due to breakdown or for non- workdays. In addition, the rental time shall not include the time required to move the equipment to the work for rental of such equipment, and to return it to the source. No mobilization or demobilization will be allowed for equipment already on site. If such equipment is not moved by its own power, then loading and transportation costs will be paid in lieu or rental time thereof. However, neither moving time nor loading and transportation costs will be paid if the equipment is used on the project in any other way than upon the changed work.

Individual pieces of equipment having a replacement value of $1,000 or less shall be considered to be small tools or small equipment and no payment will be made therefore.

The rental rate for equipment will not exceed that as recommended by the lower of the rental rates as contained in the current edition of the Rental Rate Blue Book applicable to the specific extra work or force account work.

For equipment owned, furnished, or rented by the Contractor no cost thereof shall be recognized in excess of the rates established by the Rental Rate Blue Book.

The amount to be paid to the Contractor for the use of equipment as set forth above shall constitute full compensation to the Contractor for the cost of fuel, power, oil, lubricants, supplies, small tools, small equipment

necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor (except for equipment operators) and any and all costs to the Contractor incidental to the use of the equipment.

i. The Contractor shall maintain his records in such a manner as to provide a clear distinction between the direct costs of extra work and the cost of other operations. This requirement pertains to proposed change orders change orders and work the Contractor considers to be potential change orders.

j. Changes in the work made necessary due to unexpected or unforeseen site conditions, discovery of errors or omissions in plans or specifications requiring immediate clarifications in order to avoid serious work stoppage, or other changes where the extent cannot be determined until completed, or under any circumstances whatsoever deemed necessary by the Owner, are types of emergency changes which may be authorized by the Owner in writing to the Contractor. The Contractor shall commence performance of emergency changes immediately upon authorization. These changes will be performed on a time and material (force account) basis as aforementioned.

k. The Contractor may not reserve a right to assess impact cost or time, extended job site costs, extended overhead, and/or constructive acceleration at some later date as related to any and all changes. These costs or estimated costs must be supported with full schedule and cost documentation with each proposed change within the prescribed submission times. If a request for a change is denied and the Contractor disputes the denial, the Contractor must supply the aforementioned documentation to support his claim under the dispute clause of this contract The Contractor shall waive his right to impact, extended overhead costs and construction acceleration due to the multiplicity of changes and clarifications.

l. Contractor and subcontractors by submission of a bid acknowledges and waives the right to claim extended overhead, delay, impact, disruption, etc. if changes issued are within 5 percent of the award amount and/or the number of Request for Information (RFI's) is less than 2,000.

m. If the changes exceed *10* percent of the contract and/or RFI's exceed 2,000 in number, the Contractor must demonstrate on a case-by-case basis the effect on the contract as a whole with detailed schedule and cost analysis.

n. Should the Contractor find that a change has not been processed which may effect the immediate controlling activity(s), he shall request a Construction Change Directive (CCD) to proceed on a T&M basis.

END OF SECTION 01035

SECTION 01036

CLARIFICATION AND INSTRUCTION

1.01 DESCRIPTION

Should the Contractor discover conflicts, omissions, or errors in the Contract Documents, or have any question concerning interpretation of the Contract Documents; or if it appears to the Contractor that the work to be done is not sufficiently detailed or explained in the Contract Documents, the Contractor shall immediately notify the Owner in writing on the **Request for Information (RFI)** forms to be provided by the Owner and request interpretation or additional detailed instructions concerning the work.

The Contractor shall follow the Owner's Request for Information procedures, utilize the RFI form as provided by the Owner, and use the prescribed numbering system as developed by the Owner.

In event of failure to agree as to scope of contract requirements, Contractor shall follow procedure set forth in Section 00850: DISPUTES AND CLAIMS.

If the Contractor considers a clarification to be a change, he must submit a cost proposal request within ten (10) calendar days following receipt of instruction or waive his right to the change.

a. Clarification:

The Contractor shall ask for any clarification immediately upon discovery of an issue as outlined under Section A. The Contractor shall submit all requests for clarification and/or additional information to the Owner in writing on the Request for Information form. Subcontractor requests for information or clarification must be made through the Contractor. The Owner, whose decision shall be final and conclusive, shall resolve such questions and issue instructions to Contractor within a reasonable amount of time but in no more than fourteen (14) calendar days. Only responses written and signed by the Owner or Owner's Representative are binding. Should the Contractor proceed with work affected before receipt of instructions from the Owner, the Contractor shall remove and replace or adjust work which is not in accordance therewith and shall be responsible for resultant damage, defect or added cost.

b. Field Instructions: (INFORMATION NOTICE [IN])

The Owner may furnish additional detailed written instructions to further explain the work, and such instructions shall be a part of the contract requirements. Should additional detailed instructions, in the opinion of Contractor, constitute work in excess of scope of the contract, he must submit written notice thereof immediately to the Owner but not more than seven (7) calendar days following receipt of such instruction, and in any event prior to commencement of work thereon. The Owner will then consider such notice and, if the judgment is justified, the Owner's instructions will be revised or the extra work authorized. The Contractor shall have no claim for additional compensation because of such additional instructions unless Contractor gives the Owner written notice thereof within the seven (7) days specified above.

c. Defect/Omission Report: (D/O FORM)

This form will be used to document items of work performed incorrectly or omitted by the Contractor that are non-conforming to the contract documents.

1. D/Os will be written for all work that does not conform to the requirements of the contract drawings.

2. All D/Os will be submitted to the Contractor in written form.
3. The Contractor will be directed to advise the Owner of impacts on the schedule as a result of any D/O.
4. All D/Os will be discussed at project meetings.
5. D/Os will not be closed until a corrective action plan, prepared by the Contractor, is accepted by the initiator of the D/O.

END OF SECTION 01036

SECTION 01040

PROJECT COORDINATION

1.01 CONTRACTOR'S RESPONSIBILITIES

The Contractor's project coordination responsibilities include, but may not be limited to the following. The Contractor shall:

a. Coordinate the work of all subcontractors and provide copies of coordination schedules as requested by the Owner;

b. Establish lines of authority and communication; supply the Owner with list a list of 24 hr. emergency contact numbers of all supervisors and subcontractor supervisors.

c. Include in the scheduled weekly meetings the coordination of various entities and activities. Where necessary, schedule additional coordination meetings for the purpose of coordinating the work, daily security issues, and resolving conflicts;

d. Provide all subcontractors with reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work;

e. Make provisions to accommodate items installed by the Owner or by others under separate contracts and/or controls;

f. Prepare, utilize and submit for information, coordination drawings to indicate how work shown by separate shop drawings will be interfaced and sequenced for installation;

g. Establish and maintain procedures to ensure that persons performing work at site are skilled in methods and craftsmanship needed to produce required quality-levels. Remove and replace (at no additional cost to the Owner) work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications indicated;

h. In advance of installation of every major unit of work which requires coordination and interfacing with other work, meet at project site with installers and representatives of manufacturers and fabricators who are involved in or affected by unit of work. Review progress of other work and preparations for particular work under consideration;

i. Require installer of each major unit of work to inspect substrate to receive work, and conditions under which work will be performed, and to report (in writing to Contractor) unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to installer;

j. Where installation includes manufactured products, comply with manufacturer's instructions and recommendations, to extent these are more explicit or more stringent than requirements indicated in contract documents;

k. Inspect each item of materials or equipment immediately prior to installation, and reject damaged and defective items;

l. Provide proper and structurally sound connection devices and methods for securing work as it is installed; true to line and level, and within recognized industry tolerances if not otherwise indicated. Allow for expansion and building movements. Provide uniform joint

widths in exposed work. Refer optional, visual-effect choices to Owner for final decision;

m. As an integral step of starting each installation, recheck measurements of the work;

n. Install work during conditions of temperature, humidity, exposure, weather, and status of project which will ensure satisfactory results. Coordinate with entire work. Isolate each unit of work from non-compatible work, as required to prevent rust, electrolysis, and deterioration or any kind due to incompatibility of materials. Where units of work touch, use only materials proven to be compatible;

o. Coordinate closing-in of work with required inspections and tests, so as to minimize uncovering work;

p. Where mounting heights are not indicated, refer to Owner for final decision. Submit manufacturer's recommendations;

q. Coordinate the tolerances of all materials;

r. Coordinate with the other Contractors; (Reference Section 01010: SUMMARY OF WORK AND WORK BY OTHERS)

s. Require training for subcontractor field supervision personnel for Airport operations, security and driver's training.

1.02 MUTUAL RESPONSIBILITY

If any part of the Contractor's Work depends for proper-execution or results upon the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, inspect and promptly report to the Owner any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results.

Failure of the Contractor to so inspect and report shall constitute an acceptance of the Owner's or separate contractor's work as fit and proper to receive the work, except as to defects which may subsequently become apparent in such work by others.

Any costs caused by defective or ill-timed work shall be borne by the responsible party to whom the Owner attributes the cause of the defect(s).

Should the Contractor wrongfully cause damage to the work or property of the Owner, or to other work or property on the site, the Contractor shall promptly remedy such damage.

1.03 NOTICE AND UTILITY SERVICES

If the Contractor is to tie into existing utilities either in the form of a temporary tie-in or permanent tie-in, the Contractor shall make arrangements with the utility companies and local authorities at no expense to the Owner. Also, if the Contractor damages any existing utilities with his equipment and/or manpower, he shall arrange with the utility company to repair the damaged utilities to their original condition at his expense.

Where such tie-in requires utility shut down, the Contractor must notify the Owner in writing, 7 days in advance of such shut down.

1.04 OVERTIME AND HOLIDAY WORK

Overtime, multiple shift, weekend and holiday work may be required to complete the work within the allotted

time on this calendar day contract. If it becomes necessary to perform any work after regular working hours, on Saturdays, Sundays, or legal holidays in order to bring the Contractor's work into conformance with the Contractor's Work Plan on Progress Schedule due to delays for which the Contractor is responsible, the overtime, weekend, or holiday work shall be performed by the Contractor at no additional cost to the Owner.

1.05 COORDINATION WITH OWNER PERSONNEL

The Contractor shall coordinate and cooperate with Owner personnel throughout the project as they visit the site.

END OF SECTION 01040

SECTION 01043

PROJECT ADMINISTRATION

1.01 DESCRIPTION

a. The work on this project will be subject to inspection by Owner's representative. No inspector, superintendent, or administrator is authorized to change any provisions of the specifications without written authorization of the Owner, nor shall the presence or absence of the inspector relieve the Contractor from any requirements of the contact.

b. The Owner may hire a Program Manager to act as their representative for the course of the project or program. The Program Manager will act as the single focal point for program coordination and contract administration, and provide quality monitoring and contract administration.

c. The Contractor shall adhere to the following procedures established by the Owner which include, but are not limited to, the following:

1. Prepare a daily construction report, acceptable to the Owner, recording the following information concerning events at the site; and submit copies to the Owner at weekly intervals:

   a) List of Subcontractors at the site.
   b) Approximate count of personnel at the site.
   c) Accidents and unusual events.
   d) Meetings and significant decisions.
   e) Stoppages, delays, shortages, losses, etc.
   f) Meter readings and similar recordings.
   g) General weather conditions, high & low temperatures.
   h) Emergency procedures.
   i) Orders and requests of governing authorities.
   j) Change Orders received, implemented.
   k) Services connected, disconnected.
   l) Equipment or system tests and start-ups.
   m) Partial Completions, occupancies.
   n) Substantial Completions authorized.

2. Be responsible for the quality of the work performed, and take primary responsibility and authority for quality control in accordance with these specifications.

3. Provide written advance notice to the Owner at least 3 working days prior to the start of work which requires testing as required by governing authorities and/or by these specifications.

4. Follow the field instructions issued by the Owner.

5. Prepare and submit Cost Proposals, review with the Owner and submit final proposed Change Order Requests in accordance with the procedures established by the Owner.

6. Submit Applications for Payment as required.

7. Submit claims in accordance with established procedures as outlined in the General and General Supplemental Conditions.

8. Coordinate the closeout of the project. Follow the procedures for closeout as established by the specifications.

9. Comply with the Owner's notices of noncompliance and utilize the notice of noncompliance form to notify when and how the work is in compliance.

10. Have subcontractors attend project meetings as requested by the Owner.

END OF SECTION 01043

SECTION 01050

FIELD ENGINEERING

1.01 FIELD MEASUREMENTS AND LAYOUTS

The Contractor shall be responsible for complete, timely and accurate field measurements as necessary for proper coordination, fabrication and installation of his materials and equipment. The Contractor agrees to cooperate with the Owner, if required, to accommodate any discovered variations or deviations from the Drawings and Specifications so that the progress of the work is not adversely effected.

The Contractor shall lay out and complete the work to the lines and grades indicated and specified.

The Contractor shall retain and pay expenses of a New Hampshire registered civil engineer or land surveyor to establish on the site, the required reference points and bench marks, establish building lines and elevations, check structural steel framework for plumpness the required basic grid lines from which work of other sections is to be laid out. Tolerances of various materials shall be coordinated.

The Contractor shall lay out his work from established base lines and benchmarks. The Contractor shall be responsible for all measurements therefrom. The Contractor shall furnish, at his own expense, all stakes, templates, platforms, equipment, tools, materials and labor as may be required in laying out any part of the work from the established base lines and benchmarks.

1.02 QUALIFICATIONS OF ENGINEER OR SURVEYOR

The Contractor's engineer or land surveyor shall be licensed in the State of New Hampshire and shall be acceptable to the Owner.

1.03 SURVEY REFERENCE POINTS

Existing basic horizontal and vertical control points for the Project are indicated on the plans.

The Contractor shall locate and protect control points prior to starting site work, and preserve permanent reference points during construction.

a. Make no changes or relocations without prior notice to the Owner.

b. Report to the Owner when a reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

c. Require the engineer or surveyor to replace control points which become lost or destroyed; base replacements on original survey control.

1.04 PROJECT SURVEY REQUIREMENTS

a. The Contractor shall establish lines and levels, locate and layout:

1. Site Improvements:

a) Stakes for fill placement.
b) Utility slopes and invert elevations.

2. Batter boards for structures.

3. Building foundations, column locations, and floor levels.

4. Controlling lines and levels required for mechanical and electrical work.

b. The Contractor shall verify layouts periodically.

1.05 RECORDS

The Contractor shall maintain a complete, accurate log of control, and survey work as it progresses.

On completion of foundation walls and major site improvements, including underground site utilities, the Contractor shall prepare a certified survey showing dimensions, locations, angles, and elevations of construction.

1.06 SUBMITTALS

The Contractor shall submit the following

a. Name and address of engineer or surveyor and his/her license number and expiration date.

b. Documentation to verify accuracy of field engineering work, upon request.

c. Submit a record of work performed and record survey data in latest version of AutoCAD®.

1.07 VERIFICATION OF LAYOUT

The Owner, at its discretion, may arrange to have the Contractor's grades, measurements, or levels checked and verified by an independent licensed surveyor. If they are found to be outside of allowable tolerances, the Contractor shall pay the cost of the checking or verification.

END OF SECTION 01050

SECTION 01090

REFERENCE STANDARDS

1.01 REFERENCE STANDARDS AND SPECIFICATIONS

Whenever reference standards and specifications published by technical societies, institutions, associations and governmental agencies, such as ASTM, ANSI, FS and the like are referenced in the specifications, the applicable edition shall be the latest date of issue as of the time the bids are received, except that issues listed in governing building code and regulations supersede the above requirements.

In case of conflict between referenced documents and Contract Documents, or between referenced documents, the one having more stringent requirements shall apply.

No provisions of any referenced standards or specifications (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the Owner, the Architect, their offices and the Contractor, or any of their consultants, agents or employees from those set forth in the Contract Documents.

Where copies of standards are needed for proper performance of the work, the Contractor shall obtain such copies directly from the publication source. Copies of specified standards shall be maintained at the job-site by the Contractor and made available for review on request by the Owner.

Where reference standard specifications require weather protection, it shall be provided by the Contractor at no additional cost to the Owner and shall be deemed necessary in order to construct the Project within the specified time period.

END OF SECTION 01090

SECTION 01092

ABBREVIATIONS

1.01 ABBREVIATIONS

The following is a partial list of construction industry standard organizations used in the Specifications:

AA	Aluminum Association
AIEE	American Institute of Electrical and Electronics Engineers
AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APA	American Plywood Association
APWA	American Public Works Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
BOCA	Building Officials Code
CDA	Copper Development Association
CS	U.S. Commercial Standards
CSI	Construction Specifications Institute
FAA	Federal Aviation Administration
FIA	Factory Insurance Association
FM	Factory Mutual
FS	Federal Specifications
ICC	International Code Council
MLMA	Metal Lath Manufacturers Association
MUSFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSS	Manufacturers Standardization Society
NAAMM	The National Association of Architectural Metal Manufacturers
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electric Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NHDOT	New Hampshire Department of Transportation
NLMA	National Lumber Manufacturer Association
NOAA	National Oceanic and Atmospheric Administration
PDI	Plumbing and Drainage Institute
PS	Product Standard
RSA	Revised Statutes Annotated (NH)
SDI	Steel Deck Institute
SDI	Steel Door Institute
SPR	Simplified Practice Recommendations, U.S. Dept. of Commerce
SSPC	Steel Structures Painting Council
UL	Underwriters' Laboratories, Inc.

END OF SECTION 01092

SECTION 01200

PROJECT MEETINGS

1.01 PRECONSTRUCTION CONFERENCE

a. Prior to commencement of the work, the Contractor will be required to attend a preconstruction meeting at a time and a place selected by the Owner, to discuss procedures to be followed during the course of the work. The Contractor shall follow the procedures as set forth by the Owner.

b. The purpose of the pre-Construction meeting will be to introduce the Owner's and Architect's / Engineer's key personnel and to review the contract provisions, project procedures, and any other items pertaining to the project.

c. Attending shall be:

1. The Owner's Representatives
2. The Contractor
3. The Contractor's Superintendent
4. The Contractor's Project Manager
5. Contractor's Quality Control Representative
6. Representatives of the major subcontractors
7. Others as appropriate

d. At the preconstruction conference, the Owner will outline the procedures for payment, requests for information, change orders, disputes, submittals, quality control, testing, Contractor's reports, safety, field instructions, meetings, and job closeout. Contractor shall follow procedures provided at the meeting.

1.02 WEEKLY PROGRESS MEETINGS

a. Once a week, on an agreed upon day and time, the Owner will conduct a progress meeting to review the progress and the status of the work, and to discuss any problems that may arise. The Contractor shall attend all weekly progress meetings. Subcontractor's and vendors' representatives shall attend the progress meetings at the discretion of the Owner, or as appropriate to the particular stage of the work.

b. Weekly Progress Meetings will be held at the Owner's office located 6 Industrial Drive, Suite 2, Londonderry, NH.

c. Attending shall be:

1. The Owner's Representatives
2. The Contractor
3. The Contractor's Superintendent
4. The Contractor's Project Manager
5. Representatives of the major subcontractors
6. Others as appropriate

d. The Contractor shall provide the Owner at least a day before the Progress Meeting, a three-week rolling schedule indicating the past week, current week, and the upcoming week at the weekly Meeting. The schedule will be provided in a bar chart form with information derived from the project CPM schedule, The schedule will include an item designation, activity

description, start and finish dates (both scheduled and actual), a time scaled bar chart for each activity, and a remarks section. In addition, each activity will be coded to note those activities on the critical path and those activities which are behind schedule. At the meeting, the Contractor will provide a verbal status utilizing the three week schedule indicating the progress to date and the forecast for completion.

e. Meeting notes will be recorded and distributed to the meeting attendees by the Owner. Attendees taking exception to anything in the meeting notes shall state their objections in writing, within 5 working days following the receipt of the notes.

f. Contractors are to submit at the biweekly or weekly progress meetings, a sheet listing work done last week/two weeks and work proposed for the next week/two weeks, along with a CPM schedule identifying all work proposed for the next week/two weeks.

1.03 MONTHLY PROGRESS MEETINGS

a. Each month the Contractor is required to take part in a schedule update and progress payment meeting with the Owner to agree on the percentage of the work completed up to the last working day of the current month and establishes an amount to be requested in the Application for Payment. (Section 01310-Progress Schedule, Section 00765 - Measurement and Payment) This meeting may be combined with the weekly meeting.

b. Monthly Progress meetings will be held at the Owner's office on or near the tenth of the month.

c. Attending shall be:

1. The Owner
2. The Contractor
3. Subcontractors as required

d. The Contractor shall bring to the meeting, an itemized draft of the month's proposed billing for review with the Owner. For subcontracts in excess of $10,000, the Contractor shall break down line items as to the cost of the material and the labor.

e. Following review of the proposed billing, the Contractor shall prepare an Application for Payment and submit it to the Owner not later than the fifteenth of each month.

1.04 SPECIAL MEETINGS

From time to time as required by job conditions, the Owner may call special meetings among the representatives of the Contractor, subcontractors, and the Architect to discuss particular situations or problems which may arise. The Contractor and his/her subcontractors and/or suppliers, as appropriate, will be expected to attend.

1.05 CONTRACTOR MEETINGS

This Section does not limit meetings among the Contractor, subcontractors and others as the Contractor deems necessary. The Owner may attend the Contractor/subcontractor meeting.

1.06 SCHEDULE APPROVAL MEETINGS

Prior to approval of the CPM schedule, the Owner may require that the Contractor and his/her subcontractors attend meetings to ascertain information for approval of the CPM schedule. This information may include,

but will not be limited to, productivity, manpower loading, activity durations, logic, cost loading, etc. The location will be at the Owner's office. Attending will be the Owner, the Contractor, subcontractors as appropriate, suppliers as appropriate, others as appropriate.

1.07 OTHER REQUIRED MEETINGS

a. Thirty days prior to the estimated final completion, the Contractor shall hold a meeting to review outstanding punch list items, maintenance manuals, guarantees, close out submittals, bonds, and service contracts for materials and equipment. Implement repair and replacement of defective items, and extend service and maintenance contracts as desired by the Owner.

b. Location shall be the Owner’s office located at 6 Industrial Drive, Suite 2, Londonderry, NH.

c. Attending shall be:

1. The Owner
2. The Contractor
3. Subcontractors, as appropriate
4. Suppliers, as appropriate
5. Others, as appropriate

END OF SECTION 01200

SECTION 01300

SUBMITTALS

1.01 DESCRIPTION

This Section describes the requirements for the submission of a submittal schedule, shop drawings, product data, samples and other items as specified. (Submittals shall be made through the Owner, minimum of seven (7) copies to the owner for review.) A minimum of seven (7) copies of submittals shall be provided to the Owner for the Owner's review. Other miscellaneous submittals include, but are not limited to, bonds, warranties, guarantees, maintenance agreements, project photographs, survey data and reports, quality testing and certifications, copies of industry standards (if requested), record drawings, operating and maintenance manuals and materials, engineer's calculations and keys.

1.02 SCHEDULE OF SUBMITTALS

a. The Contractor shall submit a comprehensive and complete Submittal Schedule within (10) calendar days after the notice to proceed.

b. The schedule shall identify all of the submittal items required by the Contract Documents governing the work.

c. For each submittal item on the schedule, the following shall be indicated:

1. The specification reference number.
2. A place for a submittal number to be assigned by the Contractor.
3. The date by which that item will be submitted.
4. Whether the submittal is for review or for the record.
5. The date by which the submittal is required to be returned to the Contractor.
6. The date by which the material or equipment must be on the site so as not to delay the progress of the work.
7. Description of the submittal.
8. Name, address, and phone number of sub consultants and suppliers.

d. In preparing the submittal schedule, the Contractor shall consider the nature and complexity of each submittal item and allow ample time for review, revision, correction, re-submittal, and approval sufficiently in advance of the construction requirements.

1. Allow at least fourteen (14) calendar days for review of each submittal or resubmittal by the Owner unless otherwise indicated.
2. Allow at least thirty (30) calendar days for review of complex submittals and resubmittals.
3. No claim for delay will be granted to the Contractor when the delay is caused by failure to make submittals in a timely manner and in accordance with the accepted Submittal Schedule.
4. Allow adequate time beyond the required review time for processing and distribution of each submittal or resubmittal.

e. The submittals shall be in sequence with the schedule for work except as required for products known to require long lead time. For submittals of items requiring long lead time, submit written verification of the required lead time from the supplier.

f. The Submittal Schedule shall be considered a part of the Progress Schedule required under Section 01310.

g. At weekly progress meetings, the Contractor shall submit a detailed, updated and accurate schedule of anticipated submittals for the next three week time period for review by the Owner. In addition, a list of those submittals which have been provided since the last weekly meeting, submittals which have been returned since the last weekly meeting, any submittals which are overdue as compared to the requested return date, and a current list of all submittals and resubmittals shall be submitted.

h. To the greatest extent possible, the Contractor shall make single submissions covering the entire work of individual Specification Sections. Partial or 'phased' submittals for work of the same Section will not be reviewed unless prior written approval is obtained from the Owner.

i. Fifteen (15) days after notice to proceed, the Contractor shall provide a listing to the Owner of all administrative submittals required by the Contract, including such items as the Work Plan, CPM schedule, submittal schedule, etc. It will include a description of the item to be provided and the number of days after notice to proceed for submission.

j. All submittals related to interior finish selections shall be delivered as a single, comprehensive package in order to allow for a simultaneous and comparative review.

1.03 SUBMITTAL TRANSMITTAL FORM AND SUBMITTAL REQUIREMENTS

The Contractor shall include in each transmittal the following information and forward to the Owner an accompanying transmittal.

a. The number of the submittal. (Para. 1.04)
b. The date of the submittal.
c. The Contractor's name.
d. The subcontractor's name.
e. The Project name.
f. The Project number.
g. The Specification Section.
h. The Drawing reference.
i. On the transmittal record, note the date sent and the requested due date from the Owner.
j. Note the quantity and type of submittal.
k. Note the Drawing/item, date, and description of the submittal.
l. Note any deviations from the Contract Documents.
m. The Contractor's certification review of the submittal and compliance with the requirements of the Contract Documents.
n. Field dimensions identified as such.
o. Any other pertinent information.
p. All attachments to the transmittal record will be identified with the submittal number.

1.04 SUBMITTAL NUMBERING SYSTEM

Submittals shall be numbered sequentially by specification section. Resubmittals shall be followed by " -1",'-2",'-3" etc. as necessary for each resubmission. For example, the first submittal regarding Section 14261 will be "14261-001". The second submittal in that section shall be 14261-002". The first resubmittal of 14261-002" will be 14261-002-01."

1.05 CONTRACTOR'S RESPONSIBILITIES

a. The Contractor shall maintain a log of submittals showing the submittal number, description, specification section, schedule submittal date, date to the Owner, requested due date, date received from Owner, submittal review action code, and comments. The Contractor shall submit a current copy of the submittal log each month.

b. The following information shall be included, where applicable:

1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
5. Relation to adjacent structure or materials.
6. Field dimensions, clearly identified as such.
7. Applicable standards, such as ASTM numbers.
8. A 4" x 4" blank space for the Architect's stamp.
9. Notes identifying deviations from the Contract documents.
10. “Clouds” on resubmittals showing revised areas.

c. The Contractor shall submit drawings and samples in accordance with the approved schedule of submittal dates.

d. The Owner shall be notified in writing, at the time of submission, of deviations in submittals from the requirements of the Contract Documents. The Contractor's responsibility for deviations in submittals shall not be relieved by the Owner's review of the submittals, unless the Owner gives written acceptance of specific deviations. No changes should be made without an approved Change Order. (Section 01035 CHANGE ORDER PROCEDURES)

e. The Contractor shall indicate by signed stamp that the submittal has been thoroughly checked and that it is in strict accordance with the contract requirements.

f. The Contractor's responsibility for errors and omissions in the submittals shall not be relieved by the Owner's review.

g. The Contractor shall be responsible for the accuracy of the submittals and for the proper fitting, verification of dimension, verification of quantities, construction of the work, furnishing of materials, and work required by the Contract Documents but not indicated on the submittals.

h. Submission of shop drawings, calculations, product data, etc. in either original submission or when resubmitted with corrections, constitutes evidence that the Contractor has checked all information thereon, and that he/she accepts and is willing to perform the work as shown, in a workmanlike manner, and in accordance with the best standard practice.

i. The Contractor shall not submit drawings, samples, or data for products that have not been specified unless such products have been formally approved as a substitute. (Section 01630 PRODUCT OPTIONS AND SUBSTITUTIONS)

j. No work which requires submittals shall begin until such submittals have been reviewed by the Owner and returned to the Contractor.

k. The Contractor shall notify the Owner immediately if he/she considers any comments, notations, instructions, notes, etc. applied to the submittals by the Owner to be a change to

the contract requirements. The Contractor shall initiate an RFI (Request for Information) identifying the scope of the work which they consider to be a change to the contract requirements. The RFI will be submitted in accordance with the IR processing requirements contained within the Specification.

l. The Contractor shall perform no portion of the work requiring submittal until such submittal is made to the Owner and the review process is completed.

1.06 OWNER'S RESPONSIBILITIES

a. The Owner will review submittals with reasonable promptness as defined below for design concept and compliance with the Contract Documents.

b. The Owner's review of the shop drawings will be for general conformance with design conditions only and will not relieve the Contractor of his/her responsibility for quantity, fit, dimensions, coordination and full compliance with all of the Contract documents.

c. The Owner reserves the right to reject submittals which, in its opinion, are incomplete and/or lack sufficient information to enable them to accomplish a thorough review.

d. The Owner may reject resubmittals which do not clearly indicate where revisions have been made to the original submittal.

e. The Owner will reject submittals for product which have not been specified unless such products have been formally approved as acceptable substitutes. (Section 01630 PRODUCT OPTIONS AND SUBSTITUTIONS)

f. The Owner's review of the submittals shall not be construed as approving departures from the Contract requirements.

g. The Owner's review of the submittals shall not relieve the Contractor from responsibility for any violation, indicated on such submittals, of local, City, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or public utilities having jurisdiction.

h. The Owner's review of separate items does not constitute review of an assembly in which the item functions.

1.07 RESUBMISSION REQUIREMENTS

a. Shop drawings:

1. The Contractor shall revise initial shop drawings as required.
2. Areas of the revision shall be indicated by drawing a □cloud□ around the revised areas and identify revisions by a revision number and date. The Owner's review of a resubmission shall not constitute acceptance of any changes not specifically requested on the prior submission.

b. Product data and samples:

1. New data and samples shall be submitted as required for initial submittal.

1.08 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

a. The Contractor shall distribute copies of submittals which carry the Owner's consultant's stamp to:

1. The Contractor's project site file and the project record file.
2. Subcontractors as appropriate.
3. Others as appropriate.

END OF SECTION 01300

SECTION 01310

PROGRESS SCHEDULE

1.01 DESCRIPTION

a. The Contractor shall prepare, maintain and update detailed progress schedules. The schedules shall be a true and accurate representation of the contract's work plan and shall accurately reflect and report the actual performance and progress of the work.

b. The Contractor's attention is specifically directed to the fact that submission and approval of Interim and Contract CPM Progress Schedules as well as CPM Progress Schedule updates, are required in order for the Owner to certify the approximate amount of work performed and compensation earned by the Contractor. (Section 00765, Measurement and Payment)

1.02 REQUIREMENTS

a. The Contractor shall submit a complete computer-generated project CPM Project Schedule. This *Baseline* Schedule shall reflect the contractor's projected plan and schedule to compete all work within contract time specified.

b. Schedule submittals are subject to review and acceptance by the Owner. The Owner retains the right to withhold progress payments until the Contractor submits a Progress Schedule acceptable to the Owner.

c. The Contractor shall submit monthly progress review and update of the schedule as basis of each progress payment (Section 00765, Measurement and Payment).

d. A computer scheduling system shall be utilized for producing CPM Progress Schedule drawings and network reports. The preferred scheduling software shall be MS Project Primavera or equal compatible, and approved, software.

e. Where system testing is required in no case shall more than 90-percent of the value be paid prior to the system passing all applicable tests.

f. Mobilization activities shall include any costs necessary for the Contractor to set-up operations on-site, including but not be limited to: bonds, permits, field office, utilities, equipment, insurance, and storage trailers.

g. At the head of the schedule, provide a two item cost correlation line indicating "Pre calculated" and "Actual" costs. On the line, show dollar - volume of work performed as of the dates used for preparation of payment applications.

1.03 PREPARATION GUIDELINES

a. The Progress Schedule shall represent a practical plan to complete the work within the Contract time for completion. The Progress Schedule shall be consistent in every way with the Contractor's Work Plan submitted previously.

1. A schedule extending beyond the Contract time will not be acceptable.

2. A schedule showing the work completed in less than the Contract time may be found by the Owner to be impractical.

3. A schedule found to be impractical for the preceding reason or any other reason shall be revised by the Contractor and resubmitted.

4. A schedule showing the work completed in less than the Contract time, which is found to be practical by the Owner, shall be considered to have float. The float is the time between the scheduled completion of the work and Contract completion date. Float is a resource available to both the Owner and the Contractor.

5. Approval of the Contractor's schedule if based on less time than the maximum time allowed does not serve to change the specified time of completion, nor serve as a waiver of the Contractor's nor the Owner's right to the full amount of time specified as the time of completion, unless the time of completion is changed by a formal change order to this contract.

6. The Contractor's Progress schedule shall be formulated with written allowance for adverse weather conditions normally anticipated. The Contract time has been predicated assuming a normal amount of adverse weather. The weather days will be calculated utilizing NOAA data for the local area and will be based on a ten year average for the number of days per month for which rainfall is greater than ½ of one inch. The Contractor will provide copies of the NOAA data and the summation of the number of weather days per month to the Owner with the CPM schedule. The weather days shall be shown on the schedule.

7. Not less than 20-calendar days will be established prior to completion for punch list completion and cleanup.

8. No more than 15-percent of the activities shall be critical or near critical. Near critical is defined as float in the range of 1 to 10 workdays.

9. No activity shall have duration greater than 15 days.

b. The Progress Schedule shall clearly show the sequence and interdependence of construction activities and shall specifically as a minimum indicate:

1. The start and completion of all items of work, their major components, and interim milestone completion dates, if any.

2. Activities for procurement, delivery, installation and completion of each major piece of equipment, materials, and other supplies, including:

a) Time for submittals, resubmittals, and reviews.
b) Time for fabrication and delivery of manufactured products for the work.
c) The interdependence of procurement and construction activities.

3. Items related to action by others (Owner, regulatory agencies, other contractors) that may cause interference or be required to be completed by other before Work can start or finish.

c. The schedule shall:

1. Be in sufficient detail to assure adequate planning and execution of the work. Activities should generally range in duration from 3- to 15-work days each. Except for procurement items which shall have a duration which starts with approval of shop drawings and ends with delivery to construction site.

2. Be suitable, in the judgment of the Owner, to allow monitoring and evaluation of progress in the performance of the work.

3. Show detailed subcontractor work activities. The General Contractor will provide a schedule for all subcontractor/ general contractor CPM schedule meetings which are to be held prior to the submission of the CPM schedule to the Owner. The Owner will be allowed to attend the scheduled sessions as an observer. In addition to the general contractor / subcontractor meetings, the Owner may require Contractor and Subcontractors to attend scheduled development meetings to ascertain information for approval of the CPM schedule.

4. Be calendar time-scaled in the form of an activities-on-arrow network diagram:

   a) The activities shall include:

      (1) Description; what is to be accomplished and where.
      (2) Calendar day duration.
      (3) Responsibility code; identifiers who performs the activity. One per activity.

   b) The network shall show continuous flow from left to right.

5. Identify days per week and hours/shifts per day that Contractor intends to work.

6. Include time for the Owner to review submittals (14 calendar days) or observe the work.

7. Identify the activities which constitute the controlling operations or critical path.

8. Include activities for start up and testing of equipment and/or systems, completion of punch list items and demobilization.

d. Submittal of the Progress Schedule shall be understood to be the Contractor's representation that the schedule meets the requirements of the Contract Documents and that work will be executed in the sequence indicated on the schedule. The Contractor shall distribute progress schedule to subcontractors for review and acceptance which will be noted on the subcontractor's letterhead to the General Contractor and transmitted to the Owner for the record.

1.04 SCHEDULE OF SUBMITTALS

a. Within 15-days after the Notice to Proceed, the Contractor shall provide the Owner with the complete Contract CPM Progress Schedule.

b. Within 30-days after Notice to Proceed, the Contractor shall provide to the Owner copies of a project calendar delineating days and hours of work and holidays included in the schedule.

c. Not later than the last day of each month thereafter during duration of project, the Contractor shall provide the Owner with copies of an updated schedule showing work progress. Submittal of the updated schedule shall be attached with the request for payment and will be a condition of monthly payment (Section 00765: Measurement and Payment)

d. An updated schedule shall be prepared and submitted each month and shall include as a

minimum the following:

1. Approved changes to Contract.
2. Any "slippage" due to procurement delays, rain, strikes and other delays.
3. Changes in activity sequencing or duration as modified from previous submittals.

e. Copies of all subcontractor's schedules as submitted to the General Contractor shall be provided as a backup for the CPM.

1.05 FORM OF SUBMITTAL

a. All schedule submittals shall include seven (7) copies of the submittal report and seven (7) copies of the CPM network diagram. In addition, the Contractor shall submit the schedule on floppy data disk or on a CD.

b. Costs for preparation and reproduction of all schedule submittals shall be borne by the Contractor. Contractor is presumed to have allocated such costs to the bid items he/she deemed most appropriate.

c. Specifically, all schedule submittals shall consist of a computer-generated, time-scaled detailed graphic network diagram; a detailed narrative report; a current activity tabulation report; schedule activity analysis reports.

1. The activity tabulation report generated by the current computerized schedule shall include a tabulation of each activity. The following information shall be furnished as a minimum for each activity or work items:

a) Preceding and succeeding event numbers.
b) Activity description and number.
c) Estimated current duration of each activity.
d) Earliest start date (by calendar date).
e) Earliest finish date (by calendar date).
f) Latest start date (by calendar date).
g) Latest finish date (by calendar date).
h) Scheduled float.
i) Percentage of activity completed, or number of working days remaining (for updates only).
j) Actual start date (by calendar date) (for updates only).
k) Actual finish date (by calendar date) (for updates only).

2. The computer-generated mathematical analysis reports shall be consistent with the information shown on the detailed graphic network diagram. The computer generated mathematical analysis reports shall include the following:

a) A network report sorted by early start.

(1) A network report sorted by total float.
(2) A network logic report indicating the preceding and succeeding activities.
(3) A six (6) week look ahead schedule based on early start sort.

3. The detailed narrative report shall include a summary of progress this period; describe any special problems (with proposed solutions) or assumptions underlying the CPM schedule. The report shall also include a tabulation of all activities

completed or partially completed, a discussion of all activities added or deleted, or change in either logic and/or duration during the report period. The report shall state the percentage of the work actually completed as of the report date, and the progress along the critical path in terms of days ahead or behind the allowable dates.

1.06 ANALYSIS AND UPDATING OF THE SCHEDULE

a. The Contractor is responsible for accuracy of the information contained in the schedule reports including the computerized CPM, and subsequent updates of the CPM. The Owner ads as a data monitoring agent only for this information. The Owner will not produce computerized CPM schedule drawings. Producing computerized CPM schedule drawings and revisions to schedule drawings is the responsibility of the Contractor.

b. Once each month, the Contractor shall participate with the Owner in a schedule review to update the activity progress.

c. As part of the detailed analysis the Contractor shall discuss any planned changes in the work, planned restraints, logic, sequence or timing of work shall be submitted in a written revision to any impacted portion of the progress schedule for the Authorities approval. Upon approval, the Contractor shall revise the computerized progress schedule in the next scheduled update.

d. If, according to the updated CPM schedule, the Contractor is behind the milestone completion date(s) (Section 00500), considering all approved time extensions, the Contractor shall submit a recovery schedule (Section 01310-1.07) showing a workable plan to complete the Project on time. The Owner may assess interim withholds pursuant to Section 00765: Measurement and Payments.

e. Scheduling of approved changes is the responsibility of the Contractor. The Contractor shall revise the schedule drawing to incorporate all activities involved in completing the change orders and submit it to the Owner for review and approval.

f. If the Owner finds the Contractor is entitled to an extension of the completion date under the provisions of the Contract, the Owner's determination of the total number of days extension will be based upon the current analysis of the schedule and upon the data relevant to the extension.

g. The Contractor acknowledges and agrees that delays to non critical activities (those with float), will not be the basis for a time extension. Non-critical activities are those activities which, when delayed, do not affect the final Contract completion date.

1.07 RECOVERY SCHEDULE

a. Where the Contractor is 7 days behind schedule the Contractor shall submit a written recovery schedule indicating how the Contractor intends to bring the Work back on schedule within the next 45 day period.

b. Such recovery schedule shall be submitted within 7 days of submission of a current progress schedule which indicates a 7 or more days delay.

c. The recovery schedule shall indicate any proposed adjustment to labor hours, work hours, sequencing of Work activities and/or any other approach to the construction in order to accomplish recovery of lost rime or to overcome a specific obstacle or obstacles that would otherwise hold up Work.

d. Should the contractor fail to submit and implement such a recovery schedule the Owner may assess interim withholds. (Section 00765, para 1.09)

1.08 LIQUIDATED DAMAGES

a. Failure to meet the dates for Contract milestone completion will result in the assessment of liquidated damages as provided in Section 00840 LIQUIDATED DAMAGES AND EXTENSIONS.

1.09 OWNER'S APPROVAL OF CPM PROGRESS SCHEDULE

a. Neither the acceptance, review or approval of any CPM Progress Schedule or other data submitted by the Contractor pursuant to this Section, nor any other action on the part of the Owner under this Section shall in any way be deemed as a representation by the Owner that the Contract can or will be permitted to follow a particular schedule or sequence of operations or that by following any such schedule or sequence he/she can or will complete the Work by the time(s) required by the Contract or by any other time(s). Nor shall the approval of any CPM progress Schedule or other such data relieve the Contractor of his/her obligation to complete the Contract by the time(s) required in the Contact, even though such CPM Progress Schedule approved may be inconsistent with such completion.

b. Any approval under this Section shall be construed merely to mean that the Owner knew of no good reason at that time to object thereto. No acceptance, review or approval any other action under this Section shall limit, affect or impair the Contractor's obligation to perform all Work by time(s) required by the Contract and in accordance with all other provisions of the Contract.

1.10 PERFORMANCE OF WORK

a. The performance of the Work by the time(s) required in the Contract after taking into account extensions to which the Contractor may be entitled may require the use by the Contractor of overtime labor, additional shifts or additional plant and equipment and/or other measures. In any event, the Contractor shall anticipate, avoid and mitigate the effects of all delays, whether or not such delays involve activities with float. The Owner shall have the right at any time when in their judgment the Work is not proceeding in accordance with the approved CPM Progress Schedule or at any time when it is likely that the Work might not be completed by the time(s) required in the Contract even though the Contractor is proceeding in accordance with the approved CPM Progress Schedule, to order the Contractor without additional compensation, to employ additional shifts to increase the number of field staff employed, to use additional plant or equipment, or to take such other steps as may be necessary or required to assure the completion of the various operations within the time(s) allotted therefore in the approved schedule or by the aforesaid completion time(s).

b. No action on the part of the Contractor pursuant to this Section shall be construed as request by him/her for an extension of the time(s) for completion required by the Contract. A request for an extension of time shall be deemed made only if it complies with the requirements of Section 00840 LIQUIDATED DAMAGES AND EXTENSIONS. No extension of the time(s) for completion shall be inferred because of any action, omission to act, or statement on behalf of the Owner pursuant to this Section.

END OF SECTION 01310

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

1.01 SHOP DRAWINGS

a. Submit to the Owner no fewer than eight (8) copies of blueline or blackline prints of each shop drawing. Sepias shall be submitted without folds.

b. The sheet size of shop drawings shall not exceed 30" x 42".

c. Each shop drawing shall have blank spaces large enough to accept 4" x 4" review stamps of the Contractor, the Owner or the Owner's consultants.

d. Shop drawings shall include plans, sections, and details including complete information for making connections with other work and any other information necessary to adequately describe the unit of work.

e. Materials and finishes shall be clearly identified and, where applicable, specification section numbers shall be included as reference.

f. Identify details by reference to sheet and detail numbers shown on the Contract Documents.

g. Identify applicable standards, such as ASTM numbers, Federal or State Specification numbers on the drawings.

h. Identify deviations from the Contract Documents.

1.02 PRODUCT DATA

a. Submit no fewer than seven (7) copies of manufacturer's catalog cuts, brochures, diagrams, schedules, performance charts, illustrations, and other descriptive data as required by the Specification Sections. When manufacturer's printed literature is required to be submitted it shall be submitted in original form. Heat transfer or other impermanent reproduction method or fading type of reproduction will not be accepted - Make one coordinated submittal for each unit of work of system. Three (3) copies will be returned to the Contractor.

b. Mark the manufacturer's data to clearly indicate the items to be included as a part of the work. Product data submitted with multiple items and no clear indication as to which item is to be used in the work will be returned to the Contractor without being reviewed.

c. Submit manufacturer's standard printed recommendations for application and use. Supplement standard information to provide additional information applicable to the Project.

d. Include dimensions and clearances required. Indicate field dimensions which have been checked and verified.

e. Show performance characteristics and capacities.

f. Show wiring diagrams and controls.

g. Review product data prior to submission to the Owner. Stamp and sign each submittal to

indicate that the Contractor has reviewed the submittal for compliance with the Drawings and Specifications.

1.03 SAMPLES

a. The purpose of sample installations shall be to clearly establish standards of quality for the project prior to proceeding with the work. The Contractor shall construct, prepare, or otherwise provide samples/sample installations as directed by the Owner. All costs related to providing, maintaining and removing required samples shall be paid by the Contractor.

b. Submit four (4) samples as specified. Unless otherwise specified, samples shall be of sufficient size and quantity to clearly indicate:

   1. Functional characteristics of the product or material, with integrally related parts and attachment devices.
   2. Full range of color samples.

c. Requirements for field samples and mockups:

   1. Erect at site in locations acceptable to the Owner.
   2. Construct each mockup or field sample; include all items required in the finish work.
   3. Mockups or field samples shall remain in place until the work it represents has been completed and accepted by the Owner.

d. Label each sample to indicate the name of the Project, Contractor, manufacturer, brand, quarry, job number, and Federal Specification or ASTM number, where applicable.

e. Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than three units) where unavoidable variations may be expected, and describe or identify the variations between units of each set. Provide full set of optional samples where Owner's selection is required.

f. Prepare samples to match the Owner's samples where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliances with standards. Submit samples for the Owner's review and conformation of color, pattern, and texture.

g. After a sample has been accepted, no change in brand or manufacturer will be permitted unless satisfactory written evidence is presented to, and accepted by the Owner, that the manufacturer cannot make scheduled delivery of the accepted material, or that the material delivered has been rejected and substitution of suitable material is an urgent necessity.

h. Maintain returned final set of samples at project site, properly protected and in suitable condition and available for quality control comparisons by the Owner and others. Quality control set shall serve as the basis for comparison for following work, and shall establish the standard of color, pattern, texture, workmanship, and other qualities as applicable.

i. Returned samples which are intended or permitted to be incorporated in the work are so indicated in individual sections, but must be undamaged at the time of use.

j. Where colors are specified or described by the Owner to match a manufacturer's standard paint color number, secure sample color chips of sufficient size from the manufacturer and

prepare matching samples for review by the Owner.

END OF SECTION 01340

SECTION 01360

QUALITY CONTROL SUBMITTALS

1.01 CALCULATIONS

a. Where calculations are required by the specifications, they shall be prepared by a New Hampshire registered professional engineer who shall sign and stamp the submittal prior to submission to the Owner.

b. Submit five (5) copies of required calculations for the record only. The Owner will not be responsible for checking calculations.

c. Indicate all formulas and criteria used in the preparation of calculations.

d. Submit calculations on 8-1/2" x 11" sheets only with the following information on each sheet:

1. The name and address of the engineer.
2. The license number, stamp and signature of the engineer.
3. The project name and address.
4. The Contractor's name and address.

END OF SECTION 01360

SECTION 01380

CONSTRUCTION PHOTOGRAPHS

1.01 QUALITY ASSURANCE

a. The Contractor shall secure the services of a professional photographer who is skilled and experienced in construction photography and whose work samples are acceptable to the Owner.

b. The Contractor shall not replace the photographer without the Owner's written approval.

1.02 SUBMITTALS

a. The Contractor shall comply with pertinent provisions of Section 01340 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

b. Except as otherwise directed and paid for, the Contractor shall furnish photographs of the project, the views shall be as directed or approved by the Resident Engineer. The photographs shall show the project site prior to construction, the work in progress and the project site at the completion of work.

A minimum of 24 color photographs will be taken during each 30 day period of the contract. A 35 mm camera shall be used to take photographs.

c. On the back of each print *attach a printed label*, in a manner not damaging to the print, showing:

1. Job name;
2. *A descriptive* location from which photographed;
3. Date of photograph;
4. Photographer's name, address and photograph number.

c. At the completion of each 30-day period of the project, the Contractor shall deliver to the Owner two color prints of each view and the negatives, by a date stipulated by the Owner.

e. The Contractor shall not permit prints to be issued for any other purpose without specific written approval from the Owner.

2.01 CONSTRUCTION PHOTOGRAPHY

a. Aerial Photographs

1. The contractor shall furnish six (6) color aerial photographs of the entire airport, including all airport boundaries, I-293 on the north, the F.E. Everett Turnpike on the west, Route 28 on the east, and Delta Drive on the south. This photograph shall be taken with a mapping quality (cartographic) camera. The contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. The photo shall be vertical and shall be enlarged to 1" = 400'.

2. The contractor shall furnish six (6) color aerial photographs of the entire airport, including all airport boundaries, North Perimeter Road on the north, Brown Avenue on the west, Harvey Road on the east, and South Perimeter Road on the south. This

photograph shall be taken with a mapping quality (cartographic) camera. The contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. The photo shall be vertical and shall be enlarged to 1" = 200'.

3. Snow cover will not be permitted. Photos shall not be obscured by cloud cover. Photos shall be clear, in focus, with high resolution and sharpness. Color shall be correct; overly green or washed out photos will not be accepted. The Contractor shall submit to the Owner, contact prints of the photograph for approval prior to making enlargements. Enlargements shall be mounted on gaterboard and shall be identified on the back of the gaterboard. Photos shall be suitable for photogrammetric mapping.

4. Aerial photographs shall be taken at the time, during the progress of the contract, directed by the Owner. This time shall not be less than 30 days prior to final completion.

5. *The Contractor shall furnish a scanned image of the aerial photo electronically on a CD, as specified by the Owner.*

b. Site Photographs

1. To the maximum extent practicable, the photographer shall take photographs at approximately the same time of day throughout the progress of the work.

2. When inclement weather is anticipated, the Contractor shall consult with the Owner to determine acceptable alternative arrangements.

3. Each photograph shall be clear, in focus, with high resolution and sharpness, and with minimum distortion.

4. The Owner may/will direct the Contractor to change locations as the construction progresses.

5. The Owner will select the locations to provide diversified overall views of the work, from positions which are expected to remain accessible throughout progress of the work.

6. The Contractor shall identify each location by word description, by marked drawing, or by such other means as acceptable to the Owner, to enable future photographs to be taken from the same position.

END OF SECTION 01380

SECTION 01400

QUALITY CONTROL

1.01 GENERAL

a. When the specification requires a Contractor Quality Control Program, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

b. The intent of this section is to enable the Contractor to establish a necessary level of control that will:

1. Adequately provide for the production of acceptable quality materials.

2. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.

3. Allow the Contractor as much latitude as possible to develop his or her own standard of control.

c. The Contractor shall be prepared to discuss and present, at the preconstruction conference, his/her understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

d. The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

1.02 OWNER'S DUTIES AND RESPONSIBILITIES

The Owner has the right, but not the duty to monitor and inspect all work performed by the Contractor to insure performance of the work to the Contract Drawings and Specifications. All work shall be subject to inspection and test by the Owner at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Owner and shall not relieve the Contractor of responsibility for providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Owner shall be construed as constituting or implying acceptance.

1.03 CONTRACTOR'S DUTIES AND RESPONSIBILITIES

a. The Contractor is responsible for the quality of the work performed under this Contract as well as the quality of the material, equipment, and supplies furnished by him/her to be incorporated into the work.

b. The Contractor shall designate a Quality Control Representative who will be on-site at all times while the respective Contractor's work is in progress and will have the authority and

responsibility to accept or reject items of work. The Contractor's Quality Control Representative may delegate his/her duties but the primary responsibility and authority rest in him/her.

c. The Contractor's Quality Control Representative shall coordinate the submittal of all shop drawings, product data and samples to the Owner. Any submittal that is a change to the Contract requirements shall be identified as such and transmitted to the Owner. No work requiring submittal of a shop drawing, product data or sample shall be commenced until the submittal has been reviewed and accepted by the Owner.

d. Where the Owner chooses to test any materials or equipment, the Contractor shall cooperate with the Owner's material testing laboratory. The Contractor shall notify the Owner when any material or equipment is in place in accordance with the Contract Documents and ready for testing or inspection.

e. The Contractor shall notify the Owner two working days prior to when testing/inspection is required. The Contractor will request all tests and inspections in accordance with the Owner's request and approval for testing services procedures on the form supplied by the Owner. The Contractor will not contact the testing firms directly.

f. The Contractor's Quality Control Representative shall review his/her drawings, procurement documents and Contracts to insure that the technical information provided and all work performed is in accordance with latest revisions of the Contract Drawings and Specifications.

g. The Contractor's Quality Control Representative shall perform an inspection upon receipt at the site of all materials, equipment and supplies. Items which are damaged or not in conformance with the respective submittals, quality standards, Contract Drawings and Specifications will be identified and segregated from accepted items. Items thus identified shall not be incorporated into the work until corrective action acceptable to the Owner is completed. Items determined unsalvageable will be removed from the job site.

h. The Contractor will establish a performance testing plan for all equipment and systems for mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware. The testing plan will include test and report forms for each type of application and will be approved by the Owner. The performance testing of each equipment and system will be documented and approved by the Owner. Copies of the approved performance tests will be required for project closeout. (Section 01700 and section 01730)

1.04 DESCRIPTION OF PROGRAM

The Contractor shall establish a Quality Control Program to perform inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable specifications and plans with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of quality control.

The Contractor shall describe the Quality Control Program in a written document that shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least 7 calendar days before the preconstruction conference.

The Quality Control Program shall be organized to address, as a minimum, the following items:

a. Quality control organization;

b. Project progress schedule;

c. Submittals schedule;

d. Inspection requirements;

e. Quality control testing plan;

f. Documentation of quality control activities; and

g. Requirements for corrective action when quality control and/or acceptance criteria are not met.

The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

1.05 QUALITY CONTROL ORGANIZATION

The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of paragraph 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The quality control organization shall consist of the following minimum personnel:

a. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of 5 years of experience in airport and/or highway construction and shall have had prior quality control experience on a project of comparable size and scope as the contract.

b. Additional qualifications for the Program Administrator shall include at least 1 of the following requirements:

    1. Professional engineer with 1 year of airport paving experience acceptable to the Engineer.

    2. Engineer-in-training with 2 years of airport paving experience acceptable to the Engineer.

    3. An individual with 3 years of highway and/or airport paving experience acceptable to the Engineer, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

4. Construction materials technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

5. Highway materials technician certified at Level III by NICET.

6. Highway construction technician certified at Level III by NICET.

7. A NICET certified engineering technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience acceptable to the Engineer.

c. The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract plans and technical specifications. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 2 hours after being notified of a problem.

d. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II or higher construction materials technician or highway construction technician and shall have a minimum of 2 years of experience in their area of expertise.

e. The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

f. Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by INSPECTION REQUIREMENTS of this specification.

g. Performance of all quality control tests as required by the technical specifications and QUALITY CONTROL TESTING PLAN.

h. Certification at an equivalent level, by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

i. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

1.06 PROJECT PROGRESS SCHEDULE

The Contractor shall submit a coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a twice monthly basis, or as otherwise specified in the contract. Submission of the work schedule shall not

relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

1.07 SUBMITTALS SCHEDULE

The Contractor shall submit a detailed listing of all submittals (e.g., mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:

a. Specification item number;

b. Item description;

c. Description of submittal;

d. Specification paragraph requiring submittal; and

e. Scheduled date of submittal.

1.08 INSPECTION REQUIREMENTS

Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 1.11.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

1.09 QUALITY CONTROL TESTING PLAN

As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401);

b. Item description (e.g., Plant Mix Bituminous Pavements);

c. Test type (e.g., gradation, grade, asphalt content);

d. Test standard (e.g., ASTM or AASHTO test number, as applicable);

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);

f. Responsibility (e.g., plant technician); and

g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 1.11.

1.10 DOCUMENTATION

The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. **Daily Inspection Reports.** Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

1. Technical specification item number and description;
2. Compliance with approved submittals;
3. Proper storage of materials and equipment;
4. Proper operation of all equipment;
5. Adherence to plans and technical specifications;
6. Review of quality control tests; and
7. Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the workday following the day of record.

b. **Daily Test Reports.** The Contractor shall be responsible for establishing a system that will record all quality control test results. Daily test reports shall document the following information:

1. Technical specification item number and description;
2. Test designation;
3. Location;
4. Date of test;
5. Control requirements;
6. Test results;
7. Causes for rejection;
8. Recommended remedial actions; and
9. Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

1.11 CORRECTIVE ACTION REQUIREMENTS

The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

1.12 SURVEILLANCE BY THE ENGINEER

All items of material and equipment shall be subject to surveillance by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to surveillance by the Engineer at the site for the same purpose.

Surveillance by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

1.13 NONCOMPLIANCE

The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or his/her authorized representative to the Contractor or his/her authorized representative at the site of the work, shall be considered sufficient notice.

In cases where quality control activities do not comply with either the Contractor Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

a. Order the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.

b. Order the Contractor to stop operations until appropriate corrective actions are taken.

Should the Contractor fail to correct work in a reasonable time, the Owner will issue a Notice of Noncompliance. The Contractor shall notify the Owner of his/her plan to repair or replace the work for approval. The Contractor will maintain a log of all Notices of Noncompliance which shall contain the following information: Notice number, description, specification section, date issued, date response from the Contractor, date corrected, number of days to correct, and remarks. The Contractor will present this log at the weekly meetings and shall keep it currently updated. Upon compliance with the notice of noncompliance, the Owner will officially notify the Contractor.

Operation and Check Out Testing: The Contractor shall provide personnel and equipment to perform the operational tests and checkout of equipment, facilities or equipment constructed, fabricated or installed under this Contract. The Owner will coordinate and witness all such tests. Notification shall be given at least 2-days in advance of the scheduled tests. Refer to requirements for operating and maintenance data and training specified in Section 01730.

Substantial and Final Inspection: The Owner will coordinate and attend all final inspections of the work. Requests for finalizing portions of the work performed under this Contract shall be made to the Owner al least 15-days in advance of the inspection. Prior to requesting a final inspection, all tests of the equipment and systems shall be completed. Refer to Section 01700 for detailed requirements for substantial completion and final completion inspections for project closeout. The Contractor will be provided with a punch list from the Owner indicating items over and above those shown on the Contractor's punch list. The Contractor will at each weekly meeting during the closeout period, provide an annotated punch list indicating those items which have been completed and are ready for inspection. The Contractor will maintain and keep this list current and provide a copy to the Owner each week until all items are complete. Prior to the request for substantial completion and throughout the life of the project, the Contractor will maintain a testing and inspection schedule. This schedule will be provided at each weekly meeting indicating the tests or inspections which will be required during the following week. Based on this schedule, the Contractor will provide the required Request for Testing forms.

Failure of any material to pass the specified tests will be sufficient cause for refusal to consider, under this contract, any further samples of the same brand or make of that material or equipment which previously has proven unsatisfactory in service.

END OF SECTION 01400

SECTION 01410

TESTING LABORATORY SERVICES

1.01 OWNER'S INDEPENDENT TESTING AGENCY

a. The Owner may use the independent testing agency to perform tests, inspections and sampling of the work after start of construction.

b. The Owner's use of the independent testing agency shall in no way relieve the Contractor of his/her obligations to perform the work in accordance with Contract requirements.

c. Testing costs incurred to the Owner's Independent Testing Agency for excessive repeated testing as a result of the Contractor's poor quality control of any material, shall be the responsibility of the Contractor.

d. The testing agency is not authorized to release, revoke, alter, or enlarge on, the requirements of the Contract Documents, approve or accept any portion of the work, and perform any of the Contractor's duties.

1.02 QUALITY CONTROL/ASSURANCE

a. The Contractor shall employ and pay their own approved Testing Laboratory, separate from the Owner's, to make tests demonstrating material compliance with the Specifications, and to prepare mix designs for concrete.

b. The Contractor's testing laboratory will be qualified to the Owner's approval in accordance with ASTM E329.

c. Testing, when required, will be in accordance with all pertinent codes and regulations, and with selected standards of ASTM.

1.03 CONTRACTOR’S RESPONSIBILITIES

a. Initiate and coordinate tests and inspections required by Contract Documents and public authorities having jurisdiction of the work.

b. Notify the Owner a sufficient time in advance of the manufacture of materials to be supplied which, by requirements of the Contract Documents, must be tested at the source of supply so that the Owner may arrange for testing if appropriate.

c. When changes of construction schedule are necessary during construction, coordinate all such changes with the Owner as required (Section 01310 PROGRESS SCHEDULE).

d. When the Owner is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the work, all extra charges for testing attributable to the delay may be backcharged to the Contractor and shall not be borne by the Owner.

e. Provide access, facilities, tools and labor necessary for duties to be performed at the site by the Owner including furnishing ladders, hoisting, lighting, water supply and like services.

f. Provide and maintain, for the sole use of the Owner, adequate facilities for the safe storage and proper curing of concrete test cylinders on the Project site as required by ASTM C31.

g. Furnish and deliver samples of materials to be tested at no extra cost to Owner. Test samples will be selected by the Owner and not by the Contractor.

h. Contractor's Test Reports:

1. Furnish 7 copies of each test and inspection report, signed and certified by the Contractor's Supervising Engineer, to the Owner.
2. Promptly process and distribute required copies of test reports and related instructions to assure necessary retesting and replacement of materials with the least possible delay in progress of the work.
3. The reports shall include detailed information relative to progress and condition of work including variances from the Contract Documents, and stipulating dates, hours and locations of the tests and inspections, as applicable.

i. Records:

1. Maintain correct records on an appropriate form for all inspections and tests performed, instructions received from the Owner or testing agency, and actions taken as a result of those instructions.
2. These records shall include evidence that the required inspections or tests have been performed (including type and number of inspections or tests, nature of defects, causes for rejection, etc.), proposed or directed remedial action, and corrective action taken.
3. Document inspections and tests as required by each Section of the Specifications.

j. If laws, ordinances, rules, regulations or orders of public agency having jurisdiction require work to be inspected, tested or approved by some authority other than the Owner, or Contractor, the Contractor shall give required notices and make arrangements, deliver to the Owner the certificates of inspection, test, or approval of such public agency, and pay costs thereof unless otherwise provided in the Contract Documents.

1.04 TEST PROCEDURES

a. Testing:

1. The Contractor's Testing Laboratory will perform tests according to method(s) of test specified in these Specifications.
2. If no procedure or test method is specified, testing shall conform to material specification references unless otherwise directed by Owner.
3. The Owner will tag, seal, label, record or otherwise suitably identify the materials for testing. No materials shall be used in the work until the test reports are approved, excepting only the materials specified to be placed or installed prior to testing.

b. Re-testing:

1. Repeat applicable tests at specified intervals, when:

   a) The source of supply is changed.
   b) The characteristics of the materials change or vary.
   c) Unsatisfactory test results.

2. Quantity and nature of additional testing, if required, will be determined by the

Owner.

3. Additional tests shall be taken in the presence of the Owner.

4. Proof of noncompliance will make the Contractor liable for any corrective action which the Owner feels is prudent, including complete removal and replacement of defective materials.

5. Nothing contained herein is intended to imply that the Contractor does not have the right to have tests performed on any material al any time for his/her own information and job control so long as the Owner does not assume responsibility for costs or for giving them consideration when appraising quality of materials.

1.05 PAYMENT FOR TESTING PERFORMED BY THE OWNER

a. Initial Services:

1. The Owner will pay for initial testing services when initial tests indicate compliance with the Contract Documents.

2. When initial tests indicate noncompliance with the Contract Documents, the costs of initial tests associated with that noncompliance will be deducted by the Owner from the Contract Sum.

b. When initial tests indicate noncompliance with the Contract Documents, subsequent retesting occasioned by the noncompliance shall be performed by the same testing agency, and costs thereof will be deducted by the Owner from the Contract Sum.

c. The Contractor shall reimburse the Owner all of the inspection and testing costs incurred by the Owner due to:

1. Failure of materials to pass initial tests.
2. Contractor's failure to complete the work within the Contract time, and any previously authorized extensions thereof.
3. Covering of work before the required inspections or tests are performed.
4. Additional inspections required for Contractor's correction of defective work.
5. Overtime costs of acceleration of work done for Contractor's convenience.

1.06 CODE COMPLIANCE TESTING

a. Inspections and tests required by codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

1.07 CONTRACTOR'S CONVENIENCE TESTING

a. Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.08 REQUEST FOR TESTING PROCEDURES

a. Testing will be performed as ordered by the Owner. The Contractor will follow the Owner's procedures for requests for tests and inspections. The procedure will be as follows:

b. The Contractor will fill out the request for testing form provided by the Owner.

c. The request for test will be made by the Contractor at least 48-hours in advance of the needed date for the test.

d. Contractor shall describe the test and the date the test is required. The request will be given to the Owner for approval.

e. The Owner shall request the services from the testing agency.

f. The testing agency will be provided a copy of the testing request which will be completed by the testing firm indicating the services provided.

g. The Contractor will provide a testing schedule which will be reviewed each week for the follow week's work.

1.09 INSPECTION REQUIREMENTS

Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by Section 1.11.

Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:

a. During plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment utilized in proportioning and mixing shall be inspected to ensure its proper operating condition. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized.

b. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment utilized in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

1.10 QUALITY CONTROL TESTING PLAN

As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.

The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (e.g., P-401);
b. Item description (e.g., Plant Mix Bituminous Pavements);
c. Test type (e.g., gradation, grade, asphalt content);
d. Test standard (e.g., ASTM or AASHTO test number, as applicable);
e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated);

f. Responsibility (e.g., plant technician); and
g. Control requirements (e.g., target, permissible deviations).

The testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D 3665. The Engineer shall be provided the opportunity to witness quality control sampling and testing.

All quality control test results shall be documented by the Contractor as required by Section 1.12.

1.11 DOCUMENTATION

The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.

Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:

   1. Technical specification item number and description;
   2. Compliance with approved submittals;
   3. Proper storage of materials and equipment;
   4. Proper operation of all equipment;
   5. Adherence to plans and technical specifications;
   6. Review of quality control tests; and
   7. Safety inspection.

   The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

   The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

b. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control test results. Daily test reports shall document the following information:

   1. Technical specification item number and description;
   2. Test designation;
   3. Location;

4. Date of test;
5. Control requirements;
6. Test results;
7. Causes for rejection;
8. Recommended remedial actions; and
9. Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

1.12 CORRECTIVE ACTION REQUIRED

The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.

The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.
When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

END OF SECTION 01410

SECTION 01540

GENERAL SITE SECURITY

1.01 DESCRIPTION

a. The Contractor shall comply with all applicable federal, state and local laws. This includes but is not limited to 14 CFR Part 77 (Obstructions to Navigable Airspace), 14 CFR Part 139 (Certification of Airports) and 49 CFR Part 1542 (Airport Security).

b. Provide protection for materials, tools and equipment being employed on the Project including the tools of workers. The Owner shall not be held to have incurred any liability for loss of, and damage to, materials, tools and equipment of the Contractor, or of those employed by him, by contract or otherwise.

c. The Contractor shall employ such security service as he may deem necessary to properly protect and safeguard the work. The Owner shall not in any way be liable or responsible for the damage or loss to the work due to trespass or theft.

d. The Owner may provide such security service as he deems necessary to protect his interest during the progress of the work. Any protection provided by the Owner shall not in any way relieve the Contractor of the responsibility for the safety of the work and acceptance thereof.

e. The Contractor shall be responsible for controlling access to the work area and insuring that airport security is maintained at all times, including set-back security clearances enforced at the Airport, parking garage(s) and parking lots. The Federal Aviation Administration (FAA) and Transportation Security Administration (TSA) may impose fines of $11,000.00 or more for security violations and incursions into active aircraft operation areas. In addition, the Owner may impose additional fines and/or penalties for such violations. The contractor shall pay all fines assessed against the airport due to violations caused by the Contractor and his personnel, subcontractors, and vendors.

f. Parking of personal cars at the work sites will not be permitted, except in areas indicated on contract drawings. The Contractor, as a subsidiary obligation shall provide adequate and safe transportation for his employees from the area where the cars are parked, to and from the work area. Employees and drivers of work vehicles will be instructed as to proper access roads and will be cautioned that unauthorized use of aircraft pavements or other areas outside the designated work area may lead to their arrest and subsequent payment of fines.

g. All orders for material shall instruct the supplier of the procedures to be followed.

h. The Contractor shall submit to the Owner within 10 days after signing of the contract a written Safety Plan detailing his methods of operations including but not limited the precautions he proposes for the control of vehicle traffic including flag person , signs, escorts and any other measures he proposes. After Owner approval of the Operations, the Contractor shall follow it explicitly. The Owner may close the work at any time this schedule is violated so as not to endanger airport or aircraft operations. Such closure shall not be considered a valid reason for extending the contract time or for any claim for extras by the Contractor.

i. All security arrangements shall be subject to the approval of the Owner.

j. The Contractor's personnel and vehicles will not have access to the entire airport, but shall be limited to work areas and the staging area.

1.02 PROTECTION

a. Continuously maintain protection as necessary to protect the work as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.

b. Properly protect the work:

1. With lights approved by the Owner, guard rails, temporary covers, and barricades.
2. Enclose excavations with proper barricades.
3. Brace and secure all parts of the work against storm and accident.
4. Provide such additional forms of protection which may be necessary under existing circumstances.

c. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the work and to exclude unauthorized persons from the work area. When regulated by Building Code, OSHA or other authority, such legal requirements for protection shall be considered as minimum requirements; be responsible for the protection in excess of such minimum requirements as required.

1.03 WORK IN THE AIR OPERATIONS AREA

a. If the Contractor is required to perform work within the AIR OPERATIONS AREA (AOA), the Contractor shall be required to follow the requirements of the specification Section 01540-AIP entitled SITE SECURITY IN THE AOA found in the project documents entitled *Supplemental Conditions for Airport Improvement Projects*.

These requirements include but are not limited to the following:

1. Badging and identifying Contractor personnel;
2. Securing access point to the AOA.

1.04 CONTROL OF SITE

a. The Contractor shall ensure that no alcohol, firearm, weapon or controlled substance enters or is used at the Project site. The Contractor shall immediately remove from the site and terminate the employment of any employee found in violation of this provision.

b. Install approved temporary enclosure of partially completed construction areas to prevent unauthorized entrance, vandalism and theft.

c. Secure temporary storage areas as required to prevent theft.

d. To the extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, combustion, electrical current, high-speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive

testing, misalignment excessive weathering, unprotected storage, improper shipping and handling, theft and vandalism.

END OF SECTION 01540

SECTION 01545

SAFETY PROGRAM

1.01 DESCRIPTION

a. The Contractor (and his subcontractors) shall, at all time, exercise reasonable precautions for the safety of all persons. All rules, regulations, and laws concerning safety that are in effect at the work site, and in particular, all applicable regulations of the Occupational Safety and Health Administration (OSHA) of the U.S. Government, in addition to all the requirements of these specifications, shall be complied with in all respects.

b. The Contractor shall provide adequate equipment and facilities as are necessary and required for first aid service to any person who may be injured in the prosecution the work under this contract whether they are his own personnel, his subcontractor's personnel, the owner's representative, or other persons who may for any reason enter within the limits of the contract work. Also the Contractor shall have standing arrangements for or have effective written procedure on site, to care, and for removal and hospital treatment of any person who may be injured. Such equipment or facilities and arrangements shall be satisfactory to the Owner.

c. Attention shall be directed to the requirements that the Contractor comply with all pertinent provisions of the “Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc.

d. Within 15-days after Notice to Proceed, Contractor shall submit a Safety Plan to the Owner for review. The Safety Plan shall not be paid for separately but shall be considered incidental to the project. The Contractor shall be required to comply with the Safety Program Plan and all applicable Federal, State, and local regulation codes, rules, laws and ordinances. When work is required in the Air Operation Areas (AOA), the Safety Program Plan shall address the provisions set forth within specification Section 01100 entitled SPECIAL PROJECT PROCEDURES in the project document entitled Project Requirements.

e. Review of the Safety Program Plan shall not relieve the Contractor of any responsibility for complying with all applicable safely regulations nor, by reviewing the Safety Program Plan, will the Owner assume any of the Contractor's responsibilities for compliance with the said safety regulations.

f. The Contractor further agrees to indemnify and hold the Owner harmless for, of and from any loss including but not limited to fines, legal fees, penalties and corrective measures. The Owner may sustain by reason of the Contractor's failure to comply with said laws, rules and regulations in connection with the performance of this Contract.

g. It is essential that each Contractor and Subcontractor implement an effective and vigorous Safety and Health Program to cover his portion of the work. It shall be understood that the full responsibility for providing a safe place to work with respect to his portion of the work rests with each individual contractor.

1.02 SAFETY REQUIREMENTS

a. Standards: Maintain the Project in accordance with State and local safety and insurance standards.

b. The wearing of non-conducting, hard, safety hats on the job is mandatory. The Contractor shall be responsible for and shall enforce the wearing of such safety hats by his personnel and the personnel of his subcontractors. The Contractor shall keep at least 5 safety hats at the work site for use by others inspecting or visiting the work site.

c. All employees must wear approved safety shoes unless special shoes for the types of work are required.

d. All tools and devices that require electric power shall be properly grounded.

e. Safety glasses shall be worn by all workmen when performing operations hazardous to the eyes, and all welders shall be provided with suitable welding masks.

f. If any blasting for rock, ledge or large boulder removal is required for the Contract work and is allowed by the Owner, all blasting and handling of explosives shall be done in accordance with all applicable safety regulations and ordinances concerning such work and shall be done in a manner so as to provide for the safety of all persons and so as not to damage property. The Contractor shall be responsible for notifying the Owner, Air Traffic Control, Manchester Airport Fire Department and the local sheriff within 48 hours of blasting operations.

g. All open trenches, excavations, etc. shall be kept well marked, barricaded and/or covered as required for the safety of persons, aircraft or vehicles on the site. Such excavations shall not be left open at night, on weekends, or during other periods when active construction is not being performed unless covered or otherwise protected.

h. Hazards Control:

1. Store volatile wastes in covered metal containers, and remove from premises daily.
2. Prevent accumulation of wastes which create hazardous conditions.
3. Provide adequate ventilation during use of volatile or noxious substances.
4. Cover trash containers and dumpsters to eliminate attraction of birds and other wildlife as well as avoid wind blown debris.

i. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on Project site.
2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
3. Do not dispose of wastes into streams or waterways.

j. Provide accident information on the forms provided by the Owner. This information will be provided on the same day as the occurrence of said incident.

k. The Owner will identify safety issues as they become apparent and will issue Notices of Noncompliance to the Contractor. These notices, however, do not relieve the Contractor of the sole responsibility for safety on the job site.

l. In the event of any emergency constituting an immediate hazard to health or safety of Owner employees, property, or licensees, the Owner may undertake at the Contractor's expense, without prior notice, all work necessary to correct such hazardous conditions when it was caused by work of the Contractor not being in accordance with requirements of this contract.

m. If, at any time, in the sole judgment of the Owner, the work is not properly lighted, barricaded or in any other respects safe in regard to public travel, persons on or about the work, or public or private property, the Owner shall have the right to order such safeguards to be erected and such precautions to be taken as he deems advisable, and the Contractor shall comply promptly with such orders. If, under such circumstances, the Contractor does not or cannot immediately put the work and the safeguards into proper and approved condition or if the Contractor or his representative is not upon the site so that he can be notified immediately of the insufficiency of safety precautions, the Owner may put the work into such a condition that it shall be, in his opinion, in all respects safe. *The Owner has the right to shut down the job site if the Contractor does not comply with the Owner written requests of Non-Compliance in the form of a D/O. In such an occurrence the Contractor abandons his/her rights for claiming cost or schedule compensation for any related delays.*

The Contractor shall pay all costs and expenses incurred by the Owner in so doing. Such action of the Owner, or their failure to take such action, shall in no way relieve or diminish the responsibility of the Contractor for any and all costs, expenses, losses, liability, suits, proceedings, judgments, awards or damages resulting from, by reason of or in connection with any failure to take safety precautions of the insufficiency or the safety precautions taken by him or by the Owner acting under authority of this paragraph.

n. Fire Prevention: All operations in connection with the contract work shall be so performed that no fire hazards are needlessly created or permitted to exist. If the contract work involves a fire hazard, sufficient fire fighting equipment with trained, capable operators shall be in the area to contain any fire until the local fire department is able to arrive. Particular care shall be exercised with regard to the disposition of waste materials, the nature of quality of which might create or increase a fire hazard. The Contractor shall make sure that persons employed directly or indirectly by him while working in connection with this contract comply with any fire prevention regulations of the Owner. The Contractor shall also have a procedure for promptly notifying local fire fighting organizations in case of fire. The Contractor shall be responsible for compliance by personnel of his organization for their cooperation in fire prevention, fire reporting, and protective measures to minimize loss.

1.03 ENVIRONMENTAL CONTROL OFFICER

a. The Contractor shall designate one of his staff as "Environmental Control Officer", whose duties shall include the responsibility for enforcing the environmental protection provisions of these Specifications including safety and health; the requirements of the Occupational Safety and Health Act; and other applicable Federal, State, and local standards. Contractor shall submit, for information his intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, erosion control plan, demolition program, and safety and health plan.

END OF SECTION 01545

SECTION 01560

TEMPORARY CONTROLS

1.01 DESCRIPTION

a. Noise and Vibration Control:

1. Comply with all applicable state and local laws, ordinances, and regulations relative to noise control.

b. Dust and Dirt Control:

1. Conduct construction operations to prevent windblown dust and dirt from interfering with the progress of the work.
2. Periodically water construction area as required to minimize the generation of dust and dirt.
3. Hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins.
4. Prevent dust and dirt from accumulating on walls, roadways, parking areas, and planting, and from washing into sewer and storm drains.
5. Take special precautions to assure that dust and dirt does not affect the various communications and control systems.
6. The Engineer reserves the right to employ outside assistance to provide corrective measures if the Contractor fails to provide proper dust control. Such incurred direct costs plus project engineering costs will be charged to the Contractor and appropriate deductions made form the Contractor's period cost estimates.

c. Water Controls and Dewatering:

Do not permit surface or subsurface water, and other liquids to accumulate on or in areas adjacent to the Project site. Should such conditions be encountered or develop, control the water, or other liquid, and suitably dispose of by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or methods as required. The Contractor shall pay all costs related to the design, construction, maintenance and removal of dewatering systems.

The Contractor shall protect the work, including but not limited to all excavation trenches, buildings and material from storm water, ground water, back-up or leakage of sewers, drains or other piping, and from water of any other origin and shall control, collect and dispose of any accumulation of such water.

Dewatering operations shall include, but not be limited to:

1. Furnishing, operating and maintaining all pumps, piping, drains and other equipment including spare units available for immediate use in the event of equipment breakdowns.
2. Designing, constructing, maintaining and removing cofferdams, temporary underdrains, wellpoints and all other systems necessary for dewatering.
3. Disposing of all water in a safe and proper manner, acceptable to governing authorities.

d. Pollution Control:

1. No burning of refuse, debris, or other materials will be permitted on or in the vicinity of the Project site.
2. Comply with regulatory requirements and anti-pollution ordinances during the performance of construction and disposal operations, including the disposal of solid, liquid and gaseous contaminants.

e. Soil Disposal:

Dispose of excess soil in accordance with requirements of local authorities at legal dump site(s). Excess soil may be stockpiled during construction for reuse but shall be removed prior to completion of the Project.

f. Erosion Control:

Erosion control shall consist of, but not be limited to, constructing such facilities and taking such measures as are necessary to prevent, control and abate water, mud, and erosion damage to public and private property as a result of the construction of this Project, including the stockpiling of excavated material. The Contractor shall prepare and submit an erosion control plan within 30-days from the Notice to Proceed. The Contractor's erosion control plans are supplemental to the controls identified in the original design plans, and additional detail may be required in the supplemental plans than the detail given on the original design plans. The Owner or the Owner's designated representative will perform biweekly inspections and an inspection following a 0.5-inch rain event. These inspections will concentrate on erosion and sediment controls. Temporary erosion control measures include, but are not limited to the following:

1. The Contractor shall conduct his operations in such a manner that storm runoff will be contained within the Project or channeled into the storm drain system which serves the runoff area. Storm runoff shall have all silt and mud removed prior to being released in a storm drainage system.
2. Temporary drainage structures, and other devices shall be provided to channel storm runoff water into the: respective permanent storm drainage systems during construction. Mud and silt shall be settled out of the storm runoff before said runoff enters the storm drainage system.
3. Embankment, graded and excavation areas shall be protected from erosion and the resulting siltation of downstream facilities and adjacent areas by use of temporary erosion control measures.

g. Cleaning:

During handling and installation of work at Project site, clean and protect work in progress and adjoining work on a basis of perpetual maintenance. Apply suitable protective covering on newly installed work where reasonably required to ensure freedom from damage or deterioration at time of substantial completion; otherwise, clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period. Adjust and lubricate operable components to ensure operability without damaging effects. (Reference Section 01710 CLEANING found in project document entitled Project Requirements.)

END OF SECTION 01560

SECTION 01590

CONTRACTOR'S FIELD OFFICES AND SHEDS

1.01 DESCRIPTION

a. The Contractor shall furnish, install, and maintain field offices and sheds required for the performance of contract work.

b. No existing facilities at the Project site will be available for use as field office or storage areas.

c. The Contractor shall construct, install, and maintain field offices and sheds in accordance with applicable regulatory requirements.

d. The Contractor's Staging Area is indicated on the Contract Drawings. Reference specification Section 01010: SUMMARY OF WORK AND WORK BY OTHERS; Article 1.03, Site Availability and Staging Areas.

e. The construction of the field office shall be structurally sound, weathertight, with floors raised above the ground. Doors shall be sturdy and shall be provided with provisions for dead bolt locking, temperature transmission resistance compatible with occupancy and storage requirements, and painted as directed by the Owner.

f. Portable or mobile buildings complying with the specified requirements may be used.

g. Storage Sheds:

1. Number and Sizes: Adequate for material storage and handling requirements.
2. Ventilation: Comply with specified and regulatory requirements for stored products.

3. Heating: Adequate to maintain temperatures specified in the Specification Sections for the products to be stored.
4. Lighting: As required to facilitate product handling and inspection.

h. The Contractor shall obtain the Owner's approval of locations for field offices and sheds prior to commencing site preparation for the structures.

i. The Contractor shall maintain the telephone, electrical, water, heat and sanitary systems to the trailer at all times during construction. Relocate the utility poles and other utility lines as necessary to maintain construction work at no additional cost to the Owner.

j. Provide permanent nameplate on each item of service connected or power-operated equipment. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings and similar essential operating data. Locate nameplates on an easily accessed surface which, in occupied areas, is not conspicuous.

k. Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.

l. Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.

m. When specified in individual Sections, provide extra stock of products, materials, or equipment, stored at locations designated by the Owner.

END OF SECTION 01590

SECTION 01600

MATERIALS AND EQUIPMENT

1.01 SUMMARY

a. This section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

b. The Contractor's Construction Schedule and the Schedule of Submittals are included under Section "Submittals."

c. Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

d. Administrative procedures for handling requests for substitutions made after award of the Contract are included under Section "Product Substitutions."

1.02 DEFINITIONS

a. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.

b. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

c. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.

d. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

e. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.03 SUBMITTALS

a. Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.

Coordinate the product list schedule with the Contractor's Construction Schedule and the Schedule of Submittals.

b. Form: Prepare the product listing schedule with information on each item tabulated under the following column headings:

1. Related Specification Section number.
2. Generic name used in Contract Documents.
3. Proprietary name, model number and similar designations.

4. Manufacturer's name and address.
5. Supplier's name and address.
6. Installer's name and address.
7. Projected delivery date, or time span of delivery period.

c. Initial Submittal: Within 21 days after date of commencement of the Work, submit 3 copies of an initial product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.

d. Completed Schedule: Within 42 days after date of commencement of the Work, submit 3 copies of the completed product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.

e. Architect's Action: The Architect will respond in writing to the Contractor within 2 weeks of receipt of the completed product list schedule. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents. The Architect's response will include the following:

1. A list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.04 QUALITY ASSURANCE

a. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.

1. When specified products are available only from sources that do not or cannot produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect for a determination of the most important product qualities before proceeding. Qualities may include attributes relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources that produce products that possess these qualities, to the fullest extent possible.

b. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

c. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.

d. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.

e. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:

1. Name of product and manufacturer.
2. Model and serial number.
3. Capacity.

4. Speed.
5. Ratings.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

a. Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

b. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

c. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

d. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.

e. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

f. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

g. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

h. Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

1.06 PRODUCT SELECTION

a. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.

1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

b. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

c. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:

d. Semi-Proprietary Specification Requirements: Where three or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.

e. Non-Proprietary Specifications: When the Specifications list less than three products or manufacturers that are available and may be incorporated in the Work, but do not restrict the

Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

f. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

1. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

g. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

h. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.

1. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.

i. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.

j. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division-1 for allowances that control product selection, and for procedures required for processing such selections.

1.07 INSTALLATION OF PRODUCTS

a. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01600

SECTION 01610

DELIVERY, STORAGE, AND HANDLING

1.01 TRANSPORTATION AND HANDLING

a. Manufactured products shall be delivered in the manufacturer's original unbroken containers or packaging, with identifying labels intact and legible.

b. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and verify that products are properly protected and undamaged.

c. Handle products and packages in a manner to avoid soiling or damaging.

d. Promptly remove damaged or defective products from the site, and replace at no increase in Contract Sum.

e. Tight wood sheathing shall be laid under any materials that are stored or moved over finished surfaces. Reinforced non-staining kraft building paper and plywood or planking shall be laid over all types of finished floor surfaces in traffic areas before moving any material over these finished areas. Wheelbarrows, if used over such areas, shall have rubber-tired wheels.

1.02 STORAGE

a. Store manufactured products in accordance with the manufacturer's instructions, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weathertight enclosures.

2. Maintain temperature and humidity within the ranges specified by the manufacturers.

3. Control delivery schedules to minimize long-term storage at site, particularly for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.

b. Exterior Storage:

1. Store fabricated products above the ground on blocking or skids to prevent soiling and staining.
2. Cover products subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
3. Store loose granular material in a well drained area on solid surfaces to prevent mixing with foreign matter. Arrange storage to facilitate inspection.

c. Periodically inspect stored products to assure that specified conditions are maintained and the products are free from damage or deterioration.

d. Protection after Installation:

1. Provide coverings necessary to protect installed products from damage due to traffic or construction operations. Remove coverings when no longer needed.
2. Maintain temperature and humidity conditions for interior equipment and finish products in accordance with the manufacturers' instructions.

e. The Contractor will be permitted to store equipment needed for the immediate work on hand within the work area as approved by the Owner. Equipment not in use will be returned to the appropriate Contractor's staging area. All equipment booms shall be lowered at the close of each day's work or when stored. All equipment will be parked in the staging area at the close of work each day and whenever it is not in use.

END OF SECTION 01610

SECTION 01630

PRODUCT OPTIONS AND SUBSTITUTIONS

1.01 PRODUCTS

a. The term "product" includes materials, systems, and equipment. Products shall be new, undamaged, of the types specified, and furnished in ample quantities to facilitate proper execution of the work.

b. When requesting a product substitution, select an option which is compatible with other products already specified

c. Where available, provide standard products or types which have been produced and used previously and successfully on other Projects and in similar applications.

1.02 LIST OF PRODUCTS

a. Include substitutions in the required submittal list (Section 01300 SUBMITTALS), showing the names of the manufacturers proposed to be used for each of the products identified in the Specifications, and, where applicable, the name of the installer.

b. The Owner will reply, in writing, to the Contractor stating whether, after due investigation, there is reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Owner may state that action will be deferred until the Contractor provides further data. No reply by the Owner shall not constitute waiver of any requirement.

c. Up to and until 60-days after the date of the Notice to Proceed, the Owner will consider the Contractor's formal requests for substitutions in place of the specified items under the conditions set forth in this Section, assuming the item was listed in paragraph A above. No requests will be considered 60-days after the Notice to Proceed except as specified in this Section.

1.03 CONTRACTOR'S OPTIONS

a. The Contractor has the following options:

1. For products specified only by reference standards, select any product meeting those standards, by any manufacturer.

2. For products specified by naming several products or manufacturers, select one of the specified products or manufacturers or submit a request, as required by this Section, for substitution, for any product not specifically named. Where only one manufacturer is specified but other manufacturers are listed as acceptable, their products shall be treated as a substitution and submitted in accordance with the requirements specified in this Section.

3. For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating “or equal”, “equal to”, or “approved equal”, “equivalent to”; submit a request, as required by this Section, for substitution, for any product not specifically named.

4. If it is known that a specified product is not a feasible or acceptable selection, notify

the Owner in writing before proceeding with the purchase of the product.

5. Where only compliance with an imposed standard, code, or regulation is required, select any product satisfying the requirement.

6. Where matching with an existing sample is required, the final decision whether a product proposed matches the sample satisfactorily is the Owner's judgment.

7. Except as otherwise indicated, where Specifications include the statement: "as selected from manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with Specifications) is the Contractor's option, and the selection of color, pattern, and texture shall be the Owner's selection.

1.04 REQUIREMENTS FOR SUBSTITUTIONS

a. Products proposed for substitution shall comply with specific performances indicated and/or specified, and which are recommended by the manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product is implied where product is specified with only certain specific performance requirements.

b. Products proposed for substitution shall have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for fabricating, finishing, testing, and similar operations in manufacturing process.

c. A proposed substitution shall not be purchased or installed by the Contractor without written acceptance from the Owner. Acceptance of any substitution shall not relieve the Contractor from responsibility for the proper execution of the work and any other requirements specified in the Contract Documents.

d. The Contractor shall be responsible for the effect of a substitution of related work in the Project, and shall pay additional costs generated by a substitution, including the costs of the Owner's additional services.

e. The burden of proving that the proposed substitution is "equal to the specified product is upon the Contractor and such proof shall include sufficient factual and comparative data and information necessary to establish that the requested substitution is equal in quality, utility, structural strength, mechanical and technical performance, finish, arrangement of plan, repair and maintenance, compatibility with other existing or specified items, and any other relevant data.

f. By making a request for substitution, the Contractor:

1. Represents that he has personally investigated the proposed substitute product and has determined that it is equal or superior in all respects to the specified product.

2. Represents that he will provide the same warranty for the substitution that he would have for the specified product.

3. Certifies that the cost data presented is complete and includes all related costs under the contract.

4. Waives all claims for additional costs or schedule impact related to the substitution which subsequently become apparent.

5. Will coordinate the installation of the substitute, making sure changes as may be required for the work to be complete in all respects.

g. Substitutions will not be considered if:

1. They are indicated or implied on shop drawings or product data submittals without formal request submitted in accordance with this Section.

2. Acceptance will require substantial revision of the Contract Documents.

3. The proposed product is inferior to the specified product as judged by the Owner.

4. Request does not include sufficient data for the Owner to make a reasonable judgment regarding the acceptability of the proposed substitution.

h. The Owner will be the judge of the acceptability of proposed substitutions, and his determination will be final.

i. Approval of a substitution shall not relieve the Contractor from responsibility for the proper execution of the work and other requirements of the Contract Documents.

j. If a substitution is rejected, provide the product originally specified.

1.05 REQUESTS FOR SUBSTITUTIONS

a. Submit 7 copies of a written request for a substitution and data substantiating the request to the Owner in enough advance notice to allow a thorough evaluation by the Owner. Each request shall include the following:

1. Complete technical data of all characteristics of the originally specified item, including drawings, reference standards, performance specifications, cost data, samples, and test reports of the product proposed for substitution. Submit additional information if requested by the Owner. Annotate the specific salient characteristics which are being compared to those of the originally specified item. The mere submission of catalog cuts and/or other data without the annotation is not acceptable. See the following paragraph which requires line-by-line comparison.

2. Data similar to that specified for the item for which the substitution is proposed. Include a line-by-line comparison of characteristics between specified item and proposed substitute documenting equal status. Highlight by underlining or other means characteristics that are different from those of the specified item. Equivalency will be based on salient characteristics as determined by the Owner

3. Effect on the progress schedule.

4. Complete breakdown of costs indicating the cost amount to be added to or deducted from the Contract Sum if the proposed substitution is accepted.

5. Certification by the Contractor that the proposed substitution is in compliance with the Contract Documents and applicable regulatory requirements.

6. List of other work, if any, which may be affected by the substitution.

7. Availability of maintenance service and source of replacement materials.

8. Samples, if requested, of both the originally specified product and the proposed substitute product.

9. Name and address of similar Projects on which the proposed substitute product was used. Include name, address and telephone numbers of the Owner for each Project.

10. Sample of standard form of guarantee or warranty offered by the manufacturer for the substitute product proposed.

1.06 REQUESTS FOR SUBSTITUTIONS AFTER TIME SPECIFIED

a. No substitution of materials, products, or equipment will be considered after the time described in the above paragraphs unless the specified material cannot be delivered or incorporated into the work in the time allowed due to conditions beyond the control of the Contractor.

b. The Contractor shall reimburse the Owner's cost for additional services required by the Owner to review and process substitutions.

c. Written requests for substitutions shall include reasons for the request, proof that delivery is impossible, complete description and data of the proposed substitute necessary for a complete evaluation of costs, delivery time, and other necessary information.

d. Costs of delays which could have been avoided by the timely submission of requests for substitutions shall be borne by the Contractor.

1.07 SUBSTITUTION PROCESSING

a. Submit substitutions on a Request for Information form provided by the Owner; follow the request for information processing requirements. In addition, maintain a Request for Substitution log which will indicate the following: The RFI number, description, the date submitted to the Owner, the date required for return, the date returned from the Owner, and comments. This log will be reviewed at the weekly progress meetings.

END OF SECTION 01630

SECTION 01700

PROJECT CLOSEOUT

1.01 PREPARATION FOR SUBSTANTIAL COMPLETION

a. When the work is substantially complete, submit the following to the Owner:

1. A written notice that the work is substantially complete.
2. A detailed, complete, and comprehensive list of items to be completed or corrected.
3. Certification that all mechanical, electrical, plumbing, security, communications, and hardware equipment has been tested and is operational. The Contractor will provide copies of all test results and reports including a binder by division fully indexed, outlining all equipment and performance tests. In addition, the Contractor will certify the Airport's maintenance and operational personnel have received the specified training. (Section 01730 OPERATING AND MAINTENANCE DATA.)

b. After receipt of the above items, the Owner shall set up an inspection to determine whether or not the Project, or portion of the Project, is ready for Punch List Inspection.

c. Should the Owner determine that the work is so incomplete it does not warrant a punch list inspection, the Owner will:

1. Within a reasonable amount of time, notify the Contractor in writing that the work is incomplete. Charges may be assessed for reinspection.
2. Instruct the Contractor to promptly remedy the deficiencies in the work, and send a second notice of substantial completion to the Owner.

1.02 ACHIEVING SUBSTANTIAL COMPLETION

a. When the Owner determines that the work is ready for the Punch List Inspection, the Contractor will arrange for the inspection by the Owner and representatives of the Owner as necessary.

b. The Owner shall prepare a coordinated Punch List and will determine which items shall be completed by the Contractor to achieve substantial completion.

c. The Owner will transmit the Punch List to the Contractor and will advise the Contractor as to the items that he must complete to achieve Substantial Completion.

d. Beneficial Occupancy and Substantial Completion are not one and the same. The Owner has the right to beneficially occupy any portion of the Project, or the Project as a whole, at any time in accordance with the General Conditions.

1.03 SUBSTANTIAL COMPLETION

a. When the specific Punch List items have been completed to the extent that the work can be utilized for the intended use, the Owner will prepare a Certificate of Substantial Completion for the City and will attach a list of the balance of the punch list items to be completed for final completion. Other items which do not conform to the Contract Documents may be added to the list at any time.

b. At Substantial Completion, the Owner has the right to move in furnishings and equipment, and initiate its security control system. On all final Punch List work after the security system

has been activated, the Contractor's work force, equipment, and material may be subject to security procedures, including searches. Any delay associated with this process is part of the base Contract and will not be considered as an extra cost under the Contract.

1.04 FINAL COMPLETION

a. When the Contractor considers the work to be complete for final inspection, he shall submit written certification that:

1. Contract Documents have been reviewed.
2. Work has been inspected for compliance with the Contract Documents.
3. Work has been completed in accordance with the Contract Documents.
4. Work is completed and ready for final inspection.
5. Submit certified copy of final Punch List of itemized work to be completed or otherwise resolved for acceptance, endorsed and dated by the Owner.
6. Obtain the required 'Certificate of Occupancy".

b. After receipt of the above, the Owner will set up an inspection to determine whether or not the Project is ready for final inspection. The review shall consist of verifying that the remaining Punch List items from the Substantial Completion inspection have been completed.

c. Should the Owner find the work to be incomplete, the Owner shall advise the Contractor in writing that the work is not acceptable. The Contractor may be assessed for additional inspection costs.

d. The Contractor shall send another Certificate when the work is complete.

e. After the Owner has completed the final inspection and when the Owner finds that the work is complete under the Contract Documents, the Owner shall determine 'The Date of Final Completion' and shall notify the Contractor. The Contractor shall proceed to prepare for final closeout/acceptance and shall make final closeout submittals.

1.05 CLOSEOUT/ACCEPTANCE

a. Responsibilities of the Contractor, prior to acceptance by the Owner, shall include but may not be limited to:

1. Submitting a statement showing accounting of changes to the Contract Sum.
2. Submitting warranties, maintenance agreements, final certifications, and similar documents required by the Contract Documents.
3. Submit certification that materials used are asbestos free.
4. Advising the Owner of pending insurance change-over requirements.
5. Obtaining and submitting releases enabling the Owner's full and unrestricted use of the work and access to services and utilities, including where required, occupancy permits, operating certificates, and similar releases. Provide all release of liens from subcontractors and suppliers.
6. Submitting final record documents, operations & maintenance manuals and data, damage or settlement surveys, property surveys, and similar final record information as required by the Contract Documents. The Owner may withhold final payment of retainage until the record documents and operations & maintenance manuals and data have been accepted by the Owner as referenced in specification Section 00730-19.

7. Delivering tools, spare parts, extra stocks of materials, and similar physical items to the Owner.
8. Making final change-over of locks and forward keys to the Owner. Advise the Owner's personnel of change-over in security provisions.
9. Removing all temporary facilities and services, along with construction tools and equipment mock-ups, and similar elements.
10. Preparing final Application for Payment in accordance with the General Conditions and these Specifications.
11. Submitting signed lien waiver forms as stipulates by the Owner.
12. As required by Airport Improvement Program (AIP) funded projects, submit a statement showing accounting of all DBE participation actually used in the execution of the project to the Owner. Should the actual DBE participation be less than the amount committed to in the Contractor's Goals and Assurance for Disadvantaged Business Enterprises, then the Contractor shall provide written documentation of their good faith effort to achieve the goal per the requirements of the Manchester Airport DBE Plan.

b. After acceptance of the work by the Owner, the final payment will be made. (Section 00730).

END OF SECTION 01700

SECTION 01720

RECORD DOCUMENTS

1.01 DESCRIPTION

a. This Section describes the requirements for maintaining records of actual conditions in the field and for changes in the work.

b. The purpose of final Record Documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modifications of the work to proceed without lengthy and expensive site measurements, investigation, and examination.

c. The Owner shall have access to record documents at any time prior to final turn over to the Owner.

1.02 DOCUMENTS REQUIRED

a. Maintain at the site the following record documents:

1. Complete Contract Drawing set.
2. Specifications and Addenda.
3. Change Orders and other modifications to the Contract.
4. Field Instructions and other written instructions from the Owner.
5. Reviewed shop drawings, product data, and samples.
6. Test Reports.
7. Requests for Information.
8. General Correspondence.
9. Record Document Drawings.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

a. Store record documents and samples in Contractor's field office apart from documents used for construction. Provide files and racks for storage of documents. Provide locked cabinets or secure storage space for storage of samples.

b. File documents and samples in a manner acceptable to the Owner.

c. Make documents and samples available at all times for inspection by the Owner.

d. Update the documents within 24-hours after receiving information that a change has occurred or clarification has been issued.

1.04 MARKING DEVICES

a. Non-fade felt tip marking pens shall be used for recording information. Green marks shall be used for added items; red marks shall be used for deleted items; and yellow marks shall be used for unchanged items.

1.05 RECORDING

a. Record information concurrently with the construction process. Legibly mark drawings to record actual construction. The Contractor shall comply with the following:

1. Do not conceal any work until required information is recorded.
2. Completely, accurately, and legibly record, to the satisfaction of the Owner, all deviations in construction.
3. Record any deviations caused by approved changes and/or clarifications to the work.

4. Use additional copies of prints, if necessary, to insure legible recording of data
5. Date all entries.
6. Call attention to the entry by drawing a 'cloud' around the area affected on each drawing.
7. Post details not on original contract drawings.
8. All Record Documents shall show both the original design and the final design. (Example: if a structure location, inverts, grades, etc. have deviated from the original design, the old data should be crossed out and new data shall be shown.)
9. All elevations and coordinates shall be in the same horizontal and vertical datum as the contract documents.

b. The Record Documents drawings shall record at **minimum** the following:

1. Elevations at **ALL** contract elevations on plans and cross sections. Pavement and finish floor elevations shall be recorded to the nearest 0.01-foot. Turf elevations shall be recorded to the nearest 0.1-foot.
2. Edges of pavement, curbing and pavement markings in plan to the nearest 0.1-foot by station and off-set from the established construction baseline or survey reference point.
3. Fencing in plan with fence angle points measured to the outside of the post to the nearest 0.1-foot by station and off-set from the established construction baseline or survey reference point.
4. Centerline of structures (drainage, sewer, water, electrical, communication, under drains, gas service) to the nearest 0.1-foot by station and offset from the established construction baseline or survey reference point. Connect point-by-point location of each structure with line indicating the actual utility path between as-built structure locations.
5. Rim, pipe invert and sump elevations (drainage, sewer, water, electrical, communication, under drains, gas service) to the nearest 0.01-foot.
6. The type and size of all pipes shall be provided.
7. All contract northing and easting coordinates of structures shall be updated with the as-built northing and easting coordinates.
8. Final location and topography of all treatment swales, detention ponds and other storm water treatment devices shall be shown.
9. Depths of various elements of the foundation in relation to finish floor datum.
10. Locations of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
11. Locations of plumbing, mechanical and electrical locations as depicted on project coordination shop drawings.
12. Field changes to the dimension and detail of the structural and architectural plans and elevation views.
13. Changes to interior finish schedules.
14. Changes to the plumbing service, waste and vent riser diagrams and schematics as specified in Section 1.06 of this specification.
15. Changes to the mechanical systems control logic diagrams.

16. Changes to the electrical one-line diagrams.
17. Changes to the communication one-line diagrams.

c. Stamp each Record Document drawing with the following information:

1. "RECORD DOCUMENT"
2. Prepared by: Contractor's name, permanent address.
3. Date prepared.
4. Contractor's (Principal of firm) typed name and signature.
5. In typed words on each drawing the following statement: "_____(Insert Contractor firm name) hereby certifies that to best of our knowledge that these Record Document drawings represent a true and accurate record of the work in-place."
6. Name and license number of certifying land surveyor or professional engineer.

d. Legibly mark each section of the specifications to record the following:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment installed.
2. Changes made reflecting approved changes to the work.

e. Maintain shop drawings as record drawings. Legibly annotate shop drawings to record changes made after approval.

f. All field data used to produce Record Documents shall be certified by a State of New Hampshire Licensed Land Surveyor or State of New Hampshire Licensed Professional Engineer.

1.06 CONVERSION OF SCHEMATIC LAYOUTS

a. In some cases on the drawings, arrangement of conduits, circuits, piping, ducts, and similar items are shown schematically and are not intended to portray precise physical layout. The final physical arrangement is determined by the Contractor, subject to the approval of the Owner, and shall be accurately recorded by the Contractor on the record documents.

b. Show on the job set of record drawings, by dimension accurate to one-inch, the centerline of each run of all items specified in the preceding paragraph.

1. Clearly identify the item by accurate note such as "cast iron drain", or 'galvanized flashing", etc.
2. Show by symbol or note the vertical location of the item ("6-inches below slab", 'in ceiling plenum', "exposed", etc.
3. Make all identification sufficiently descriptive that it may be related reliably to the Technical Specifications.

1.07 SUBMITTAL

a. Thirty (30) calendar days after Substantial Completion, submit to the Owner the record documents prepared in accordance with this specification. The Owner shall have thirty (30) calendar days from receipt of the record documents for review and comment. Record documents found deficient shall be returned to the Contractor after the specified review period. The Contractor shall have fourteen (14) calendar days to correct deficiencies and return corrected record documents to the Owner. The Contractor shall be required to meet

with the Owner and/or the Owner's designee to review the contents of the record documents.

b. In addition to the mandatory record documents required by this specification, the Contractor **shall** furnish the land surveyor's electronic data used to develop Record Documents, elevations and locations in the current release of AutoCAD® (or in a format that can be readily converted to AutoCAD®). Electronic data shall match the horizontal and vertical datum provided in the contract documents. Submit the electronic data on CD/DVD in duplicate. Electronic data **will not** be considered a substitute for the record documents requirements of this specification.

1.08 PAYMENT

a. Prior to submitting each request for payment, secure approval from the Owner of the current status of Record Documents.

b. Periodic Payments or portions thereof to the Contractor may be withheld until the Owner verifies that as-built information has been properly recorded on the Record Documents.

c. The Owner may withhold final payment of retainage until the Record Documents have been accepted by the Owner. Reference specification Section 00730-19.

1.09 RESPONSIBILITY

a. The Contractor shall be fully responsible for the accuracy and completeness of as-built records and shall bear all costs of damages incurred by the Owner of any nature whatsoever due to inaccuracies or incompleteness of said as-built records, except to the extent that conditions are disturbed by subsequent construction.

END OF SECTION 01720

SECTION 01730

OPERATING AND MAINTENANCE DATA

1.01 DESCRIPTION

a. This Section describes the requirements for furnishing product data and related information appropriate for Owner maintenance and operation of products furnished under the Contract.

1. The Contractor shall prepare operating and maintenance data as specified in this Section and as referenced in other Sections.
2. The Contractor shall be responsible for the instruction of Owner personnel in the maintenance of products and in the operation of equipment and systems.

1.02 QUALITY ASSURANCE

a. Preparation of data shall be done by personnel trained and experienced in maintenance and operation of the described products, completely familiar with specified requirements, skilled as a technical writer to the extent required to communicate essential data, and skilled as a draftsman competent to prepare required drawings.

1.03 FORM OF SUBMITTAL

a. Prepare a detailed training plan agenda for each instructional session for all mechanical, electrical, plumbing, hardware, communications and security equipment and systems to be approved by the Owner. Each training session will be divided into two parts; classroom training and on the job operational instructions of the equipment. Prepare data in the form of an instructional manual for use by Owner personnel and the Contractor's instructors for classroom and job site training. The instructional/users manual will be prepared to organize and synthesize documents along with operating instructions and functional information. The manual will be used as the single source of information about the equipment and systems operations, and functions.

b. Format:

1. Size: 8-1/2-inch x 11-inch.
2. Paper: 24-pound minimum, white, for typed pages.
3. Electronic Media: In addition to paper, submit in duplicate Operation & Maintenance Manuals and Data on CD/DVD.
4. Text: Manufacturer's printed data, or neatly typewritten.
5. Drawings: Provide reinforced punched binder tab, bind in with text. Fold larger drawing to the size of the text pages.
6. Provide fly-leaf for each separate product, or each piece of operating equipment. Provide typewritten description of product, and major component parts of equipment. Provide indexed tabs.
7. Cover: Identify each volume with typed of printed title 'OPERATING AND MAINTENANCE INSTRUCTIONS'. List title of Project, identity of separate structure as applicable, and identity of general subject matter covered in the manual.

c. Binders:

1. Commercial quality three-ring binders with durable and cleanable plastic covers.

1.04 CONTENT OF MANUAL

a. Neatly typewritten table of contents for each volume, arranged in a systematic order.

1. Contractor, name of responsible principal, address and telephone number.
2. A list of each product and certification warranty/guarantee required to be included, indexed to the content of the volume.
3. List, with each product, the name, address, and telephone number of:

   a) Subcontractor or installer.
   b) Maintenance contractor, as appropriate.
   c) Identify the source of responsibility of each.
   d) Local source of supply for parts and replacements.

4. Identify each product by product name and other identifying symbols as set forth in the Contract Documents.

b. Product Data:

1. Include only those sheets which are pertinent to the specific product.
2. Annotate each sheet to:

   a) Clearly identify the specific product or part installed.
   b) Clearly identify the data applicable ro the installation.
   c) Delete references to inapplicable information.

c. Drawings:

1. Supplement product data with drawings as necessary to clearly illustrate:

   a) Relations of component parts of equipment and systems.
   a) Control and flow diagrams.

2. Coordinate drawings with information on Project Record Documents to assure correct illustration of completed installation.
3. Do not use Project Record Documents as maintenance drawings.

d. Written text is required to supplement product data for the particular installation for all mechanical, electrical, plumbing, heating, air conditioning, security, hardware, and communication systems.

1. Organize in a consistent format under separate headings for different procedures.
2. Provide a logical sequence of instructions for each procedure.

e. Copy of each warranty, bond and service contract issued.

1. Provide information sheet for Owner personnel; include:

   a) Proper procedures in the event of failure.
   b) Instances which might affect the validity of warranties or bonds.

f. Provide copies of performance tests.

1.05 MANUAL FOR MATERIALS AND FINISHES

a. Submit three copies of complete manual in final form.

b. Content, for architectural products, applied materials and finishes:

1. Manufacturer's data, giving full information on products.

a) Catalog number, size, composition.
b) Color and texture designations.
b) Information required for re-ordering special-manufactured products.

2. Instructions for care and maintenance:

a) Manufacturer's recommendation for types of cleaning agents and methods.
b) Cautions against cleaning agents and methods which are detrimental to the product.
c) Recommended schedule for cleaning and maintenance.

c. Content, for moisture-protection and weather-exposed products:

1. Manufacturer's data, giving full information on products.

a) Applicable standards.
b) Chemical composition.
c) Details of installation.

2. Instructions for inspection, maintenance and repair.

d. Additional requirements for maintenance data: As per respective Sections of Specifications.

e. Provide complete information for finished products or surfaces specified in each Section.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS

a. Submit three copies of complete manual in final form.

b. Content, for each unit of equipment and system, as appropriate:

1. Description of unit and component parts.

a) Function, normal operating characteristics, and limiting conditions.
b) Performance curves, engineering data and tests.
c) Complete nomenclature and commercial number of all replaceable parts.

2. Operating procedures:

a) Start-up, break-in, routine and normal operating instructions.
b) Regulation, control, stopping, shutdown and emergency instructions.
c) Summer and winter operating instructions.
d) Special operating instructions.

3. Maintenance procedures:
   a) Routine operations.
   b) Guide to 'trouble-shooting.
   c) Disassembly, repair and reassembly.
   d) Alignment, adjusting and checking.
   e) Schedule for recommended service and preventative maintenance.

4. Servicing and lubricating schedule.

   a) List of lubricants required.

5. Manufacturer's printed operating and maintenance instructions.

6. Description of sequence of operation by control manufacturer.

7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.

   a) Predicted life of parts subject to wear.
   b) Items recommended to be stocked as spare parts.

8. As-installed control diagrams by controls manufacturer.

9. Each Contractor's coordination drawings.

   a) As-installed color coded piping diagrams.

10. Charts of valve tag numbers, with the location and function of each valve.

11. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

12. Other data as required under pertinent Specification Sections.

c. Content, for each electrical and electronic system, as appropriate:

1. Description of system and component parts.

   a) Function, normal operating characteristics, and limiting conditions.
   b) Performance curves, engineering data and tests.
   c) Complete nomenclature and commercial number of replaceable parts.

2. Circuit directories of panelboards.

   a) Electrical service.
   b) Controls.
   c) Communications.

3. As-installed color coded wiring diagrams.

4. Operating procedures:

   a) Routine and normal operating instructions.
   b) Sequences required.

c) Special operating instructions.

5. Maintenance procedures:

a) Routine operations.
b) Guide to 'Trouble-Shooting".
c) Disassembly, repair, and reassembly.
d) Adjustment and checking.
d) Schedule for preventative maintenance

6. Manufacturer's printed operating and maintenance instructions.

7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

8. Other data as required under pertinent Specification Sections.

d. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner personnel.

e. Additional requirements for operating and maintenance data: As per respective Specifications Sections.

f. Provide complete information for operating products and equipment specified in each Section, including security hardware.

1.07 SUBMITTAL SCHEDULE

a. Submit two copies of completed data in final form 30-days prior to the estimated date of Substantial Completion for the Owner's review, use by the inspectors, and training of Owner personnel. One copy will be returned after inspection for Substantial Completion with comments.

b. Submit three copies of accepted data in final form 10-days after Final Inspection.

1.08 INSTRUCTION OF OWNER PERSONNEL

a. Prior to Owner's inspection for Substantial Completion, fully instruct Owner designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems including mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware systems.

b. The user's manual/operating and maintenance manual shall constitute the basis of instruction with the Contractor's training plan and agenda for each piece of equipment and/or system.

1. The Contractor will arrange for on-site training and review of each piece of equipment and system to explain the 'hands-on' operation of systems. The Contractor will provide at least 16-hours for the on-site instruction for each of the mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware systems and equipment. In addition, the Contractor will provide at least 16-hours of classroom instruction for each of the mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware systems and equipment. The on-site and classroom instruction as contained in this Section are considered a minimum requirement. If conflict exists

between this requirement and the technical specifications, the more restrictive requirement will be followed. The Contractor shall provide up to an additional 16 hours if requested by the Owner.

2. Review contents of O&M manual with personnel in full detail to explain all aspects of operation and maintenance both in the field and in the classroom.

c. The Contractor will provide in addition to the three copies of the operation and maintenance manuals required for the official file, as many additional copies as are necessary for instructing the Owner personnel. (Ten maximum.)

d. Submit six copies of the training plan and agendas for each training session for each piece of equipment and system for mechanical, electrical, plumbing, heating or air conditioning, security, communications, and hardware thirty days prior to the estimated date of substantial completion for review and approval by the Owner.

e. The user's operating and maintenance/user's manual, which will be used for instructional purposes, shall provide for each system the theory of operation, detailed diagrams and parts lists, preventive maintenance instruction, and corrective maintenance.

1.09 PAYMENT

a. The Owner may withhold final payment of retainage until the Operations & Maintenance Manuals and data have been accepted by the Owner. Reference specification section 00730.

END OF SECTION 01730

Section 01740

GUARANTEES / WARRANTIES AND BONDS

1.01 DESCRIPTION

a. Requirements Included:

1. Compile specified guarantees, warranties, bonds and certificates.
2. Compile specified service and maintenance contracts.
3. Co-execute submittals when so specified.
4. Review submittals to verify compliance with Contract Documents.
5. Submit for review and transmittal to Owner.

1.02 SUBMITTAL REQUIREMENTS

a. Provide list and assemble all guarantees, warranties, bonds, certificates and service and maintenance contracts, executed by the Contractor and each of the respective manufacturers, suppliers, and subcontractors. Submit within 10 days after Final Inspection.

b. Number of original signed copies required: Two each.

c. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item. Product or work item. Firm, with name of principal, address and telephone number. Type and duration of guarantee or warranty.

1.03 FORM

a. In addition to other requirements of the Contract Documents regarding the general one year warranty, as a condition preceding certifying final payment, the Contractor shall provide extended guarantees/warranties for certain work, as specified in the applicable Specification Sections, on the following form (next page) written on the Contractor's own letterhead. The guarantees/warranties shall commence on the Date of Substantial Completion of the Work by the Owner, unless specifically indicated otherwise.

"Guarantee/Warranty for _____ (Phase or portion of work under warranty identified by Specification Section)

Project:

Address:

Date:
We hereby warrant and the Contractor guarantees that the_____which we have installed in the _____has been performed in accordance with the Contract and that the work as installed will fulfill the requirements of the guarantee/warranty included in the Specifications.

We agree to repair or replace any or all of our work, together with any or all other work which may be damaged or displaced by so doing, that may prove to be defective in its workmanship, materials, or failure to conform to Contract provisions and requirements within a period of _____years from the Date of Substantial Completion of the above named structure by the Owner without expenses whatever to the said Owner, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the foregoing conditions within 10-days after being notified in writing by the Owner, we collectively or separately do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefore upon demand.

Signed: _____ Date:
(Contractor)

Or

Signed: _____ Date:
(Subcontractor)

Countersigned: _____ Date:
(Contractor)

1.04 CORRECTION OF GUARANTEED/WARRANTED WORK

a. Unless repair is agreed to by Owner, Contractor shall correct failed work by removal and replacement of the failed portions with new materials.

b. In connection with Contractor's correction of warranted work which has failed, remove and replace other work of Project which has been damaged as a result of such failure, or which must be removed and replaced to provide access for correction of warranted work.

c. Except as otherwise indicated or required by governing regulations, special Project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract), which occurs as a result of failure of warranted work.

d. Except as otherwise indicated, when work covered by a special Project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the specified time period, starling on date of acceptance of replaced or restored work.

e. Except as otherwise indicated, costs of replacing or restoring failing warranted units or products is Contractor's obligation, without regard for whether Owner has already benefitted from use through a portion of anticipated useful service lives.

f. Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for Project where a special Project warranty, specified product warranty, certification or similar commitment is required, until it has been determined by the Contractor that entities required to countersign such commitments are willing ro do so.

END OF SECTION 01740

THIS PAGE INTENTIONALLY LEFT BLANK

Manchester – Boston Regional Airport
Project Documents

City of Manchester - Department of Aviation

SUPPLEMENTAL CONDITIONS
FOR
AIRPORT IMPROVEMENT PROGRAM (AIP) PROJECTS

(February 2007 Edition)

SUPPLEMENTAL CONDITIONS FOR AIP PROJECTS

TABLE OF CONTENTS

Section 00721-AIP: **CONTRACTOR COST REDUCTION PROPOSALS** 00721-AIP-1
1.01 Description 00721-AIP-1
1.02 Acceptance..... 00721-AIP-1
1.03 Contractor's Proposal..... 00721-AIP-1

Section 00750-AIP: **LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC**
1.01 Description 00750-AIP-1
1.02 Federal Aid Participation..... 00750-AIP-1

Section 00765-AIP: **MEASUREMENT AND PAYMENT**
1.01 Description 00765-AIP-1
1.02 Payment of Withheld Funds 00765-AIP-1

Section 00770-AIP: **METHOD OF ESTIMATING % OF MATERIAL WITHIN SPECS**
1.01 General..... 00770-AIP-1
1.02 Method for Computing PWL 00770-AIP-1
Table 00770-AIP-6

Section 00775-AIP: **NUCLEAR GAGES**
1.01 Description 00775-AIP-1
1.02 Testing 00775-AIP-1
1.03 Percentage Within Limits 00775-AIP-1
1.04 Verification Testing..... 00775-AIP-1

Section 00820-AIP: **FEDERAL CONTRACT PROVISIONS**
I. Description 00820-AIP-1
II. Provisions For All Construction Contracts 00820-AIP-1
III. Provisions For All Construction Contracts Exceeding $2,000 ..... 00820-AIP-6
IV. Provisions For All Construction Contracts Exceeding $10,000 ..... 00820-AIP-12
V. Provisions For All Construction Contracts Exceeding $25,000 ..... 00820-AIP-22
VI. Provisions For All Construction Contracts Exceeding $100,000 ..... 00820-AIP-23

Section 00830-AIP: **WAGE RATE SCHEDULES**
1.01 Wage Rate Determinations..... 00830-AIP-1
1.02 Required Labor Provisions..... 00830-AIP-1
Davis Bacon Wage Rates 00830-AIP-12

Section 01100-AIP: **SPECIAL PROJECT PROCEDURES**
1.01 Description 01100-AIP-1
1.02 Aircraft Operations Area (AOA) 01100-AIP-1
1.03 Airport Operations Specialists 01100-AIP-1
1.04 Weather Limitations 01100-AIP-1
1.05 Requirements for Nighttime Construction 01100-AIP-2
1.06 Airport Security 01100-AIP-3
1.07 Open Trenches or Excavations..... 01100-AIP-3

1.08 Radio Control 01100-AIP-4
1.09 Flagpersons 01100-AIP-5
1.10 Barricades 01100-AIP-5
1.11 Operational Safety on Airport During Construction 01100-AIP-5
1.12 Haul Routes 01100-AIP-7
1.13 Obstruction Lighting and Marking 01100-AIP-7
1.14 Indoor Air Quality Improvement 01100-AIP-7

Section 01540-AIP: **SITE SECURITY**
1.01 Description 01540-AIP-1
1.02 Identification of Employees 01540-AIP-1
1.03 Control of Site 01540-AIP-1

END OF TABLE OF CONTENTS

THIS PAGE INENTIONALLY LEFT BLANK

SECTION 00721-AIP

CONTRACTOR COST REDUCTION PROPOSALS

1.01 DESCRIPTION

After the award of the Contract, the Contractor may submit cost reduction proposal(s) for changing the requirements of the Contract. The proposal(s) shall demonstrate that changing the Contract requirements would:

a. Result in a net reduction in the total Contract Amount;

b. Not impair any essential function or characteristic of the Work such as safety, service life, reliability, economy of operation, aesthetics, ease of maintenance, and necessary standardized features;

c. Not detrimentally affect the Contract completion schedule.

1.02 ACCEPTANCE

a. The Owner may accept in whole or in part any proposal submitted pursuant to this section by issuing a Change Order identifying the proposal upon which it is based. The Change Order will provide for an equitable adjustment in the Contract Amount and will revise any other affected provisions of the Contract Documents. The equitable adjustment in the Contract Amount shall be established by determining the net savings resulting from the accepted change. The net savings resulting from the change shall be shared between the Contractor and the Owner on the basis of fifty percent (50%) for the Contractor and fifty percent (50%) for the Owner. Net savings shall be determined by deducting from the estimated gross savings, the Contractor's costs of developing and implementing the proposal (including any amount attributable to a subcontractor) and the estimated amount of increased costs to the Owner resulting from the change, such as implementation, inspection, related items, and Owner-furnished material. Estimated gross savings shall include Contractor's labor, material, equipment, overhead, profit, and bond. The Contract Amount shall be reduced by the sum of the Owner's costs and share of the net savings.

b. The Owner will not be liable for any delay in acting upon, or for any failure to act upon, any proposal submitted pursuant to this section. The decision of the Owner as to acceptance of any such proposal under the Contract shall be final. The submission of a proposal by the Contractor shall not in itself affect the rights or obligations of either party under the Contract.

1.03 CONTRACTOR'S PROPOSAL

a. The Contractor may restrict the Owner's right to use any portion of its proposal or of the supporting data in accordance with the following legend if it is marked thereon:

"This data furnished pursuant to Section 00721-AIP of this Contract shall not be disclosed to the public by the Owner or its Representatives, be duplicated, or used, in whole or in part, for any purpose other than to evaluate the proposal submitted under this section provided that, if such a proposal is accepted by the Owner, the Owner shall have the right to duplicate, use, and disclose this data, in any manner and for any purpose whatsoever. This restriction does not limit the Owner's right to use information contained in this data if it is or has been obtained by the Owner from another source."

b. The Contract shall grant to the Owner and to its officers, representatives and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license for Owner purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others to do, all data submitted under this section now or hereinafter covered by copyright.

c. Except for the limitations specified in paragraph 4 above, the Owner may duplicate, use, and disclose in any manner and for any purpose whatsoever, and have others so do, all data delivered under this section.

END OF SECTION 00721

SECTION 00750-AIP

LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

1.01 DESCRIPTION

This specification contains supplemental information and/or requirements for Airport Improvement Program (AIP) projects.

1.02 FEDERAL AID PARTICIPATION

For AIP 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 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 Improvement Act of 1982, as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987, and the Rules and Regulations of the FAA 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, FAA, and is further subject to those provisions of the rules and regulations that are cited in the contract documents, 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.

END OF SECTION 00750-AIP

SECTION 00765-AIP

MEASUREMENT AND PAYMENT

1.01 DESCRIPTION

This specification contains supplemental information and/or requirements for Airport Improvement Program (AIP) projects.

1.02 PAYMENT OF WITHHELD FUNDS

At the Contractor's option, he/she may request that the Owner accept (in lieu of the 10 percent retainage on partial payments described in the subsection titled PARTIAL PAYMENTS of this section) the Contractor's deposits in escrow under the following conditions.

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the 10 percent retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

e. The Owner accepts the Contractor’s request.

END OF SECTION 00765-AIP

SECTION 00770-AIP

METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

1.01 GENERAL

When the specifications provide for material to be sampled and tested on a statistical basis, the material will be evaluated for acceptance in accordance with this section. All test results for a lot will be analyzed statistically, using procedures to determine the total estimated percent of the lot that is within specification limits. This concept, termed percent within limits (PWL), is a statistically based evaluation method, whereby the PWL is computed on a lot basis, using the average (X) and standard deviation (Sn) of the specified number (n) of sublot tests for the lot and the specification tolerance limits (L for lower and U for upper) for the particular acceptance parameter. From these values, the respective Quality index(s) (QL for Lower Quality Index and/or QU for Upper Quality Index) is computed and the PWL for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

IT IS THE INTENT OF THIS SECTION TO INFORM THE CONTRACTOR THAT, IN ORDER TO CONSISTENTLY OFFSET THE CONTRACTOR'S RISK FOR MATERIAL EVALUATED, PRODUCTION QUALITY (USING POPULATION AVERAGE AND POPULATION STANDARD DEVIATION) MUST BE MAINTAINED AT THE ACCEPTABLE QUALITY SPECIFIED OR HIGHER. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PRODUCE AT QUALITY LEVELS THAT WILL MEET THE SPECIFIED ACCEPTANCE CRITERIA WHEN SAMPLED AND TESTED AT THE FREQUENCIES SPECIFIED.

1.02 METHOD FOR COMPUTING PWL

The computational sequence for computing the PWL is as follows:

a. Divide the lot into n sublots in accordance with the acceptance requirements of the specification.

b. Locate the sampling position within the sublot in accordance with the random sampling requirements of the specification.

c. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.

d. Average all sublot values within the lot to find X by using the following formula:

$$X = (x_1 + x_2 + x_3 + \ldots x_n / n$$

Where: X = Average of all sublot values within a lot
x_1, x_2 = Individual sublot values
n = Number of sublots

e. Find the standard deviation (S_n) by use of the following formula:

$$S_n = [(d_1^2 + d_2^2 + d_3^2 + \ldots d_n^2) / n\text{-}1]^{1/2}$$

Where: S_n = standard deviation of the number of sublot values in the set
d_1, d_2 = deviations of the individual sublot values X_1, X_2 . . . from the average value X

that is $d_1 = (x_1 - X)$, $d_2 = (x_2 - X)$ . . $d_n = (x_n - X)$
n = number of sublots

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

$$Q_L = (X - L) / S_n$$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L, using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e. L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

$$Q_L = (X - L) / Sn \text{ and } QU = (U - X) / Sn$$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U, using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U. Determine the PWL by use of the following formula:

$$PWL = (P_U + P_L) - 100$$

Where: P_L = percent within lower specification limit
P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project
Test Item: Item P-401, Lot A.

a. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 96.60
A-2 97.55
A-3 99.30
A-4 98.35
n = 4

2. Calculate average density for the lot.

$X = (x1 + x2 + x3 + . . xn) / n$
$X = (96.60 + 97.55 + 99.30 + 98.35) / 4$
$X = 97.95$ percent density

3. Calculate the standard deviation for the lot.

$Sn = [(96.60 - 97.95)^2+(97.55 - 97.95)^2+(99.30 -97.95)^2 (98.35 -97.95)^2) / 4- 1]^{1/2}$
$Sn = [(1.82 + 0.16 + 1.82 + 0.16) / 3]^{1/2}$
$Sn = 1.15$

4. Calculate the Lower Quality Index QL for the lot. (L=96.3)

$Q_L = (X -L) / Sn$
$Q_L = (97.95 - 96.30) / 1.15$
$Q_L = 1.4384$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and $n = 4$.

PWL = 98

b. PWL Determination for Air Voids.

1. Air Voids of four random samples taken from Lot A.

A-1 5.00
A-2 3.74
A-3 2.30
A-4 3.25

2. Calculate the average air voids for the lot.

$X = (x1 + x + x3 . . n) / n$

$X = (5.00 + 3.74 + 2.30 + 3.25) / 4$

$X = 3.57$ percent

3. Calculate the standard deviation Sn for the lot.

$Sn = [(3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 -3.25))^2 / 4 - 1)]^{1/2}$

$Sn = [(2.04 + 0.03 + 1.62 + 0.10)) / 3]^{1/2}$

$Sn = 1.12$

4. Calculate the Lower Quality Index QL for the lot. (L = 2.0)

   QL = (X - L) Sn

   QL = (3.57 - 2.00) / 1.12

   QL = 1.3992

5. Determine PL by entering Table 1 with QL = 1.40 and n = 4.

   PL = 97

6. Calculate the Upper Quality Index QU for the lot. (U = 5.0)

   Q_U = (U - X) / Sn

   Q_U = (5.00 - 3.57) / 1.12

   Q_U = 1.2702

7. Determine PU by entering Table 1 with Q_U = 1.27 and n = 4.

   P_U = 93

8. Calculate Air Voids PWL

   PWL = (P_L + P_U) - 100

   PWL = (97 + 93) – 100 = 90

EXAMPLE OF OUTLIER CALCULATION (Reference ASTM E 78)

Project: Example Project
Test Item: Item P-401, Lot A

a. Outlier Determination for Mat Density.

1. Density of four random cores taken from Lot A. arranged in descending order.

   A-3 99.30
   A-4 98.35
   A-2 97.55
   A-1 96.60

2. Use n=4 and upper 5 percent significance level of to find the critical value for test criterion = 1.463.

3. Use average density, standard deviation, and test criterion value to evaluate density measurements.

   a) For measurements greater than average:

If: (measurement – average)/(standard deviation) is less than test criterion,
Then: the measurement is not considered an outlier

for A-3 Check if (99.30 – 97.95) / 1.15 greater than 1.463
1.174 is less than 1.463, the value is not an outlier

b) For measurement less than the average:
If: (average – measurement)/(standard deviation) is less than test criterion,
the measurement is not considered an outlier

for A-1 Check if (97.95 – 96.60) / 1.15 greater than 1.463
1.0 is less than 1.463, the value is not an outlier

NOTE: In this example, a measurement would be considered and outlier if the density was:
greater than (97.95 + 1.463 x 1.15) = 99.63 percent or,
less than (97.95 – 1.463 x 1.15) = 96.27 percent

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Positive Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

TABLE 1. TABLE FOR ESTIMATING PERCENT OF LOT WITHIN LIMITS (PWL)

Percent Within Limits (P_L and P_U)	Negative Values of Q (Q_L and Q_U)							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

END OF SECTION 00770-AIP

SECTION 00775-AIP

NUCLEAR GAGES

1.01 DESCRIPTION

This Section describes the requirements for nuclear gages.

1.02 TESTING

When the specifications provide for nuclear gage acceptance testing of material for Items P-152, P-154, P-208, and P-209, the testing shall be performed in accordance with this section. At each sampling location, the field density shall be determined in accordance with ASTM D 2922 using the Direct Transmission Method. The nuclear gage shall be calibrated in accordance with Annex A1. Calibration and operation of the gage shall be in accordance with the requirements of the manufacturer. The operator of the nuclear gage must show evidence of training and experience in the use of the instrument. The gage shall be standardized daily in accordance with ASTM D 2922, paragraph 8.

Use of ASTM D 2922 results in a wet unit weight, and when using this method, ASTM D 3017 shall be used to determine the moisture content of the material. The moisture gage shall be standardized daily in accordance with ASTM D 3017, paragraph 7.

The material shall be accepted on a lot basis. Each Lot shall be divided into eight (8) sublots when ASTM D 2922 is used.

1.03 PERCENTAGE WITHIN LIMITS

When PWL concepts are incorporated, compaction shall continue until a PWL of 90 percent or more is achieved using the lower specification tolerance limits (L) below.

The percentage of material within specification limits (PWL) shall be determined in accordance with the procedures specified in specification Section 00770 of the Supplemental Conditions for Airport Improvement Program (AIP) Projects.

The lower specification tolerance limit (L) for density shall be:

Specification Item Number	Specification Tolerance (L) for Density, (percent of laboratory maximum)
Item P-152	90.5 for cohesive material, 95.5 for non-cohesive
Item P-154	95.5
Item P-208	97.0
Item P-209	97.0

If the PWL is less than 90 percent, the lot shall be reworked and recompacted by the Contractor at the Contractor's expense. After reworking and recompaction, the lot shall be resampled and retested. Retest results for the lot shall be reevaluated for acceptance. This procedure shall continue until the PWL is 90 percent or greater.

1.04 VERIFICATION TESTING (For Items P-152 and P-154 only.)

The Engineer will verify the maximum laboratory density of material placed in the field for each lot. A minimum of one test will be made for each lot of material at the site. The verification process will consist of; (1) compacting the material and determining the dry density and moisture-density in accordance with [ASTM D 698 for aircraft gross weights less than 60,0000 pounds] [ASTM D 1557 for aircraft gross weights 60,000 pounds or more], and (2) comparing the result with the laboratory moisture-density curves for the material

being placed. This verification process is commonly referred to as a "one-point Proctor". If the material does not conform to the existing moisture-density curves, the Engineer will establish the laboratory maximum density and optimum moisture content for the material in accordance with [ASTM D 698 for aircraft gross weights less than 60,0000 pounds] [ASTM D 1557 for aircraft gross weights 60,000 pounds or more].

Additional verification tests will be made, if necessary, to properly classify all materials placed in the lot.

The percent compaction of each sampling location will be determined by dividing the field density of each sublot by the laboratory maximum density for the lot.

END OF SECTION 00775-AIP

SECTION 00820-AIP

FEDERAL CONTRACT PROVISIONS

I. DESCRIPTION

Procurements made under the Airport Improvement Program shall comply with required Federal provisions established by various laws and statutes. The requirements for the provisions will vary depending on the type and size of the procurement action. Application of a certain provision also depends on established contract dollar thresholds. Note that exceeding several contract dollar thresholds causes additional provisions to be required in The City of Manchester, Department of Aviation contracts in each category of contract. These additional provisions are listed following the general provisions that apply to each category of contract.

The categories below list the required Federal provisions and their application.

II. PROVISIONS FOR ALL CONSTRUCTION CONTRACTS

1. BUY AMERICAN - STEEL AND MANUFACTURED PRODUCTS Title 49 U.S.C., Chapter 501 (All Contracts)

   (a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

      1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs (b) 1 or 2 shall be treated as domestic.

      2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

      3. Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

   (b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, material men and suppliers in the performance of this contract, except those:

      1. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;

      2. that the US Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or

      3. that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

(c) Buy American Certificate. Reference 00320 CERTIFICATES OF COMPLIANCE for certifications to be completed by the bidder and submitted with the proposal (bid).

2. CIVIL RIGHTS ACT OF 1964 –TITLE VI 49 CFR Part 21 (All Contracts)

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

(a) Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

(b) Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(c) Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

(d) Information and Reports. The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by The City of Manchester, Department of Aviation or the Federal Aviation Administration (FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to The City of Manchester, Department of Aviation or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance. In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, The City of Manchester, Department of Aviation shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:

1. Withholding of payments to the contractor under the contract until the contractor complies, and/or

2. Cancellation, termination, or suspension of the contract, in whole or in part.

(f) Incorporation of Provisions. The contractor shall include the provisions of paragraphs (a) through (e) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as The City of Manchester, Department of Aviation or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request The City of Manchester, Department of Aviation to enter into such litigation to protect the interests of The City of Manchester, Department of Aviation and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

3. AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520 – Title 49 U.S.C. 47123 (All Contracts)

(a) The contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.

(b) This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases the provision obligates the party or any transferee for the longer of the following periods:

1. the period during which the property is used by the airport The City of Manchester, Department of Aviation or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or

2. the period during which the airport The City of Manchester, Department of Aviation or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

4. LOBBYING AND INFLUENCING FEDERAL EMPLOYEES - 49 CFR PART 20 (All Contracts)

(a) No Federal appropriated funds shall be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the making of any Federal grant and the amendment or modification of any Federal grant.

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any Federal grant, the contractor shall complete and submit Standard Form-LLL, “Disclosure of Lobby.

5. ACCESS TO RECORDS AND REPORTS - 49 CFR Part 18.36(i) (All Contracts)

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

6. DISADVANTAGED BUSINESS ENTERPRISES 49 CFR Part 26 (All Contracts)

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

(b) Prompt Payment (§26.29) - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than *seven* days from the receipt of each payment the prime contractor receives from *The City of Manchester, Department of Aviation.* The prime contractor agrees further to return retainage payments to each subcontractor within seven days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of *The City of Manchester, Department of Aviation.* This clause applies to both DBE and non-DBE subcontractors.

7. ENERGY CONSERVATION REQUIREMENTS - 49 CFR Part 18.36 (All Contracts)

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

8. BREACH OF CONTRACT TERMS 49 CFR Part 18.36 (All Contracts)

Any violation or breach of terms of this contract on the part of the contractor or their subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

9. RIGHTS TO INVENTIONS 49 CFR Part 18.36(i)(8) (All Contracts)

All rights to inventions and materials generated under this contract are subject to regulations issued by the FAA and The City of Manchester, Department of Aviation of the Federal grant under which this contract is executed.

10. TRADE RESTRICTION CLAUSE 49 CFR Part 30.13 (All Contracts)

(a) The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

3. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

(b) Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through The City of Manchester, Department of Aviation cancellation of the contract at no cost to the Government.

(c) Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

(d) The contractor shall provide immediate written notice to the City of Manchester, Department of Aviation if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

(e) This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through The City of Manchester, Department of Aviation cancellation of the contract or subcontract for default at no cost to the Government.

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

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

11. VETERAN'S PREFERENCE Title 49 U.S.C. 47112(c) (All Contracts)

In the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Veterans of the Vietnam era and disabled veterans as defined in Section 515(c)(1) and (2) of the Airport and Airway Improvement Act of 1982. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

III. PROVISIONS FOR ALL CONSTRUCTION CONTRACTS EXCEEDING $2,000

For construction contracts exceeding $2,000, the below listed requirements shall be considered in addition to the requirements in paragraph II of this specification.

DAVIS BACON REQUIREMENTS

1. Minimum Wages

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

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

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

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

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

2. Withholding.

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

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph 5(3)(i) above. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

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

(1) That the payroll for the payroll period contains the information required to be maintained under paragraph (3)(i) above and that such information is correct and complete;

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

(3) That each laborer or mechanic has been paid wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

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

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

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

4. Apprentices and Trainees.

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

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination.Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

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

5. Compliance With Copeland Act Requirements.

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

6. Subcontracts.

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

7. Contract Termination: Debarment.

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

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

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

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

10. Certification of Eligibility.

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

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

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

IV. PROVISIONS FOR ALL CONSTRUCTION CONTRACTS EXCEEDING $10,000

For construction contracts exceeding $10,000, the below listed requirements shall be considered in addition to the requirements in paragraphs II and III of this specification.

1. EQUAL EMPLOYMENT OPPORTUNITY - 41 CFR PART 60-1.4(b) (For Contracts exceeding $10,000)

Any contracts/subcontracts (or certifications preliminary thereto) with a state or local government or any agency, instrumentality of subdivision thereof, shall not be applicable to any agency, instrumentality of subdivision of such governments, which does not participate in work on or under the contract or subcontract. During the performance of this contract, the contractor agrees as follows:

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

(b) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The contractor will send to each labor union or representative or workers with which he has a collective bargaining agreement or other contract or understanding, a notice (to be provided) advising the said labor union or workers' representatives of the contractors commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The contractor will comply with all provision of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the Owner of the FAA, if the project is federally assisted and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Orders 11246 of September 24, 1965, as amended, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The contractor will include the underlined portion of the sentence immediately preceding paragraph 1(a) and the provisions of paragraphs 1(a) through 1(g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246, as amended, of September 24, 1965, so that such provisions will be binding upon such subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Owner of FAA if the project is Federally assisted may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Owner of the FAA, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

(h) Requirement for Annual EEO-1 Report to Joint Reporting Committee if the Project is Federally Assisted.

1. If the construction contractor or a first tier subcontractor has 50 or more employees and has a contract or subcontract or purchase order of $50,000 or more, he is required to file annual compliance reports on Standard Form 100 (EEO-1), in accordance with the instructions provided with the form. Subcontractors below the first tier which perform construction work at the site are also required to submit the report if they have 50 or more employees, and a subcontract of $50,000 or more.

2. Such reports shall be filed with the Joint Reporting Committee, P.O. Box 16606, Philadelphia, PA 19139 within 30 days from date of award, unless the contractor or first tier subcontractor has submitted such a report within 12 months preceding the date of the award. Subsequent reports shall be submitted annually, or at such other interval as the Director, OFCCP may require.

(i) Requirement for Monthly Utilization Report (Standard Form 257) if the Project is Federally Assisted.

1. If the construction contract exceeds $10,000 and is being performed in a geographical area designated by the Secretary of Labor, the contractor is required to submit Standard Form 257 by the fifth of each month, beginning with the effective date of the notice to proceed, in accordance with the instructions contained on the form.

2. The forms are to be sent to the Associate Regional Administrator for OFCCP at the location specified.

3. The contractor will submit all Standard Forms 257, Monthly Employment Utilization Report, which are required by executive Order 11246, directly to Office of Federal Contract Compliance Programs Regional Office at the address listed below:

For Maine, New Hampshire, Massachusetts (East of Worcester), and Rhode Island:
U.S. Department of Labor
Office of Federal Contract Compliance Programs
McCormick Post Office & Courthouse Bldg.
Room 507
Boston, MA 02109
Telephone: 617-223-1481

2. CERTIFICATION OF NONSEGREGATED FACILITIES - 41 CFR PART 60-1.8 (For Contracts Exceeding $10,000)

(a) Notice to Prospective Federally Assisted Construction Contractors

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a federally-assisted construction contract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.

2. Contractors receiving federally-assisted construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(b) Notice to Prospective Subcontractors of Requirements for Certification of Non-Segregated Facilities

1. A Certification of Non-segregated Facilities shall be submitted prior to the award of a subcontract exceeding $10,000, which is not exempt from the provisions of the Equal Opportunity Clause.
2. Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(c) Certification of Non-Segregated Facilities

1. Reference 00320 CERTIFICATES OF COMPLIANCE for certifications to be completed by the bidder and submitted with the proposal (bid).

2. The federally-assisted construction contractor certifies that she or he does not maintain or provide, for his employees, any segregated facilities at any of his establishments and that she or he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that she or he will not maintain or provide, for his employees, segregated facilities at any of his establishments and that she or he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

3. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, time clocks , locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where she or he has obtained identical certifications from proposed subcontractors for specific time periods) she or he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that she or he will retain such certifications in his files.

3. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY (Executive Order 11246, as Amended). (For Contracts Exceeding $10,000)

(a) The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause", and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications: set forth herein.

(b) The goals and timetables or the minority and female participation, expressed in percentage terms for the contractor's aggregate work force in all trades on all construction work in the covered area, are as follows, except for contractors participating in Hometown plans (such as the Boston Plan, the New Bedford Plan, the New Haven Plan or the Rhode Island Plan) and the construction work is located in the Hometown Plan area.

Timetables	Goals for Minority Participation for all Trades	Goals for Female Participation for all Trades
Effective until Further Notice	(Vol. 45 Federal Register pg. 65984 10/3/80)	6.95%

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

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

(d) The contractor shall provide written notification to the Director, OFCCP, within 10 working days of award of any construction subcontract in excess of $10,000 at any tier of construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the economic area in which the subcontract is to be performed.

(e) As used in this notice and in the contract resulting from this solicitation, the "covered area" is New Hampshire, Hillsborough County, Manchester. The SMSA or Economic Area in which the "covered area" is geographically located is Non-SMSA, New Hampshire, Manchester.

4. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATION (Executive Order 11246). (For Contracts Exceeding $10,000)

(a) As used in these specifications:

1. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

2. "Economic area" means an SMSA (Standard Metropolitan Statistical Area) or Non-SMSA county for which a single minority goal has been established for all construction trades and crafts.

3. "Director" means Director, Office of Federal Contract Compliance programs, United States Department of Labor, or any person to whom the Director delegates authority;

4. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

5. "Minority" includes:

   (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

   (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

   (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands; and

   (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(b) Whenever the Contractor, or any Subcontractor at any tier subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

(c) If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that plan for those trades which have unions participating in the plan. Contractors must be able to demonstrate their participation in and compliance with the provisions on any such Hometown Plan. Each contractor or subcontract participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.

(d) The contractor shall implement the specific affirmative action standards provided in paragraphs (g)(1) through (g)(16) of this section. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization; the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice from, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

(e) Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246, as amended, or the regulations promulgated pursuant thereto.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

1. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority of female individuals working at such sites or in such facilities.

2. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor of its unions have employment opportunities available and maintain a record of the organizations' responses.

3. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source of community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

4. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

5. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under (g)(2) above.

6. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

7. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

9. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or either training by any recruitment source, the Contractor shall send written notification to reorganizations such as the above, describing the opening, screening procedure, and tests to be used in the selection process.

10. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school summer and vacation employment to minority and female youth both on the side and in other areas of a Contractor's work force.

11. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

12. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

13. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

14. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

15. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and business associations.

16. Conduct a review, at least annually, of all supervisor' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

(h) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (g)(1) through (g)(16). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under (g)(1) through (g)(16) of this section provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's

noncompliance.

(i) A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women in underutilized).

(j) The Contractor shall not use the goals and timetables or affirmative action standards or discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

(l) The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

(m) The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph (g)2 of these specifications, so as to achieve maximum results from its effort to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-40.8.

(n) The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade; rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

(o) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

5. TERMINATION OF CONTRACT - 49 CFR Part 18.36(i)(2) (For Contracts Exceeding $10,000)

(a) The City of Manchester, Department of Aviation may, by written notice, terminate this contract in whole or in part at any time, either for The City of Manchester, Department of Aviation's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the City of Manchester, Department of Aviation.

(b) If the termination is for the convenience of The City of Manchester, Department of Aviation, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.

(c) If the termination is due to failure to fulfill the contractor's obligations, The City of Manchester, Department of Aviation may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor shall be liable to The City of Manchester, Department of Aviation for any additional cost occasioned to The City of Manchester, Department of Aviation thereby.

(d) If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination shall be deemed to have been effected for the convenience of The City of Manchester, Department of Aviation. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.

(e) The rights and remedies of The City of Manchester, Department of Aviation provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

V. PROVISIONS FOR ALL CONSTRUCTION CONTRACTS EXCEEDING $25,000

For construction contracts exceeding $25,000, the below listed requirements shall be considered in addition to the requirements in paragraphs II, III and IV of this specification.

1. CERTIFICATION REGARDING DEBAREMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - 49 CFR Part 29 (For Contracts Exceeding $25,000)

(a) Reference 00320 CERTIFICATES OF COMPLIANCE for certifications to be completed by the bidder and submitted with the proposal (bid).

(b) The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offeror/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

VI. PROVISIONS FOR ALL CONSTRUCTION CONTRACTS EXCEEDING $100,000

For construction contracts exceeding $100,000, the below listed requirements shall be considered in addition to the requirements in paragraphs II through V of this specification.

1. CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS 29 CFR PART 5.5 (For Contracts Exceeding $100,000)

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

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

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

   (d) Subcontractors. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (d) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime

   contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

2. CLEAN AIR AND WATER POLLUTION CONTROL - 49 CFR Part 18.36(i)(12) (For Contracts Exceeding $100,000)

   Contractors and subcontractors agree:

   (a) That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

(b) To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued thereunder;

(c) That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

(d) To include or cause to be included in any construction contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

END OF SECTION 00820-AIP

SECTION 00830-AIP

WAGE RATE SCHEDULES

1.01 WAGE RATE DETERMINATIONS

A. Attention shall be directed to the requirements of the paragraph hereinafter concerning minimum wage rates and so-called fringe benefits, and to the wage rate determinations hereinafter. The Contractor shall be bound by all provisions of the wage rate and fringe benefit determinations made by the governmental agencies and by all pertinent laws controlling minimum wage rates and fringe benefits.

B. The wage rate determinations, which have been or will be made for this construction project are for job classifications chosen by governmental agencies. Attention is directed to the requirements of the paragraphs hereinafter concerning the classification or reclassification of employees in conformance with the wage rate determinations. The listing of job classifications in the wage rate determinations shall not be construed as a representation of the Owner that:

1. No other occupations will be necessary in the course of the performance of the Contract work; or that

2. Such occupations are accurate; or that

3. The offer of payment of the stipulated rates will insure an adequate labor supply for the Contractor or any of his/her subcontractors.

C. The Federal wage rate determination for this Contract, as issued by the United States Department of Labor and forwarded by the Federal Aviation Administration has been or will be made, and such determination shall be included as a part of these Contract Documents.

1.02 REQUIRED LABOR PROVISIONS

The following pages include a complete copy of the "Required Labor Provisions in Contracts" as provided to the Owner by the FAA. Also included, immediately following said "Required Labor Provisions in Contracts", is a copy of the Federal wage rate determination for the project.

Strict compliance with the following labor provisions and wage rate determinations will be required throughout the life of the Contract.

REQUIRED LABOR PROVISIONS

I. Contract Clauses and Requirements for Construction Contracts.

A. **General and Labor Clauses for All Construction Contracts and Subcontracts**

1. AIP Project. The work in this contract may be included in an AIP Project, if so, it shall be undertaken and accomplished by the City of Manchester, New Hampshire, Department of Aviation in accordance with the terms and conditions of a grant agreement between the City of Manchester, New Hampshire Department of Aviation and the United States, under the Airport and Airway Development Act of 1970 (84 Stat. 219) and FAR Part 152 (14 CFR Part 152), pursuant to which the United States has agreed to pay a certain percentage of the costs of the project that

are determined to be allowable projects costs under that Act. The United States is not a party to this contract and no reference in this contract to the FAA or any representative thereof, or the United States, by the contract, makes the United States a party to this contract.

2. Consent to assignment. The contractor shall obtain the prior written consent of the City of Manchester, New Hampshire, Department of Aviation to any proposed assignment of any interest in or part of this contract.

3. Convict labor. No convict labor may be employed under this contract.

4. Veterans preference. All contracts for work under project grants for airport development approved under this title which involve labor shall contain such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to veterans of the Vietnam era and disabled veterans. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates. For the purposes of this subsection:

   (1) A Vietnam-era veteran is an individual who served on active duty as defined by section 101(21) of title 38 of the United States Code in the Armed Forces for a period of more than 180 consecutive days any part of which occurred during the period beginning August 5, 1964, and ending May 7, 1975, and who was separated from the Armed Forces under honorable conditions; and

   (2) A disabled veteran is an individual described in section 2108(2) of title 5 of the United States Code.

5. Withholding: Owner from Contractor: The City of Manchester New Hampshire, Department of Aviation may withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics employed by the contractor or any subcontractor on the work the full amount of wages required by this contract.

6. Non-Payment of Wages. If the contractor or subcontractor fails to pay any laborer or mechanic employed or working on the site of the work any of the wages required by this contract, the City of Manchester New Hampshire, Department of Aviation may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment or advance of funds until the violations cease.

7. FAA Inspection and Review. The contractor shall allow any authorized representative of the FAA to inspect and review any work or materials used in the performance of this contract.

8. Subcontracts. The contractor shall insert in each of his/her subcontracts the provisions contained in paragraphs 1, 3, 4, 5, 6, and 7 of this section, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

a. Inspection of Records. The contractor shall maintain an acceptable cost accounting system. The Sponsor, the FAA, and the Comptroller General of the United States

shall have access to any books, documents, paper, and records of the contractor, which are directly pertinent to the specific contract for the purposes of making an audit, examination, excerpts, and transcriptions. The contractor shall maintain all required records for three years after the Sponsor makes final payment and all other pending matters are closed.

10. Contract Termination. A breach of paragraphs 6, 7, and 8 of this section, may be grounds for termination of the contract.

B. **Miscellaneous Clause Requirements for All Construction Contracts and Subcontracts**.

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows pertaining to the Civil Rights Act of 1964 (Title VI 49 CFR Part 21):

1. Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Subcontracts. including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. Information and Reports. The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Owner to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Owner, and shall set forth what efforts it has made to obtain the information

5. Sanctions for Noncompliance. In the event of the contractor’s noncompliance with the nondiscrimination provisions of this contract, the Owner shall impose such contract sanctions as it may determine to be appropriate, including, but not limited to-

a. Withholding of payments to the contractor under the contract until the contractor complies, and/or

b. Cancellation, termination, or suspension of the contract, in whole or in part.

6. Incorporation of Provisions. The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Owner may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Owner to enter into such litigation to protect the interests of the Owner and in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

C. Davis Bacon Labor Provisions (29 CFR Part 5) for All Construction Contracts and Subcontracts in Excess of $2000.

1. Minimum Wages.

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

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1 (b) (2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to laborers or mechanics, subject to the provisions of subparagraph 1 (d) below; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraph d. of this clause. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein:

Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under l (b) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at

the site of the work in a prominent and accessible place where it can easily be seen by the workers.

b. (i) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(B) The classification is utilized in the area by the construction industry; and

(C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

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

(Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs b (ii) or (iii) of this paragraph, shall be paid to all workers performing work in the

classification under this contract from the first day on which work is performed in the classification.

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

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB control number 1215-0140).

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

3. Payrolls and basic records.

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section l (b) (2XB) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid.

Whenever the Secretary of Labor has found under l (d) of this clause that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section l (b) (2) (B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the

laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB control numbers 1215-0140 and 1215-0017).

b. (i) On Federally assisted projects, the contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the FAA if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or Owner, as the case may be, for transmission to the FAA.

The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 3 (a) above. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors,(Approved by the Office of Management and Budget under OMB control number 1215-0149.)

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under 3 (a). above and that such information is correct and complete;

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

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy

the requirement for submission of the "Statement of Compliance" required by paragraph 3 (b) (ii) of this section.

(iv) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

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

D. Apprentices and Trainees

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

Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractors's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable

apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

2. Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the pay roll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

3. Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

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

F. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in paragraphs 1. through 10. of this contract and such other clauses as the Owner may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

G. Contract Termination: Debarment. A breach of the contract clauses in paragraphs 1. through 15. of this clause may be grounds for termination of the Contract, and for the debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

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

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

J. Certification of Eligibility.

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

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

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

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

L. Violation: Liability for Unpaid Wages: Liquidated Damages. In the event of any violation of the clause set forth in paragraph 11. above, the contractor or any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages.

Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph 11. above, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment to the overtime wages required by the clause set forth in paragraph 11. above.

II. Withholding for Unpaid Wages and Liquidated Damages. The City of Manchester. New Hampshire, Manchester Airport Authority shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for

unpaid wages and liquidated damages as provided in the clause set forth in paragraph 12. above.

III. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs 11. through 13. and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 11. through 13.

IV. Working Conditions. No contractor or subcontractor may require any laborer or mechanic employed in the performance of any Contract to work in surroundings or under working conditions that are unsanitary, hazardous or dangerous to his/her health or safety as determined under construction safety and health standards (29 CFR Part 1926) issued by the Department of Labor.

V. Federal Wage Rates.

The Federal Wage Rates shall be used for compliance with applicable labor laws, regulations, etc. under this contract.

END OF SECTION 00830-AIP

SECTION 01100-AIP

SPECIAL PROJECT PROCEDURES

1.01 DESCRIPTION

When the work requires the Contractor to conduct his/her operations within an Aircraft Operations Area (AOA) of the airport, the work shall be coordinated with the Owner at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the Owner and until the necessary temporary marking and associated lighting is in place.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of a portion of the AOA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AOA; immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shaII be cause for suspension of the Contractor's operations in the AOA until the satisfactory conditions are provided.

1.02 AIRCRAFT OPERATIONS AREA (AOA)

The Contractor will keep his personnel and equipment at least 50 feet from the edge of taxiways and aprons for aircraft movements.

Runway 17, 35 and 6 are the precision instrument runways at Manchester-Boston Regional Airport and may be used during IFR weather conditions, i.e., reduced visibility due to rain, fog, low clouds, etc. During IFR conditions, Contractor operations will be restricted to those operations which the Airport Operations Coordinator determines do not affect airport operations.

1.03 AIRPORT OPERATIONS SPECIALISTS

The Director of Operations and the Airport Operations Specialist shall have the authority to open and close facilities, issue and cancel NOTAM's, and coordinate with the airlines and other airport users.

At the completion of work each day and prior to the opening of the runways, the Director of Operations, the Engineer, and the Contractor Superintendent shall inspect the facilities to be opened to insure they are ready for use. The Contractor shall immediately correct any deficiencies to the satisfaction of the Director of Operations designee in accordance with these specifications.

1.04 WEATHER LIMITATIONS

Runways 17, 35 and 6 are the precision instrument runways at Manchester-Boston Regional Airport and may be used during periods of IFR weather conditions, i.e., reduced visibility due to rain, fog, low clouds, etc. During IFR conditions the Contractors operations will be restricted to those operations which the Airport Operations Specialist determines do not effect airport operations.

During periods of VFR weather conditions, i.e., good visibility when work is unrestricted due to flight and weather conditions, the Contractor shall, at all times, attempt to complete work in areas which will be unavailable during IFR conditions. VFR work areas will be coordinated by the Airport Operations specialist.

At the daily work meetings the Airport Operations Specialist will determine which areas can be worked in and discuss the weather forecast. Changing weather conditions may require the Contractor to remove his personnel and equipment from a given area upon one (1) hours notice.

1.05 REQUIREMENTS FOR NIGHTTIME CONSTRUCTION

If the contractor chooses and is authorized to work at nighttime, the following conditions must be met:

a. Construction Lighting

The Contractor shall be required to furnish, install, maintain, relocate and remove temporary lighting to illuminate the work area during hours of darkness when work is in progress. The Contractor shall provide sufficient light units to produce an average maintained illumination level of 10 horizontal foot candles throughout the work area. The Contractor shall submit isolux curves or charts showing the pattern of lights.

Illumination levels shall be calculated and measured in accordance with the standards of the Illumination Engineering Society (IES) current practice.

Metal halide lamps should be used wherever possible, because their light is more nearly that of daylight.

b. Standby Equipment

The Contractor will be required to provide standby lighting equipment to be used in emergencies or when regular equipment breaks down. When the standby is required to be used, the Contractor will be required to repair or replace the broken equipment before being allowed to proceed with the next night's work.

The standby equipment shall be provided in the following amounts:

Regular Equipment	Standby Equipment Required
1-6 Units	1 Unit
7 or more units	2 Units

The Contractor shall park the standby equipment where they will be readily available to replace the regular equipment in case of breakdown.

c. Night Work Schedule

The contractor is to submit a schedule for the night's work to the Engineer prior to 3:00 p.m. of each day in which a night operation is planned. The schedule is to contain a listing of personnel (by work classification), equipment, and description of the specific work planned for that night.

THE CONTRACTOR WILL NOT BE AUTHORIZED TO WORK UNTIL THE DAILY WORK SCHEDULE HAS BEEN REVIEWED AND ACCEPTED BY THE OWNER.

d. Authorization To Work

Night Work will be authorized or denied before 6:00 pm, on a daily basis by the Airport Operations Specialist. The Airport Operations Specialist will determine what limitations due to weather conditions will apply to night's work.

1.06 AIRPORT SECURITY

The Contractor shall comply with all airport security requirements and regulations as directed by the airport operations coordinator. Security regulations include the Transportation Security Administration (TSA) 49 CFR Part 1542 – Airport Security, as well as Airport rules and regulations.

The Contractor shall be responsible for controlling access to the work area and insuring that airport security is maintained at all times. The TSA can impose fines of $11,000.00 or more for security violations and incursions into active aircraft operation areas. In addition, the Owner may impose fines and penalties for violations to Airport rules, regulations and security procedures. The contractor shall pay all fines assessed against the airport due to violations caused by the Contractor and his personnel, subcontractors and vendors.

Security measures at the airport will require that the Contractor's employees park their personal cars in the areas designated on the plans for that purpose. Parking of personal cars at the work sites will not be permitted. The Contractor, as a subsidiary obligation shall provide adequate and safe transportation for his employees from the area where the cars are parked to and from the work area. Employees and drivers of work vehicles will be instructed as to proper access roads and will be cautioned that unauthorized use of aircraft pavements or other areas outside the designated work area may lead to their arrest and subsequent payment of fines.

Trucks delivering material to an actual work area will be subject to search and provided with an escort unless the driver has been previously cleared for operating a vehicle on the airfield.

All orders for material shall instruct the supplier of the procedures to be followed.

The Contractor shall submit to the Owner within 10 days after signing of the Contract a written method of operations detailing the precautions he proposed for the control of vehicle traffic including flagmen, signs, escorts, search and identification procedures and any other measures he proposes. A signage and security plan for the project shall be included in this information and shall be approved by the Owner prior to the commencement of work. After approval of his/her operating schedule, security and signage, the Contractor shall follow it explicitly. The Owner may close the work at any time this schedule is violated so as to not endanger aircraft operations. Such closure shall not be considered a valid reason for extending the contract time or for any claim for extras by the Contractor.

Controlled access points to the work area that impact the AOA shall be manned by an approved and trained gate guard. The Contractor shall contract through the Owner for gate guards.

All security arrangements shall be subject to the approval of the Owner.

The Contractor's personnel and vehicles will not have access to the entire airport, but shall be limited to the work area and the staging area.

1.07 OPEN TRENCHES OR EXCAVATIONS

The Contractor will not be permitted to leave any trenches or other excavations open at night, on weekends or at other times when the Contractor is not on the site. In addition, no excavations exceeding 3 inches in depth shall be left open within the runway and taxiway safety areas described in Paragraph 1.01 while runways, taxiways, and aprons are in use unless the excavations are covered with appropriate plates. Steel plates shall be capable of bearing the heaviest aircraft using the airport over the span in which they are to be used.

The Contractor shall keep the length of open trenches covered with steel plates to a minimum but in no case shall the length exceed distance between two adjacent manholes or catch basins.
All excavations shall be backfilled and the pavement repaired and properly cured prior to the area being reopened to traffic.

Prior to the close of work each day, the Contractor shall insure that the work area within the safety areas of the runways, taxiways, and aprons are graded away from the pavements at a maximum slope of 5% and shall be left in such condition that it will drain readily and effectively and will not pose a hazard to aircraft. No piles of soil shall be left unspread, no sharp changes in grade will be permitted and the surface shall be thoroughly compacted.

1.08 RADIO CONTROL

The Contractor shall have two-way radio communication between the radio control vehicle and his/her field office, Superintendent's vehicle, flagpersons, escort vehicles and gate guards. No FAA or other airport frequency will be used for this purpose. These radios shall be purchased, installed, maintained and operated at the Contractor's expense.

The Contractor shall have on site at all times one radio equipped vehicle with operator who shall monitor the radios during all working hours. The radio vehicle shall be equipped with a two-way radio on the Contractor's frequency, a two-way radio on the FAA "ground control" frequency and a two-way radio on the Airport's "granite" frequency. The radios on the ground control frequency and the "granite" frequency are to be used solely to communicate with the airport personnel, the engineer, and the air traffic control tower. Use of these radios is strictly prohibited for communication by contractor crews.

The Contractor shall furnish and maintain each of the following radios for use by the Airport Operations, the Engineer, and the Contractor during this project. Each radio shall be new and include a Spare Battery, A/C Rapid Desk Charger, Car Charger/Cigarette Lighter Cable, Harness Case, Speaker Mike, and a Magnetic Mount Vehicle Antenna with appropriate Antenna Connection Cable.

a. Three (3) each ICOM Model IC-A200 radios, a multi-channel microprocessor controlled VHF air band transceiver that can cover a communication band of 118.000 to 135.915 MHZ.

b. Two (2) each - Motorola Model HT-1250 -16 Channel Radios, a VHF two-way radio that can be programmed to communicate on the airport's "granite" frequency - Transmit Frequency: 158.9400 Tx Code 703, Receive Frequency: 153.7400 Rx Code 703.

c. One (1) each - Motorola Model M 1225 radio, a VHF two-way radio that can be programmed to communicate on the airport's "granite" frequency - Transmit Frequency: 158.9400 Tx Code 703, Receive Frequency: 153.7400 Rx Code 703.

The Contractor shall furnish and maintain the required radios for use on the airport during construction. The Contractor shall maintain the radios in "like new" condition. Upon completion of the project the radios shall be come the property of the Owner.

The following are the applicable Air Traffic Control Frequencies at Manchester-Boston Regional Airport:

<u>VHF AIR BAND</u>
Ground Control Frequency: 121.900
Tower Frequency (<u>Authorized Use Only</u>) Frequency: 121.300

All radios shall be capable of reliable two-way communication with the appropriate agencies from any location on the airport.

The Contractor shall, before the start of construction, test his/her radios with the appropriate agencies to demonstrate the capabilities and to demonstrate the performance of the operator and the equipment, the radio vehicle shall have a rotating amber light on the roof, which shall be in operation at all times. The radio car will be parked in an appropriate location so that the operator can view the work. Radio control will be required whenever the Contractor is working in or adjacent to the aircraft operations areas, and/or when deemed necessary by Airport operations. Radio control and flagpersons will be required whenever the Contractor's vehicle and equipment are on or crossing active runways, taxiways or aprons.

1.09 FLAGPERSONS

The Contractor shall provide flagpersons at each active runway, taxiway, and apron pavement being crossed by his/her equipment to assure that moving aircraft are given the right-of-way at all times. Flagpersons shall also be required when vehicles on a service road are crossing the approach to an active runway in addition to previously specified radio cars. The Flagpersons shall be carefully selected and fully instructed as to their duties in regulating the Contractor's equipment crossing the aircraft pavement. They shall also be provided with broom, shovel, and brush and instructed to remove any debris that might be left by the equipment on the aircraft pavement where it might be ingested by an aircraft engine. Each Flagperson shall be provided with and shall wear at all times he/she is directing traffic, an approved striped vest of a type specifically designed for use by traffic control personnel.

The Contractor shall also provide flagpersons or uniformed officers at locations where the haul routes enter public streets or highways from airport property in accordance with the applicable local requirements.

1.10 BARRICADES

The Contractor shall furnish and place, as required, barricades to clearly define and close work areas to aircraft operations and prevent inadvertent access by vehicles and personnel.

The barricades shall be placed as shown on the plans or as directed by the Owner. The barricades shall be low profile type, a maximum of 24 inches high, shall be painted alternating bright orange and white and when used to define hazardous areas at night, shall be lighted in a manner approved by the Owner. No open flame lighting shall be used.

All temporary lights and barricades shall be weighted against jet blasts (100 mph).

1.11 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION

Normal airport operation will be conducted on the airfield during construction and the work shall be carried on in such a manner as not to interfere with the necessary operation of the airport. The Contractor shall take all precautions necessary to insure the safety of operating aircraft as well as his own equipment and personnel.

All Contractors' operations shall be conducted in accordance with the provisions set forth within the current version of Advisory Circular 150/5370-2 and herein. The advisory circular conveys minimum requirements for operational safety on the airport during construction activities. **The Contractor shall prepare and submit a safety plan that details how it proposes to comply with the requirements presented within the safety plan**.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks of the safety plan measures to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner or Engineer

Specific requirements are as follows:

a. When the work requires the Contractor to conduct his/her operations within an AIR OPERATIONS AREA of the airport, the work shall be coordinated with airport operations (through the 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 Engineer and until the necessary temporary marking and associated lighting is in place.

b. When the contract work requires the Contractor to work within an AIR OPERATIONS AREA (AOA) of the airport on an intermittent basis (intermittent opening and closing of the AIR OPERATIONS AREA), the Contractor shall maintain constant communications as hereinafter specified; immediately obey all instructions to vacate the AIR OPERATIONS AREA; immediately obey all instructions 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.

c. No construction operations shall be carried on within 50 feet from the edge of any taxiway or within 250 feet of the centerline of any active runway or within the limits of active runway approach zones unless prior approval has been obtained. When permission has been granted to work inside these limits, no equipment shall be left within the lines when not actually working. During lunch hour breaks in the daily work schedule, nights, weekends, and the days when work is not permitted or is not progressing, the equipment shall be located outside of these restriction lines. All booms shall be lowered when the equipment is not in operation. No construction operations, including an open flame such as welding or burning, shall be carried on near any aircraft.

d. Each Contractor's motorized vehicle operating in an aircraft movement area shall be equipped with an amber flashing light and a 3 foot square flag consisting of international orange and white squares not less than one foot square displayed in full view above the vehicle.

e. In addition, all Contractor's vehicles shall have the company identification plainly visible on both sides of the vehicle in order to identify the vehicle.

f. The Contractor shall obey all instructions as to the operation and routes to be taken by equipment traveling on Airport property. Any signs, lights, signals, markings, traffic control and other devices which may be required shall be provided and maintained by the Contractor during the course of the work, subject to the approval of the Owner. No aircraft pavement or navigation aid currently in services. Shall be left out of service overnight unless closed to all operations.

g. The Contractor shall check all permanent and temporary lighting to assure its operating condition before leaving the job each day.

h. The Contractor shall stake and permanently mark on the ground with a readily recognizable marking (football field marking or similar material) the restrictions lines parallel to the

taxiways and runways adjacent to the work and the approach zone limits so that workers can readily recognize the limitations.

i. For nighttime and twilight operation all cranes must be marked with red obstruction lights to provide increased conspicuity. Provide two or more flashing (L864) beacons at the highest point of each rig, installed in a manner to ensure an unobstructed view of one or more lights by a pilot.

j. All crane booms must be painted aviation orange and topped with a 3-foot by 3-foot aviation orange and white checkerboard patterned flag. Such flag shall be up at all times when the crane is in operation during daylight hours. Flags must have a stiffener to keep them from drooping in calm wind.

1.12 HAUL ROUTES

When public highway must be used for haul routes, it will become the Contractor's responsibility to obtain the proper permits needed for this function and to obey rules and regulations pertinent to the public highways.

Haul routes on the Airport shall be as shown on the Contract drawings. The Contractor shall stake or otherwise delineate the haul routes. The Contractor's vehicles and equipment shall operate within the limits of the marked haul route.

Contractor’s vehicles will not be allowed access to portions of the Airport other than the work and staging areas.

All paved haul road or access roads shall be kept clean at all times to prevent the accumulation of dirt and mud and the generation of dust by sweeping, washing or other methods derated by the Owner. Unpaved haul roads, if any, shall be maintained by blading and filling when directed by the Owner and dust shall be controlled at all times.

Prior to the start of work, the Contractor shall take and deliver to the Owner, digital photographs and videoof all haul routes. Views shall be restored to their original condition or better before the Contract will be considered complete. All restoration and dust control on haul roads shall be at the Contractor's expense.

1.13 OBSTRUCTION LIGHTING AND MARKING

Any temporary or permanent object, including all appurtenances, that exceeds an overall height of 200 feet above the ground level or exceeds any obstruction standard contained in FAR Part 77, should be marked and/or lighted. The FAA may also recommend marking /lighting a structure because of its particular location. The Contractor shall notify Airport Management at least 48 hours prior to the erection of any object of this type.

1.14 INDOOR AIR QUALITY IMPROVEMENT

The Contractor shall implement the following procedures in an effort to improve indoor air quality during the Owner's occupancy:

a. All adhesives (for construction, floor and wall coverings), paints, thinners, solvents shall, among other technical qualifications, be selected in consideration to indoor air pollution. The use of these items in or near occupied areas is prohibited during normal operating hours;

b. Provide maximum all-outside-air ventilation during the installation of strong emitting materials. This shall be done for the purpose of reducing the contamination of order materials by absorption of solvents and other volatile components;

c. Beginning not less than three (3) weeks prior to Substantial Completion, heat the building to the maximum practical capability of the heating system for seventy-two (72) consecutive hours. maintain ventilation during beating. Immediately thereafter reduce heat to normal operating conditions and increase outside air ventilation. Ventilate the building to the maximum extent practical or not less than fourteen (14) consecutive days;

d. On projects where the Owner (or other user) occupies all or portions of the building during construction, the Contractor shall make every practical effort to minimize their exposure to fumes and dusts from construction. Such efforts shall include items A through C above, as well as the construction of temporary air-tight barriers, isolation of ventilation systems and all older appropriate means as determined by the Contractor. See Section 01510 TEMPORARY FACILITIES in the project document entitled Project Requirements.

END OF SECTION 01100-AIP

SECTION 01540-AIP

SITE SECURITY IN THE AOA

Replace section 01540-AIP with the following:

1.01 DESCRIPTION

a. This specification contains supplemental information and/or requirements for Airport Improvement Program (AIP) projects. All badging costs shall be considered incidental to the cost of the contract and shall not be paid for separately.

b. In addition to the below, the Contractor shall reference the requirements of the Manchester-Boston Regional Airport Safety and Security Phasing Plan for the project badging and gate security requirements.

1.02 IDENTIFICATION OF EMPLOYEES

a. AIRPORT SIDA BADGES: Full-time competent and responsible employees of the Contractor, such as superintendents and foremen, shall obtain an Airport SIDA badge. The SIDA badge requires finger printing screening and a criminal history check. The badge application process may take up to 14 days, the contractor shall plan accordingly.

b. CONTRACTOR ESCORTED BADGES: The Contractor shall furnish and issue, to each of his employees and the employees of all subcontractors, an escorted identification badge which the employees will be required to wear at all times on the site. The escorted badge shall be a minimum of 2.5 inches by 4 inches, laminated in plastic, and have a clip for attaching. The escorted badge shall have the following information:

1. Employee's Name (1/8" high lettering);
2. The Contractor's name (1/8" high lettering);
3. Subcontractor's name, if applicable (1/8" high lettering);
4. Manchester-Boston Regional Airport (1/8" high lettering);
5. “CONTRACTOR", "ESCORTED", 'MHT"(1/4" high lettering);
6. Badge Number (1/4" high lettering);
7. 2" by 2" color photo of employee.
8. Background color of the badge to be determined by the Owner.

c. The Contractor shall submit a sample of the proposed badge to the Owner for approval.

d. Escorted badged persons shall be escorted and within sight-line and control of an AIRPORT SIDA BADGED person at all times. The Contractor shall plan accordingly.

e. TEMPORARY BADGES: Temporary badges may be issued for employees to be on the site less than one week. The temporary badges shall be as described above except for item (7).

d. The Contractor shall provide the Owner with a list of employees on the job site and their badge number. The list shall include subcontractors and employees. The list shall be updated and submitted weekly.

e. The Contractor’s employees may be required to undergo a finger-print based criminal history records check.

f. The Contractor’s employees shall attend an Airport Security briefing prior to operating on

the AOA.

1.03 CONTROL OF SITE

a. Controlled access points to the work area that impact the AOA shall be manned by an approved and trained gate guard. The Contractor shall contract through the Owner for gate guards.

END OF SECTION 01540-AIP

THIS PAGE INTETNIONALLY LEFT BLANK