ISSUE FOR BID

CONCOURSE B - PUBLIC CARPET REPLACEMENT

CONTRACT NUMBER 201204529

PART II – TECHNICAL SPECIFICATIONS

APRIL 5, 2012

DEPARTMENT OF AVIATION
Kim Day, Manager of Aviation

DENVER INTERNATIONAL AIRPORT

PLANNING & DEVELOPMENT DIVISION
DIVISION 01 - GENERAL REQUIREMENTS

01010 – Summary of work
01014 – Work Sequence and Constraints
01015 – Security Requirements
01016 – Vehicle and Equipment Permitting
01025 – Measurement for Payment
01051 – Project Coordination
01070 – Abbreviations and Symbols
01091 – Reference Standards
01095 – Definitions and Conventions
01110 – Construction Safety
01200 – Project Meetings
01300 – Submittals
01310 – Schedule
01340 – Shop and Working Drawings, Product Data and Samples
01370 – Schedule of Values
01400 – Contractor Quality Control
01410 – Cutting and Patching
01505 – Mobilization
01576 – Traffic Control
01580 – Temporary Signs
01620 – Storage and Protection
01630 – Substitutions
01700 – Contract Closeout
01710 – Cleaning
01720 – Contract Record Documents
01740 – Warranties and Bonds
01999 – Standard Forms

DIVISION 02 - SITE CONSTRUCTION

No work this Division

DIVISION 03 – CONCRETE

No work this Division

DIVISION 04 – MASONRY

No work this Division

DIVISION 05 – METALS

No work this Division

DIVISION 06 - WOOD AND PLASTICS

No work this Division

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

No work this Division
DIVISION 08 - DOORS AND WINDOWS
No work this Division

DIVISION 09 – FINISHES
096513 - Resilient Base
096520 - Rubber Flooring
096816.13 – Carpeting – Concourse B

DIVISION 10 – SPECIALTIES
No work this Division

DIVISION 11 – EQUIPMENT
No work this Division

DIVISION 12 – FURNISHINGS
No work this Division

DIVISION 13 - SPECIAL CONSTRUCTION
No work this Division

DIVISION 14 – CONVEYING SYSTEMS
No work this Division

DIVISION 15 – MECHANICAL
No work this Division

DIVISION 16 – ELECTRICAL
No work this Division

END OF TABLE OF CONTENTS
DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this contract consists of furnishing all management, supervision, labor, materials, tools, equipment, services, testing and incidentals for the construction of the Work indicated in the contract documents including lump sum items and unit price items.

B. The Work specified in this Contract consists of furnishing all management, supervision, labor, materials, tools, equipment, services, testing and incidentals for the construction of projects on an as-needed basis as required by the Contract Documents. Scope of Work includes the removal and recycling of existing carpeted areas, floor preparation of areas receiving new carpets, and to coordinate furnishing and installing new carpets in Concourse ‘B’ Public Areas as designated by the construction drawings.

C. The Work in this Contract may impact operations of Denver International Airport. The Contractor shall bid, plan and execute the Work so as to minimize disruption of operations and inconvenience to the public. Contractor responsible for the coordination with DIA Operations and Security to provide schedules to remove, prep surface areas and install new carpets within same day service to minimize shutdown of gate areas and functions of the airport.

D. Permits are not required for carpeting projects.

1.02 WORK BY OTHERS

A. The Contractor is hereby notified that there may be other construction activities now and in the future within the project areas and adjacent to the worksites throughout the duration of this contract. The Contractor is responsible for keeping apprised of other projects and worksites and how they may affect the work.

B. The Contractor shall maintain contact with the City and with other contractors to schedule work to minimize the effect of such construction activities on other site activities. The Contractor shall also maintain, at the direction of the Project Manager, contact with tenants to ensure minimal disruption to tenant operations.

1.03 FUTURE WORK

A. The Contractor is hereby notified that there may be other future construction activities within the project and adjacent to the worksites that are scheduled after completion of this contract. It is the Contractor’s responsibility to keep apprised of such projects and how they may affect the Work.

1.04 SITE CONDITIONS

A. The Contractor acknowledges satisfaction as to the nature and location of the Work, all of the
general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, power, roads, and uncertainties of weather, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during work, and all other matters that can in any way affect the work or the cost thereof under this contract.

B. The Contractor further acknowledges, by submission of a bid and on each Work Request bid, satisfaction as to the character, quality and quantity of all surface and subsurface materials and all features on top of the surface or at worksites that would be encountered from his inspection of the site and from reviewing available records of exploratory work furnished by the City. Failure by the Contractor to become acquainted with the physical conditions of the sites and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of performing the Work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data and the site, that the Contractor can perform the Work in a good and workmanlike manner and to the satisfaction of the City. The City assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this contract unless such representation is expressly stated in the contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTRACTOR'S DUTIES

A. Except as otherwise specified, furnish the following to the full extent required by the contract:
   1. Labor, superintendence, supervision and products.
   2. Construction equipment, tools, machinery and materials.
   3. Utilities required for construction and related activities.
   4. Other facilities and services necessary to properly execute and complete the Work, including security for worksite, testing and storage and protection of all materials awaiting incorporation into the Work, providing a safe working environment for workers, City and County of Denver representatives, and the public in accordance with all local, state and federal requirements.

B. Prosecute the Work as specified and in a timely manner. Submit a schedule of Work that will be performed at times other than during the eight-hour working day of Monday through Friday, daylight hours. Submit this schedule five working days prior to the beginning of Work to the Project Manager for review and acceptance. Approval to work at night may be obtained after Contractor presents a written program outlining special precautions to be taken to control the extraordinary hazards presented by night work. That program shall include, but not limited to, supplementary lighting of work areas, availability of medical facilities, security precautions and noise limitations.

3.02 COORDINATION

A. Coordinate prosecution of the Work with those public utilities, governmental bodies, private utilities and other contractors performing work on and adjacent to the worksites. Eliminate or
minimize delays in the Work and conflicts with those utilities, bodies and contractors. Schedule governmental, private utility and public utility work that relies upon survey points, lines and grades established by the Contractor to occur immediately after those points, lines and grades have been established. Confirm coordination measures for each individual case with the City in writing.

B. In the coordination effort of work by others, the Contractor shall obtain and refer to equipment locations and other layouts, as available, to avoid interface problems.

C. The City reserves the right to permit access to the site of the Work for the performance of work by other contractors and persons at such times that the City deems proper. The exercise of such reserved right shall in no way or to any extent relieve the Contractor from liability for loss and damage to the work due to or resulting from its operations or from responsibility for complete execution of the Contract. The Contractor shall cooperate with other contractors and persons in all matters requiring common effort.

3.03 CONTRACTOR USE OF WORKSITE

A. Confine worksite operations to areas permitted by law, ordinances, permits and the contract.

B. Consider the safety of the Work and that of the people and property on and adjacent to the worksite when determining amount, location, movement and use of materials and equipment on worksite.

C. Do not load worksite with equipment and products that would interfere with the Work. Only equipment, tools or materials required for this Work may be stored at the worksite.

D. Protect products, equipment and materials stored on worksite.

E. Relocate stored products, equipment and materials which interfere with operations of City, government bodies, public and private utilities, and other contractors.

F. Contractor to provide a Phasing Plan for removal and installation of areas to maintain adequate accessibility to facilities by public and facility employees. Temporary signage to provide directions to accessible locations and routes.

3.04 LIQUIDATED DAMAGES

A. Refer to the procurement and contracting requirements for the damages to be charge per day for failure to complete work within the Contract time.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this section including any and all necessary
relocations requested by the City. The cost of the work described in this section shall be included in the applicable multiplier or bid items contract price.

END OF SECTION 01010
SECTION 01014

WORK SEQUENCE AND CONSTRAINTS

PART 1 - GENERAL

1.01 OTHER WORK

A. Other concurrent construction contracts with which the Contractor must interface are described elsewhere in the Contract Documents. Refer to Technical Specifications Section 01310 and the Special Conditions for specific work constraints and milestones.

1.02 WORK SEQUENCE

A. The work sequence shall be in compliance with Phasing, Sequencing and Milestones as indicated in the Contract Documents and in accordance with the approved Construction Schedule developed by the Contractor. The schedule shall be in compliance with requirements indicated in the Special Conditions and Technical Specifications Section 01014 Work Sequence and Constraints. The Construction Schedule is described in Technical Specifications Section 01310 Schedule.

1.03 WORK CONSTRAINTS

A. Site Constraints

1. Access to the project shall be generally as indicated in the Contract Documents. Access shall be organized and planned by the Contractor to ensure no disruption of airline or DIA operations.

2. Access to work sites will be strictly monitored and must comply with DIA Airport Operations and FAA Regulations. The Contractor shall provide monitoring and escorts as required by DIA Operations in the area of the work.

3. The Contractor’s staging area will be as indicated in the Construction Documents.

4. Contractor employee parking will not be allowed within the existing revenue control system. To access the Terminal building, Contractor employees may use the DIA Landside Employee Parking Lot located on 78th Avenue at a cost of $30.00 per month per employee. A free DIA shuttle to the Terminal is available from this Lot. Material for work in the Terminal may be brought in through the Terminal Loading Dock accessed via Gate 1.

5. Employee and material access to the Concourse B will be via Gate 5.

6. The Contractor shall use the haul routes specified in the plans.

7. If required, the Contractor shall provide a bus and driver to transport the Contractor’s employees between the designated employee parking area and the work sites. No separate payment will be made for this bus and driver. The cost shall be included in the bid item “Mobilization”. The bus driver shall be provided at all times when Contractor employees are working on the project.

8. The Contractor shall provide a weekly Phasing Plan to the DIA Operations through the Project Manager for approval. Phasing Plan shall be updated daily.

9. All work shall be performed after hours, and in phase coordinated with DIA Operations,
DIA Security and Concourse B airlines and gate scheduling.

10. Contractor shall be responsible for moving, to locations directed by the DIA Project Manager, all furniture, removal of old carpet, recycling removed carpet, prepping of floor surfaces, installation of new carpeting and replacing furniture prior to reopening during normal airport or particular airlines operation hours.

11. Contractor’s Field Supervisor(s) to oversee any and all tools used for the project on a daily basis and report including a required sign-out and sign-back-in the tools used by each worker for each work shift.

B. System Interruptions

1. The Contractor shall submit on approved forms through the Project Manager to DIA Maintenance Control any written requests for system interruptions such as fire alarm, HVAC, electrical, water systems or other systems. System interruptions shall not be considered if the interruptions interfere with airport operations or tenant operations. Interruptions or system shut down shall be limited to between the hours of 11:00 p.m. and 5:30 a.m. Baggage system shutdown shall be limited to between the hours of 10:00 p.m. and 4:00 a.m. and in accordance with Technical Specifications Section 01014, paragraph 1.03.F. Roadway shutdown times are to be coordinated with Airport Operations and the DIA Project Manager prior to submitting a request for approval to shutdown a roadway.

2. The request forms shall be submitted only during the normal work week (Monday through Friday) between 8:00 a.m. and 4:00 p.m.

3. Upon approval of a system shutdown, the Contractor representatives and the individuals performing the work shall remain at the worksite and shall remain in contact with Maintenance Control until such time as the system is restored to working condition. The requesting party shall assume liability for the system until the system is restored to proper working order.

4. Fire Systems, HVAC, and Plumbing: Submit requests two working days prior to the time of requested interruption.

5. Electrical System Interruptions: Submit requests five working days prior to the time of requested interruption.

C. Airfield Operations at Denver International Airport

1. Full airport and aircraft operations are underway adjacent to this project. Contractors are required to obtain a Contractor Participant Manual from the Security Manager and must follow the guidelines in the manual. Copies of the Contractor section of the manual are available for review at the Denver International Airport Access Services Office.

   a. If any Work contains requirements for Work activities or access through or in the restricted area, reference Technical Specifications Section 01015 and 01016 for requirements.

   b. If not in a restricted area, the Contractor personnel still must be badged; reference Technical Specifications Section 01015.

D. CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM

1. Contractor activities shall comply with Airport Operations and Regulation 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.
E. OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION
   1. All work shall be accomplished in accordance with FAA Advisory Circular AC150/5370-2C, "Operational Safety on Airports During Construction", FAR Part 139 and FAR Part 107 except as herein modified.

F. Procedures and Constraints
   1. Electrical Service: The Contractor shall be responsible for verifying with the DIA Project Manager or representatives locations acceptable for accessing electrical power for welders and other electrical equipment feeders. The Contractor shall be responsible for all work and equipment required to install temporary or permanent electrical modifications for construction power and lighting.
      a. Temporary Hook-up: Pigtails wired into electrical panels - temporary only: Permanent installation shall require conduit, labeling, and all requirements of Division 16 Technical Specifications. Comply with the following:
         1) Provide 20 amp, 3 pole plugs.
         2) Wire shall be (4) #10 copper
         3) 480V, 3 phase, 3 pole, 4 wire twist lock ground line
         4) NEMA L16-20 or ANSI C73.87
      b. The Contractor may not begin operation of the equipment prior to request for inspection by DIA representatives and acceptance of the installation.

   2. Grounding: Review with DIA representative’s area of work prior to beginning work to ensure ground procedures do not induce undesirable charges in steel building system or other systems. This review should take place subsequent to the pre-work meeting. Do not ground to adjacent building systems, baggage system, hangers, or devices that support mechanical or electrical equipment.

G. Cleaning Equipment and Spoils
   1. Discharge of water, liquids, or chemicals into the building waste, drain systems or storm drainage systems is prohibited. The Contractor shall comply with all Federal, State, and Local requirements for disposal of chemicals. The Contractor shall maintain and service in work areas containers for discharge of water from cleaning of any construction equipment or removal of water from excavations.

H. Vehicle Permitting for Tunnel and Basement Use
   1. Electric carts require permitting. The Contractor shall provide at least one electric cart for Contractor use during the work in the tunnel and basements of the buildings. Only CNG powered trucks are allowed in the tunnel and basements of the buildings. CNG/gasoline trucks may be used and shall not be parked overnight or for long terms within the tunnel or basements. All vehicles require permitting. Permits may be acquired at the DIA Airport Security Office for a fee of $5.00 each (non refundable) with a $100.00 deposit (refundable at project completion).

I. Radio and Cell Phone Use
   1. The Contractor shall have in place prior to initiation of work in the tunnel or basements communications equipment either by use of cell phone and or radio. Cell phone use is limited to “line of sight” communication. Radio equipment shall be submitted to DIA for approval of use at least 14 days prior to intended use. Radio equipment frequencies shall be submitted. Frequencies shall be subject to DIA approval.

J. Keys
1. The Contractor shall be required to contact DIA Maintenance Control to procure keys for access to all rooms having locks in order to gain access. Keys may be checked out at the beginning of each work shift by the Contractor and shall be returned to DIA Maintenance Control at the end of each work shift.

1.04 COORDINATION

A. The Contractor will designate a contact person for coordination with the Project Manager and airline tenants. The contact person shall have the authority to make decisions for the Contractor firm and shall have binding signatory power for changes in work. The contact person shall be on site at all times during work activity.

B. No additional costs shall be considered for coordination activities throughout this project. The Contractor shall include in his bid costs for coordination of all activities.

1.05 LATE COMPLETION

A. The Contractor will notify the City as soon as possible, but in no case not less than four weeks in advance, of the inability to meet any of the constraints or milestones. Notification shall be consistent with the requirements of Article 5, General Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01014
SECTION 01015
SECURITY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Badges and Permits: DIA requires personnel badging and vehicle permitting administered by the Denver International Airport Security Office. The Contractor shall be required to obtain the proper access authorizations for badges and permits, and the Contractor shall immediately report the presence of unauthorized (unbadged) persons or unauthorized (no permit) vehicles on site to the DIA Project Manager.

B. Fences: If required, the Contractor shall establish and maintain a secure (fenced) perimeter at its primary operations area to include its field offices, staging and storage areas, and maintenance facilities. The responsibility for security within its operations area shall rest solely with the Contractor. Entrance gates to operations areas shall be equipped with a combination of locks to include a lock provided by the City for its use in accessing emergency equipment, should that need arise. The location, size and other physical characteristics of the Contractor's operations area must be approved by the City prior to its installation.

1. Unless specifically required by the Contract Documents and with the exception of the fenced operations area described above, the Contractor shall install no fences or other physical obstructions on or around the project work area without the written approval of the City.

C. Trash Dumpsters: To provide maximum security will all construction projects in public areas, all trash dumpsters must have the ability to be covered and locked when not in use.

1.02 VENDORS AND SUPPLIERS

A. The Contractor shall escort ON A FULL TIME BASIS all unbadged vendors and suppliers requiring access to the restricted areas. Only those vendors and suppliers providing materials and/or supplies shall be allowed on site.

1.03 CONTRACTOR PARTICIPANT MANUAL

A. Contractors are required to obtain a Contractor Participant Manual from the Airport Security Office and must follow the guidelines in the manual. The Airport Security Plan will be issued after receipt of a $250.00 refundable deposit. Copies of the Contractor section of the manual are available for review at the Denver International Airport Maintenance and Engineering Office. The Contractor shall comply with DIA policies and TSA regulations.

1. Airport Operations Regulations 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.

2. All work shall be accomplished in accordance with FAA Advisory Circular AC150/5370-2E, "Operational Safety on Airports During Construction", 49 CFR Part 1542 and 14 CFR Part 139 except as modified herein.

3. The following paragraphs supplement, modify, change, delete from or add to FAA AC150/5370-2E. Where any paragraph, subparagraph or clause of the Advisory
Circular is modified or deleted by these supplements, the unaltered provisions of that paragraph, subparagraph or clause shall remain in effect.

4. The Transportation Security Administration requires that all operating airports be secured from the general public and has the authority to issue citations for violations of these requirements. It is the responsibility of the Airport to ensure all fences and gates are secure. If a Contractor's operations necessitate the frequent use of a particular gate, the Contractor shall place a guard at the gate who shall have been trained and certified by Airport Operations to facilitate access to its work. The Contractor assumes full responsibility for maintaining security once this is done. Any fines levied against the Airport as a result of the failure by the Contractor to provide adequate security shall be passed on to the Contractor. A more detailed explanation of security requirements may be found in the Contractor Participant Manual.

5. Contractors will be required at all times to have a supervisor or foreman at each work location in both restricted and non-restricted areas.

B. Access to Restricted Area via Vehicles

1. The Contractor shall obtain access to the restricted area via vehicle only when the vehicle displays a Vehicle Permit issued by Airport Security (refer to Technical Specifications Section 01016) and the driver has an Airport ID badge with a driver authorization.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SUBMITTAL FOR BADGES

A. Airport identification badges and driver authorization permits shall not be issued prior to Notice to Proceed. The Contractor may at his own risk submit the required information to DIA Maintenance and Engineering Division and to DIA Airport Security prior to Notice to Proceed in order to expedite the badging and permitting process.

B. By submitting information for personnel badges, the Contractor certifies that the personnel have no disqualifying felony convictions, as defined by Federal Regulations, the employees have valid Colorado driver licenses, and the employees have not previously been required to surrender their badges due to any violations.

C. Airport ID Badges are obtained as follows:

1. The Contractor shall designate an Authorizing Agent who is a full time employee of the Contractor and who shall be authorized to sign for the Contractor on employee applications for badges.

2. The Contractor shall meet with the DIA Project Manager to review the procedures and required access points at DIA. The Contractor and the Project Manager shall visit the site to verify the access points. Access points shall be listed and submitted by the Contractor to the Project Manager for review and comment prior to Contractor's application for badging.

3. The Contractor's Authorizing Agent shall schedule a Participant Meeting with the DIA Airport Security Office to review DIA security procedures. A second meeting will be scheduled for the Authorizing Agent to learn how to successfully complete the required
forms for employee badges and vehicle permits.

4. A Criminal History Record Check and Security Threat Assessment (STA) are required for each employee requesting unescorted access to the restricted areas. The employee will complete the Airport Security Badging and Fingerprinting Form (two-sided form) and schedule an appointment with the Airport Security Office to have the form reviewed and to be fingerprinted. The Federal Bureau of Investigation will conduct the Criminal History Records Check and will return the results to the Airport Security Office. (Usually within 3 to 30 business days) The cost of the Criminal History Records Check is $40.00.

5. When notified by Airport Security that the Criminal History Records Check is completed and cleared, the Contractor shall call to schedule an appointment for employees to come to the Airport Security Office to receive security and driver training. The appointment will take approximately one hour for security training and approximately two hours for security and driver training.

6. All employees will see an interactive security film and must pass a test when they come in for their Airport ID badge appointment. All employees driving on the airfield must also view an interactive driving film and take a second test in addition to receiving airfield driver familiarization training by the Contractor’s driver trainer before being allowed to drive on the airfield. Driver familiarization training must be completed within 10 days of receiving the badge.

7. **ALL EMPLOYEES ARE REQUIRED TO HAVE EITHER A YELLOW CONTRACTOR BADGE OR GREEN CONTRACTOR ESCORT BADGE**. The Contractor is advised that there is a $200.00 deposit due for each Airport ID issued for unescorted access (Yellow Contractor badge) in addition to the $10.00 badge fee. The deposit is refundable but not transferable. The fee for each Airport ID issued for escorted access (Green Contractor Escort badge) is also $10.00 but there is no deposit required. Rebadging fee for both types of badges is $10.00. The Contractor is advised that there is a $200.00 deposit due for each Airport ID badge issued in addition to the $10.00 badge fee. The deposit is refundable but not transferable. Rebadging fee is $10.00.

8. The Airport ID badges must be returned to the Airport Security Office prior to final payment. All Airport ID badges are issued with the expiration date of the project on the badge. Contractors shall notify the Project Manager as soon as possible but in no case less than four weeks in advance of any requirement to extend the duration of badge validations.

9. Total fees for startup:
   - $250 Airport Security Plan Deposit
   - $ 40 Criminal History Records Check (per employee) for Unescorted access.
   - $10.00 State Background & ID Check (per employee) for Escorted access
   - $ 10.00 Badge (per employee)
   - $200.00 Refundable badge deposit (per employee)

### 3.02 DUMPSTERS

A. Security Requirements: The following procedures must be followed to provide maximum security with all construction projects in public areas:

1. Roll-off dumpsters must have the ability to be covered (hard side) and locked when not in use.

2. When unlocked and in use, the Contractor shall provide an employee, or a subcontractor’s employee, to stand by the dumpster to prevent unauthorized placement of prohibited items.
3. If the Contractor is not able to have a roll-off dumpster with the ability to be locked, the dumpster shall be removed from the public area when the construction site is inactive.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01015
SECTION 01016

VEHICLE AND EQUIPMENT PERMITTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall comply with the Airport Security Plan. Vehicle permits are required for all vehicles operating in the restricted area. Two types of permits are required. The DIA vehicle permit is required for vehicles operating in the restricted area but limited to above grade, outdoor activity. Vehicles or machinery operating within buildings shall be required to acquire a DIA emissions permit as well as a DIA vehicle permit.

B. Contractors performing work in or through restricted areas are required to obtain a Contractor Participant Manual from the Security Manager and must follow the guidelines in the manual. Copies of the Contractor section of the manual are available for review at the Denver International Airport Operations Office. Contractors shall comply with the DIA Rules and Regulations.

1. Airport Operations Regulations 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.


3. The following paragraphs supplement, modify, change, delete from or add to FAA AC150/5370-2C. Where any paragraph, subparagraph or clause of the AC is modified or deleted by these supplements, the unaltered provisions of that paragraph, subparagraph or clause shall remain in effect.

4. Special care shall be exercised by the Contractor when operating within clear zones, under approach and departure zones of runways and in the apron area. The clearance zones shall be considered as extending to a distance of 750 feet laterally from the centerline of runways and to a distance of 193 feet laterally from the centerline of taxiways. Where these zones overlap, the greater distance shall apply. Vertical clearance in the approach and departure zones shall be considered as starting at grade 200 feet beyond the ends of runways and rising at the rate of 50 feet horizontal to one foot vertical.

5. When Work under this contract will take place in the areas listed above, the Contractor must have a radio for communications with Airport Operations. The radio will be assigned after receipt of a $2,000 deposit. The radio must be with personnel performing work in the airfield operations areas.

6. Access to the runways, taxiways and aprons shall be gained by the Contractor after establishing radio communications with Airport Operations. No personnel or equipment will be allowed on the runways until radio contact has been made with Airport Operations and permission given.

7. Access to airport operations areas will be limited in order to allow the maximum efficient movement of aircraft. As part of this limitation the Contractor may be required to only use these areas late at night when there is less aircraft traffic.
8. Once admitted into the restricted area, the Contractor shall proceed directly to the Work
location by way of a route assigned by Airport Security. At no time shall a Contractor or
any of its personnel enter onto a taxiway, runway or ramp without proper clearance from
the Airport Operations Manager or Assistant Airport Operations Manager. Contractors
or individuals violating these requirements for driving in the restricted area may be
subject to fines, suspension or permanent revocation of the Airport ID badge and driver
authorization.

9. The Transportation Security Administration requires that all operating airports be
secured from the general public and has the authority to issue citations for violations of
these requirements. It is the responsibility of the Airport to ensure all fences and gates
are secure. If a Contractor’s operations necessitate the frequent use of a particular
gate, the Contractor shall place a guard at the gate, who shall be trained and certified by
the Airport Operations, to facilitate access to its work. The Contractor assumes full
responsibility for maintaining security once this is done. Any fines levied against the
Airport as a result of the failure by the Contractor to provide adequate security shall be
passed on to the Contractor. A more detailed explanation of security requirements is in
the Contractor Participant Manual which is available from Airport Operations.

10. Cranes and Construction Equipment: The Contractor shall provide the necessary
drawings and specifications to indicate all information needed by the FAA and the City
including but not limited to location of construction activities and height of objects
including cranes, construction equipment and vehicles. Drawings shall be scaleable
site plans indicating northing and eastings of proposed equipment locations, air space
northing and eastings of activity and elevations of equipment based on DIA datum.
Specifications shall include standard sheets on equipment specifications and any non-
standard modifications to the equipment.

11. The above information shall be submitted to the Project Manager for approval five days
prior to mobilization. Changes to information submitted shall be re-submitted for
approval at least five days prior to mobilization of any change.

12. If required by DIA, standard DIA-approved warning lights and flagging will be required
on any temporary equipment or structures.

13. Lighting of the work area is subject to approval by DIA Operations and DIA Planning and
Development. The Contractor shall include in item (10) above information on any site
lighting proposed by the Contractor. The locations, heights and types of luminaries shall
be submitted. The Contractor shall conduct his activities, especially lighting, so as not
to interfere with Airport and FAA operations.

C. General safety regulations when in aircraft operations areas may include the following:

1. At all times, the Contractor shall coordinate its work with the requirements of the Airport
site and operations. All work, movement of men, materials, supplies and equipment in
areas used by aircraft shall be subject to regulations and restrictions established by the
City. The Contractor shall take special precautions and be fully responsible for the
prevention of damage to materials and equipment in the areas affected by the jet blast
of taxiing aircraft. No work shall proceed until necessary protective devices are placed
as required to protect the public, airport operations, property and personnel from the
hazards of the Work. The Contractor shall proceed with his work, including temporary
work and storage of tools, machinery and materials, to cause no interference with or
hazards to the operation of the Airport.

2. Landings, takeoffs and taxiing shall take precedence over all Contractors’ operations. In
the event that the Contractor is notified that an emergency landing or a takeoff is
imminent, the Contractor shall stop all operations immediately, regardless of the
sequence of events in progress and shall immediately evacuate his personnel and equipment from the runway and taxiway areas as directed.

3. The Contractor shall remove its personnel and equipment to the distance specified below for the prevailing conditions:
   a. For emergencies the Contractor shall move all personnel and equipment as directed by Airport Operations or the Project Manager.
   b. At the end of a work day in areas where aircraft are operating, all equipment shall be moved to a location that is not less than 750 lineal feet measured from the near edge of the runway, taxiway or ramp area or to the location designated by the City.

4. If the Contractor is asked to leave part of its worksite to allow aircraft operation, the Contractor shall clean the area to allow safe aircraft movement. Cleaning may include sweeping the area to prevent damage to aircraft.

D. Vehicle Permitting

1. Vehicle permits are limited to those vehicles and or equipment required for completion of the work. Employee vehicles will not be issued permits. Employee parking is addressed in Technical Specification Section 01014 or as indicated in the Contract Documents. No Contractor employee parking will be acceptable in the Restricted Area.

2. The Contractor shall obtain access to the restricted area only when the vehicle displays a Contractor permit and the driver has an Airport ID badge with a driver authorization. Vehicle permits may be obtained as follows:
   a. Contractor vehicle permits cost $105.00 dollars, of which $100.00 dollars is a deposit refunded at completion of work and after the permit is returned to Airport Security. Vehicle permits must be surrendered before final payment will be made for work accomplished. A Vehicle Permit Application must be filled out and approved by the Project Manager prior to the issuance of the permit. The Contractor's Security Coordinator must file a sponsorship form with DIA Access Services and accompany any subcontractor requesting a vehicle permit. The approved vehicle application must be presented at Airport Security to obtain the vehicle permit.
   b. All vehicles that are not permitted by Airport Operations to drive in the restricted area are required to be escorted. All vehicles that are escorted must have a minimum of $1,000,000.00 combined single limit coverage with a 30 day notice of cancellation to Airport Operations. All unescorted vehicles must have $10,000,000.00 combined single limit coverage with a 30-day notice of cancellation to Airport Operations prior to any permits being issued.
   c. Contractor permits are issued with the expiration date of the project on the permit. A $5 fee will be charged for a new permit that requires an extension of time.
   d. The Contractor must have a four-inch letter company logo on each side of the vehicle, or the Contractor shall obtain an orange and white checkered flag. The cost of the flag is $30.00, and may be obtained at Access Services. All vehicles operating in the restricted area must display the logo or the flag at all times. Contractors may use old flags in good condition.
   e. The Contractor shall obtain a driver authorization for all operators of vehicles in the restricted area. Reference Technical Specifications Section 01015.
   f. Contractors will be required to have a supervisor or foreman at each work location at all times.

E. Equipment Permitting
1. Fossil fuel powered equipment to be used in the interior of buildings and/or in basement/tunnel areas shall require inspection by DIA Maintenance and the Denver Fire Department. **Only CNG fossil fuel powered equipment may be used; gasoline powered, propane powered, or diesel powered equipment will not be acceptable unless identified and operated per Specifications Section 01014.**

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

3.01 PERMITS

A. Vehicle permits shall not be issued prior to Notice to Proceed. The Contractor may, at his own risk, submit required information prior to Notice to Proceed to the following:

1. Vehicle permit: DIA Engineering Group or DIA Airport Security
2. Equipment and vehicle emissions permit: DIA Engineering or DIA Maintenance Group.

3.02 SCHEDULE

A. The Contractor shall allow in his schedule five days for DIA review of submittals for permits. Testing of equipment and review by the Denver Fire Department shall be scheduled by the Contractor. By submitting information for permits, the Contractor certifies that equipment and vehicles comply with all city, state and federal regulations including but not limited to emissions, licensing and safety requirements.

**PART 4 - MEASUREMENT**

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

**PART 5 - PAYMENT**

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item. All permits shall be returned to the City prior to the Contractor submittal for Final Settlement, Termination, and/or upon written request from the Project Manager.

**END OF SECTION 01016**
PART 1 - GENERAL

1.01 SCOPE

A. This Section covers the requirements for measurement of quantities for payment as they apply to this contract.

B. Measurement methods specified in the individual sections of these specifications shall govern if they differ from methods specified in this Section.

C. The Contractor will compute all final quantities subject to review and acceptance by the Project Manager. Where necessary, such computations will be based upon surveys performed by the Contractor as specified in Technical Specifications Section 01050.

1.02 MEASUREMENT OF QUANTITIES

A. Measurement Standards

1. All work to be paid for at a contract price per unit of measurement will be measured by the Contractor in accordance with United States Standard Measures.

2. Measurements are subject to check and review by the Project Manager: if errors are found the Contractor shall correct them. If, in the opinion of the Project Manager, the errors are significant or frequent enough, the Project Manager may make the measurements with his own forces at the Contractor's expense. No payment will be made on that portion of an item containing measurement or calculation errors until the errors are corrected to the satisfaction of the Project Manager.

B. Measurement by Weight

1. Items to be paid for by weight shall be measured by scale or by handbook weights for the type and quantity of material actually furnished and used. One ton shall consist of 2,000 pounds. Handbook weights will only be allowed if there is one-half of one percent or less difference between the handbook weight and the allowable deviation per manufacturer's specification of a material's finish weight.

2. Material to be measured and paid for by weight shall be weighed on accurate, approved scales, furnished by and at the expense of the Contractor. Platform scales of sufficient size and capacity shall be used to permit the entire vehicle or combination of vehicles to rest on the scale platform while being weighed. Combination vehicles may be weighed as separate units provided they are disconnected while being weighed. All scales shall be inspected and certified as often as the Project Manager may deem necessary to ascertain accuracy. Costs incurred as a result of regulating, adjusting, testing, inspecting and certifying scales shall be borne by the Contractor.

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

b. Scales shall be accurate to within one-half of one percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under
the observation of the Project Manager before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.

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

d. Scale installations shall have suitable weights or devices available for testing the weighing equipment.

e. 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.

f. Scales "overweighing" (indicating more than correct weight) will not be permitted to operate and all materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of one-half of one percent.

g. 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.

3. The Project Manager may be present to witness the weighing and to check and compile the daily record of such scale weights; however, in any case, the Project Manager will require that the Contractor furnish weigh slips and daily summary weigh sheets. In such cases, a duplicate weigh slip or load slip for each vehicle weighed shall be furnished to the Project Manager at the point of delivery of the material.

a. As a minimum, the weigh slips shall contain the following information:
   1) Contractor’s name and contract number
   2) Supplier’s name and location of material source
   3) Type of material
   4) Haul unit’s unique identification number
   5) Empty weight (this should be checked three times per day)
   6) Full weight
   7) Weight of material hauled
   8) Scale operator’s signature stating the weights are correct to within one percent of standard weights.

b. The loads shall be weighed prior to water being added.

4. If the material is shipped by rail, the certified car weights will be accepted provided that only actual weight of material will be paid for and not minimum car weight used for assessing freight tariff. Car weights will not be acceptable for material to be passed through mixing plants or material off loaded from rail cars and hauled to the jobsite by trucks from rail cars located off the worksite.

5. Trucks used to haul material being paid for by weight shall be weighed empty daily and at such additional times as the Project Manager may require. Each truck shall bear a plainly legible identification mark. The Project Manager may require the weight of the material verified by weighing empty and loaded trucks on such other scales as the he may designate.

6. When requested by the Contractor and approved by the Project Manager in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Project Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.
7. The Contractor shall comply with all legal load restrictions in the hauling of equipment or materials on public roads beyond the limits of the project. A special permit will not relieve the Contractor of liability for damage resulting from the moving of equipment or material.
   
a. The operation of equipment or hauling loads that cause damage to structures, the roadway or any other construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited by the Contractor to methods and equipment that will prevent damage to the pavement structure before the expiration of the curing periods. The Contractor shall be responsible for the repair of all damage and related expenses resulting from hauling equipment and construction operations.
   
b. If a vehicle’s gross weight exceeds the legal limit, and the material transported by the vehicle is delivered to the project, the material and the scale ticket (certificate of correct weight) will not be accepted, except a 500 pounds tolerance will be allowed for overweight loads.
   
c. If a scale ticket from an overweight vehicle is inadvertently accepted and the material incorporated into the project, the Project Manager will adjust the price for the overweight load as follows:
      1) The pay item quantity represented by the amount of material in excess of the legal weight plus 500 pounds tolerance will not be paid for.
      2) A price reduction will be assessed for the overweight portion of the load based on the following schedule:

<table>
<thead>
<tr>
<th>Overweight (pounds)</th>
<th>Price Reduction (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 500</td>
<td>0</td>
</tr>
<tr>
<td>501 - 3,000</td>
<td>20</td>
</tr>
<tr>
<td>3,001 - 4,000</td>
<td>40</td>
</tr>
<tr>
<td>4,001 - 5,000</td>
<td>82</td>
</tr>
<tr>
<td>5,001 - 6,000</td>
<td>130</td>
</tr>
<tr>
<td>6,001 - 7,000</td>
<td>226</td>
</tr>
<tr>
<td>7,001 - 8,000</td>
<td>376</td>
</tr>
<tr>
<td>8,001 - 9,000</td>
<td>582</td>
</tr>
<tr>
<td>9,001 - 10,000</td>
<td>842</td>
</tr>
<tr>
<td>Over 10,000</td>
<td>870 plus $164 for each 1,000 lbs., or fraction thereof, or 10,000 lbs.</td>
</tr>
</tbody>
</table>

C. Measurement by Volumes

1. Measurement by in-place volume will be by the cubic dimension listed or indicated in the Schedule of Prices and Quantities. Volume measurements will be neat line as shown on contract documents, or if actual field measurements show that the volume is less than neat line, the actual volume will be used. Method of volume measurement shall be by average end area method, with end areas taken at no greater than 100 feet apart or every major change in the cross section area, which ever occurs first, unless noted otherwise. The Contractor may request alternate methods subject to the approval of the Project Manager.

2. Material indicated 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 Project Manager provided that the body is of such shape that the actual contents may be readily and accurately determined and is water tight so that the volume can be measured by filling with water. 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.

D. Measurement of Areas

1. Measurement of areas will be by the square dimension listed or indicated in the Schedule of Prices and Quantities and or Unit Price Items. Area measurements will be neat line as shown on contract documents or, if actual field measurements show that the area is less than neat line, the actual area will be used. All longitudinal measurements shall be horizontal unless noted otherwise. Method of square measurement will be as determined by the Project Manager.

E. Measurement of Linear Items

1. Linear measurement will be by the linear dimension listed or indicated in the Schedule of Prices and Quantities and/or Unit Price Items. Linear measurements will be neat line as shown on contract documents, or if actual field measurements show that the linear measurement is less than neat line, the actual linear measurement will be used. Method of linear measurement will be as determined by the Project Manager. Generally, items, components or work to be measured will be measured at the centerline of the item in place.

1.03 FIELD MEASUREMENT FOR PAYMENT

A. The Contractor will compute all quantities of Work performed by the Contractor, including quantities of materials and equipment delivered to the site, for final payment purposes. Computed quantities are subject to check and review by the Project Manager. If errors are found, the Contractor shall correct them. If, in the opinion of the Project Manager, the errors are significant or frequent enough, the Project Manager may make the calculations with his own forces at the Contractor's expense. No payment will be made on that portion of an item containing calculation errors until the errors are corrected to the satisfaction of the Project Manager.

1. The Contractor will show the actual measurements that are used to compute the quantities along with the formulas used. As requested by the Project Manager, the Contractor shall supply the Project Manager with computations and sketches indicating where measurements were taken and their relationship to the finished product.

B. The Contractor will supply the Project Manager with an electronic copy and instruction manual of any computer programs used to calculate quantities. Any computer program used shall be executable on an IBM compatible computer with a 286, 386, 486 or Pentium processor. The Contractor shall also provide an electronic copy of the data files used to determine quantities.

C. The Contractor shall take all measurements for payment purpose in the presence of the Project Manager in accordance with the provisions for measurement specified herein and in Technical Specifications Section 01050.

1.04 REJECTED MATERIALS

A. Quantities of material wasted or disposed of in a manner not called for under the contract, rejected loads of material including material rejected after it has been placed by reasons of the failure of the Contractor to conform to the provisions of the contract, material not unloaded from the transporting vehicles, material placed outside the lines indicated on the contract drawings or established by the Project Manager, or material remaining on hand after completion of the Work will not be paid for and such quantities shall not be included in the
1.05 PAYMENT CONSIDERATIONS

A. Payment will be full compensation for furnishing all labor, materials, tools, equipment, transportation, services and incidentals as specified in the General Conditions, technical specifications, and contract drawings, and for performing all work necessary for completing the item or work classification including all incidental work.

B. Full compensation for all expenses involved in conforming to the requirements for measuring materials shall be considered as included in the unit or lump sum prices paid for the materials being measured and no additional compensation will be permitted.

END OF SECTION 01025
SECTION 01051

PROJECT COORDINATION

PART 1 - GENERAL

A. Work specified in this Section includes coordination efforts which must be provided by the Contractor to ensure that work by others in the contract designated work area and adjacent areas does not negatively impact the Work and overall project.

1.02 CONTRACTOR'S RESPONSIBILITIES

A. The construction schedule as specified in Technical Specifications Section 01310 shall reflect all interfaces and coordination efforts as specified in General Condition 701, Special Condition SC-6, Technical Specification Sections 01010, 01014, 01051, and 01650, and other related contracts and procurement documents.

B. The Contractor will establish regular working relations with all contractors, tenants and the Airport Maintenance Department working in the same area and areas adjacent to the construction site. The Contractor will attend construction progress meetings as described in Technical Specification Section 01200 and will coordinate work as described therein.

C. The Contractor will assign a member of his staff to act as a coordinator, who will work to coordinate the Contractor's work with other parties doing work at the Denver International Airport site.

1.03 COORDINATION WITH OTHER PROJECTS

A. Minimum cooperation requirements with other contractors include the following:

1. Regular meeting (weekly or more often)
2. Construction schedule coordination
3. Staging area and access planning (to include employee shuttle routes)
4. Deliveries
5. Traffic control.

B. When and where required, the Contractor shall develop appropriate coordination drawings for use by interfacing adjacent parties using the Denver International Airport site.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)
PART 4 - METHOD OF MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01051
PART 1 - GENERAL

1.01 REFERENCE LIST

A. Documents published by the following agencies may be referenced within these Contract Documents to define the quality of materials, equipment, workmanship and other features of work. Unless otherwise stated, the reference documents shall be of the latest edition as of the date of the Advertisement for Bids.

B. Wherever used in the Contract Documents, the following abbreviations will have the meanings listed:

- AALA: American Association of Laboratory Accreditation
- AAO: Affirmative Action Officer
- AFI: Air Filter Institute
- ANSI: American National Standards Institute, Inc.
- ASNT: American Society for Non-Destructive Testing
- ASTM: American Society for Testing and Materials
- BID: Building Inspection Division, Department of Public Works
- CAR: Corrective Action Report
- CCD: City and County of Denver
- CCR: Contractor Change Request
- CD: Change Directive
- CN: Change Notice
- CO: Change Order
- CPM: Critical Path Method
- CR: Change Request
- CSI: Construction Specifications Institute
- DIA: Denver International Airport
- DOT: United States Department of Transportation
DOR  Designer of Record
EEO  Equal Employment Officer or Equal Employment Opportunity
EIS  Environmental Impact Statement
EPA  Environmental Protection Agency
FM  Factory Mutual Association
FS  Federal Specifications (U.S. General Services Administration)
GCC  General Contract Conditions
ICBO  International Conference of Building Officials
NBS  National Bureau of Standards (now called National Institute of Standards and Technology)
NCR  Nonconformance Report
NFC  National Fire Code (as published by NFPA)
NFPA  National Fire Protection Association
NTP  Notice to Proceed
NVLAP  National Voluntary Laboratory Accreditation Program
OSHA  Occupational Safety and Health Administration
PS  Product Standard of NIST (U.S. Department of Commerce)
PM  Project Manager (DIA)
QA  Quality Assurance
QC  Quality Control
RAR  Remedial Action Request
RFI  Request for Information
SC  Special Contract Condition
TCP  Traffic Control Plan
TSA  Transportation Security Administration
UBC  Uniform Building Code (published by ICBO)
UL  Underwriters Laboratories, Inc.
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01070
SECTION 01091

REFERENCE STANDARDS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. This Section contains a summary of industry-accepted and recognized standards published by trade associations, government and institutional organizations which are referred to in the various Sections of these specifications or elsewhere in the contract documents.

B. Standards listed herein are included in the contract documents by this reference and become a part of the contract documents to the same extent as though included in their entirety unless specific limitations are noted in the individual Specifications sections.

C. Listings of reference standards include name and address of the organization publishing the standard, plus the full name and designator of each of the standards referenced herein.

D. If a publication date or edition number is listed with the reference standard, that publication date or edition number shall apply; otherwise, the publication date or edition number in effect at the contract date shall apply.

E. Inclusion of reference standards herein does not make the Project Manager an agent of the publishing agency, nor does it obligate the Project Manager to perform inspections required by or to enforce rules or regulations contained in the reference standards.

1.02 REFERENCES

A. RELATED DOCUMENTS: General Conditions, Special Conditions, and applicable provisions of Division 1 sections apply to this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SCHEDULE OF REFERENCE STANDARDS

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) 1916 Race Street, Philadelphia, PA 19103, (215) 299-5585

B. National Fire Protection Association Standards (NFPA) 1 Batterymarch Park, Quincy, Massachusetts 02169-7471, 1 (617) 770-3000

C. American Association of Textile Chemists and Colorists (AATCC) P.O. Box 12215, 1 Davis Drive, Research Triangle Park, N.C. 27709-2215, (919) 549-8141

D. Leadership in Energy and Environmental Design (LEED) U.S. Green Building Council, 1800 Massachusetts Avenue NW Suite 300, Washington, DC 20036, 1(800)795-1747
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section.

END OF SECTION 01091
SECTION 01095

DEFINITIONS AND CONVENTIONS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section contains a list of definitions of words or phrases and grammatical or contextual conventions commonly used in these contract documents.

1.02 REFERENCES

A. Related Documents: General Conditions, Special Conditions, and applicable provisions of Technical Specifications Division 1 apply to this Section.

1.03 DEFINITIONS

A. Alphabetical Listing of Definitions

1. **As indicated:** Shown on the drawings by graphic indication, notes or schedules, or written in the specifications or elsewhere in the contract documents.

2. **As directed, as approved, as requested:** Unless otherwise indicated, these terms imply "by the Project Manager" and require that an instruction be obtained by the Contractor from the Project Manager.

3. **Concealed:** Embedded in masonry, concrete or other construction; installed in furred spaces; within double partitions or hung ceilings; in trenches; in crawl spaces or in enclosures.

4. **Ensure:** To make certain in a way that eliminates the possibility of error.

5. **Exposed:** Not installed underground or "concealed" as defined above.

6. **Furnish or Provide:** To supply, install and connect complete and ready for safe and regular operation of particular work unless specifically otherwise noted.

7. **Indicated, Shown, or Noted:** As depicted on drawings or specifications.

8. **Install:** To erect, mount and connect complete with related accessories.

9. **Or equal, or approved equal:** Refers to products which, in the opinion of the Project Manager, are similar in all respects to products specified by proprietary brand name. (Refer to Section 01630 for procedures for submittal of proposed substitutions.)

10. **Rework:** To repair existing items or work required to be removed and replaced in order to accomplish the Work in accordance with the contract documents.

11. **Related Work:** Includes, but not necessarily limited to, mentioned work associated with, or affected by, the work specified.

12. **Reviewed, Satisfactory, Accepted, or Directed:** Assumes by or to the Project Manager.

13. **Similar, or Equal:** Same in materials, weight, size, design, construction, capacity, performance and efficiency of specified product.

14. **Supply:** To purchase, procure, acquire and deliver complete with related accessories.
15. **Unless Otherwise Indicated and Unless Otherwise Noted**: General note to perform work as indicated or shown on drawings or in specifications unless specifically directed otherwise elsewhere in the contract documents; may be abbreviated "U.O.N.", "U.O.I.", or "U.N.O.".

### 1.04 CONVENTIONS

#### A. Specifications Format

1. In order to standardize the location of information in the Contract Documents, the specifications generally are organized in one or more of the following formats:
   a. The 16-Division "MASTERFORMAT" published by the Construction Specifications Institute.
   b. The alpha-numeric system as published by the FAA.

#### B. Organization of Drawings and Specifications

1. Organization of the specifications into divisions and sections, and arrangement or numbering of drawings is intended solely for the convenience of the Contractor in his responsibilities to divide the Work among subcontractors or to establish the extent of work to be performed by any trade.

2. Neither the Owner nor the Project Manager assume any liability arising out of jurisdictional issues or claims advanced by trade organizations or other interested parties based on the arrangement or organization of drawings or specifications.

#### C. Gender and Number

1. For convenience and uniformity, parties to the Contract, including the Owner, Contractor, and Project Manager, and their subcontractors, suppliers, installers, consultants or other interested parties are referred to throughout the contract documents as if masculine in gender and singular in number. Such reference is not intended to limit the meaning of the contract documents to the masculine gender or singular number.

#### D. Singular vs. Plural

1. Materials, products, equipment or other items of work referred to in the singular shall be construed as plural where applicable by the intent of the contract documents and shall not limit quantities to be provided by the Contractor.

#### E. Imperative Mood

1. Specifications and notes on the drawings or elsewhere in the contract documents are generally written in the imperative mood as instructions to the Contractor, whether the Contractor is specifically addressed or not.

#### F. References to Subcontractors or Trades

1. References to subcontractors, trades or other entities which are not parties to the contract shall be construed as meaning the Contractor whose responsibility it shall be to divide the Work among subcontractors or trades. Such references are used as a matter of convention, and are not intended to preclude or direct the Contractor's responsibility to divide the Work.
G. Abbreviations

1. A list of abbreviations used in the contract documents is included in Technical Specifications Section 01070; an abridged list of abbreviations used on the drawings is included with the drawings.

2. Abbreviations are believed to be those in general use in the construction industry. Contact the Project Manager for clarification of abbreviations for which the meaning is not clear.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section.

END OF SECTION 01095
SECTION 01110

CONSTRUCTION SAFETY

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Work specified in this Section includes construction safety precautions and programs by the Contractor and the basis for reviews by the Project Manager.

1.02 RESPONSIBILITY

A. The General Conditions make it clear that all safety precautions during the construction process are the responsibility of the Contractor. The Contractor is responsible for the health and safety of his employees, agents, subcontractors and their employees, and other persons on the worksite; for the protection and preservation of the work and all materials and equipment to be incorporated therein; and for the worksite and the area surrounding the worksite. The Contractor shall take all necessary and reasonable precautions and actions to protect all such persons and property.

B. This Section shall be interpreted in its broadest sense for the protection of persons and property by the Contractor and no action or omission by the Project Manager or his authorized representatives shall relieve the Contractor of any of its obligations and duties hereunder.

1.03 SUBMITTAL

A. Refer to Technical Specifications Section 01300 and 01340 for the process.

1.04 PROJECT MANAGER'S REVIEW

A. The Contractor shall provide six copies of its safety program to the Project Manager for review at least ten days before on-site construction begins. The Contractor's program must meet as a minimum all applicable federal, state and local government requirements.

1. The Contractor must, as part of the Contractor's safety program, submit six copies of the following information for acceptance by the Project Manager prior to construction:

a. Name of the Contractor's site safety representative.

b. If the Contractor is running multiple shifts or working more than 40 hours per week, the name of an assistant Contractor's safety representative who can act in the absence of the site safety representative.

c. Twenty-four hours per day emergency phone numbers of Contractor site management to be used in case of injury or accident. Provide at least four contacts.

d. How injuries or accidents will be handled including samples of the forms used to report injuries or accidents.

e. How employees will be handled who are unable to safely perform their duties, including how the Contractor will determine whether an employee is unable to safely perform his duties.

f. How and when equipment will be checked to see that it is safe, that all safety guards are in place and that the equipment is being used for its designed purpose and within its rated capacity.
g. How and when all electric devices will be checked for proper grounding and insulation. What system will be used to lock out electric systems that should not be energized.

h. How trash and human organic waste will be disposed.

i. How snow and ice will be removed by the Contractor in his project area.

j. How flammable materials will be stored and handled, and how any spills will be cleaned up and removed for disposal.

k. What system will be used to prevent fires, and if fires do occur who will be trained to fight them. Also what fire fighting equipment will the Contractor have available and how will this equipment’s condition be monitored.

l. How materials will be received, unloaded, stored, moved and disposed of.

m. What will be done to protect personnel in case of severe weather.

n. How adequate lighting will be provided and monitored.

o. How air quality will be monitored and personnel removed or protected from air that is hazardous for humans.

p. How the safety of work platforms, man lifts, material lifts, ladders, shoring, scaffolding, etc. will be ensured relating to load capacity and the protection of personnel using or working around them.

B. Prior to the start of any work by a contractor or subcontractor employee, the Contractor shall provide the Project Manager with a list of its employees, subcontractor's employees and other personnel the Contractor has requested to work at Denver International Airport, who have signified in writing that they have been briefed on, or have read and understand, the Contractor's Safety Plan.

PART 2 - PRODUCTS

2.01 CONTRACTOR'S SAFETY PLAN

A. Provide a Contractor's Safety Program as described in Part 1 of Technical Specifications Section 01110.

PART 3 - EXECUTION

3.01 IMPLEMENT CONTRACTOR'S SAFETY PLAN

A. Implement the approved Contractor's Operational Safety Plan as described in Part 1 of this Technical Specifications Section 01110. Technical Specifications Section 01110.

B. If the Contractor experiences lost time or an injury rate greater then 75 percent of the national average for all construction, the Contractor shall audit its safety procedures and submit a plan to reduce its rates.

C. If at any time the lost time or injury rates experienced by the Contractor are 150 percent or more of the national average for construction, the Contractor shall immediately hire an independent safety professional who shall audit the Contractor's procedures and operations and make a report of changes that the Contractor should implement to reduce the rate including changing personnel.

1. Six copies of this report shall be submitted to the DIA Project Manager.

2. The Contractor shall immediately begin implementing the recommendations.
3. A weekly report shall be submitted by the Contractor on the status of the implementation of the recommendations.

4. Failure to comply with these requirements is a basis to withhold a portion of progress payments.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01110
SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section requires the Contractor's superintendent and Quality Control representative to attend meetings scheduled by the City for the collection and dissemination of information related to the subject contract.

B. The Project Manager will prepare the minutes of each meeting and distribute them to each of the participants.

1.02 OTHER MEETINGS

A. The Contractor will be advised of times, dates and places of contract meetings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

A. A Preconstruction Meeting will be scheduled by the City after the Contract has been signed by all parties. The purpose of this meeting is to introduce the City's Representatives to their counterparts in the Contractor's organization and to establish lines of communication between these representatives and outline some contract requirements. The Contractor's Superintendent and Quality Control Representative(s) shall attend this meeting.

B. The Project Manager will distribute a notice of this meeting, along with an agenda of the subjects to be addressed.

C. The Project Manager will explain and discuss the responsibilities and authorities of the City, the Designer, and the Project Manager's organization.

D. The Project Manager will provide highlights of the following information at this meeting:

1. Equal Employment Opportunity (EEO), Small Business Enterprise (SBE) and Disadvantaged Business Enterprise (DBE) requirements.

2. Insurance, laws, codes, traffic regulations and permit requirements of public agencies and their regulations.

3. Procedures for processing change orders.

4. Procedures for submitting shop and working drawings, product data and samples.

5. Monthly pay estimate cutoff dates.

6. Payment procedures.

7. Request for information procedures.

8. Communication procedures.
9. Contractor-required Daily Report showing the quantitative progress of work, the use of men, material and equipment, problems, potential delays, weather, shift, down equipment, material and equipment received and information received from the City. Daily reports will be submitted to the Project Manager within 48 hours of start of work. Daily Reports are required every day, including weekends and holidays.

10. Scheduling and coordination requirements.

11. Quality control/assurance procedures.

12. Environmental requirements and permits.

13. As-built documents.

14. Project closeout requirements.

E. The Contractor will introduce the Contractor's representatives and briefly describe each person's responsibilities. The Contractor will provide the following:

1. A list of all subcontractors.

2. Office, storage areas and construction area layouts, along with temporary easements.

3. Safety, first aid, emergency actions and security procedures including the name of the Contractor's insurance company.

4. 60 day preliminary schedule.

5. Sequence of Work.

6. Construction methods and general worksite layout and haul plan.

7. Housekeeping procedures. Include a written plan for dealing with and preventing FOD (Foreign Object Damage).

8. The Contractor's general erosion and sedimentation control plans, noise, hazardous material, air and water pollution control plans and Quality Control Plan.

9. Coordination and notification for utility work.

10. The Contractor's procedures to coordinate its work with the work of other contractors and its procedures for sharing access to the worksite.

11. Deliveries and priorities of major equipment.

F. Explanations provided by the City will not amend, supersede or alter the terms or meaning of any contract document and the Contractor shall not claim reliance on such explanations as a defense to any breach or failure by the Contractor to perform as specified in the contract.

3.02 CONSTRUCTION PROGRESS MEETINGS

A. Progress meetings will be scheduled weekly and more often as necessary by the Project Manager to promote the competent and timely execution of the contract.

B. The meetings will be held at the worksite or at a location selected by the Project Manager. Meetings will be chaired by the Project Manager or the Project Manager’s representative.

C. The Contractor's personnel, as listed in Technical Specification Section 01200, 3.01.A, shall attend unless otherwise agreed by the Project Manager.

D. The Project Manager will be responsible for publishing minutes of the meetings.
E. At a minimum, the following items will be addressed at each meeting. The items addressed in the meeting do not waive notification or submittal requirements as required elsewhere in the contract.

1. Safety: Contractor shall report any safety issues

2. Quality Control
   a. The Contractor’s Quality Control representative shall present and review all RAR’s, CCR’s, and NCR’s issued and the status of each item.
   b. The Contractor’s Quality Control Representative shall present and discuss the Independent Testing Agency weekly test report and/or testing schedule.
   c. The Contractor’s Quality Control representative shall report on inspections by other agencies and any follow-up activity required.
   d. The Project Manager will present and discuss issues regarding quality control and quality assurance.

3. Design activities: open discussion

4. Shop drawings/submittals
   a. The Contractor shall provide four copies of and review the Contractor’s submittal schedule and provide any updated information and/or changes to the schedule.
   b. The Contractor shall provide information on the status of submittals requiring re-submittal.
   c. The Contractor shall review any accepted submittals that the Contractor plans to re-submit with changes.

5. Construction activities: Open discussion to include coordination items with other Contractors and or agencies.

6. Schedule
   a. The Contractor shall provide to the Project Manager four copies of the Contractor’s two week look-ahead schedule and review at the meeting the items on the schedule. The schedule shall be in bar chart format based on the approved CPM, and shall include dates of testing activities, anticipated dates of inspection by DIA and other agencies, items in progress, percentage of completion of items, responsible subcontractor for the items.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

   A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

   A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier or work request bid item.

END OF SECTION 01200
SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section summarizes the requirements for the submittal of documents to the City that are defined in these Specifications. It also describes the procedures for "supplemental" submittals.

PART 2 - PRODUCTS

2.01 SUBMITTAL SCHEDULE

A. The Contractor shall provide a submittal schedule within 14 days after Notice to Proceed. The Submittal Schedule shall be directly related to the CPM schedule, shall identify all the submittals, and shall include the following information for each submittal item:

1. Specification section, contract article, or special condition
2. Specification Subparagraph
3. Item description
4. Date the submittal shall be submitted
5. Name of subcontractor or supplier

B. The submittal schedule shall be updated every two weeks by the Contractor and submitted with the progress payment request.

C. Unless stated otherwise, nine copies of all submittals shall be furnished. Only one electronic submittal is required. Any submittal larger than 11 x 17 inches shall also be submitted as a Mylar. Two-sided submittals will not be accepted.

2.02 INITIAL SUBMITTAL

A. Each submittal document shall include a title block showing the following information:

1. Date of submittal and revision dates.
2. Contract title and number.
3. The names of Contractor, subcontractor, supplier, manufacturer and when applicable, the seal and signature of an engineer registered in the State of Colorado, for the involved discipline.
4. Identification of product by either description, model number, style number or lot number.
5. Subject identification by contract drawing or specification reference.

B. On each submitted drawing, include a blank space on each sheet, three inches by four inches, in the lower right corner, just above the title block, in which the City or the Designer of Record may indicate the action taken.
C. Make submissions sufficiently in advance so that the City review may be completed not less than 30 days before Work represented by those submittals is scheduled to be performed.

D. Allow a minimum cycle of 30 days for review of each submittal by the City.

E. Accompany submittal documents with DIA transmittal form CM-30 (refer to Technical Specification Section 01999) that shall contain the following information:
   1. Contractor's name, address and telephone number.
   2. Submittal number and date.
   3. Contract title and number.
   4. Supplier's, manufacturer's or subcontractor's name, address and telephone number.
   5. Identification of variations from contract documents.
   6. Contractor's stamp and signature certifying his review.
   7. Identification of submittal:
      a. If the submittal is being made on a General Condition or Special Condition, reference the General or Special Condition number.
      b. If the submittal is being made under a specification section, reference the specification number, paragraph number and subparagraph number.
      c. If the submittal is being made under a drawing, reference the drawing(s) number and subnumber.

F. The Contractor shall at the time of submission describe variations from the contract documents in writing, separate from the submittal document. If the Project Manager approves any such variations, an appropriate contract change order shall be issued except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued. If a submission contains variations and the variation column is not marked on the transmittal form, it will not be considered for review and acceptance. Along with marking the transmittal as a variation, a description must be included which outlines all the differences including maintenance and utility services along with any cost savings from an item not containing the variation.

G. Changes in accepted submittal documents will not be permitted unless those changes have been accepted, in writing, by the City.

H. The form and quality of submittal documents shall comply with Technical Specifications Section 01340.

2.03 SUPPLEMENTAL SUBMITTALS

A. Supplemental submittal documents initiated by the Contractor for consideration of corrective procedures shall contain sufficient data for review. Make supplemental submittals in the same manner as initial submittals with the appropriate primary transmittal referenced.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

A. The Contractor shall review submittal documents, stamp and sign as reviewed and approved as complying with contract documents prior to submission to the City.
3.02 CITY REVIEW

A. Submittal documents will be reviewed by the City, the designer and the Project Manager for conformance to requirements of the contract drawings and specifications. Review of a separate item will not constitute review of an assembly in which the item functions. The City will withhold approval of submittals that depend on other submittals not yet submitted. Review and acceptance will not relieve the Contractor from his responsibility for accuracy of submittals, for conformity of submittal document to requirements of contract drawings and specifications, for compatibility of described product with contiguous products and the rest of the system, or for protection and completion of the contract in accordance with the contract drawings and specifications.

B. The City, the designer, and/or the Project Manager will review the submittal documents for general conformance with the contract documents and mark the Action Code, sign and date the transmittal.

C. The Action Codes have the following meanings:
   1. **A - ACCEPTED** is an approval, and means that the illustration and description appears to conform to the respective requirements of the contract documents.
   2. **B - ACCEPTED AS NOTED** is an approval, and means that the illustration and description will conform to the respective requirements of the contract documents after changes in recognition of the reviewer's comments. Submittals so marked need not be resubmitted.
   3. **C - REVISE AND RESUBMIT** means that the submittal is unacceptable and must be revised and resubmitted.
   4. **E - NOT ACCEPTED** means that the submittal is not approved and that a new submittal in accordance with the contract documents shall be made.
   5. **F - RECEIPT ACKNOWLEDGED**, means an item is received by the Project Manager but no review was made. This mark is for use in resubmitting items that were previously Accepted as Noted and the Contractor has incorporated the notes and wants the Project Managers' staff to have the same material that the Contractor's field staff is using.

3.03 CONTRACTOR'S RESPONSIBILITIES

A. Coordinate each submittal document with the requirements of the Work; place particular emphasis upon ensuring that each submittal of one trade is compatible with other submittals of that trade and submittals of other trades including producing as needed drawings showing the relationship of the work of different trades.

B. Contractor's responsibility for errors and omissions in submittal documents and associated calculations is not relieved by the City's review, correction and acceptance of submittals.

C. Contractor's liability to the City, in case of variations in the submittal document from the requirements of the contract documents, is not relieved by the City's review and acceptance of submittals containing variations unless the City expressly approves the deviation in writing, in which the City describes the variation.

D. The Contractor shall maintain a file of all approved submittal documents at the worksite. The complete file of approved submittal documents shall be turned over to the City with the as-built documents at the end of the job.
E. Schedule impact due to resubmittal requirements is the responsibility of the Contractor.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01300
SECTION 01310

SCHEDULE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the preparation of a preliminary schedule, construction schedule, related narratives and monthly progress reports, all encompassing complete performance of contract requirements.

B. The Contractor shall schedule and coordinate the work of all of its subcontractors and suppliers including their use of the worksite. The Contractor shall keep the subcontractors and suppliers informed of the project construction schedule to enable the subcontractors and suppliers to plan and perform their work properly.

C. The Contractor shall, in accordance with the requirements of the technical specifications, submit a construction schedule which shall provide for the expeditious and practicable execution of the Work.

D. The construction schedule for the performance of the Work shall be a bar chart (unless an alternate system is specifically identified in the technical specifications) with reasonable detail including a time scaled network.

E. Float or slack is defined as the amount of time between the early start date and the late start date or the early finish date and the late finish date of any activities in the schedule. Float or slack is not time for the exclusive use or benefit of either the Contractor or the City.

F. The Contractor shall submit a monthly progress report and schedule update in accordance with the scheduling provisions of the technical specifications.

G. The Contractor shall complete the Work within the contract time and in accordance with the most recent schedule submittal that has been approved in writing by the Project Manager.

1.02 PLANNING

A. The total contract time, including project milestones as indicated in the Special Conditions or elsewhere in the contract documents, is a contract requirement. Included in the contract price shall be the cost of overhead and field support for the total contract time.

B. The Contractor shall prepare a work plan to complete the work within the contract time and complete those portions of work relating to each milestone date and other contract requirements. The Contractor shall generate a bar chart schedule for the Work.

C. In addition to the construction activities the schedule shall include activities for furnishing materials and equipment and vendor shop drawing preparation. The construction schedule and a supporting narrative shall be submitted for approval within 30 days after Notice to Proceed. Within 14 days the City will respond with approval or direction to revise and resubmit within 10 days. Failure of the Contractor to have a construction schedule approved by the City will be considered cause for withholding progress payment(s).
D. To the extent that the construction schedule or any revisions thereof contains anything not jointly agreed upon in writing, or fails to show anything jointly agreed upon in writing, it shall not be considered to have the approval of the City. Failure to include any work item required for performance of this contract shall not excuse the Contractor from completing all work within applicable completion dates, regardless of the City's approval of the schedule.

E. Failure of the Contractor to comply with this Section will be considered cause for withholding progress payment(s) or termination for default.

1.03 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures. Submit the following as indicated;
   1. Preliminary schedule (with narrative)
   2. Construction schedule data and work plan (with narrative)
   3. Monthly progress report with updated construction schedule
   4. Construction schedule change request with narrative (as needed)
   5. As built construction schedule.

PART 2 - PRODUCT

2.01 PLOT AND REPORT FORMAT

A. All plots shall be either 24 x 36 inches or 34 x 44 inches. They shall contain a title block with a minimum 18 point font showing:
   1. Contractor's name
   2. Contract number and title
   3. Plot date
   4. Data date
   5. Symbol definitions
   6. List of all approved changes to the original approved schedule.

B. Plots shall contain a time line at the top.

C. Reports shall be submitted on 8-½ x 11 inch paper with a 1-inch left margin in a 3-ring binder, or as directed by the Project Manager.

PART 3 - EXECUTION

3.01 PRELIMINARY SCHEDULE

A. The Contractor shall prepare a preliminary schedule covering the first 60 calendar days of the contract. All reports shall be 8-½ x 11 inch paper. This preliminary schedule shall be submitted at the Preconstruction Meeting and shall be accompanied by a narrative description of the work plan. Within 14 days, the City will respond with acceptance or direction to revise and resubmit within 10 days. The preliminary schedule shall be a bar chart.

B. The preliminary schedule shall show all significant work tasks that occur in the first 60 days including planning, mobilization, shop submittals and approvals, procurement, fabrication and
construction. It shall identify work items or milestones that affect or are affected by the City, other Contractor's work, utilities and other third parties, and it shall list major data submittals required by the contract.

C. The preliminary schedule shall be accompanied by a narrative describing the Contractor's approach to mobilization, procurement and construction during the first 60 days. The narrative shall elaborate on the basis of duration, production rates, and major equipment to be used and shall identify all major assumptions used to develop the schedule.

3.02 CONSTRUCTION SCHEDULE

A. The construction schedule shall be a bar chart schedule that includes:

1. The order, sequence and interdependence of all significant work items including construction, procurement, fabrication, testing, start up and inspection and delivery of critical or special materials and equipment, submittals and approvals of critical samples, shop drawings, procedures or other documents that could have a schedule impact.

2. Work items by the City, other Contractors, utilities and other third parties that may affect or be affected by Contractor's activities.

3. Proper referencing of all work items to identify applicable subcontractors or other performing parties.

4. Work item duration not to exceed 20 working days. No more than 25 percent of the work items may be on the critical path.

5. A narrative that explains the basis for the Contractor's determination of construction logic and estimated duration and man-hours. It shall include estimated quantities and crew types with production rates, hours per shift, work days per week, and types of major construction equipment to be used, including number and capacities and whether the Contractor plans to work weekends or holidays.

B. The construction schedule shall be prepared to include the data for the total contract duration and the critical path shall be identified, including critical paths for interim completion dates. Scheduled start or completion dates imposed on the schedule by the Contractor shall be consistent with contract milestone dates. Milestone events shall be the schedule dates specified in the Special Conditions and shall be prominently identified and connected to the appropriate work item denoting its start or completion. Work items related to any interim milestone shall be coded for that milestone.

C. The Contractor shall submit the following documents to the City upon completion of preparation of the construction schedule:

1. A time scaled plot of the bar chart schedule showing all logic ties.

2. The narrative described in Technical Specifications Section 01310-3.02.A.5.

3.03 PROGRESS REPORTING

A. At the end of each month, following the Notice to Proceed, the Contractor and Project Manager shall meet to review and agree on the progress of the work. Subsequently the Contractor shall submit a monthly progress report at the end of each month. A monthly progress report is a prerequisite to the submittal of the Contractor's application for progress payment.
B. The Contractor shall submit the monthly progress report consisting of a written narrative and the updated construction schedule. Both the narrative and updated schedule will be reviewed by the Project Manager.

1. The narrative report shall describe overall progress of the work, provide a critical path analysis, discuss significant problems with proposed corrective action, and show the status of major changes and any other changes in sequence of the work.

2. The updated construction schedule shall include a bar chart showing completed items, in-progress items and all remaining work items. The schedule shall be made in accordance with Technical Specification Section 01310-3.02.

3. This review does not constitute an approval of the schedule but shall be used for the purposes of modifying the initially approved construction schedule.

C. If the latest completion time for any work item does not fall within the time allowed by the construction schedule, the sequence of work and/or duration shall be revised by the Contractor through concurrent operations, additional manpower, additional shifts or overtime, additional equipment or alternative construction methods until the schedule produced indicates that all significant contract completion dates, occupancy dates and milestones will be met. No additional costs will be allowed if such expediting measures are necessary to meet the agreed completion date or dates except as provided elsewhere in the contract documents.

3.04 SCHEDULE CHANGES

A. The Contractor's request for construction schedule changes shall be made on the latest approved construction schedule and shall be accompanied by a narrative description and justification for the change and shall be submitted in accordance with the General Conditions, Article 1105 on changes in time. Minor revisions submitted at monthly progress review meetings are not considered as changes in this context.

B. The construction schedule may be changed when one or more of the following occur:

1. When a change order significantly affects the contract completion date or sequence of work items.

2. When the Contractor elects to change the sequence or duration of work items affecting the critical path.

3. When the City directs a change that affects a milestone date(s) specified in the Special Conditions or alters the length of a critical path.

C. If, after submitting a request for change to the construction schedule, the Project Manager does not agree with the request, the Project Manager will schedule a meeting with the Contractor to discuss the differences. If a settlement cannot be reached on the change in the construction schedule or if the Contractor has failed to submit revisions to the network, the Project Manager has the option of providing suggested logic and/or duration times in all subsequent updating reports. The suggested logic and/or duration times will remain in effect until the change in the construction schedule is settled or until the logic and duration are superseded.

1. If the Contractor has any objections to the data furnished by the Project Manager, he shall advise the Project Manager within 10 days in writing, fully supporting the objections with a counterplan. The Project Manager’s revisions shall be used for updating reports until the Project Manager approves the counterplan.
2. If the Contractor does not submit a counterplan and data within 10 days after the date of the Project Manager's suggested logic, the Contractor is deemed to have concurred with the Project Manager's suggested logic/duration time changes. The Project Manager's plan will be the basis of negotiations for any adjustment of the time and cost for performance of the Work.

3.05 CONTRACT EXTENSIONS

A. If the Contractor is granted an extension of time for completion of any milestone or contract completion date under the provisions of the contract, the determination of the total number of extended days will be based upon the current analysis of the schedule and upon all data relevant to the extension. Such data shall be incorporated in the next monthly update of the schedule.

B. The Contractor acknowledges and agrees that delays in work items which, according to the schedule analysis, do not actually affect any milestone dates or the contract completion date shown on the CPM network at the time of the delay, will not be the basis for a contract extension.

3.06 AS-BUILT CONSTRUCTION SCHEDULE

A. After all contract work items are complete, the Contractor shall submit an as built construction schedule showing actual start and finish dates for all work items and milestones.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01310
SECTION 01340

SHOP AND WORKING DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparing and submitting shop and working drawings, product data, samples and record documents required by other technical specifications sections.

1. The Contractor shall submit all shop drawings, working drawings, product data and samples, as defined in Title 1 of the General Conditions, to the Project Manager in accordance with the requirements in the technical specifications. The Project Manager will return one copy of the shop drawings, working drawings and product data to the Contractor with a written transmittal within the time periods noted in the technical specifications.

B. The Contractor shall not submit as shop drawings copies or reproductions of drawings issued to the Contractor by DIA.

1.02 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures.

B. All submittals shall be delivered to the DIA Project Manager in electronic format. All submittals must be of a consistent format (all Acrobat or all Word, etc). No combination of electronic file types will be allowed unless required by a specific specification section.

1. Acceptable electronic formats
   a. Adobe Acrobat 6.0 or newer. All files shall be fully compatible with Adobe Acrobat 6.0
   b. Microsoft Office 2000 or newer. All files shall be fully compatible with Microsoft Office 2000.
   c. AutoDesk AutoCAD 2000 or newer. All files shall be fully compatible with AutoDesk AutoCAD 2000.
      1) AutoCAD files shall be self contained with no external x-references.
   d. Other files pre-approved by the DIA Project Manager

2. Adobe Acrobat Requirements:
   a. Drawings shall have security set to “No Security”. Commenting, printing, adding photos, form fields and document signing must be allowed.
   b. PDF submittals shall be one continuous file. No external links are allowed.
   c. All individual components of submittals shall be bookmarked inside the PDF file.
   d. Failure to comply with these requirements will result in a return of file to the Contractor for immediate revision.

3. Electronic files submitted shall correspond with DIA File Control Numbering System available from the DIA Project Manager. All files shall contain the prefix CE80018.14.02.submittalnumber.specsection.item.revision.
   a. SUBMITTALNUMBER attribute shall be obtained from the DIA Project Manager.
   b. SPECSECTION attribute shall be a five digit number corresponding to the...
specification section requiring submitted data.

c. ITEM attribute will be a two digit number designating the corresponding submittal item number.
d. REVISION attribute will be for revised and resubmitted submittals, an “R” followed by a number (IE: R3).

C. Quantities

1. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine prints of each shop or working drawing.
2. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer’s standard schematic drawings.
3. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer’s calculations and six copies of manufacturer’s standard data.
4. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer’s printed installation, erection, application and placing instructions.
5. Nine samples of each item specified in the various specification sections, unless otherwise specified.
6. One DVD-ROM, CD-ROM or 3.5" floppy disk, one original and nine copies of inspection, test reports and certificates of compliance.
7. Note: If manufacturer’s printed information is in color, all copies of submittals must be in color.

D. Review

1. Submittal review comments by the City will be in electronic form and incorporated into the electronic submittal file.
2. Resubmittals of electronic documents shall modify the original electronic file with new information and include the City’s comments with appropriate responses and additional information.

1.03 CHANGES

A. Changes in products for which shop or working drawings, product data or samples have been submitted will not be permitted unless those changes have been accepted and approved in writing by the Deputy Manager of Aviation as provided in Technical Specifications Section 01630.

1.04 QUALITY CONTROL

A. Shop drawings and record documents shall be prepared to a high standard of quality such as that set forth in MIL STD 100, ANSI Standard Drafting Manual Y14 or other equivalent specification defining equal drafting quality for microfilming.

PART 2 - PRODUCTS

2.01 SHOP AND WORKING DRAWINGS

A. Prepare shop and working drawings on a reproducible sepia sheet size of 24 x 36 inches to a
scale large enough to easily depict and annotate each of the various items.

B. Include the following as they apply to the subject:

1. Contract title, work order and number.
2. Respective contract drawing numbers.
3. Applicable specification section numbers.
4. Relation to adjacent structure or materials.
5. Field dimensions clearly identified as such.
6. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO and pertinent authority specifications or standards.
7. Identification of deviations from the contract drawings and specifications.
8. Drawing name, number and revision.
9. Contractor's stamp, initialed or signed, certifying:
   a. Verification of field measurements.
   b. Review of submittals for compliance with contract requirements.
   c. Compatibility of the Work shown thereon with that of affected trades.
10. Blank space on each sheet per Technical Specifications Section 01300, paragraph 2.02.B.

C. Drawings of equipment and other items that contain multiple parts shall include exploded views showing the relationship of parts and the description of the parts into the smallest units that may be purchased or serviced.

2.02 PRODUCT DATA

A. Modify manufacturer's standard and/or schematic drawings to delete information which is not applicable to the contract. Supplement standard information with additional information applicable to this contract.

B. Modify manufacturer's standard(s), diagrams, schedules, performance charts, illustrations, calculations and other descriptive data to delete information which is not applicable to the contract. Indicate dimensions, clearances, performance characteristics and capacities. Include with the submittal electrical, plumbing, HVAC and any other diagrams, as applicable.

C. Modify erection, application and placing instructions to delete information that is not applicable to the contract or work order.

D. Include the following:

1. Contract title, work order and number
2. Respective contract drawing numbers
3. Applicable contract technical specification section numbers
4. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO and pertinent authority specification or standards
5. Identification of deviations from the contract drawings and specifications
6. Contractor's stamp, initialed or signed, certifying:
a. Dimensional compatibility of the product with the space in which it is intended to be used
b. Review of submittals for compliance with contract requirements
c. Compatibility of the product with other products with which it is to perform or which will be next to it.

E. Certificates of compliance shall be submitted for all products. The certificates shall:

1. State that the product complies with the respective specification and contract drawing requirements
2. Be accompanied by a certified copy of test results pertaining to the product
3. Show the submittals date, Contractor's name and address, contract title and number, product represented and its location in the contract, producer's name, product trade name and catalog number, place of product origin, test date, testing organization's name and address, quantity of the product to be furnished and related contract drawing and specification section numbers
4. Be signed by an officer or another authorized representative of the producer and notarized
5. Submit nine copies
6. Be received by the City not later than 30 days before the acceptance is needed of the products for ordering.

2.03 SAMPLES

A. Submit samples of sizes and quantities to clearly illustrate full color range and functional characteristics of products and materials including attachment devices.

B. Erect field samples and mock ups at the worksite as specified in the several technical specifications sections and at locations acceptable to the Project Manager. All field samples shall be erected in a location that will be readily visible throughout the life of the contract to allow comparison of the work as it progresses to the field sample.

C. The Contractor shall verify, through appropriate inspections and tests, that the samples submitted meet the specifications and shall provide inspection and test data with the samples. The review and comments on the sample shall not relieve the Contractor of his responsibility for completion of the contract.

D. Show the following information:

1. Contract title and number
2. Respective contract drawing numbers
3. Applicable technical specification section numbers
4. Applicable standards such as ASTM or Federal Specification number
5. Identification of deviations from the contract drawings and specifications
6. Contractor's stamp, initialed or signed, certifying:
   a. Dimensional compatibility of the product with the space in which it is intended to be used
   b. Review of submittals for compliance with contract requirements
   c. Compatibility of the product with other products with which it is to perform or which
7. If multiple samples are submitted and the Project Manager is requested to make a choice, each sample shall have a unique identification number attached to it so the returned transmittal can state the identification number of the accepted sample and the Contractor will know which one it is.

PART 3 - EXECUTION

3.01 CONTRACTOR RESPONSIBILITIES

A. Reference requirements of General Conditions Article 405.

B. Verify field measurements, catalog numbers and similar data.

C. The Contractor shall not start work for which submittals are required until a transmittal has been received by the Contractor showing acceptance or acceptance as noted by the Project Manager.

D. Before making submittals ensure that products will be available in the quantities and at the times required by the contract.

E. Submit final, corrected, reproducible sepias of contract and shop and working drawings showing the Work as actually installed, placed, erected and applied. Refer to Technical Specification Section 01700, Contract Closeout.

3.02 REVIEW BY THE CITY

A. One copy of the marked-up shop and working drawing and one copy of the product data will be returned to the Contractor by the Project Manager. Only the transmittal form, appropriately marked, will be returned on sample submittals.

B. Contractor's responsibility for errors and omissions in submittals for compatibility will not be reduced, waived or otherwise limited by the review and acceptance of submittals by the City.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls.

END OF SECTION 01340
SECTION 01370

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparing and submitting the Schedule of Values ("Schedule") as referenced in the General Conditions. The Schedule will be built upon a breakdown of the Work using specification sections and milestones. The Work also includes the preparing and submitting of updated copies of the Schedule if the Schedule is affected by change orders.

B. A Schedule of Stored Material is a detailed cost breakdown for permanent materials that will be temporarily stored prior to their being installed and for which the Contractor seeks partial payments. The Schedule of Stored Material will be incorporated as a part of the Schedule of Values.

C. Within 14 calendar days of issuance of the Notice to Proceed, the Contractor shall submit the Schedule of Values including the Schedule of Stored Material if applicable. The Schedule of Values and Schedule of Stored Material used to prepare the work/cost breakdown for the Schedule will be used for the Contractor's billings.

D. Any contract allowances shall be included in the Schedule. Expenditure of allowances shall be done through the use of the Allowance Authorization form. Use of this form does not increase or decrease the contract value.

1.02 RELATED DOCUMENTS

A. General Contract Conditions, Title 9 Compensation

B. Technical Specifications Section 01300 Submittals

C. Technical Specifications Section 01340 Shop and Working Drawings, Product Data and Samples

D. Technical Specifications Section 01999 Standard Forms

1.03 SUBMITTAL

A. The Schedule shall be submitted in a format approved by the Project Manager.

B. The Schedule shall identify each item of work. Work items in the Schedule shall represent all work and shall be referenced with the Technical Specifications section numbers, specification subparagraph, specification section title and the bid item number used for the Schedule of Prices and Quantities when applicable. The Schedule shall address the subcontractor, fabricator or supplier furnishing the materials and or labor for each work item.

C. Upon request by the City, the Contractor shall support values given with the data which will substantiate the correctness of the values.

D. The Schedule will be utilized only as a basis for review of the Contractor's application for...
progress payment.

1.04 REVIEW AND RESUBMITTAL

A. If review by the City indicates that changes to the Schedule are required, the Contractor shall revise and resubmit the Schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PREPARING SCHEDULE OF VALUES

A. Breakdown of the items used in the Schedule shall include costs as follows:

1. Delivered cost of product with applicable taxes paid
2. Total installation cost with overhead and profit
3. Breakdown costs of each lump sum item with a list of products and major operations for which the Contractor seeks to receive progress payments to recover his costs for that bid item
4. Each unit price item as listed in the bid Schedule of Prices and Quantities shall list products and major operations for which the Contractor seeks to receive progress payments for that bid item.

3.02 PREPARING SCHEDULE OF STORED MATERIAL

A. The Contractor shall submit with the Schedule an indication of whether products will be stored on or off the worksite. The Schedule of Stored Material shall show quantities and types of products that will be stored.

B. Material allowances consist of only the net cost of the product, the cost of delivery and unloading at the storage site, the cost of applicable sales taxes and all discounts.

C. In no case will the cost paid for a permanent material be greater than 90 percent of the contract price for the work in which they are included.

3.03 PAYMENT FOR STORED MATERIALS

A. Only materials that are described in the specifications and on the drawings will be considered permanent materials. Permanent materials are materials that will be left in the work after the contract is completed.

B. Nothing in these specifications shall be interpreted as requiring the City to pay for stored materials. The Project Manager shall decide on a case-by-case basis whether stored materials shall be paid for. No payment will be made for stored materials which have not been submitted and accepted.

C. The Contractor must, at all times, store permanent materials in accordance with manufacturer's recommendations. Any material not properly stored will not be paid for. Amounts will be deducted from payments for any stored permanent material previously paid for and subsequently found to be improperly stored or not present, based upon a physical inventory of stored permanent material.

D. Only the neat line quantity of material needed for the finished product may be paid for.
E. All requests for stored permanent material payment must be accompanied by paid invoices clearly showing the quantity of permanent material, the type of permanent material and discounts or rebates and the net amount paid to the supplier along with a certificate stating that the permanent material is free of any liens or judgments preventing its use by the City.

F. If the permanent material is stored outside the Denver area the Contractor must pay for the City representative’s transportation and lodging to see the stored material as needed. Acceptable lodgings must, as a minimum, have a Mobil Travel Guide Rating Criteria® rating of Two-Star or the American Automobile Association Lodging Listing Requirements & Diamond Rating Guidelines® rating of Two Diamonds. The minimum transportation shall be by regularly scheduled commercial air carrier at coach rates. The Project Manager will determine if an overnight stay is required.

G. All permanent material stored off site, for which payment is being requested must be insured and stored in bonded, insured warehouses.

H. Any permanent material on which payment is requested must be in such a form that it cannot be used on work other than this contract, or stored in a manner acceptable to the Project Manager to ensure that the permanent material cannot be used on work other than this contract.

3.04 ALLOWANCE AUTHORIZATION AND PAYMENT

A. Contractor shall request written approval for expenditure of any contract allowances PRIOR TO performing the Work involved. List work to be performed and estimated cost in the requesting correspondence.

B. Original copies of all invoices and receipts must be submitted with the Allowance Authorization as part of the request for payment.

C. Using the format provided by the City, the Contractor’s request for payment of all contract allowances shall be included in the Schedule of Values.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01370
SECTION 01400

CONTRACTOR QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section identifies the Quality Control activities to be performed during all phases of the contract by the Contractor.

B. The Contractor shall have in place his Quality Control Program as necessary to ensure that all materials and work are completed in compliance with contract documents. The Contractor is solely responsible for Quality Control with the exception of those tests and/or audits that may be conducted by the City as defined in the contract documents.

C. Test schedules and/or testing requirements for materials used on this project are included in the technical specifications. Laboratory and field testing identified in the technical specifications shall be conducted by an Independent Testing Agency (ITA) retained by the Contractor.

1.02 SUBMITTALS

A. Refer to Technical Specification Section 01300 and Technical Specifications Section 01340, for submittal requirements.

B. Quality Control Plan: Within 10 days after Notice to Proceed, the Contractor shall submit a Quality Control Plan for review and acceptance. Acceptance by the Project Manager does not relieve the Contractor of compliance with the contract requirements. The Contractor Quality Control Plan shall address the following as a minimum:

1. Provide a general description of Quality Control monitoring to be performed until final acceptance by DIA. Include monitoring activities of Work and the worksite during times no construction activity is scheduled to take place.

2. The Contractor shall designate an employee as the Quality Control Manager qualified to perform quality control monitoring of the Work. The designated individual shall have the authority to direct work changes required to bring the Work into conformance with contract requirements including stopping non-conforming work in progress.

3. The Quality Control Plan shall address each technical specification division’s requirements for quality control. The Contractor shall identify each item requiring submittal and approval/acceptance prior to installation of work. Also, the Contractor shall identify each item of work requiring testing by the independent testing agency.

4. The Quality Control Plan shall address and establish controls and documentation format to ensure that items or materials that have been accepted through receiving inspection are used or installed. Identification and traceability shall be provided throughout all inspections, test activities and records. For stored items, provisions shall be made for the control of item/material identification, consistent with the expected duration and type of storage.

5. Provide methodology of monitoring, testing and exercising of all equipment, valves and/or assemblies to ensure the Work installed is in proper working order.
6. The Contractor shall submit a list of suppliers and subcontractors. This list shall include items to be supplied by each supplier and/or subcontractor and shall identify work to be performed by each subcontractor. The list shall be updated and resubmitted as required.

7. Provide emergency contact information including name, company, title, work phone number, home phone number and other means of contact. The Emergency Contact list shall include at least four individuals. The Emergency Contact list shall be maintained on a daily basis. In the event there is any change in any of the information, the Contractor shall forward the updated list to the Project Manager and to DIA Maintenance Control (303-342-2800). The Emergency Contact list shall include the project number, project title and date of issue.

C. Daily Quality Control Report:

1. The Daily Quality Control Report shall be submitted daily on the form included in Technical Specifications Section 01999. The Contractor may add sheets of information to this form as required. The report shall address as a minimum the following: identify number of workers on site each day by trade, identify notifications and discussions with/by DIA Quality Assurance Inspectors and other agency inspectors, identify quality of work placed that day and any deviations and/or corrections required to bring the Work into conformance with the contract. Daily reporting may not be computerized or typed. Only legible, hand written reports on the approved form shall be accepted.

2. Submit three copies of the Daily Quality Control Report to the Project Manager the day following the work. The report shall be signed by the Contractor's Quality Control Representative and the Contractor's Superintendent.

D. Corrective Action Report (CAR)

1. Conditions adverse to quality will be reviewed by the Contractor to determine the cause and to recommend a corrective action that will preclude recurrence. The condition, its cause and the corrective action planned shall be reported to the Project Manager prior to implementation. Follow-up action shall be taken to verify implementation of the corrective action. The Contractor will document the corrective action and a copy of the Corrective Action Report (CAR) will be transmitted to the Project Manager.

1.03 DOCUMENTATION

A. The Contractor shall not change or alter approved submittals, procedures, specifications, drawings or other pertinent documentation without the Project Manager's written authorization.

B. All records and documents that are quality related shall be prepared, identified and maintained by the Contractor and shall be made available to DIA upon request. Records shall be protected from damage, deterioration or loss. A copy of the records and documents shall be maintained at the Work site at all times unless the Project Manager has approved other locations in writing. Retention time for all quality records shall be not less than three years from date of Final Acceptance of the contract.

C. The Contractor shall maintain records at the actual worksite and at Contractor's office to show the inspection status of materials and items installed in order to ensure that the required inspections and tests have been performed in a timely and correct manner.
1.04 INSPECTIONS AND TESTS

A. Inspection and tests, conducted by persons or agencies other than the Contractor, shall not in any way relieve the Contractor of his responsibility and obligation to meet all specifications and the referenced standards. The Contractor's designated Quality Control Representative shall inspect the work and shall ensure the work complies with the contract requirements prior to any requests for inspection or testing.

B. When the specifications, laws, ordinances, rules, regulations or orders of any public agency having jurisdiction require the Project Manager's surveillance of inspections or tests, the Contractor shall notify the Project Manager of the place, date and time 48 hours prior to the inspection and/or test. The Contractor shall be responsible for notifying and requesting inspection by other agencies including but not limited to the Denver Building Inspection Division, Denver Fire Department and Denver Water Department. Prior to request for other agency inspections, the Contractor shall meet and plan inspection times with the Project Manager and or the Project Manager's designated representative.

C. Special inspections or tests may be required by the technical specifications, City, State and/or Federal Agencies in addition to those tests already performed. The Contractor shall notify the Project Manager at least 48 hours in advance of the additional inspections or tests.

1.05 INSPECTION PLAN

A. The Contractor shall utilize the following six-point inspection plan to ensure the conformance of the Work performed by the Contractor meets the requirements of the contract drawings and specifications, the referenced codes and standards and the approved submittals:

1. Prework Coordination: Prior to the start of construction work on the contract and prior to the start of work under each separate specification section and prior to the start of work where a change in a construction operation is contemplated by the Contractor and prior to a new subcontractor starting work, a coordination meeting will be held with the Contractor's superintendent, Quality Control and Safety representative(s), the ITA representative, the DIA Project Manager and DIA inspectors. Supervisory, Safety and Quality Control, representatives of all applicable subcontractors will also attend. The Contractor's Quality Control Representative shall chair, prepare and distribute minutes of Quality Control meetings. Meeting minutes shall be distributed within 24 hours of the meeting.

2. The purpose of the meeting is to ensure that the Contractor's personnel have no misunderstandings regarding their safety and quality procedures as well as the technical requirements of the contract. The following items shall be presented and reviewed by the Contractor:
   a. Contract requirements and specifications
   b. Shop drawings, certifications, submittals and as-built drawings
   c. Testing and inspection program and procedures
   d. Contractor's Quality Control program
   e. Familiarity and proficiency of the Contractor's and subcontractor's workforce to perform the operation to required workmanship standards including certifications of installers
   f. Safety, security and environmental precautions to be observed
   g. Any other preparatory steps dependent upon the particular operation
   h. The Contractor's means and methods for performing the Work.
3. Initial Inspection: Upon completion of a representative sample of a given feature of the Work and no later than two weeks after the start of a new or changed operation, the Project Manager and/or the Project Manager's designated representatives will meet with the Contractor's Quality Control representative and applicable subcontractor's supervisor and their Quality Control representatives to check the following items, as a minimum:
   a. Workmanship to established quality standards
   b. Conformance to contract drawings, specifications and the accepted shop drawings
   c. Adequacy of materials and articles utilized
   d. Results of inspection and testing methods
   e. Adequacy of as-built drawings maintained daily.

4. Once accepted, the representative sample will become the physical baseline by which ongoing work is compared for quality and acceptability. To the maximum practical extent, approved representative samples of work elements shall remain visible until all work in the appropriate category is complete. Acceptance of a sample does not waive or alter any contract requirements or show acceptance of any deviation from the contract not approved in writing by the Project Manager.

5. Follow-up Inspection: The Contractor's Quality Control representative will monitor the work to review the continuing conformance of the work to the workmanship standards established during the preparatory and initial inspections.

6. Completion Inspection: Forty-eight hours prior to the completion of an item or segment of work and prior to covering up any work, the Contractor will notify the Project Manager who will verify that the segment of work is substantially complete, all inspections and tests have been completed and the results are acceptable. The purpose of this inspection is to allow further corrective work upon, or integral to, the completed segment of work. THIS IS NOT AN ACCEPTANCE INSPECTION. If any items are determined to be deficient, need correction or are non-conforming, a Deficiency List will be prepared and issued to the respective Contractor for correction, repair or replacement of any deficient or non-conforming items. The Project Manager and Contractor's Quality Control representative will verify the correction of the deficient and/or non-conforming items prior to the start of the next operation.

7. Pre-Final Acceptance Inspection: Prior to requesting a Pre-Final Acceptance Inspection by DIA, all work and operational systems to be inspected shall be satisfactorily completed and tested by the Contractor. The Contractor's written request for this inspection shall be made 72 hours in advance. With the request shall come a list of any known deficiencies and when they will be corrected. If the list is too large or contains too many significant items, in the opinion of the Project Manager, no inspection will be held because of the incompleteness of the work.

8. The Project Manager will schedule the Pre-Final Acceptance Inspection and will prepare a list of deficient items (punch list) discovered during the inspection. If during the inspection the list becomes too large or too many significant items are on the list, the inspection will be canceled. After the inspection is completed, the Deficiency List will be transmitted to the Contractor for correction of the deficient items.

9. Final Acceptance Inspection: After the Contractor has completed all items on the Deficiency List (generated from the Pre-Final Acceptance Inspection) he shall request a Final Acceptance Inspection. The request shall be made in writing at least 72 hours in advance of the inspection. All areas must be cleaned and ready for turnover prior to this inspection. The Project Manager, the design consultant, a representative of the funding agency (if applicable) and other interested parties will inspect the subject Work to
ensure that all deficiencies have been satisfactorily attended to and that no new deficiencies have appeared and that all systems are completely functional. Any outstanding or additional deficient items will be noted and handled per the requirements of the Pre-Final Acceptance Inspection noted above until the Work is acceptable to the Project Manager.

1.06 SAMPLES

A. The Contractor shall maintain at the worksite a copy of all samples submitted and accepted by DIA. Samples shall be made available to the designer or the Project Manager's designated representatives for review and comparison in the field. The Project Manager prior to use on the project must accept all items and materials.

B. The installed work will be compared to the samples and if any of the work is not of the same quality, material, finish, color, texture or appearance as the sample, that portion that is not the same will be considered defective and in nonconformance.

C. Contractor selection of samples will only be considered if taken at random. The Contractor shall permit representatives of DIA to witness the selection of samples. Inspection or tests of items or materials that fail shall be sufficient cause to terminate further inspections/tests of the same brand, make or source of that product.

D. The Contractor is obligated to correct any item deemed deficient.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 REQUIREMENTS

A. All materials required for the contract shall be new except where specified otherwise. The Project Manager may elect to perform additional inspections and/or tests at the place of the manufacture, the shipping point or at the destination to verify conformance to applicable specifications. Inspections and tests performed by DIA shall not relieve the Contractor from the responsibility to meet the specifications, nor shall such inspections/tests be considered a guarantee for acceptance of materials that will be delivered at a later time.

B. The Contractor is obligated to correct or remove non-conforming materials, whether in place or not. If necessary, the Project Manager will send written notification to the Contractor to correct or remove the defective materials from the project. If the Contractor fails to respond, the Project Manager may order correction, removal and/or replacement of defective materials by others, in which case the Contractor shall bear all costs incurred by such actions.

C. Materials accepted on the basis of a Certificate of Compliance may be sampled and inspected/tested by DIA or its designer at any time. The fact that the materials were accepted on the basis of such certification shall not relieve the Contractor of his responsibility to use materials that conform to the specifications.

D. The Contractor shall impose upon his suppliers the same quality control requirements, including inspection and test procedures, as imposed upon him by the specifications and referenced standards. The Contractor shall apply appropriate controls, designed to ensure that all materials supplied meet the requirements and specifications.
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls. If the City is required to re-inspect work or conduct a special test because a previous inspection, requested by the Contractor, showed that the work was defective or not in conformance, the Deputy Manager or his authorized representative may deduct from the contract value the cost of re-inspection at the rate of $75.00 per man-hour.

END OF SECTION 01400
SECTION 01410

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Reference General Contract Conditions, GC 315.

1.02 DEFINITIONS

A. Cutting: Removal of existing construction to permit installation of or to perform other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.03 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Cutting and Patching Proposal: Submit a proposal describing procedures at least 30 calendar days before the time cutting and patching will be performed, requesting approval to proceed. Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work. The proposal shall include the following information:

1. Identification of the contract and the Contractor’s name.

2. Description of proposed work:
   a. Scope of cutting, patching, alteration or excavation
   b. The necessity for cutting or alteration
   c. Trades that will execute the work
   d. Products proposed to be used
   e. Extent of refinishing to be done
   f. Alternatives to cutting and patching

3. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in the building’s appearance and other significant visual elements.

4. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.

5. Proposed Dust Control and Noise Control Measures: Submit a statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.

6. Effect on the work and other surrounding work or on structural or weatherproof integrity of project

7. Written concurrence of each contractor or entity whose work will be affected.

8. Cost proposal, when applicable.
1.04 QUALITY CONTROL

A. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance, decreased operational life or safety unless approved by the Project Manager:

1. Primary operational systems and equipment
2. Air or smoke barriers
3. Fire protection systems
4. Control systems
5. Communication systems
6. Conveying systems
7. Electrical wiring systems
8. Operating systems of special construction as described in Division 13 and 16
9. HVAC systems.

B. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or those results in increased maintenance, decreased operational life or safety unless approved by the Project Manager:

1. Water, moisture or vapor barriers
2. Membranes and flashings
3. Exterior curtain wall construction
4. Equipment supports
5. Piping, ductwork, vessels and equipment
6. Noise control and vibration control elements and systems
7. Stud walls.

C. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in DIA’s sole opinion, reduce the building’s aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactorily manner.

1. If possible, retain the original installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm as approved by the Project Manager:
   a. Processed concrete finishes
   b. Stonework and stone masonry
   c. Ornamental metal
   d. Matched-veneer woodwork
   e. Prefomed metal panels
   f. Firestopping
   g. Window wall systems
h. Terrazzo
i. Wall coverings
j. HVAC enclosures, cabinets or covers,

D. Cutting and Patching Conference: Before proceeding, meet at the Project site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.05 WARRANTY

A. Existing Warranties: Remove, replace, patch and repair materials and surfaces cut or damaged during cutting and patching operations by methods and with materials so as not to void existing warranties.

1. If possible, retain the original installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm as approved by the Project Manager:
   a. Ornamental metal
   b. Preformed metal panels
   c. Firestopping
   d. Terrazzo
   e. ProCoat paint finishes
   f. Granite flooring
   g. Wall coverings
   h. HVAC enclosures, cabinets or covers.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: All patching material shall be of the type specified for the material being patched. Comply with requirements specified in other Sections of these Technical Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials as approved by the Project Manager.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

2. Immediately notify the Project Manager, in writing, of unsuitable, unsafe or unsatisfactory conditions.
3. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.
4. Proceed with patching only after construction operations requiring cutting are complete and inspected by the Project Manager.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut to ensure structural value or integrity.
B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
D. Existing Services: Where existing services are required to be removed, relocated or abandoned, bypass such services before cutting to avoid (or minimize) interruption of services to occupied areas.

3.03 POLLUTION CONTROLS

A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
   1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions such as ice, flooding and pollution.
   2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosures. Vacuum carpeted areas.
B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
C. Cleaning: Clean adjacent structures and improvements of dust, dirt and debris caused by selective demolition operations. Return adjacent areas to the condition existing before selective demolition operations began.

3.04 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Execute cutting and demolition by methods that will prevent damage to other work and will provide a proper surface to receive patching.
   1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
   2. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerance and finishes.
   3. Restore work that has been cut or removed; install new products to provide complete work in accordance with requirements of the contract documents.
   4. Fit work airtight and fire safe to pipes, sleeves, ducts, conduit and other penetrations
B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and other similar operations, including excavation, using methods least likely to damage elements retained to adjoining construction. If possible review proposed procedures with original installer and comply with original installer’s written recommendations.

1. In general, use ground fault hand or small power tools designed (to short if metal is hit) for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to the size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Technical Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing. For continuous surfaces, refinish entire unit to the nearest break line. For an assembly, refinish entire unit.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs on a painted surface, apply primer and intermediate paint coats over the patch and apply the final coat over the entire unbroken surface containing the patch. Provide additional coats until the patch blends with adjacent surfaces.

4. Ceilings: Patch, repair or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Fire Rated Construction: Where rated elements are cut, reconstruct to approved designs to provide original fire rating.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT
A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls.

END OF SECTION 01410
SECTION 01505

MOBILIZATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the worksite; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the worksite.

1.02 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Submit a Mobilization Schedule 15 days prior to first billing for mobilization.

1.03 DELIVERY

A. Delivery to the worksite of construction tools, equipment, materials and supplies shall be accomplished in conformance with local governing regulations.

PART 2 - PRODUCTS

2.01 PRODUCTS

A. Provide construction tools, equipment, materials and supplies of the type and quantities that will facilitate the timely execution of the Work.

PART 3 - EXECUTION

3.01 EXECUTION AND REMOVAL

A. Provide personnel, products, construction materials, equipment, tools and supplies at the worksite at the time they are scheduled to be installed or utilized.

B. Upon completion of the Work, remove construction tools, apparatus, equipment, unused materials and supplies, plant, and personnel from the jobsite.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. The Contractor shall submit for the Project Manager's approval 15 days prior to the first mobilization billing a detailed breakdown of all items, including subcontractor mobilization items, that are proposed to be invoiced under Mobilization as part of the Schedule of Values (reference Technical Specifications Section 01370). This breakdown shall be labeled MOBILIZATION SCHEDULE. This schedule will be reviewed by the Project Manager to inform the Contractor what exact types of costs will be approved and paid under Mobilization.
B. All requests for payment for mobilization shall include a detailed Mobilization Schedule which shall identify the nature of each expense item, its delivery date, setup and startup date and the actual invoice amounts inclusive of acquisition, taxes, transportation assembly, and installation less all discounts.

C. The Contractor shall identify a line item in the Mobilization Schedule as "Demobilization" and shall establish the value for this line item, at a minimum, of 15 percent of the pay item for mobilization.

D. The initial approved Mobilization Schedule shall determine the basis for all future mobilization payments.

PART 5 - PAYMENT

5.01 MOBILIZATION

A. Payment will be made monthly in accordance with the approved Mobilization Schedule to the limit of the contract lump sum amount for the pay item Mobilization. In no case will the City pay Mobilization in excess of five percent of the total bid amount.

B. Payment for the Contractor's bonds may be included in the Mobilization Schedule to the limits of the actual amount.

C. Payment amounts for personnel involved in mobilization and listed on the approved Mobilization Schedule shall be limited to the Contractor's certified payroll amounts.

D. Payment amounts for materials, supplies and transportation involved in mobilization and listed on the approved Mobilization Schedule shall be for the actual amounts paid as shown on invoices marked paid. No payment will be made under mobilization for the cost of permanent materials to be installed for this contract. See Section 01370 for Stored Materials.

E. No payment under mobilization will be made for rented or leased equipment other than actual transportation cost.

F. No separate payment will be made as part of the Mobilization Schedule for the maintenance and/or use of personnel, equipment, supplies and incidentals after project setup except for demobilization. These costs are to be incorporated in the remaining items of work in the Schedule of Values by multiplier or work request.

G. For any mobilization payment amounts requested by the Contractor which are unsubstantiated or exceed the allowable limit of five percent of the total bid amount, those amounts shall be, as approved by the Project Manager, reallocated to other work items in the Schedule of Values for lump sum contracts or disbursed on a prorated basis for unit price contracts.

END OF SECTION 01505
SECTION 01576

TRAFFIC CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of furnishing plans and designs for traffic control and haul routes, implementing these plans with all necessary personnel and equipment. Installation may require but not be limited to signage, cones, flaggers, signal lights, lighting and temporary roads. All work must be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD), Colorado Department of Highway Standards and SSPWC Specifications. The Contractor must coordinate his proposed traffic control needs with the needs of other contractors on the airport construction site in writing through the Project Manager.

B. Reference Contract General Condition, GC 805.

1.02 QUALITY CONTROL

A. Temporary signal work shall conform to “Standard Specifications for Public Works Construction”.

B. Designate a qualified person to inspect and test traffic control devices daily and to ascertain that those devices are continuously operating, serviceable, in place and clean.

C. Provide trained personnel who will be responsible for design, implementation and inspection of traffic control needs.

1.03 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Submit a Traffic Control Plan (TCP) that includes, at a minimum, the following list of items for approval before starting work. Submit an updated TCP when necessary to modify traffic operation or undertake a construction activity that creates a different traffic pattern.

1. Traffic blockade and reductions anticipated to be caused by construction operations.

2. Temporary detours.

3. Show and describe proposed location, dates, hours and duration of detours, vehicular traffic routing and management, traffic control devices for implementing detours and details of barricades.

C. Submit Haul Route Plan for both on- and off-site hauls. The Haul Route Plan shall be submitted 30 days prior to hauling any permanent material. The plan shall be updated as the contractor’s plans change.

D. Specific Traffic Considerations: The Project Manager may require the Contractor to revise the Traffic Control Plan to address traffic considerations not included in the Contractor’s plan.
PART 2 - PRODUCTS

2.01 TRAFFIC CONTROL DEVICES

A. Such devices which include signs, delineators, striping, barriers, barricades and high level warning devices shall conform to the latest revision of the “Manual on Uniform Traffic Control Devices” and the latest revision of the CDOT Supplement thereto.

PART 3 - EXECUTION

3.01 TEMPORARY TRAFFIC CONTROL DEVICES

A. Place temporary control devices in those locations that will enable traffic to traverse the area without hazard or abrupt changes in direction. Place traffic cones or delineators on not more than 35 foot centers. Operate warning lights between sunset and sunrise; place control devices so that approaching traffic is alerted to hazards and variances to normal traffic patterns. Place high rise warning flag units where motorist’s visibility of warning devices, traffic signals, and pedestrian crosswalks will be either limited or obscured. Place barricades, cones and similar protective devices where personnel and equipment will be working within five feet of the edge of a lane bearing traffic. Clean and repair damaged devices or replace them with new devices as required.

3.02 FLAGGERS

A. Furnish flaggers where construction equipment may intermittently encroach on traffic lanes, already existing haul routes, and where construction operations would affect public or construction safety and convenience and also where active haul roads cross existing access roads.

3.03 CONSTRUCTION VEHICULAR TRAFFIC

A. Restrict construction vehicles to approved haul routes.

3.04 CONTROLLING VEHICULAR AND PEDESTRIAN FLOW ADJACENT TO WORKSITE

A. Ensure that construction operations will not impede normal traffic. Where work is in the area of pedestrian or occupant activity, the Contractor shall erect barriers to prevent pedestrian intrusion into the worksite. The barriers will be a minimum of 42 inches in height and shall not be penetrable from floor or grade to the top of the barrier. Barriers erected in areas where there is a change in grade of over six inches shall meet barrier requirements as defined in the UBC and the DBC.

3.05 SIGNS

A. Coordinate and pay any expense associated with the furnishing and installation of all parking regulatory signs, such as "No Stopping Any Time," etc. at the worksite. The Contractor must contact the Project Manager a minimum of five working days in advance of construction for installation, relocation or removal of regulatory parking signs.

B. Furnish and install any necessary advance detour or guidance signing.

C. Authorize, modify and install regulatory parking controls and vehicle turn restrictions.
D. Implement those traffic control modifications outside of the traffic control zone which are necessary to manage diverted traffic.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. Payment for Traffic Control under these schedules will be for work performed under the applicable work request lump sum bid item.

END OF SECTION 01576
SECTION 01580

TEMPORARY SIGNS

PART 1 - GENERAL

1.01 CONSTRUCTION SIGNAGE VISIBLE TO THE PUBLIC.

1.02 TEMPORARY DIRECTIONAL, INFORMATIONAL OR REGULATORY SIGNAGE.

1.03 QUALITY CONTROL

A. Construction and other temporary signage visible to the public must be commercial grade quality, professionally fabricated and installed for the location of the sign. The contractor is responsible to maintain this signage until it is no longer needed.

PART 2 - PRODUCTS

2.01 GENERAL

A. Interior signs that are visible and not physically accessible to the public may be made of rigid board, such as "Gator Board" with vinyl messages. All edges must be finished and conceal all attachments.

B. Interior signs that are visible and physically accessible by the public must be vandal-proof. Acceptable examples of vandal-proof signs are messages applied second surface with concealed tamperproof fasteners.

C. Exterior signs must be vandal-proof and fabricated of weatherproof materials.

PART 3 - EXECUTION

3.01 HARDWARE

A. Interior Signs: Attach with suitable adhesive and/or tape which may be removed with out damage to finishes.

B. Exterior Signs: Must be secured to withstand site conditions and varying weather conditions.

3.02 SIGN FINISHES, MATERIALS AND PAINT

A. Provide temporary signage to reflect permanent sign design and/or as directed by the Signage Design Project Manager. Submit temporary sign finishes, materials and paint, etc., for review and approval prior to any fabrication.

3.03 MAINTENANCE

A. The Contractor is responsible to maintain temporary signage until it is no longer needed.

3.04 REMOVAL

A. The contractor is responsible to remove all temporary signs, clean and refurbish affected areas to their original (or intended) condition.
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.
SECTION 01620

STORAGE AND PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of providing storage and protection of the materials, products and supplies which are to be incorporated into the construction and indicating such storage areas on the working drawings with the location and dates when such areas will be available for each purpose.

1.02 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures. Submit concurrently with submittals required in Section 01050.

B. Submit working drawings showing locations of storage areas not indicated on the Contract Drawings.

C. Submit descriptions of proposed methods and locations for storing and protecting products.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials required for the storage and protection of the items specified shall be durable, weatherproof and either factory finished or painted to present an appearance acceptable to the City. Storage facilities shall be uniform in appearance with similar materials used to the maximum extent possible.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS OF EXECUTION

A. Palletize materials, products and supplies which are to be incorporated into the construction and stored off the ground. Material and equipment shall be stored only in those areas that are indicated as storage areas on the contract drawings and on the reviewed and accepted working drawings. Store these items in a manner which will prevent damage and which will facilitate inspection. Leave seals, tags and labels intact and legible. Maintain access to products to allow inspection. Protect products that would be affected by adverse environmental conditions.

B. Periodically inspect stored products to ensure that products are being stored as stipulated and that they are free from damage and deterioration.

C. Do not remove items from storage until they are to be incorporated into the Work.

D. The Contractor shall ensure that all protective wrappings and coverings are secure and ballasted to prevent any items from deterioration and/or subsequent dislodgment. All items on the worksite that are subject to becoming windborne shall be ballasted or anchored.
3.02 HANDLING AND TRANSPORTATION

A. Handling
   1. Avoid bending, scraping or overstressing products. Protect projecting parts by blocking with wood, by providing bracing or by other approved methods.
   2. Protect products from soiling and moisture by wrapping or by other approved means.
   3. Package small parts in containers such as boxes, crates or barrels to avoid dispersal and loss. Firmly secure an itemized list and description of contents to each container.

B. Transportation
   1. Conduct the loading, transporting, unloading and storage of products so that they are kept clean and free from damage.

3.03 STORAGE

A. Store items in a manner that shall prevent damage to the owner’s property. Do not store hydraulic fluids, gasoline, liquid petroleum, gases, explosives, diesel fuel and other flammables in excavations, except one day’s supply of diesel fuel may be stored in open excavations.

B. Provide sheltered weather-tight or heated weather-tight storage as required for products subject to weather damage.

C. Provide blocking, platforms or skids for products subject to damage by contact with the ground.

D. All material shall be stored according to the manufacturer’s recommendations. Any material that has to be stored within specified temperature or humidity ranges shall have a 24-hour continuously written recording made of the applicable condition. Should the recording show that the material was not stored within the recommended ranges the material shall be considered defective and in nonconformance. If a certification from the manufacturer’s engineering design representative is provided stating that the actual variations are acceptable and will in no way harm the material or affect warranties, then the deficiency will be considered corrected.

E. Store hazardous material separately, with all material marked with a label showing the hazard and how to treat exposure to the material.

3.04 LABELS

A. Storage cabinets and sheds that will contain flammable substances and explosive substances shall be labeled FLAMMABLE--KEEP FIRE AWAY and NO SMOKING with conspicuous lettering and conforming to OSHA requirements.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.
PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. The cost of the Work described in this Section shall be included in the applicable unit price item, work order, or lump sum bid item. See Technical Specifications Section 01370 for additional requirements for the possible payment of stored material.

END OF SECTION 01620
SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of submitting for the approval of a different material, equipment or process than is described in the Contract Documents. The Contractor is to use the Request for "Or Equal" Approval form found in the Instructions to Bidders before submitting his bid. The Request for Substitution form, found in Section 01999, is used after the Contractor receives his Notice to Proceed.

B. If the substitution changes the scope of work, contract cost or contract time, a change order is required. As-built drawings and specifications must include all substitutions even if a change order is not issued.

1.02 QUALITY CONTROL

A. The substitution must provide the same quality as what it is replacing. The level of quality is defined by:

1. Maintenance and operating cost
2. Reliability
3. Durability
4. Life expectancy
5. Ease of cleaning
6. Ability to be upgraded as needed
7. Ease of interacting with other systems or components
8. Ability to be repaired
9. Availability of replacement parts
10. Established history of use in similar environments
11. Performance equal or superior to that which it is replacing.

1.03 SUBMITTAL

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. A complete Request for Substitution using the form in Section 01999 must be made at least 60 days prior to when an order needs to be placed or a method needs to be changed.

C. The submittal shall contain, as appropriate, detailed product data sheets for the specified items and the substitution. Samples and shop drawings shall also be submitted of the substitution as applicable. The submittal shall contain all the data required to be submitted for acceptance of the originally specified item or process.
D. The submittal shall contain all the applicable information required in Technical Specifications Section 01630, paragraph 2.01 below.

E. A signed statement as outlined in Technical Specifications Section 01630, paragraph 2.03.B below must accompany the Request for Substitution.

PART 2 - EXECUTION

2.01 INFORMATION

A. Provide the following information as applicable with the Request for Substitution on the item or process that is being requested to be substituted:

1. A complete description of the item or process
2. Utility connections including electrical, plumbing, HVAC, fire protection and controls
3. The physical dimensions and clearances
4. A parts list with prices
5. Samples of color and texture
6. Detailed cost comparisons of the substitution and the contract specified item or process
7. Manufacturer warranties
8. Energy consumption over a one-year period
9. What local organization is certified to maintain the item
10. Performance characteristics and production rates
11. A list of any license fees or royalties that must be paid
12. A list of all variations for the item or method specified
13. A list of at least three other projects of similar nature to this contract where the products or methods have been in use for at least one year including telephone number and name of the person to contact at these other projects
14. An analysis of the effect of the substitution on the schedule and contract cost and on the overall project as it relates to adjoining work.

2.02 SUBSTITUTION REQUEST

A. The formal Request for Substitution will be evaluated by the Project Manager and the Designer of Record based on the following criteria:

1. Compatibility with the rest of the project
2. Reliability, ease of use and maintenance
3. Both initial and long term cost
4. Schedule impact
5. The willingness of the Contractor to share equally in any cost savings
6. The ability of the item or process to meet all applicable governing regulations, rules and laws along with funding agency requirements
7. The cost of evaluating the substitution.
B. Based upon the above evaluation the Deputy Manager of Aviation will make a final determination of what is in the best interest of the City and either approve, disapprove or approve as noted the requested substitution.

2.03 CONDITIONS

A. As a condition for submitting a Request for Substitution the Contractor waives all rights to claim for extra cost or change in contract time other than those outlined in the request and approved by the Deputy Manager of Aviation. The Contractor, by submitting a Request for Substitution, also accepts all liability for cost and scheduling impact on other contractors or the City due to the substitution.

B. Included with the Request for Substitution shall be the following statement:

"The substitution being submitted is equal to or superior in all respects to the contract-required item or process. All differences between the substitution and the contract-required item or process are described in this request along with all cost and scheduling data."

C. The statement shall be signed and dated by the Contractor's Superintendent.

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or the lump bid item.

END OF SECTION 01630
SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION

Work specified in this Section includes procedures required prior to Final Acceptance of the Work in addition to those specified in General Conditions Title 20 and Technical Specifications Section 01720.

1.02 PREPARATION FOR FINAL INSPECTION

Before requesting inspection for Final Acceptance of the Work by the City, inspect, clean and repair the Work as required.

1.03 FINAL INSPECTION

A. When the Contractor considers that the Work is complete, he shall submit written certification that:
   1. Work has been inspected by the Contractor for compliance with contract documents.
   2. Work has been completed in accordance with contract documents.
   3. Work is ready for final inspection by the City.
   4. All as-built required documents have been submitted and accepted.
   5. All damaged or destroyed real, personnel, public or private property has been repaired or replaced.
   6. All operation and maintenance manuals have been submitted and accepted and all training has been completed.
   7. All personnel badges and vehicle permits have been returned to DIA Airport Security.

B. The Project Manager will inspect to verify the status of completion with reasonable promptness after receipt of such certifications. The inspection of the work will be done in accordance with the General Conditions.

C. If the Project Manager finds incomplete or defective work:
   1. The Project Manager may, at the Project Manager's sole discretion, either terminate the inspection or prepare a punch list and notify the Contractor in writing, listing incomplete or defective work.
   2. The Contractor shall take immediate steps to remedy stated deficiencies and send a second written certification to the Project Manager that Work is complete.
   3. The Project Manager will then reinspect the Work.
1.04 REINSPECTION FEES

A. Should the Project Manager perform reinspection due to failure of the Work to comply with the claims of status of completion made by the Contractor:
   1. The Contractor shall compensate the City for such additional services at the rate of $75.00 per man-hour.
   2. The City shall deduct the amount of such compensation from the final payment to the Contractor.

1.05 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a Final Statement of Accounting to the Project Manager.

B. The Final Statement of Accounting shall reflect all adjustments to the contract amount and shall include the following:
   1. The original contract amount.
   2. Additions and deductions resulting from:
      a. Previous change orders.
      b. Allowances.
      c. Final quantities for unit price items. Along with this statement shall be detailed backup for the quantities.
      d. Deductions or corrected work.
      e. Penalties.
      f. Deductions for liquidated damages.
      g. Deductions for reinspection payments.
      h. City resurveys required due to the Contractor.
      i. Other adjustments.
   3. Total contract amount, as adjusted.
   4. Previous payments.
   5. Sum remaining due.

C. If required, the Project Manager will prepare a final change order, reflecting approved adjustments to the Contract sum which were not previously made by change orders.

1.06 FINAL APPLICATION FOR PAYMENT

A. The Contractor shall submit the final application for payment in accordance with the procedures and requirements stated in the General Conditions Title 20.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order, or lump sum bid item.

END OF SECTION 01700
SECTION 01710

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION

The Work specified in this section consists of maintaining a clean, orderly, hazard free worksite during construction, and final cleaning for the City's Final Acceptance. Failure to maintain the worksite will be grounds for withholding monthly payments until corrected to the satisfaction of the Project Manager.

1.02 JOB CONDITIONS

A. Safety Requirements

Maintain the worksite in a neat, orderly and hazard-free manner in conformance with all federal, state and local rules, codes, regulations and orders, including all OSHA requirements, until Final Acceptance of the Work. Keep catwalks, underground structures, worksite walks, sidewalks, roadways and streets, along with public and private walkways adjacent to the worksite, free from hazards caused by construction activities. Inspect those facilities regularly for hazardous conditions caused by construction activities.

B. Hazards Control

1. Store volatile wastes in covered metal containers and remove those wastes from worksite daily.
2. Do not accumulate wastes which create hazardous conditions.
3. If volatile and noxious substances are being used in spaces that are not naturally ventilated, provide artificial ventilation.
4. Hazard controls shall conform to the applicable federal, state and local rules and regulations.
5. Provide appropriate waste receptacles in all areas in which employees are working. Waste receptacles shall be kept covered at all times. All materials on site shall be anchored and covered to prevent any objects from becoming wind-borne.

C. Access

Maintain the worksite to permit access by other City contractors as required and to allow access by emergency personnel.

1.03 SUBMITTALS

A. Washing Plan. The Contractor shall prepare a plan describing the specific procedures and materials to be utilized for any equipment, vehicle, etc. washing activities. The plan must be submitted to the PM and also approved by the PM and Environmental Services. Outdoor washing at DIA is not allowed unless the materials will be collected or managed in a manner to ensure that they will not enter the municipally-owned separate storm sewer system (MS4). The materials can only be disposed at a location pre-approved by DIA Environmental Services (refer to DIA SWMP). Failure to comply with this requirement would result in the discharge of non-stormwater. Indoor washing must be conducted in accordance with the Best
Management Practices (BMPs) detailed in the DIA SWMP. Refer to Technical Specification 01566. In addition, all indoor washing must be conducted in a manner that ensures that there are no prohibited discharges to the sanitary sewer system.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

A. Utilize the type of cleaning materials recommended by the manufacturer for the surfaces to be cleaned.

B. Maintain current Material Safety Data Sheets (MSDS) on site for all chemicals.

C. Ensure proper disposal of all wastes generated from the use of these materials. Must ensure compliance with all environmental regulations.

PART 3 - EXECUTION

3.01 INTERIM CLEANING

A. Clean the worksite every shift/workday for the duration of the construction contract. Maintain structures, grounds, storage areas and other areas of worksite, including public and private properties immediately adjacent to worksite, free from accumulations of waste materials caused by construction operations. Place waste materials in covered metal containers. All hard concrete, steel, wood and finished walking surfaces shall be swept clean daily.

B. Remove or secure loose material on open decks and on other exposed surfaces at the end of each workday or more often in a manner that will maintain the worksite hazard free. Secure material in a manner that will prevent dislodgment by wind and other forces.

C. Promptly empty waste containers when they become full and legally dispose of the contents at dumping areas off the City's property.

D. Control the handling of waste materials. Do not permit materials to be dropped or thrown from structures.

E. Immediately remove spillage of construction related materials from haul routes, work site, private property, public rights of way, or on the Denver International Airport site.

F. Clean only when dust and other contaminants will not precipitate upon newly painted surfaces.

G. Cleaning shall be done in accordance with manufacturer's recommendation.

H. Cleaning shall be done in a manner and using such materials as to not damage the Work.

I. Clean areas prior to painting or applying adhesive.

J. Clean all areas that will be concealed prior to concealment.

K. Dispose of all fluids according to the approved Washing Plan.
3.02 FINAL CLEANING

A. Inspect interior and exterior surfaces, including concealed spaces, in preparation for completion and acceptance.

B. Remove dirt, dust, litter, corrosion, solvents, discursive paint, stains and extraneous markings.

C. Remove surplus materials, except those materials intended for maintenance.

D. Remove all tools, appliances, equipment and temporary facilities used in the construction.

E. Remove detachable labels and tags. File them with the manufacturer's specifications for that specific material for the City's records.

F. Repair damaged materials to the specified finish or remove and replace.

G. After all trades have completed their work and just before Final Acceptance, all catch basins, manholes, drains, strainers and filters shall be cleaned; roadway, driveways, floors, steps and walks shall be swept. Interior building areas shall be vacuum cleaned and mopped.

H. Final cleanup applies to all areas, whether previously occupied and operational or not.

I. Dispose of all fluids according to the approved Washing Plan.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01710
SECTION 01720

CONTRACT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of maintaining, marking, recording and submitting contract record documents which include shop drawings, warranties, contract documents and contractor records.

1.02 SUBMITTALS

A. Each submittal of record documents shall contain the following information:
   1. Date
   2. Project title and numbers
   3. Contractor's name and address
   4. Title and number of each record document
   5. Certification that each document as submitted is complete and accurate
   6. Signature of the Contractor or his authorized representative.

B. At the completion of this contract, deliver all record documents including the following:
   1. As-built shop drawings, diagrams, illustrations, schedules, charts, brochures and other similar data
   2. Warranties, guarantees and bonds
   3. Contract documents
   4. Contractor records.

C. As-built contract drawings shall be submitted with each monthly progress payment application, and a complete set shall be submitted prior to final payment.
   1. The Contractor shall provide legible full size prints (4 copies) of each contract drawing sheet which has been used to produce work during the payment period or work that payment is being requested on, which records the current as-built conditions of work, including the posting of any change orders or change directives not shown on the contract documents at the time of contract signing.
      a. The Contractor must show as-built work completed through the payment application date including but not limited to utilities, empty conduit, conduit for actual electrical lines, plumbing, HVAC, location of anchor bolts and support points for use by others.
      b. The Contractor shall be liable for any costs incurred by the City or a third party due to errors or lack of information provided on the as-built drawings.
      c. All markings on drawings shall be legible to identify the portion of work completed.
1.03 QUALITY CONTROL

A. Record documents shall be prepared to a high standard of quality, such as that set forth in MIL STD 100, ANSI Standard Drafting Manual Y14 or other relevant lower tier specification defining equal drafting quality for microfilming, except for daily reports.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MAINTENANCE OF DOCUMENTS

A. The Contractor shall maintain at the worksite on a current basis one record copy of all drawings, specifications, addenda, change orders, approved shop drawings, working drawings, product data and samples in good order and marked currently to record all changes made during construction.

B. Maintain at the field office one copy of the following record documents:

1. Contract Documents
   a. Contract drawings with all clarifications, requests for information, directives, changes and as-built conditions clearly posted.
   b. Contract specifications with all clarifications, requests for information, changes, directives and record of manufacturer actually used along with product trade name.
   c. Reference Standards in accordance with Technical Specifications Section 01091.
   e. One set of drawings to record the following:
      1) Horizontal and vertical location of underground utilities affected by the Work.
      2) Location of internal utilities; include valves, controls, conduit, duct work, switches, pressure reducers, size reducers, transitions, crosses, tees, filters, motors, heaters, dampers, regulators, safety devices, sensors, access doors and appurtenances that are concealed in the construction shall be shown with dimensions given from a visible and recognizable reference to the item being located in all three dimensions. The drawing shall also reference the applicable submittal for the item being located.
      3) Field changes of dimensions and details including as-built elevations and location (station and offset).
      4) Details not on original contract drawings but obtained through requests for information or by other communications with the City.

2. Contractor Records
   a. Daily QC Reports
   b. Certificates of compliance for materials used in construction
   c. Nonconformance Reports (NCRs)
   d. Remedial Action Requests (RARs)
   e. Completed inspection list
   f. Inspection and test reports
   g. Test procedures
   h. Qualification of personnel
   i. Approved submittals
   j. Material and equipment storage records
   k. Safety Plan
   l. Erosion, sediment, hazardous and quality plans
3.02 RECORDING

A. Label each document page or article "PROJECT RECORD" in two inch high printed letters.

B. Keep record documents current daily.

C. Legibly mark copies of the contract drawings to record actual construction.

D. Legibly mark up each Section of the technical specifications and contract drawings to record:
   1. Manufacturer, trade name, catalog number and supplier of each product and item actually installed
   2. Changes made by change orders, requests for information, substitutions and variations approved by submittals.

3.03 DOCUMENT MAINTENANCE

A. Provide files and racks for storage of documents to maintain in clean, dry and legible condition, which shall be turned over to the City prior to final acceptance.

B. Do not use record documents for construction purposes.

C. Make documents available for inspection by the Project Manager and any others having jurisdiction.

3.04 MONTHLY REVIEW

A. Prior to any application for payment, the Project Manager or his designated representative will inspect the record documents to ensure that they are being maintained and contain the most current correct data with particular attention to as-built drawings.

B. If, during the inspection, the Project Manager determines that the documents are not being maintained and kept current as to as-built conditions, an amount may be withheld from the payment request and deducted from the contract value to cover the City's cost of collecting and recording the as-built contract data. This cost will be determined on the basis of $75.00 per man-hour of effort.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01720
SECTION 01740

WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION

The Work specified in this Section consists of preparing and submitting warranties and bonds required by these specifications.

1.02 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures.

B. Submit executed warranties and bonds.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 WARRANTIES AND BONDS

A. Execute the warranties and bonds required by the Contract Documents. Prepare and submit a list of all warranties and bonds on the form provided by the City. Reference Technical Specifications Section 01999.

B. Provide warranties or bonds for the materials, labor and time period set forth in the sections of these specifications requiring such documents. All warranties shall be for a minimum period of one year unless the technical specifications for a specific item require a greater period of time.

C. Provide all warranties and bonds that the manufacturer or supplier furnishes at no additional cost in regular commercial trade. All warranties shall be for a minimum period of one year unless the technical specifications for a specific item require a greater period of time.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01740
SECTION 01999

STANDARD FORMS

PART 1 - GENERAL

1.01 FORMS

A. The forms listed below and appended to this Section will be used for performance of the Work as indicated. This is not a complete listing of all required forms. The Contractor shall properly complete all forms required by the contract or the Project Manager. The Project Manager shall review and approve all submitted forms. If submitted forms are not acceptable the Contractor shall resubmit forms in an acceptable format.

1.02 APPENDICES

A. Attached to this Technical Specifications Section are the following forms:

1. Daily Quality Control Report (Form CM-13) (1 Page)
2. Request for Information (Form CM-17) (1 Page)
3. Submittal Form Instructions for Form CM-30 (1 Page)
4. Submittal Transmittal Form (Form CM-30); Page 1 & Supplement (2 Pages)
5. Contractor Warranty (Form CM-10) (4 Pages)
6. Contractor/Subcontractor Warranty (Form CM-11) (4 Pages)
7. Contractors Certification of Payment (Form CM-19) (this form shall be completed and submitted with each pay application) (1 Page)
8. Pay Application Form (CM-18) (1 Page)
9. Certificate of Current Cost or Pricing Data (Form CM-69) (1 Page)
10. Subcontractor Partial Lien Release Form (Form CM-26) (1 Page)
11. Subcontractor Final Lien Release Form (Form CM-70) (1 Page)
12. Request for Substitution (Form CM-09) (5 pages)
13. Request for Temporary Re-Location of Accessible Parking Space (Form CM-94) (1 Page)
14. System Shutdown Request Forms:
   a. Electrical Power and Lighting
   b. Elevator, Escalator and Autowalk
   c. Fire Protection Plumbing
   d. HVAC Systems
   e. Life Safety
   f. Plumbing
   g. Roadways
   h. Security
15. Tool Check Out Form

PART 2 - PRODUCTS (NOT USED)
PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01999
DENVER INTERNATIONAL AIRPORT
REQUEST FOR SUBSTITUTION

CONTRACT NO. (Number)  CONTRACT TITLE: (Title)

This form is to be used only after Notice to Proceed. Completely fill in this form. If necessary, use additional pages. If a question is not applicable, write “NA”. Use of this form will help ensure a faster response to the Contractor’s request.

I. In accordance with General Condition 406, check the appropriate item for the reason for the substitution request:
   A. The specified material or equipment is not available (provide name and telephone number of who was contacted at bid time and at time order was placed):

   _______________________________________________________________________

   B. The specified material or equipment is not deliverable within a reasonable time (provide the delivery time quoted at the time of bid, telephone number and name of person contacted, when the contractor was notified this time could not be met, and why:

   _______________________________________________________________________

   C. The substitution is being requested as allowed by technical specification:

   _______________________________________________________________________

II. What is specified in the contract?
   A. Specification section and page ______________________________________________
   B. Drawing number and detail _________________________________________________
   C. Specific product __________________________________________________________
   D. Specified manufacturer ____________________________________________________
   E. Specified model number and features ________________________________________
   F. Other specified requirements _______________________________________________

III. Substitution being requested:
   A. Substitution product _______________________________________________________
   B. Substitution manufacturer _________________________________________________
   C. Substitution model number and features ______________________________________
DENVER INTERNATIONAL AIRPORT
REQUEST FOR SUBSTITUTION

IV. Provide additional reasons why the substitution is being requested under technical specification Section 01630: ____________________________________________________________

V. Provide a list of all variations from what is specified in the contract. Any variation not listed and later found to impact the City could lead to rejection of the substitution at a later date.

VI. Provide detailed manufacturer’s literature, samples and drawings to comply with technical specification submittal requirements.

VII. Provide details on compatibility with the rest of the project, including but not limited to:

A. Dimensions, including required clearances (provide a sketch showing an outline of the substitution with dimensions and clearances as required).

B. Utility connection size, type and locations, including electrical, plumbing, HVAC, fire protection, and controls (provide a sketch showing the locations of each utility connection and a brief description of the connection).

C. Samples of color and texture, as required.

D. Performance characteristics, including performance curves and different operating conditions.

VIII. Provide details on reliability, ease of use and maintenance, including:

A. Instructions on operation and maintenance

B. The name and location of the local organization that is certified to maintain the substitution.

C. A list of at least three other projects of similar nature to this contract where the substitution has been in use for at least one year. This list shall include the telephone number and the name of the person to contact at these projects.

IX. Provide detailed information on cost of the specified material versus the substitution, including but not limited to:

A. Operating cost for one year and for the life of the substitution

B. Energy consumption for one year.

C. Maintenance cost for one year and for the life of the substitution

D. Cleaning cost for one year and for the life of the substitution
E. Repair parts list recommended by the manufacturer, including prices

F. Cost to install parts

G. Cost to upgrade to the next higher performance level

H. A list of any license fees or royalties that must be paid

I. Any additional costs for the area in which the substitution is located; such as, additional heating or cooling requirements to maintain a prescribed environment

X. Provide detailed information on the schedule impact of approving the substitution, including but not limited to:

A. Date by which the substitution must be approved to avoid any schedule impact (note that substitution requirements must be submitted 30 days prior to when the order must be placed per GC 406).

B. Date the order will be placed.

C. What item in the schedule is the substitution connected to or with, and how is it connected?

D. When the submittal requirements of technical specification section 01300 and 01340 will be met.

E. Any impact on Milestone dates or Contract Time.

F. Any impact on the sequence of work as shown on the accepted schedule.

XI. Provide potential cost savings to the Contractor and the Contractor’s willingness to share with the City, including but not limited to savings in:

A. Change in material price due to substitution $_______________________________

B. Change in installation price due to substitution $_______________________________

C. Increased float or altered schedule critical path? Yes _____ No _____

D. Increased production rates on other work? Yes _____ No _____

E. Change in prices from subcontractors due to substitution? $_______________________________
SUBSTITUTIONS WHICH WILL INCREASE OR DECREASE THE CONTRACT AMOUNT OR MODIFY ANY SCHEDULED EVENT MUST BE SUBMITTED WITH A DETAILED NARRATIVE AND COST AND/OR SCHEDULE BREAKDOWN

XII. The substitution’s ability to meet all applicable governing regulations, rules and laws, including funding agency requirements.

**NOTE:** Specified materials and equipment on FAA funded contracts must meet FAA requirements. The Contractor will provide proof that the exact substitution being requested is FAA approved.

**CONTRACTOR’S STATEMENT:**

The substitution being submitted is equal to or superior in all respects to the contract required item or process. All differences between the substitution and the contract required items or process are described in this request along with all cost and scheduling data.

____________________________________  __________________________
Contractor’s Superintendent Name    Date

___________________________________
Signature

As a condition of submitting a Request for Substitution, the Contractor waives all rights to claim for extra cost for change in Contract Time other than those outlined in the request and approved by the Deputy Manager of Aviation. The Contractor also, by submitting a Request for Substitution, accepts all liability for cost and scheduling impact on other contractors or the City due to the substitution.
DENVER INTERNATIONAL AIRPORT
REQUEST FOR SUBSTITUTION

RECOMMENDATION AND APPROVAL: (IF DISAPPROVED, STATE THE REASON)

I. Designer of Record recommendation:
   APPROVED ___  APPROVED AS NOTED ___  DISAPPROVED ___
   Notes:

II. CCD Design Project Manager recommendation:
   APPROVED ___  APPROVED AS NOTED ___  DISAPPROVED ___
   Notes:

III. CCD Estimating/Scheduling recommendation:
   APPROVED ___  APPROVED AS NOTED ___  DISAPPROVED ___
   Notes:

IV. CCD Construction Project Manager recommendation:
   APPROVED ___  APPROVED AS NOTED ___  DISAPPROVED ___
   Notes:

V. CCD Manager of Construction recommendation:
   APPROVED ___  APPROVED AS NOTED ___  DISAPPROVED ___
   Notes:

If approval is given, it is based on the information provided with particular emphasis on the list of variations. If any information is incorrect or incomplete, approval may be withdrawn at the Contractor’s expense.
SUBMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES
OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

(Read instructions on the reverse side prior to initiating this form)

Section I
REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the Contractor)

TO: City and County of Denver
FROM: [Contractor Name]

8500 Pena Boulevard
Denver, Colorado 80249

Attention: [Attention Name]

SPECIFICATION SECTION NO. (Cover only one section with each submittal)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION OF ITEM SUBMITTED</th>
<th>MFG. OR CONTR.</th>
<th>CONTRACT REFERENCE DOCUMENT</th>
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<td>DRAWING OR BROCHURE NO.</td>
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REMARKS:

Section II
APPROVAL ACTION

CONTRACTOR'S CERTIFICATION:

(SEAL & SIGNATURE OF CONTRACTOR P.E. (as required))

I certify that the above submitted items have been reviewed in detail, and are correct and in strict conformance with the Contract Drawings and Specifications except as otherwise noted.

NAME AND SIGNATURE OF CONTRACTOR:

ENCLOSURES RETURNED (List by Item No.)

PROJECT MANAGER REVIEW:

[ ] ACCEPTED Item Nos.
[ ] ACCEPTED AS NOTED Item Nos.
[ ] REVISE & RESUBMIT Item Nos.
[ ] NOT ACCEPTED Item Nos.
[ ] RECEIPT ACKNOWLEDGED Item Nos.

Review is only for conformance to the respective requirements of the Contract Documents. Confirmation of dimensions, fabrication processes, construction techniques and coordination of the work of all trades are the sole responsibility of the Contractor. Permission to proceed with procurement, fabrication and/or construction is general only and shall not relieve nor diminish the responsibility of the Contractor for full compliance with the requirements of the Contract Documents.

Contract No.: [Contract No.]
Submittal No.: [Submittal No.]
Date: [Date]

Name of Project Manager:
Signature of Project Manager:

COMMENTS BY PROJECT MANAGER ATTACHED (if applicable)

FORM CM-30
<table>
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<tr>
<th>Task No.</th>
<th>Task Description</th>
<th>NEW SUBMITTAL</th>
<th>RESUBMITTAL</th>
<th>DATE:</th>
<th>Specification Section No.:</th>
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TO: City and County of Denver  
Denver International Airport  
8500 Pena Boulevard  
Denver, Colorado 80249  
Attention:  

FROM:  

CONTRACT TITLE:  

CONTRACT NUMBER:  

TASK ITEM NUMBER:  
(check all that apply)

SUBMITTAL NO.: (Same as CM-30 Form)  
PREVIOUS SUBMITTAL NO.:  

CM-30 Supplement  
File:  
Sheet ___ of ___
DENVER INTERNATIONAL AIRPORT

CERTIFICATE OF CURRENT COST OR PRICING DATA

Contract Title:

Contract No.:

This is to certify that, to the best of my knowledge and belief, the cost of pricing data submitted in writing to the City in support of _________________ is accurate, complete and current as of _________________ and represents the best price that is available from suppliers and subcontractors.

This certification includes the cost of pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the City that are part of the proposal.

FIRM

NAME

TITLE

DATE
<table>
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<tr>
<th>Project:</th>
<th>Date:</th>
<th>Subcontractor Contract No.</th>
<th>Dated:</th>
<th>Last Progress Payment for billing period ending</th>
<th>$</th>
<th>Does not apply</th>
<th>Total Paid to Date:</th>
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The undersigned Subcontractor hereby (1) acknowledges receipt of the progress payment referred to above as the Last Progress Payment which, when added to the total of all previous progress payments, constitutes full payment for all labor, services, materials and supplies which the undersigned has provided for use in and upon the project described above through __________, 20__ and, (2) hereby releases the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier from any and all claims prior to the above mentioned date.

The Subcontractor also hereby agrees that the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier shall be released from any and all claims arising out of its performance or non-performance of any contract associated with the above project.

Subcontractor: ________________________________

Certified by: ________________________________

Title: ________________________________

Date: ________________________________
Request for Temporary Re-Location of Accessible Parking Space

TO:  DIA ADA Compliance Officer  
7th Floor, Airport Office Building

Activity Requesting Re-Location of Accessible Parking Space:

☐ DIA Maintenance Dept. ________________________________
   (description of work)

☐ DIA Parking Office ________________________________
   (description of work)

☐ DIA Operations Dept. ________________________________
   (description of work)

☐ Contractor ________________________________

Contract Number ________________________________

Contract Title ________________________________

☐ Other ________________________________
   (activity name and description of work)

I hereby request approval to re-locate ______ handicap accessible parking spaces and ______ access aisles from ________ to ________ in order to facilitate construction on the above project. Spaces will be re-located on ________ and shall be returned to their permanent location on ________.

(date)  (date)

I acknowledge my contractual and/or legal obligations to re-locate the same number and type of accessible parking spaces and access aisles as are temporarily removed during this work. Re-located accessible parking spaces shall be placed as close to an accessible route into the facility as possible.

Temporary signs indicating the new location of accessible parking spaces and accessible routes shall be placed in accordance with ADA specifications.

Re-located accessible parking spaces shall remain clear of construction material, debris, safety cones and barriers at all times.

_________________________________
 Authorized Requesting Official

Approved by: ________________________________
 ADA Compliance Officer  date

_________________________________
 Date of Request

cc:  (Section Manager)
    (DIA Project Manager)
    Suzanne Saunders, Airport Legal Office
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ____________________ radio channel & # ______________ cell ____________

MAINTENANCE-HITECH PAT KELLY / DAN COOK NOTIFIED _______________ SIGN / DATE
or A. GONZALES

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED _______________ SIGN / DATE
or A. GONZALES

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS NOTIFIED _______________ SIGN / DATE
or DUTY AAOM

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED _______________ SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ____________ CELL ____________ HOME ____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________

PURPOSE OF SHUTDOWN: ____________________________________________________________

__________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
- Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
- The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
- DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

__________________________________________________________

__________________________________________________________

__________________________________________________________

OTHER CONDITIONS: ________________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Signature of requesting individual: ____________________ DATE: ______________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

This form is to be submitted anytime an elevator or escalator will be shutdown for a time period greater than four hours or anytime that elevators BE-10 (the B-tower access elevator), AOB-3, or the elevator used to access the FAA control tower is to be turned off for maintenance. This form is to be completed in its entirety and submitted for the MCC supervisor’s signature no later than three (3) working days (Monday – Friday) prior to the requested shutdown time. Completed forms may be submitted via fax to: MCC Supervisor, 303-342-2823, or e-mail to maintenance.control@diadenver.net.

KONE: R. GOODWIN
LIFE SAFETY: M. KELLY or V. VASQUEZ
OPERATIONS: S. LEE / M. KULLAS or DUTY AOM
PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM
MAINTENANCE CONTROL: SUPERVISOR

REQUESTED BY: NAME:  _______________________________________________________________
COMPANY:  ________________________________________________________________
CONTACT PERSON:  ________________________________________________________________
24-HR PHONE NUMBERS:  OFFICE _______________________  CELL _______________________
RADIO CHANNEL AND CALL SIGN:  ______________________________________________________

EQUIPMENT, LOCATION AND TIMEFRAME INFORMATION:
REQUESTED SHUTDOWN:  TIME: ______________________  DATE:  _____________________
SCHEDULED COMPLETION:  TIME:   _____________________  DATE:  _____________________
ELEVATOR OR ESCALATOR UNIT NUMBER:  _____________
APPROXIMATE LOCATION OF UNIT:  ______________________________________________________
PURPOSE OF SHUTDOWN:  ______________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
• Maintenance Control must be notified prior to the start of work and immediately upon completion.
• The individual doing the work is to remain at the site until the system is restored to working condition and should have some means of being contacted by Maintenance Control (either a cell phone, pager or radio).
• The requesting party, or his designee, will be responsible for the system until the system is restored. Any delays must be coordinated through Maintenance Control at (303)342-2800.
• DIA reserves the right to deny or reschedule any shutdown that may adversely affect airport operations.

Signature of requesting individual:  _______________________________  DATE:  ________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ____________________ radio #_______ pgr._________ cell__________

MAINTENANCE-PLUMBING: DON GAASVIG OR NOTIFIED __________________________________
JAY MEEK
MAINTENANCE-FIRE PROTECTION: MIKE KELLY NOTIFIED __________________________
OPERATIONS: LEE / CLOYD or DUTY AOM NOTIFIED __________________________
MAINTENANCE CONTROL: SUPERVISOR NOTIFIED __________________________

REQUESTED BY: NAME: ________________________________________________________________
COMPANY: _________________________________________________________________
CONTACT PERSON: ________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ___________ PAGER __________ HOME __________
REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________
SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________
PURPOSE OF SHUTDOWN: ______________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

OTHER CONDITIONS: ___________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Signature of requesting individual: _______________________________ DATE: ______________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ________________________________________________________________

DIA CONTACT PERSON ______________________________radio channel & # _____________cell ____________

FACILITY MAINTENANCE: J. MENDOZA / C. WILLIAMS NOTIFIED ____________________________

MAINTENANCE HVAC: S. SMITH or SUPERVISOR on duty NOTIFIED ____________________________

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED ____________________________

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED ____________________________

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED ____________________________

REQUESTED BY: NAME: ________________________________________________________________

CONTACT PERSON: ________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ______________ CELL ___________ HOME __________

REQUESTED SHUTDOWN: TIME: _______________ DATE: ______________

SCHEDULED COMPLETION: TIME: _______________ DATE: ______________

PURPOSE OF SHUTDOWN: ________________________________________________________________

______________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion.
  Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must
  be coordinated with Maintenance Control (303)342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport
  Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

______________________________________________________________________________________

______________________________________________________________________________________

______________________________________________________________________________________

OTHER CONDITIONS: ________________________________________________________________

______________________________________________________________________________________

Signature of requesting individual: ______________________________ DATE: ______________

Revised 10/29/07
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA PROJECT MGR. ___________________________ SIGN / DATE
DIA CONTACT PERSON ______________radio channel & # __________ cell __________

MAINTENANCE-PLUMBING: DON GAASVIG OR J. MEEK NOTIFIED __________ SIGN / DATE
MAINTENANCE-FIRE PROTECTION: MIKE KELLY NOTIFIED SIGN / DATE
OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED SIGN / DATE
PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED SIGN / DATE
MAINTENANCE CONTROL: SUPERVISOR NOTIFIED SIGN / DATE

REQUESTED BY: NAME: __________________________________________
COMPANY: __________________________________________
CONTACT PERSON: __________________________________________

24-HR PHONE NUMBERS: OFFICE ___________ CELL ___________ HOME __________
REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________
SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________
PURPOSE OF SHUTDOWN: __________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- Attach legible copy(s) of CCD Construction permit(s) and approved shop drawings (non returnable).
- Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
- The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
- DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:
____________________________________________________________________________________

OTHER CONDITIONS: ________________________________________________________________
____________________________________________________________________________________

The undersigned agrees to maintain code approved FIRE WATCH until such time the system is restored.
Signature of requesting individual: ___________________________ DATE: ________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
CONTRACTOR WARRANTY

Contractor:

Work – means all work performed by the Contractor under the contract referred to above.

City – means the City and County of Denver, Colorado

Contract Documents – means contract documents for the DIA contract between the City and the contractor referred to above.

I. CONTRACTOR’S WARRANTIES AND CORRECTION WORK

A. The contractor warrants to the City that all parts, materials, components, equipment and other items incorporated into the Work are new, unless otherwise specified, and are suitable for the purpose used, are of good quality, are free from faults and defects, and are in conformance with the contract documents. The contractor also warrants that its workers are sufficiently skilled to produce quality work free from faults and defects. Work not so conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The contractor, when requested, shall furnish the City with satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. The contractor further warrants that the construction processes and methods employed to perform the Work have in the past been proven to be suitable for the results expected.

B. The contractor further warrants that it has full title to all parts, materials, components, equipment and other items conveyed to the City under the terms of this contract, that its transfer of such title to the City is rightful, and that all such parts, materials, components, equipment and other items shall be transferred free and clear from all security interests, liens or encumbrances whatsoever. The contractor agrees to warrant and defend such title against all persons claiming the whole, or any part thereof, at no cost to the City.

C. The contractor shall promptly investigate, repair, replace or otherwise correct any of its workmanship and any parts, materials, components, equipment or other items incorporated into the Work which contain faults or defects whether such failures are observed by the City or the contractor at any time during the contract term or during the warranty period. The contractor shall bear all costs of investigating and correcting, which includes the design efforts necessary to correct such Work covered by the warranty as described under the 1999 edition of the General Contract Conditions, Title 18 or elsewhere in the contract documents. If repair or replacement of faulty items of the Work is necessary, proper temporary substitutions shall be provided by the contractor in order to maintain the progress of the Work and/or keep systems operating without any additional costs to the City. The obligations of this Contractor Warranty shall survive termination of the contract under the provisions of the 1999 edition of the General Contract Conditions, Title 22. Nothing herein shall limit the City’s right to seek recovery for latent defects that are not observable until after the warranty periods have run.

D. The contractor’s warranty for all Work components shall continue for the following period:

1. For a period of one (1) year after the date of Substantial Completion or for such longer period of time as may be prescribed by the terms of any special warranties required by the contract documents.

E. Nothing contained in this Contractor Warranty shall be construed to establish a period of limitation with respect to any other obligation that the contractor might have under the contract documents. The establishment of the warranty period set forth above relates only to the specific obligation of the contractor to
correct the Work and has no relationship to the time within which its obligation to comply with the contract
documents may be sought to be enforced, nor to the time within which proceedings may be commenced to
establish the contractor’s liability with respect to its obligations and resulting damages other than specifically to
correct the Work.

F. The contractor, at its own expense, shall also investigate, repair or replace any damages to any
equipment, facilities or other personal or real property owned or leased by the City which is damaged as a result
of any such fault or defect in the Work with no cost to the City.

G. All subcontractor’s, manufacturer’s and supplier’s warranties, express or implied, for any part of the
Work and any materials used therein, shall be obtained and enforced by the contractor for the benefit of the City
whether or not these warranties have been assigned or otherwise transferred to the City. The contractor shall
assign or transfer such warranties to the City if the City requests the contractor to do so, but such transfer shall
not affect the contractor’s obligation to enforce such warranties. These warranties are listed at the end of this
document and attached hereto.

II. PERFORMANCE DURING WARRANTY PERIOD

A. The City will notify the contractor of Work found to be defective and fails to satisfy the warranties as
described in the 1999 edition of the General Contract Conditions, Article 18, Section 1801, or elsewhere in the
contract documents. The contractor shall, within ten (10) days or such longer time as may be requested and set
forth in the notice, commence the repair, replacement or correction of the defective work. Should the contractor
fail to complete such Work within a reasonable period, the City may make the repairs or replacements at the
expense of the contractor. If the City determines that immediate action to make repairs, replacements or other
corrections is necessary because of emergency conditions or to prevent further loss or damage, the City may
proceed without notice to the contractor, but at the expense of the contractor.

B. If the contractor does not proceed with the correction of such defective work within the time fixed by
written notice from the Project Manager, or in an emergency condition, the City may remove the defective work
and may store the materials or equipment at the expense of the contractor. If the contractor does not pay the
cost of the removal and storage within ten (10) days thereafter, the City may, upon ten (10) additional days
written notice, sell the stored Work at auction.

C. If the proceeds of any such sale do not cover all costs which the City has incurred and which the
contractor should have borne, the difference shall be charged to the contractor and the contractor and its surety
shall be liable for and pay the difference to the City.

D. If the contractor does not agree that the work is defective or the defective work is its responsibility and
if there are no emergency conditions, the contractor may request, in writing, a review of the City’s decision in
accordance with the 1999 edition of the General Contract Conditions, Title 13. If such review is not requested
within ten (10) days of the notification of defective work, the contractor shall have waived the right to contest
its responsibility for the correction of the defective work. Under emergency conditions, the contractor shall
immediately correct the alleged defective work, and the question of responsibility for the expense shall be
determined by the Deputy Manager of Aviation, subject to the right of the contractor to seek review, within ten
(10) days of the City’s notice allocating responsibility for the expense.

E. Should the City claim by written communication sent or mailed before the warranty period expires that
certain defective work exists and that it requires repair or replacement, the warranty period for such defective
work shall be automatically extended for as long as that defective work exists.
III. CONTRACTOR’S SPECIAL EXTENDED WARRANTIES AND OTHER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents contractor warranty requirements and warranty periods specifically required by the contract document technical specifications. The fact that warranty requirements or warranty periods for all work performed by the contractor are not listed in the technical specifications does not affect or limit the contractor’s general warranty described in paragraph I of this Contractor Warranty.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Specification Title</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

IV. MANUFACTURER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents the manufacturer’s warranties specifically required by the contract documents. These warranties are attached.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>
DENVER INTERNATIONAL AIRPORT
CONTRACTOR WARRANTY

ASSIGNMENT OF WARRANTY

The contractor hereby assigns this Contractor Warranty, special extended warranties and manufacturer’s warranties listed above, and attached hereto, to the City (except those that may be listed below), but such assignment shall not affect the contractor’s obligation to enforce such warranty as provided under paragraph I.G above of this Contractor Warranty and such assignment does not affect the contractor’s warranties described elsewhere in the contract documents.

Contractor:

By: ________________________________

Title: ______________________________

Date: ______________________________
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ____________________________

DIA CONTACT PERSON ____________________ radio channel & # ___________ cell _____________

MAINTENANCE: J.MEDOZA OR C.WILLIAMS NOTIFIED ____________________________
SIGN / DATE

MAINTENANCE-PLUMBING: DON GAASVIG NOTIFIED ____________________________
SIGN / DATE

OPERATIONS: S.LEE / M. KULLAS or DUTY AOM NOTIFIED ____________________________
SIGN / DATE

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM
NOTIFIED ____________________________
SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED ____________________________
SIGN / DATE

REQUESTED BY: NAME: ____________________________
COMPANY: ____________________________
CONTACT PERSON: ____________________________

24-HR PHONE NUMBERS: OFFICE ___________ CELL ___________ HOME ___________

REQUESTED SHUTDOWN: TIME: ___________ DATE: ___________

SCHEDULED COMPLETION: TIME: ___________ DATE: ___________

PURPOSE OF SHUTDOWN: ________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion.
  Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must
  be coordinated with Maintenance Control (303)342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport
  Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

OTHER CONDITIONS: _________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

Signature of requesting individual: ____________________________ DATE: ____________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ___________________radio channel & #_________________ cell__________

ENGINEERING: M. STEFFENS NOTIFIED __________________________________________________

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED __________________________________

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED _________________________

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED _____________________________________________

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE _____________ CELL _____________ HOME _____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: _____________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: _____________________

PURPOSE OF SHUTDOWN: ______________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.

• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.

• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

____________________________________________________________________________________

____________________________________________________________________________________

OTHER CONDITIONS: ___________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

Signature of requesting individual: ______________________________ DATE: ________________

Revised 03/28/06
DENVER INTERNATIONAL AIRPORT

SECURITY SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ____________________ radio channel & # ___________ cell ____________

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED _____________________________

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED SIGN / DATE

OPERATIONS COMM CENTER: K. MAYS or R. THOMAS NOTIFIED SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ___________ CELL _________ HOME ___________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: _____________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: _____________________

PURPOSE OF SHUTDOWN: ______________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303) 342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

____________________________________________________________________________________

____________________________________________________________________________________

OTHER CONDITIONS: ___________________________________________________________________

____________________________________________________________________________________

Signature of requesting individual: ___________________________ DATE: ________________

Revised 03/28/06
TOOL CHECK FORM

The use of the following tool security and check out plan for the Concourse B Carpet Replacement Project. On a daily basis, each installer will fill out the attached tool check out form to record every tool he/she is using for the shift. This will include the quantity of all extra blades, stay nails, etc.

The form will be signed by both the installer and field superintendent. At the end of the shift, all tools must be signed back in, and a copy of the form will be turned in to superintendent. If razor blades are deemed unusable in future shifts they will be so noted on the tool check out form and removed from the airport for disposal.

DIA takes security very seriously and prior to working at the airport every installer will be instructed with the importance of tool management and awareness. All tools will be accounted for at all times. Unattended tools will be considered a serious infraction.

If tools come up missing, an immediate cessation of work will ensue until the tool is recovered. If the said tool cannot be found, superintendent will notify, and will contact authorities per Strategic Safety Plan.
### TOOL CHECK OUT / CHECK IN FORM

<table>
<thead>
<tr>
<th>TOOL</th>
<th>Quantity</th>
<th>(Initials) Checked Out</th>
<th>(Initials) Checked In</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 in 1 Carpet Tool</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Carpet Knife</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Utility Knife</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Row Cutter</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Awl</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Knee Kicker</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Carpet Trowel</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Patch Trowel</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Broad Knife</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Extra Blades</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Tape</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Measure</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Hand Scraper</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Stand Up</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Scraper</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Crap Stretcher</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Rollers (100 lbs)</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Hand Trucks</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Carpet Dolly</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Straight Edge</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Square</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Screw driver</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Hammer</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Nails</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Chalk Box</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
<tr>
<td>Hand Broom</td>
<td>________</td>
<td>________</td>
<td>________</td>
</tr>
</tbody>
</table>
Push Broom

Carpet tractor

Hand Carpet Puller

Mitre Box

Other

Other:

Other:

Notes: 

__________________________

__________________________

__________________________

Check Out
Employee Name: ____________ Signature: _________________ Date: ______
Supervisor Name: ____________ Signature: _________________ Date: ______

Check In
Employee Name: ____________ Signature: _________________ Date: ______
Supervisor Name: ____________ Signature: _________________ Date: ______
I. SUBCONTRACTOR'S WARRANTIES AND CORRECTION WORK

A. The subcontractor warrants to the contractor that all parts, materials, components, equipment, systems and other items incorporated into the Work are new, unless otherwise specified, and are suitable for the purpose used, are of good quality, are free from faults and defects, and are in conformance with the subcontract documents. The subcontractor also warrants that its workers are sufficiently skilled to produce quality work free from faults and defects. Work not so conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The subcontractor, when requested, shall furnish the contractor with satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. The subcontractor further warrants that the construction processes and methods employed to perform the Work have in the past proven to be suitable for the results expected.

B. The subcontractor further warrants that it has full title to all parts, materials, components, equipment and other items conveyed to the contractor under the terms of this subcontract, that its transfer of such title to the contractor is rightful, and that all such parts, materials, components, equipment and other items shall be transferred free and clear from all security interests, liens or encumbrances whatsoever. The subcontractor agrees to warrant and defend such title against all persons claiming the whole, or any part thereof, at no cost to the contractor.

C. The subcontractor shall promptly investigate, repair, replace or otherwise correct any of its workmanship and any parts, materials, components, equipment or other items incorporated into the Work which contain faults or defects whether such failures are observed by the City or the contractor at any time during the subcontract term or during the warranty period. The subcontractor shall bear all costs of investigating and correcting, which includes the design efforts necessary to correct such Work covered by the warranty as described under the 1999 edition of the General Contract Conditions, Title 18 or elsewhere in the subcontract documents. If repair or replacement of faulty items of the Work is necessary, proper temporary substitutions shall be provided by the subcontractor in order to maintain the progress of the Work and/or keep systems operating without any additional costs to the contractor or the City. The obligations of this Subcontractor Warranty shall survive termination of the subcontract under the provisions of the 1999 edition of the General Contract Conditions, Title 22. Nothing herein shall limit the contractor’s right to seek recovery for latent defects that are not observable until after the warranty periods have run.
DENVER INTERNATIONAL AIRPORT
CONTRACTOR / SUBCONTRACTOR WARRANTY

D. The subcontractor’s warranty for all Work components shall continue for the following period:

1. For a period of one (1) year after the date of Substantial Completion or for such longer period of time as may be prescribed by the terms of any special warranties required by the subcontract documents.

E. Nothing contained in this Subcontractor Warranty shall be construed to establish a period of limitation with respect to any other obligation that the subcontractor might have under the subcontract documents. The establishment of the warranty period set forth above relates only to the specific obligation of the subcontractor to correct the Work and has no relationship to the time within which its obligation to comply with the subcontract documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the subcontractor’s liability with respect to its obligations and resulting damages other than specifically to correct the Work.

F. The subcontractor, at its own expense, shall also investigate, repair or replace any damages to any equipment, facilities or other personal or real property owned or leased by the contractor or the City which is damaged as a result of any such fault or defect in the Work with no cost to the contractor or the City.

G. All subcontractor’s sub-tier subcontractors, manufacturer’s and supplier’s warranties, express or implied, for any part of the Work and any materials used therein, shall be obtained and enforced by the subcontractor for the benefit of the City whether or not these warranties have been assigned or otherwise transferred to the contractor or the City. The subcontractor shall assign or transfer such warranties to the contractor or the City if the contractor requests the subcontractor to do so, but such transfer shall not affect the subcontractor’s obligation to enforce such warranties. These warranties are listed at the end of this document and attached hereto.

II. PERFORMANCE DURING WARRANTY PERIOD

A. The contractor will notify the subcontractor of Work found to be defective and fails to satisfy the warranties as described in the 1999 edition of the General Contract Conditions, Article 18, Section 1801, or elsewhere in the subcontract documents. The subcontractor shall, within ten (10) days or such longer time as may be requested and set forth in the notice, commence the repair, replacement or correction of the defective work. Should the subcontractor fail to complete such Work within a reasonable period, the contractor may make the repairs or replacements at the expense of the subcontractor. If the subcontractor fails to complete such Work within a reasonable period, the contractor may make the repairs or replacements at the expense of the subcontractor. If the contractor determines that immediate action to make repairs, replacements or other corrections is necessary because of emergency conditions or to prevent further loss or damage, the contractor may proceed without notice to the subcontractor, but at the expense of the subcontractor.

B. If the subcontractor does not proceed with the correction of such defective work within the time fixed by written notice from the contractor, or in an emergency condition, the contractor may remove the defective work and may store the materials or equipment at the expense of the subcontractor. If the subcontractor does not pay the cost of the removal and storage within ten (10) days thereafter, the contractor may, upon ten (10) additional days written notice, sell the stored Work at auction.

C. If the proceeds of any such sale do not cover all costs which the contractor has incurred and which the subcontractor should have borne, the difference shall be charged to the subcontractor and the subcontractor and its surety shall be liable for and pay the difference to the contractor.

D. If the subcontractor does not agree that the work is defective or the defective work is its responsibility and if there are no emergency conditions, the subcontractor may request, in writing, a review of the contractor’s
decision in accordance with the 1999 edition of the General Contract Conditions, Title 13. If such review is not requested within ten (10) days of the notification of defective work, the subcontractor shall have waived the right to contest its responsibility for the correction of the defective work. Under emergency conditions, the subcontractor shall immediately correct the alleged defective work, and the question of responsibility for the expense shall be determined by the contractor, subject to the right of the subcontractor to seek review, within ten (10) days of the contractor’s notice allocating responsibility for the expense.

E. Should the contractor claim by written communication sent or mailed before the warranty period expires that certain defective work exists and that it requires repair or replacement, the warranty period for such defective work shall be automatically extended for as long as that defective work exists.

III. SUBCONTRACTOR’S SPECIAL EXTENDED WARRANTIES AND OTHER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS

(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents subcontractor warranty requirements and warranty periods specifically required by the subcontract document technical specifications. The fact that warranty requirements or warranty periods for all work performed by the subcontractor are not listed in the technical specifications does not affect or limit the subcontractor’s general warranty described in paragraph I of this Subcontractor Warranty.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Specification Title</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

IV. MANUFACTURER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS

(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents the manufacturer’s warranties specifically required by the contract documents. These warranties are attached.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

Subcontractor:

By: _________________________________

Title: _______________________________

Date: _______________________________
ASSIGNMENT OF WARRANTY

The subcontractor hereby assigns this Subcontractor Warranty, special extended warranties and manufacturer’s warranties listed above, and attached hereto, to the contractor (except those that may be listed below), but such assignment shall not affect the subcontractor’s obligation to enforce such warranty as provided under paragraph I.G above of this Subcontractor Warranty and such assignment does not affect the subcontractor’s warranties described elsewhere in the contract documents.

Subcontractor:

By: _________________________________

Title: ________________________________

Date: ________________________________

Contractor:

By: _________________________________

Title: ________________________________

Date: ________________________________
**Daily Quality Control Report**

**DENVER INTERNATIONAL AIRPORT**

**Contract Name:**

**Contractor:**

**Subcontractor:**

**Date:**

**Prepared by:**

**Report No.:**

---

**Weather:**

- [ ] Sunny
- [ ] Fair
- [ ] Cloudy
- [ ] Rain _______ inches
- [ ] Snow _______ inches

**Max. Wind:** _______ mph

**Max/Mn Temp.:** _______ deg F/ _______ deg F

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**DAILY ACTIVITIES WITH LOCATION**

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**QUANTITY COMPLETE**

**MAJOR SHIPMENTS RECEIVED**

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**Subcontractors**

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**Crafts**

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**PERSONNEL**

**Work Delayed and Reason**

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**Rework and Reason**

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**Potential Future Delays**

---

**Problems and Unusual Conditions**

---

**Direction Received**

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**CERTIFIED BY** (signature required):

**Contractor QC Representative:**

---

**Contractor Superintendent:**

Page ____ of _______

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**NOTE:** This report must be completed with legible handwriting and submitted to the City and County of Denver Project Manager with original signatures. Use a separate sheet per shift.
<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
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<tbody>
<tr>
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<td>URGENT?</td>
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<td>Problem:</td>
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<td>Proposed Solution from Contractor by:</td>
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<td>Solution by:</td>
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CONSTRUCTION CONTRACT
APPLICATION FOR PROGRESS PAYMENT
SUMMARY AUTHORIZATION

<table>
<thead>
<tr>
<th>CONTRACTOR:</th>
<th>CITY AND COUNTY OF DENVER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>I hereby warrant that: 1) The title to the Work covered by this estimate of Work completed will pass to the City by incorporation into the completed work; 2) The Work covered by previous estimates of Work completed is free and clear of liens, claims, security interests or encumbrances, except for any interest created by retainage; and 3) No Work covered by this estimate of Work completed is subject to an agreement under which an interest therein, or an encumbrance thereon, is retained by the seller or otherwise imposed by the Contractor or any other person or entity.</td>
<td>I hereby certify, to the best of my knowledge, this payment application represents a true and correct statement of the work performed and is in conformance with the terms of the Contract documents.</td>
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<tr>
<th>SIGNATURE/TITLE</th>
<th>DATE</th>
<th>SIGNATURE/TITLE</th>
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<tr>
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<td>Project Manager</td>
<td>DATE</td>
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<td></td>
<td>DIA Engineering</td>
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<tr>
<td>Michael H. Steffens</td>
<td>DATE</td>
<td>Manager of Construction</td>
<td>DIA Engineering</td>
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<tr>
<td>David Rhodes</td>
<td>DATE</td>
<td>Assistant Deputy Manager of Aviation</td>
<td>DIA Engineering</td>
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APPROVED FOR PAYMENT:

<table>
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<th>APPROVED FOR PAYMENT:</th>
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<tbody>
<tr>
<td>Margo Blu</td>
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<tr>
<td>Senior Agency Budget Analyst</td>
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<th>CONTRACT STATUS</th>
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<th>CURRENT APPLICATION</th>
<th>PREVIOUS PAYMENT</th>
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<tr>
<td>a) ORIGINAL CONTRACT AMOUNT</td>
<td>$</td>
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<td>b) PREVIOUS CHANGE ORDERS (+ or -)</td>
<td>NOS.</td>
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<td>c) NEW CHANGE ORDERS (+ or -)</td>
<td>NO.</td>
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<td>NO.</td>
<td>(+ or -)</td>
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<td>NO.</td>
<td>(+ or -)</td>
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<tr>
<td>d) ADJUSTED TOTAL CONTRACT</td>
<td>d = [a + b + c]</td>
<td>$</td>
<td>-</td>
</tr>
<tr>
<td>e) PREVIOUS EARNINGS</td>
<td>$</td>
<td>-</td>
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<tr>
<td>f) EARNINGS THIS APPLICATION</td>
<td>$</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>g) TOTAL CURRENT EARNINGS</td>
<td>g = [e + f]</td>
<td>$</td>
<td>-</td>
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<tr>
<td>h) TO COMPLETE</td>
<td>h = [d - g]</td>
<td>$</td>
<td>-</td>
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<tr>
<td>i) PREVIOUS RETENTION</td>
<td>$</td>
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<tr>
<td>j) RETENTION THIS APPLICATION</td>
<td>10%</td>
<td>$</td>
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<tr>
<td>k) TOTAL RETENTION</td>
<td>k = [i + j]</td>
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<td>l) OTHER DEDUCTIONS</td>
<td></td>
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<tr>
<td>m) BALANCE DUE ON CONTRACT</td>
<td>m = [h + k + l]</td>
<td>$</td>
<td>-</td>
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<tr>
<td>n) TOTAL PREVIOUS PAYMENTS</td>
<td>n = [e - i - l]</td>
<td>$</td>
<td>-</td>
</tr>
<tr>
<td>o) PAYMENT THIS APPLICATION</td>
<td>o = [f - j - l]</td>
<td>$</td>
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Note: Items a, b, c, d, g, h, k and m amounts - place only in TOTAL CONTRACT column.
CONTRACTOR’S CERTIFICATION OF PAYMENT

CITY AND COUNTY OF DENVER
DEPARTMENT OF AVIATION

PROJECT NAME:  
CONTRACT NO.:  
PAYMENT NO.:  
CONTRACT ENCUMBRANCE NO.:  
CURRENT COMPLETION DATE:  
PERCENT COMPLETE:  

CONTRACTOR NAME:  
TELEPHONE NO.:  
PROJECT MANAGER:  
ORIGINAL CONTRACT AMOUNT:  $  
REVISED CONTRACT AMOUNT THRU C.O. NO.  :  $  

<table>
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<tr>
<th>SUBCONTRACTOR NAME</th>
<th>TIER OR SUPPLIER</th>
<th>SUBCONTRACTOR PERSON TO CONTACT</th>
<th>SUBCONTRACTOR TELEPHONE NO.</th>
<th>SUBCONTRACT AMOUNT ($)</th>
<th>DBE, SBE or NON</th>
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<th>PERCENT OF REVISED CONTRACT</th>
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( ) Check here if all undisputed CERTIFIED PAYROLLS have been submitted to the CITY AUDITOR for this Pay Application

( ) Check here if copies of documentation for all disputed CERTIFIED PAYROLLS for this Pay Application have been attached

The undersigned certifies that the information contained in this document is true and accurate and that the payments shown have been made to all subcontractors and suppliers used on the project and listed herein.

Contractor Name (print):  
Contractor Signature:  

Date:  

Page _____ of ________

DENVER INTERNATIONAL AIRPORT
PARTIAL LIEN RELEASE – CONSTRUCTION
(Subcontractor)

Project: ____________________________ Date: ____________________________
City Contract No. ____________________________ Current Subcontract
Amount: $ ____________________________

FROM: Subcontractor ____________________________
Address: ____________________________
City/State: ____________________________
Telephone: ____________________________

(1) Last Progress Payment for billing period ending ____________________________ 20___

TO: Contractor ____________________________
Address: ____________________________
City/State: ____________________________

(2) Progress invoiced for previous billing period (if unpaid) ____________________________ 20___

(3) Progress invoiced for current billing period ending ____________________________ 20___

(4) Total Paid to Date: ____________________________

( ) MBE/WBE ( ) SBE ( ) DBE ( ) Non

The undersigned Subcontractor hereby (1) acknowledges receipt of the progress payment referred to above as the Last Progress Payment which, when added to the total of all previous progress payments, constitutes full payment, less retainage, for all labor, services, material and supplies which the undersigned has provided for use in and upon the project described above through ____________________________, 20____ and, (2) hereby releases the Contractor, surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier from any and all claims prior to the above mentioned date, except for the withheld retainage.

The Subcontractor also hereby agrees that the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier shall be released from any and all claims arising out of its performance or non-performance of any contract associated with the above project through ________, 20____, except for withheld retainage after it has received full payment, less retainage, of the amount invoiced for the current billing period.

Subcontractor: ____________________________
Certified by: ____________________________
Title: ____________________________
Date: ____________________________

FORM CM-26
Rev. Feb. 2007
1. Section I will be initiated by the Contractor in the required number of copies.

2. Each submittal shall be numbered consecutively in the space provided for "Submittal No.". This number shall begin with the overall sequential number 001 through the last total number of submittals to date. This number shall not be repeated. Next, show the specification section number (e.g.; 01370) and end with the specification section sequential number 001 through the last submittal in that section.

   EXAMPLE NO. 1: 005-01370-002 five submittals have been logged overall with two submittals made to specification section 01370.

   EXAMPLE NO. 2: 009-01370-002R1 nine submittals made overall and one revision to submittal 01370-002.

Mark the appropriate box "New Submittal" or "Resubmittal". For first time specification section submittals place the submittal number in the "Transmittal No." box and an N/A in the "Previous Submittal No." box. For resubmittals place the new submittal number in the "Submittal No." box with the previous submittal number of that item in the "Previous Submittal No." box.

3. The "Item No." will be consecutive from 001 to the last item on the submittal form.

4. Use separate submittal forms for each specification section. Do NOT use more than one specification section on the same CM-30.

5. A check mark shall be placed in Column "g" when a submittal is not in accordance with the plans and specifications. Include a written statement to that effect in the "Remarks" box.

6. This form is self-transmitted; a separate Letter of Transmittal is NOT required.

7. When a sample of material or manufacturer's Certificate of Compliance is submitted, indicate "Sample" or "Certificate" in Column "c".

8. The CCD approving authority will assign action codes as indicated below in spaces provided in Column "h" for each item submitted. In addition, the CCD will ensure enclosures are indicated and attached to the form prior to return to the Contractor.

   THE FOLLOWING ACTION CODES SHALL BE GIVEN TO ITEMS SUBMITTED:

   A - Accepted as submitted.
   B - Accepted as Noted. Resubmission is NOT required.
   C - Revise and Resubmit. Resubmission IS required.
   D - Will be returned to the Contractor by separate correspondence.
   E - Not Accepted.
   F - Receipt Acknowledged.
   G - Other (specify).

9. Acceptance of items does not relieve the Contractor from complying with all requirements of the contract plans and specifications.
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY:

A. This Section includes the following:

1. Floor expansion joint cover assemblies

1.3 SUBMITTALS

A. Product data for each type of expansion joint cover assembly specified, including manufacturer's product specifications, installation instructions, details of construction relative to materials, dimensions of individual components, profiles, and finishes.

B. Shop drawings showing fabrication and installation of expansion joint cover assembly including plans, elevations, sections, details of components, joints, splices, and attachments to other units of Work.

1.4 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain expansion joint cover assemblies specified in this Section from one source from a single manufacturer. Coordinate compatibility with expansion joint cover assemblies specified in other sections.

PART 2 - PRODUCTS

2.1 GENERAL EXPANSION JOINTS:

A. Expansion Joint Covers: Expansion joint work covered under this section shall be models as specified and manufactured by Balco, Inc., or approved equal. Provide expansion joints with flexible fire shields to maintain the hourly rating of the assembly.

1. Floor: “6000 Series”.

B. Flexible Fire Shields: Provide units as manufactured by the expansion joint manufacturer.

C. Accessories: Manufacturer's standard anchors, fasteners, and other accessories compatible with material in contact; as indicated or required for complete installations.
2.2 METAL FINISHES

A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes to products in factory after fabrication. Protect finishes on exposed surfaces before shipment.

B. Aluminum Finishes: Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.


2. Aluminum contact surfaces on concrete or masonry; manufacturer's standard protective coating.

PART 3 - EXECUTION

3.1 PREPARATION

A. Manufacturer's Instructions: In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for phases of Work, including preparing substrate, applying materials, and protecting installed units.

B. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary to secure expansion joint cover assemblies to in-place construction, including threaded fasteners with drilled-in expansion shields for masonry and concrete where anchoring members are not embedded in concrete. Provide fasteners of metal, type, and size to suit type of construction indicated and provide for secure attachment of expansion joint cover assemblies.

3.2 INSTALLATION

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required to install expansion joint covers. Install joint cover assemblies in true alignment and proper relationship to expansion joints and adjoining finished surfaces measured from established lines and levels. Allow adequate free movement for thermal expansion and contraction of metal to avoid buckling. Locate wall and ceiling covers in continuous contact with adjacent surfaces. Securely attach in place with required accessories. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches on center.

B. Continuity: Maintain continuity of expansion joint cover assemblies with a minimum number of end joints and align metal members mechanically using splice joints. Cut and fit ends to produce joints that will accommodate thermal expansion and contraction of metal to avoid buckling of frames. Adhere flexible filler materials (if any) to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.
3.3 CLEANING AND PROTECTION

A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's instructions.

END OF SECTION 079500
SECTION 096513

RESILIENT BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Resilient base.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 9 Section "Rubber Flooring."

1.3 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of product specified.

C. Samples for verification purposes in manufacturer's standard sizes, but not less than 12 inches long, of each different color and pattern of product specified.

D. LEED Submittal Requirements:

1. Statement indicating material costs for each product. Information may be included on schedule of values material cost breakdown or by separate written documentation.

2. Credit EQ 4.1: Manufacturers' product data for sealants, adhesives, and primers including printed statement of VOC content in g/L.

3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

4. Credit MR 5: Address and phone number of location of manufacturer for each product. Manufacturer's statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer’s letter specific to the project giving direct mileage in lieu of locations will be accepted.
1.4 QUALITY ASSURANCE
   A. Single-Source Responsibility for Products: Obtain each type and color of product specified from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

1.5 DELIVERY, STORAGE, AND HANDLING
   A. Deliver products to Project site in original manufacturer's unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
   B. Store products in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F and 90 deg F.
   C. Move products into spaces where they will be installed at least 48 hours in advance of installation.

1.6 PROJECT CONDITIONS
   A. Maintain a minimum temperature of 70 deg F in spaces to receive products specified in this Section for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. After this period, maintain a temperature of not less than 55 deg F.
   B. Do not install products until they are at the same temperature as that of the space where they are to be installed.
   C. Close spaces to traffic during installation of products specified in this Section.

1.7 SEQUENCING AND SCHEDULING
   A. Sequence installing products specified in this Section with other construction to minimize possibility of damage and soiling during remainder of construction period.

1.8 EXTRA MATERIALS
   A. Deliver remnant materials to Owner. Furnish extra materials matching products installed as described below, packaged with protective covering for storage, and identified with labels clearly describing contents.

PART 2 - PRODUCTS

2.1 RESILIENT WALL BASE
   A. Base: Rubber, complying with ASTM F1861, Type TP, and as follows:
      1. Reference Standard: Roppe
      2. Acceptable Manufacturers:
         a. Johnsonite
         b. Burke Mercer Flooring Products, A Division of Burke Industries, Inc.
         c. Roppe Corporation
3. Height: 4", unless otherwise noted or scheduled.

4. Thickness: 1/8".

5. Length: Provide in rolls to minimize joints.


7. Style: Standard top-set cove (at hard floor finishes); straight base without cove (at carpet).

8. Color: Roppe “100 Black” at new carpet tile, all other locations shall match the existing base.

2.2 INSTALLATION ACCESSORIES

A. Adhesives: Water-resistant type recommended by manufacturer to suit resilient flooring product and substrate conditions indicated. Adhesive shall not exceed 50g/L in VOC content.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where installation of products specified in this Section will occur, with Installer present, to verify that substrates and conditions are satisfactory for installation and comply with manufacturer’s requirements and those specified in this Section.

3.2 PREPARATION

A. General: Comply with manufacturer's installation specifications for preparing substrates indicated to receive products indicated.

B. Do not install resilient products until they are same temperature as the space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

3.3 INSTALLATION

A. General: Install products specified in this Section using methods indicated according to manufacturer's installation directions.

B. Apply resilient wall base to walls, columns, pilasters, casework, and other permanent fixtures in rooms and areas where base is required. Install wall base in lengths as long as practicable. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

1. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.

2. Field Formed Straight Base Corners:
a. Form inside corners on job from straight pieces of maximum lengths possible by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce snug fit to substrate.

b. Form outside corners on job from straight pieces of maximum lengths possible by shaving back of base at point where bending will occur. Remove a strip perpendicular to length of base and only deep enough to produce a snug fit without bends whitening or removal of more than half the thickness of wall base.

3. Preformed Corners: Install preformed inside and outside corners before installing straight pieces.

C. Place resilient edge strips so they are butted to adjacent materials of type indicated and bond to substrates with adhesive. Install edge strips at edges of flooring that otherwise would be exposed.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after completing installation:

1. Remove visible adhesive and other surface blemishes using cleaner recommended by manufacturers of resilient product involved.

B. Clean products specified in this Section not more than 4 days prior to dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products using method recommended by manufacturer.

END OF SECTION 096513
SECTION 096520

RUBBER FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Rubber tile flooring.

1.3 SUBMITTALS

A. General:  Submit the following in accordance with Conditions of Contract and Division 1
   Specification Sections.

B. Product data for each type of product specified.

1. Certification by flooring manufacturer that products supplied for flooring
   installation comply with local regulations controlling use of volatile organic
   compounds (VOC's).

C. Shop Drawings:  Submit shop drawing seaming layout, details and accessories, and
   joining method

D. Samples for verification purposes of each different color and pattern of rubber flooring
   specified, showing full range of variations expected in these characteristics.

E. Maintenance data for rubber flooring.

F. LEED Submittals:

1. Statement indicating material costs for each product. Information may be
   included on schedule of values material cost breakdown or by separate written
   documentation.

2. Credit EQ 4.1:  Manufacturers’ product data for sealants, adhesives, and primers
   including printed statement of VOC content in g/L.

3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled
   content, documentation indicating percentages by weight of postconsumer and
   preconsumer recycled content.

4. Credit MR 5.1: Address and phone number of location of manufacturer for each
   product.
5. Credit MR 5.2: Manufacturer’s statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer’s letter specific to the project giving direct mileage in lieu of locations will be accepted.

1.4 QUALITY ASSURANCE

A. Single-Source Responsibility for Rubber Flooring: Obtain each type, color, and pattern of flooring from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

B. Installer: A firm specializing in rubber work with not less than three years of experience in installing flooring similar to those required for this project, and who certified by the flooring manufacturer’s as an approved installer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver flooring and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.

B. Store flooring materials in dry spaces protected from the weather with ambient temperatures maintained between 65 deg F and 75 deg F.

C. Store on flat surfaces. Move flooring and installation accessories into spaces where they will be installed at least 48 hours in advance of installation.

1.6 PROJECT CONDITIONS

A. Maintain a minimum temperature of 70 deg F in spaces to receive flooring for at least 72 hours prior to installation, during installation, and after installation. After this period, maintain a temperature of not less than 65 deg F.

B. Do not install flooring until they are at the same temperature as the space where they are to be installed.

C. Close spaces to traffic during flooring installation.

1.7 SEQUENCING AND SCHEDULING

A. Install flooring and accessories after other finishing operations, including painting, have been completed.

B. Do not install flooring over concrete slabs until the slabs have cured and are sufficiently dry to bond with adhesive as determined by flooring manufacturer's recommended bond and moisture test.

1.8 EXTRA MATERIALS

A. Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
PART 2 - PRODUCTS

2.1 RUBBER FLOORING

A. Rubber Flooring: “Norament 986 Luxor” by Nora Systems, Inc., or approved equal as follows:

2. Surface: Mat-silk, smooth.
3. Color: Match Nora “4766 Dolomites”.
4. Tile Size: 0.14 inches (3.5mm) overall thickness, 19.8 inches by 19.8 inches (503mm by 503mm).
5. Back of Tile: Smooth, double-sanded back
7. Limited Wear Warranty: 10 years.
9. Static Load: Per ASTM F970 Standard Test Method for Static Load Limit, residual compression, when tested with 800 lbs, ≤ 0.005”.
10. PVC Free: Product shall contain no polyvinyl chloride.
11. Abrasion Resistance: Taber abrasion test, ASTM D3389, H-18 wheel, 500 gram load, 1000 cycles, gram weight loss ≤ 0.4.
13. Halogen Free: Product shall contain no halogens.
16. Flammability: ASTM E648; NFPA 253; NBSIR 75 950, ≥ 0.45 watts per square centimeter, Class 1.
17. Smoke Density: ASTM E662, NFPA 258, NBS smoke density, < 450
18. Asbestos Free: Product shall contain no asbestos

2.2 INSTALLATION ACCESSORIES

A. Resilient Edge Strips: 1/8” thick, homogeneous vinyl composition, tapered or bullnose edge, color black, or as selected by Architect from standard colors available; not less than 1” wide.
B. Adhesives (Cements): Waterproof, VOC compliant, stabilized type as recommended by manufacturer to suit material and substrate conditions. Adhesive shall not exceed 60 g/L for rubber floor.

C. Concrete Slab Primer: Non-staining type as recommended by vinyl sheet manufacturer.

D. Leveling and Patching Compounds: Portland cement type as recommended by respective flooring manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Comply with manufacturer’s installation specifications to prepare substrates indicated to receive tile.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer.

2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

C. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

D. Moisture Testing:

1. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.

E. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

F. Do not install floor tiles until they are same temperature as space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
G. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.

H. Broom or vacuum clean substrates to be covered by tiles immediately before tile installation. Following cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust.

I. Apply concrete slab primer, if recommended by flooring manufacturer, prior to applying adhesive. Apply according to manufacturer's directions.

3.3 INSTALLATION OF FLOORING

A. General: Comply with flooring manufacturer's installation directions and other requirements indicated that are applicable to each type of flooring installation included in Project. Flooring shall be dry laid prior to adhesive installation

B. Match edges for color shading and pattern at seams in compliance with manufacturer's recommendations. Support floor coverings at horizontal and vertical junction by cove strip

C. Adhere flooring to substrates using method approved by flooring manufacturer for type of flooring, and substrate condition indicated.

D. All joints in flooring shall tightly butted together.

E. Lay out tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths at perimeter that equal less than one-half of a tile. Install tiles square with room axis, unless otherwise indicated.

F. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Cut tiles neatly around all fixtures. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain running in one direction.

G. Extend flooring into toe spaces and similar openings.

H. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent marking device.

I. Use full spread of adhesive applied to substrate in compliance with flooring manufacturer's directions including those for trowel notching, adhesive mixing, and adhesive open and working times.

J. Scribe, cut, and fit flooring to butt tightly to vertical surfaces, permanent fixtures, built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

K. Adhere flooring to substrates without producing open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections in completed tile installation.

L. Hand roll flooring where required by flooring manufacturer.
3.4 CLEANING AND PROTECTION

A. Touch-up and repair minor damage to eliminate all evidence of repair. Remove and replace work which cannot be satisfactorily repaired.

B. Clean surfaces only after adhesive has fully cured, no sooner than 72 hours after installation. Clean surfaces using non-abrasive materials and methods recommended by manufacturer. Remove and replace work that cannot be successfully cleaned.

C. Protect completed work from damage and construction operations and inspect immediately before final acceptance of project.

END OF SECTION 096520
PART 1 - GENERAL

1.1 SUMMARY

A. Section includes: Carpet removal, new carpet and accessories for direct glue down installation.

B. Carpet patterns and color to be approved by Architect.

C. Alternates or Substitutions: Approval of alternate or substitute products will be considered only under the terms and conditions as outlined below:

Whenever a particular make of material or trade name is specified herein, it shall be regarded as being indicative of the standards required. Regardless of format of specifications, any Specification other than those named in Part 2 - Products, 2.01/A, 2.01/B and 201/C, must proceed as an alternate or substitute. Any proposes to quote on the basis of an alternate or substitute material or system shall submit to the architect, at least ten (10) days prior to the scheduled bid date, the following information:

1. Written application for approval of alternate or substitute to include specifications of alternate or substitute carpet on company letterhead and signed by company officer.

2. Proposed alternate or substitute with the recommended backing technology. Minimum sample size 24” x 24”.

3. A complete sample representation of colors available.

4. Copies of warranties for proposed alternate or substitute.

5. List of a minimum of three (3) jobs, one of which must be in use for at least ten (10) years, where alternate or substitute is/was used under similar conditions. Each job shall be available for inspection by the owner’s representative.

6. Consideration will be given to only those alternates or substitutes that are approved prior to scheduled bid opening date.

7. List of approved alternates or substitutes will be issued to all bidders prior to bid opening.

D: General: The following publications of the issues listed below, but referred to hereinafter by basic designation, form a part of this specification to the extent as if bound herein:

American Society for Testing and Materials (ASTM):


1.2 SUBMITTALS

A. Layout Drawings: Show layout of each carpet type installation, at 1/8” scale, indicating locations of seams and all trim: size and location of all fill strips, and location of trim at all exposed edges.

B. Samples: Submit approval of patterns and colors for carpet tiles for final approval prior to placement of order. Sample Size 24” x 24”. Samples shall be accompanied by manufacturer’s technical specification for each carpet required using terminology.
characteristics as listed in this specification.

C. Maintenance Data: Submit manufacturer's printed maintenance recommendations for the
care, cleaning, and maintenance of the carpet, including detailed instructions pertaining to
hot water extraction methods.

1.3 QUALITY ASSURANCE

A. Flooring Contractor's Qualifications: Firm with not less than 5 consecutive years of
experience in installation of commercial carpeting of type, quantity and installation methods
similar to work of this section. Flooring contractor shall submit with bid proposal written
certification from carpet manufacturer; demonstrating their firm is an authorized installation
contractor.

B. Manufacturer's Qualifications: Firm (carpet mill) with not less than 5 consecutive years of
production experience with carpet similar to type specified in this section; whose published
product literature clearly indicates general compliance of products with requirements of this
section.

C. Measurement Verification: Dimensions shown on drawings are approximate. It is the
Flooring Contractor's responsibility to verify all dimensions and job site conditions; order
sufficient yardage to fully carpet areas as indicated and to fill overage requirements as
specified. No substitutions shall be permitted to make up for any shortage of material in
overage or in carpet to be installed.

D. Flooring Contractor shall be totally responsible for the accuracy of his measurements of total
yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for
pattern match, and roll length requirements; no additional compensation shall be allowed for
shortage of materials.

E. Dye Lots: All carpet of the same type shall be from the same dye lots.

F. Owner reserves the right to test carpet at their expense to verify that the delivered carpet is
as specified. If carpet does not meet specifications, manufacturer will reimburse owner the
testing expense and the carpet may be rejected.

G. This Specification is based on the assumption that there is room for variation in carpet
manufacture without sacrificing quality. However, any variations, alternatives and
substitutions are subject to the process outlined in article 1.01C of this Specification Section.

H. Manufacturer to provide a Submittal Checklist as indicated in Section 09691, Item 2.03 with
submittal package.

I. Carpet testing agency may be requested at Owner's discretion and must be an independent
testing lab with experience in the tests that are required. Submit list of qualified testing agencies
for approval. Along with the summary of tests from set of test chart, all backup information on
independent test lab letterhead needs to be submitted for review and approval.

1.4 PRODUCT DELIVERY, STORAGE & HANDLING

A. Deliver carpeting materials in original mill protective wrapping with mill register numbers and
tags attached. Maintain wrappers and protective covers in place until carpet is ready for
installation. Store inside, in well-ventilated area, protected from weather, moisture and
soiling.
B. Before installation, carpet tiles shall be inspected for defects, color variations or shipping damage and be immediately replaced if any of these conditions exist at no additional cost to the Owner. Carpet tiles shall be inspected to insure that carpet tiles are from the same dye lot.

C. Deliver all required overages and maintenance stock to owner's specified location prior to beginning installation.

1.5 JOB CONDITIONS

A. Environmental Conditions: Maintain temperatures in space in accordance with carpet or adhesive manufacturer's recommendations, but in no case less than 60 degrees F for 24 hours prior to, during and after installation. Subfloor temperature should be a minimum 60 degrees F for 24 hours prior to and after installation.

B. Precondition: All of the carpet shall be spread in a room on site 24 hours prior to actual installation with the room preconditioned at a minimum of 60 degrees F with humidity between 35% to 65%.

1.6 CUTTING REQUIREMENTS

A. General: In addition to the requirements and recommendations of the Carpet Manufacturer, the following criteria shall be adhered to:
   1. No carpet pieces less than 12 inches in width shall be used in the work.
   2. All cutting of carpet for telephone and electrical outlets shall be the responsibility of the Flooring Contractor.

1.7 EXTRA STOCK

A. General: Furnish 10% additional yardage of each carpet type required; extra yardage is over and above any overage provided by manufacturer. Normal manufacturing overage not to exceed 5%. Deliver to the Owner uncut in clearly marked dust-proof packages prior to commencement of work; store where directed.

PART 2 - PRODUCTS

2.1 CARPET CPT-1

A. Carpet Tile Description - pattern field carpet (CPT-1)
   1. Similar pattern to adjacent broadloom carpet: scroll patterned graphics.
   2. Installation with horizontal ashler tile pattern.

B. Carpet Tile Color Description
   Multi-color pattern to match DIA colors in adjacent broadloom carpet.

C. Carpet Type CPT-1
   Carpet Tile Type CPT-1 shall meet the following minimum requirements:
   Construction – tufted, 100% man-made materials for superior stability.
   Surface Texture – scroll patterned graphics
   Gauge – 1/12”
   Stitches Per Inch – 11.3 per inch
   Finished Pile Thickness - .093” - .125” -.234”
   Face Weight – 34 oz.
Size/Width – 24”x24”

Dye Method – solution dyed
Face Yarn – 100% Lumena Nylon
Stain resistance – lifetime warranty against permanent staining
Backing Technology – Fiberglass reinforced thermoplastic composite tile

Static – 3.0 kv when tested under the Standard Shuffle Test 70 degrees Fahrenheit (21 degrees Celsius) – 20% R.H.
Flammability – Passes DOC-FF-1-70 Pill Test
Flooring Radiant Panel Test – Meets NFPA Class 1 when tested under ASTM E-648 glue down
Smoke Density – NBS Smoke Chamber NFPA-258 – Less than 450 Flaming Mode
Color Fastness – Lightfastness – AATCC 16E-1982 – Dark Color: Gray scale rating of 4 or better after 160 standard fading hours as compared to AATCC Gray Scale for evaluation change in color, Ozone and Gas – AATCC 129-1981 – Rating 3 or better per color AATCC transference scale
Moisture Penetration – Pass British Spill Test

Carpet Manufacturers – Subject to compliance with specifications, the following manufacturer is approved: Lees Carpets

Carpet Manufacturers Representatives / Contacts:
office: 303.972.8899; cell: 303.809.7646; Fax: 303.933.8574
Email: dan_faulkner@leescarpets.com

2.2 CARPET CPT-3

A. Carpet Tile Description - border carpet (CPT-3)
   1. Similar pattern to adjacent broadloom carpet: textured multi-color.
   2. Installation with horizontal ashler tile pattern.

B. Carpet Tile Color Description
   Multi-color pattern to match DIA colors in adjacent broadloom border carpet.

C. Carpet Type CPT-3
   Carpet Tile Type CPT-3 shall meet the following minimum requirements:
   Construction – tufted, 100% man-made materials for superior stability.
   Surface Texture – textured multi-color loop
   Gauge – 5/64”
   Stitches Per Inch – 11.8 per inch
   Finished Pile Thickness - .125”-.218”
   Face Weight – 40 oz.
   Size/Width – 24”x24”

Dye Method – solution dyed
Face Yarn – 100% solution dyed Nylon
Stain resistance – lifetime warranty against permanent staining
Backing Technology – Fiberglass reinforced thermoplastic composite tile

Static – 3.0 kv when tested under the Standard Shuffle Test 70 degrees Fahrenheit (21 degrees Celsius) – 20% R.H.
**Flammability** – Passes DOC-FF-1-70 Pill Test  
**Flooring Radiant Panel Test** – Meets NFPA Class 1 when tested under ASTM E-648 glue down  
**Smoke Density** – NBS Smoke Chamber NFPA-258 – Less than 450 Flaming Mode  
**Color Fastness** – Lightfastness – AATCC 16E-1982 – Dark Color: Gray scale rating of 4 or better after 160 standard fading hours as compared to AATCC Gray Scale for evaluation change in color, Ozone and Gas – AATCC 129-1981 – Rating 3 or better per color AATCC transference scale  
**Moisture Penetration** – Pass British Spill Test  

**Carpet Manufacturers** – Subject to compliance with specifications, the following manufacturer is approved: Lees Carpets  

**Carpet Manufacturers Representatives / Contacts:**  
ofice: 303.972.8899; cell: 303.809.7646; Fax: 303.933.8574  
Email: dan_faulkner@leescarpets.com

**Pattern and Color** – Understanding the importance of pattern and color for aesthetics, as appearance retention and maintainability, Owner reserves the right to reject any product or manufacturer based solely on pattern and color considerations.

**F. WARRANTIES**

1. Definition of Lifetime: Lifetime is defined as the period from which materials are installed until the date in which the owner removes them from service.
2. Manufacturer’s Lifetime Warranty, non-prorated, against product failure covering all costs including freight, labor, and material for the following:  
   - Edge Ravel – wet or dry.  
   - Back de-lamination - wet or dry.  
   - Tuft bind - wet or dry.  
   - Static protection as stated above.  
   - Wear - No more than 10% Face Yarn Loss.  
   - Adhesive failure.
3. Installation Warranty: Lifetime Warranty, non-prorated, against any installation related failure covering all costs including freight, labor, and material co-signed by the flooring contractor and the manufacturer.

**G. STAIN RESISTANCE**

1. Stain resistant properties must be permanent and not removable by commercial cleanings or abrasive wear. Permanent properties will have a minimum rating of 8 using AATCC Red 40 Scale when tested using AATCC 171 (HWE) for 2 washings to simulate removal of topical treatments by hot water extraction, followed by AATCC 175. For abrasive wear testing the test sample must be exposed to 22,000 cycles in Vetterman Drum Test ASTM D5417 and then tested using AATCC 175.

**H. ENVIRONMENTAL ATTRIBUTES – LEED Criteria**

1. Environmental claims by manufacturer must comply with FTC guidelines.  
2. Environmentally Preferred Product – Carpet must have third party certification (such as Scientific Certification Systems) in accordance with NS 140 as an Environmentally Preferred Product (EPP).  
3. Recycled Content: Carpet must contain 10 – 20% post-consumer recycled content
4. Carpet Face Yarn: In accordance with Executive Order 13101, carpet face yarn must be third party certified as an Environmentally Preferred Product (EPP).

5. Low Emitting Materials: Carpet and all installation components including adhesives, sealers, seam welds and seam sealers must meet the Low Emitting Materials standards as outlined in U.S. Green Building Council LEED criteria. Adhesives must meet VOC emissions standards per South Coast Air Quality Management District Rule #1168. (LEED – CI: EQ 4.1 & EQ 4.3)

6. End of Life Reclamation: Carpet must have an existing methodology actively in place to achieve landfill diversion. Refer to Section 3.03 of this section for specific requirements for reclamation of material.

7. Indoor Air Quality – Manufacturer must demonstrate that carpet is certified under the CRI Green Label Plus Program (LEED –CI: EQ 4.1 & EQ 4.3)

8. Main Bonding Agent – Thermoplastic containing 15 – 10% pre- and post-consumer recycled content by total weigh. (LEED –CI: MR 4.1 & MR 4.3)

2.2 ACCESSORIES

A. Adhesives: Waterproof, non-flammable carpet adhesive recommended and approved by carpet manufacturer in writing for compatibility with carpet backing. All floor sealers, seam sealers, and adhesives shall contain no calculated solvents per OSHA Regulation 29 CFRE 1910.1200, have no calculated VOC's, be non-flammable, and meet the criteria of the CRI Green Label Plus Certification Program (LEED – CI: EQ 4.1). MSDS and samples required on product used.

B. Miscellaneous Materials: As recommended and approved in writing by manufacturer of carpet, and selected by Flooring Contractor to meet project circumstance and requirements.

C. Protection Paper: Fortifiber Corporation "Seekure 892", or approved heavy, reinforced, non-staining kraft laminated paper.


E. Metal Edge/Transition Strips: Extruded aluminum clamp down (tap down) without barbs, and of maximum lengths to minimize running joints. Rubber transition strip as indicated. Colors: As selected by the Architect

F. Transition Strip Between Carpet And Hard Finishes: “CTC Backwards Carpet Trim” by the Ceramic Tool Co., Pewaukee, WI, or approved equal.

F. Miscellaneous Materials: As recommended and approved in writing by manufacturer of carpet, and selected by Flooring Contractor to meet project circumstance and requirements.

2.3 SUBMITTAL CHECKLIST

A. Checklist Instructions: For all submittals of alternates or substitutes, submitter must include the checklist below, completely filled out and signed by an officer of the company. Failure to provide this documentation will result in rejection of submittal.

1. Fill-in the left column with the actual data as it pertains to your alternate or substitute. If more room is required, attach additional pages.
2. Circle either yes or no indicating whether or not the submitted product meets or exceeds the specification requirements for each checklist item.

B. Checklist Form: See next page.
C. Checklist Form:
1. Submitting company's name: __________________________________________
2. Checklist preparer's name: ____________________________________________
3. Submitted product manufacturer: ______________________________________
4. Submitted product style name: ________________________________________
5. Checklist:

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<tr>
<th>Specification Citation: (Please enter submittal information)</th>
<th>Circle Answer</th>
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<tr>
<td>1. Construction:</td>
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<td>2. Surface Texture:</td>
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<td>3. Gauge:</td>
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<td>5. Stitches per inch:</td>
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<td>6. Finished Pile Thickness:</td>
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<td>7. Pattern Repeat:</td>
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<td>8. Face Weight:</td>
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<td>9. Size / Width:</td>
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<td>10. Dye Method:</td>
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<td>11. Face Yarn:</td>
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<td>12. Dry Soil Retardant:</td>
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<td>13. Stain Resistance (2.01/C, D &amp; E):</td>
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<td>14. Backing Technology:</td>
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<td>15. Static:</td>
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<td>16. Flammability:</td>
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<td>17. Floor Radiant Panel Test:</td>
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<td>18. Smoke Density:</td>
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<td>19. Color Fastness:</td>
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</tr>
<tr>
<td>21. Manufacturer Lifetime Warranty:</td>
<td>YES / NO</td>
</tr>
<tr>
<td>22. Installation Lifetime Warranty:</td>
<td>YES / NO</td>
</tr>
<tr>
<td>23. Stain Resistance (2.01/G):</td>
<td>YES / NO</td>
</tr>
<tr>
<td>24. Environmental Attributes:</td>
<td>YES / NO</td>
</tr>
</tbody>
</table>

3. Preparer’s Signature and Date:______________________________
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
   1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
   2. Subfloor finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" for slabs receiving carpet.
   3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

C. Testing for Alkalinity - Testing the pH at the surface of a concrete slab must be conducted in accordance with ASTM F 710-05, not to exceed 9 pH. (ASTM F710-05 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring) Proceed with installation only after unsatisfactory conditions have been corrected.

D. Moisture Vapor Emission Rate (MVER) Testing - MVER tests must be conducted in accordance with the latest edition of ASTM F 1869, not to exceed 3 pounds per 1000 sq. ft. per 24 hours. (ASTM F1869 - Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

3.2 PREPARATION

A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.

B. Use trowel able leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.

C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet [cushion] manufacturer.

E. Clear away debris and scrape up cementitious deposits from surfaces to receive carpeting; vacuum clean immediately before installation. Check concrete surfaces to ensure no "dusting" through installed carpet; apply sealer where required to prevent dusting.
F. Broom and vacuum clean substrates to be covered immediately before installing carpet.

G. Apply primer to concrete surfaces in accordance with manufacturer's instructions.

H. Sequence carpeting with or work so as to minimize possibility of damage and soiling of carpet during remainder of construction period.

3.3 CARPET REMOVAL

A. Remove and dispose of all existing carpet and materials to make subfloor acceptable for installation if applicable. Diversion of 75% of all old materials from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)

3.4 INSPECTION

A. General: Do not start work until work of other trades is substantially completed. Inspect surfaces to receive carpet and verify that all such work is complete to the point where this installation may properly commence. In the event of discrepancy, notify Construction Manager. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved. Start of carpet installation indicates acceptance of subfloor conditions and full responsibility for completed work.

B. Materials: Unroll all goods to verify all goods uniformity, quality, color and texture against the approved samples prior to installation. Any discrepancy should be brought to the attention of the Contractor.

3.5 CARPET RECLAMATION

A. SUBMITTALS

1. Proposed dust-control measures.
2. Proposed packing and transportation measures.
3. Schedule of carpet reclamation activities indicating the following:
   a. Detailed sequence of removal work.
   b. Inventory of items to be removed and recycled.
4. Reclamation agency records indicating receipt and disposition of used carpet.

B. QUALITY ASSURANCE

1. Reclamation Agency: Firm [or designated agent firm] providing used carpet recycling program.
2. Carpet Remover: Firm [or designated agent firm] providing carpet removal services for recycling purposes.
4. Record off-site removal of debris and materials and provide the following information regarding the removed materials. Time and Date of Removal; Type of Material; Weight and Quantity of Materials; Final Destination of Materials.
5. Certification: Reclamation Agency and Carpet Remover shall certify in writing that used carpet was removed and recycled to assure carpet is not land-filled.

C. PREPARATION

1. Vacuum used carpet before removal.
D. CARPET REMOVAL
1. Remove used carpet in large pieces, roll tightly, and pack neatly in container.
   [Include carpet scrap and waste from new installation.] Immediately remove from
   Site and place in container or trailer.
2. Deposit only clean, dry used carpets in containers. Clean shall be defined as
   carpet free from demolition debris or asbestos contamination, garbage, and tack
   strips.

E. CONTAINER DISPOSAL
1. Place used carpet in 40-yd³ (30.5 m³) container supplied by reclamation agency.
   Containers are fully enclosed, front (end) loading. Place only used commercial
   carpeting in collection container. Container shall be kept locked or supervised.
2. Use effective packing techniques to maximize the amount of material in the
   container. On average, container holds 2000 to 3000 yd² (1672 to 2508 m²).
3. Neatly stack carpet tiles or repack in cardboard boxes prior to placing in
   container. Do not stack higher than 6 feet (1.8 m).
4. When container is full, contact reclamation agency to coordinate pickup and drop-
   off of replacement container. If container is locked for security purposes, remove
   the lock prior to pickup.

3.6 INSTALLATION, GENERAL

A. General: Comply with manufacturer's instructions and recommendations for installation of
   this type of carpet by the glue down method.

B. Prepare the subfloor to insure a successful installation. Utilize a floor sealer recommended
   by the carpet manufacturer, where needed or recommended by the manufacturer, to negate
   chemical reaction between old and new adhesive. (LEED CI: – EQ 4.1)

C. Carpeting shall be installed with pile lying in the same direction (monolithic). Cut carpet
   evenly and accurately to fit neatly at walls, columns, and projections. Extend carpet under
   open-bottomed and raised-bottom obstructions, and under removable flanges of
   obstructions.

D. Installed carpet shall be free from ripples, ravels, frays, puckers and raw exposed edges. All
   loop pile carpets will demonstrate some fuzzy edges due to normal manufacturing
   conditions. It is the contractor's responsibility to trim all edges to eliminate fuzzy seams.

E. Expansion Joints: Do not bridge building expansion joints with continuous carpeting, provide
   for movement.

3.7 CLEANING AND PROTECTION

A. Remove and dispose of debris and unusable scraps. Diversion of 75% of all materials &
   debris from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)

B. Following cleaning and vacuum, carefully protect the carpeting from soiling and damage
   until final acceptance. Protection shall be accomplished by using approved protection
   paper. Edges shall be lapped 6 inches and secured with non-asphaltic tape. Covering shall
   be kept in repair and damaged portions replaced during the construction and move-in
   period.
D. Maintenance Materials: Deliver usable scraps to Owner’s designated storage space, properly packaged and identified. Usable scraps are defined to include roll ends of less than 9 feet in length and pieces of more than 2 feet wide. Dispose of smaller pieces as construction waste.

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT:

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.1 PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 096813
SECTION 096816.13 – CARPET

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Carpet removal, new carpet and accessories.
2. Tufted carpet. Carpet patterns and color to be approved by Owner.

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1. Review methods and procedures related to carpet installation including, but not limited to, the following:
   a. Review delivery, storage, and handling procedures.
   b. Review ambient conditions and ventilation procedures.
   c. Review subfloor preparation procedures.

1.4 ALTERNATIVES OR SUBSTITUTIONS – No substitutions for custom DIA Brand carpets; only prep, installation and project related materials

A. Approval of alternate or substitute products will be considered only under the terms and conditions as outlined below:

1. Whenever a particular make of material or trade name is specified herein, it shall be regarded as being indicative of the standards required. Regardless of format of specifications, any Specification other than those named in Part 2 - Products must proceed as an alternate or substitute. On the basis of an alternate or substitute material or system shall submit to the Project Manager the ‘Request for “Or Equal” Approval form, at least ten (10) days prior to the scheduled bid date with following information:
   a. Written application for approval of alternate or substitute to include specifications of alternate or substitute carpet on company letterhead and signed by a company officer.
   b. Full pattern repeat for the proposed alternate(s) or substitute carpet with the recommended backing technology. Minimum sample size 18” x 18”; and an 11”x17” photo quality rendering showing a full contextual facility installation preferably of the DIA facility being carpeted depicting the full design.
   c. A complete sample representation of colors available.
   d. Copies of warranties for proposed alternate or substitute.
   e. List of a minimum of three (3) jobs, one of which must be in use for at least ten (10) years, where alternate or substitute is/was used under similar conditions. Each job shall be available for inspection by the owner's representative.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's product data for all items furnished. For the following, including installation recommendations for each type of substrate:

1. Carpet: For each type indicated. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
B. LEED Submittals:
1. Statement indicating material costs for each product. Information may be included on schedule of values material cost breakdown or by separate written documentation.
2. Credit EQ 4.1: Manufacturers' product data for sealants, adhesives, and primers including printed statement of VOC content in g/L.
3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content.
4. Credit MR 5.1: Address and phone number of location of manufacturer for each product.
5. Credit MR 5.2: Manufacturer's statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer’s letter specific to the project giving direct mileage in lieu of locations will be accepted.
6. Credit EQ 4.3: provide Manufacturers’ product data for carpet, installation adhesive, and seam sealer. Carpet data information shall include CRI GLP (Green Label Plus) number.

C. Shop Drawings, at 1/8" scale format. Measure Verification: dimensions shown on drawings are approximate. It is the Flooring Contractor’s responsibility to verify all dimensions and job site conditions; order sufficient yardage to fully carpet areas as indicated and to fill overage requirements as specified. No substitutions are permitted to make up for any shortage of material in overage or in carpet to be installed. Flooring Contractor is totally responsible for the accuracy of his measurements of total yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for pattern match, and roll length requirements. No additional compensation will be allowed for shortage of materials. In the shop drawings, show the following:
1. Columns, doorways, enclosing walls or partitions, built-in fixtures, and locations where cutouts are required in carpet.
2. Carpet type, color, and dye lot.
3. Locations where dye lot changes occur.
4. Seam locations, types, and methods.
5. Type of subfloor.
6. Type of installation.
7. Pattern type, repeat size, location, direction, and starting point.
8. Pile direction.
9. Type, color, and location of insets and borders.
10. Type, color, and location of edge, transition, and other accessory strips.
11. Transition details to other flooring materials.

D. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
1. Carpet: Eight, 36-inch square sample. Prepare samples from same material to be used on the project.
   a. CPT-1 – Concourse Walkways.
   b. CPT-2 - Holdrooms.
   c. CPT-3 – Borders.

2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch long Samples.

3. Carpet Seam: 6-inch (150-mm) Sample.

E. Qualification Data: For qualified Installer.

F. Fiber Verification: Certification from the fiber producer verifying use of the premium branded fiber in the submitted carpet product.

G. Product Test Reports: For carpet, for tests performed by a third party qualified testing agency. Owner reserves the right to test carpet at the Owner's expense to verify that the delivered carpet is as specified. If carpet does not meet specifications, manufacturer will reimburse Owner the testing expense and the carpet may be rejected.

H. Pre-Shipmen t/Carpet Testing: The manufacturer shall provide testing on all field and border/edge carpet(s) as indicated on the carpet description under 2.2 CARPET through the approved qualified outside/independent agency, refer to Section 1.02 Submittals, Item B. Submittal of the testing agency qualifications is required. The Table outlines the method to be used, the minimum carpet performance requirements, and the sequence of testing and additional comments. Test samples to be a minimum of 1’6” by width of roll. All backup information from the independent testing lab test results need to be submitted on independent testing lab letterhead. Test results and the samples shall be submitted to the DIA Project Manager and Architect/DOR for review and approval upon the completion of each set of tests and for review and approval prior to shipping carpet.

I. Manufacturing Test Reports: During the manufacturing process the manufacturer shall be required to submit test reports after the initial minimal production run of the project carpet showing compliance with the minimum performance requirements specified under paragraph 2.2. All reports shall be submitted directly the Owner. All testing shall be paid for by the manufacturer.

J. Sample Warranties: For special warranties.

K. Existing Floor Test Data: Prior to installation submit test report indicating the results of calcium chloride moisture test and pH test. Indicate the conclusions drawn from the tests, noting the suitability of substrate or noting corrective actions necessary. Submit test data to the Owner.

L. Maintenance Data: For carpet to include in maintenance manuals. Include the following:
   1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
   2. Precautions for cleaning materials and methods that could be detrimental to carpet.
1.6 **ALTERNATES**

A. Alternate: Quote a separate amount to be added to or deducted the based bid for performing work described herein.

1. Alternate No. 1: All carpeting at the Apron Level at the Northeast Commuter Corridor.

2. Alternate No. 2: Carpeting east of expansion joint just east of column line E50.1 at the east end of the Concourse Level.

1.7 **LUMP SUM ALLOWANCE**

A. Allowance shall include cost to Contractor of specific products and materials selected by Architect under allowance and shall include taxes, delivery to Project site and installation.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

D. Schedule Of Allowances:

1. All quantities listed herein include 2%, but this is for "Architectural Plan Adjustment Factor" and thus considered net yardage. Any average amount shall be determined and stated by the Contractor. The following manufacturer's quoted material prices are FOB the mill and exclude tax and freight. The quotes noted of, January 27, 2012, are good through the end of 2012.

   a. CPT-1: Broadloom "50311-F6139" (12,320 sq. yds. - $34.86/sq. yd.)
   b. CPT-2: Broadloom "50311-F6138" (10,113 sq. yds. - $34.86/sq. yd.)
   c. CPT-3: Broadloom "50311-F8469" (16,619 sq. yds. - $35.95/sq. yd.)
   d. CPT-4: Tile, Lees “StepUp DD763” color “438 Wrought Iron” (1,240 sq. yds. - $48.73/sq. yd.)

1.8 **MAINTENANCE MATERIAL**

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering against rodents and moisture for storage and identified with labels describing contents.

1. Carpet Cuts: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

2. No overage shall be furnished; Owner does not have anywhere to store materials. Remnants shall be salvaged for any future repairs or use by Owner.
3. Storage: Deliver extra materials and overstock at location directed by the Owner at the Denver International Airport.

1.9 QUALITY ASSURANCE

A. Installer: Firm with not less than 7 years of commercial carpeting experience in installation of carpeting similar to that required for this project, and who is approved and certified by the carpet manufacturer.

B. Mockups: Build 1200 square foot mockup carpet border and field to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
   1. Build mockups in the facility, location at Owner’s discretion.
   2. Approved mock-up shall not be incorporated into the finished installation.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Comply with CRI 104 and requirements specified herein.

B. Deliver carpeting materials in original mill protective wrapping with mill register numbers and tags attached. Store inside, in well-ventilated area, protected from weather, moisture and soiling.

C. Inspection of carpet: Before roll carpet is cut, it shall be inspected for defects, color variations or shipping damage and be immediately replaced if any of these conditions exist at no additional cost to the Owner. Prior to installation, carpet shall be rolled out for Owner’s inspection to insure that carpet rolls are from the same dye lot.

1.11 FIELD CONDITIONS

A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.

B. Environmental Limitations: Do not deliver or install carpet and carpet cushion until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period. Maintain temperatures in space in accordance with carpet or adhesive manufacturer’s recommendations, but in no case less than 60 degrees F for 24 hours prior to, during, or after installation. Subfloor temperature should be a minimum of 60 degrees F for 24 hours prior to and after installation.

C. Do not install carpet over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.

D. Prior to cutting and installing: All of the carpet shall be spread in a room on site 24 hours prior to actual installation with the room preconditioned at a minimum of 60 degrees F with humidity between 35% and 65%.

E. Prepare subfloor as specified under paragraph 3.2.

F. It is the Flooring Contractor’s responsibility to verify all dimensions and job site conditions; order sufficient yardage to fully carpet areas as indicated and to fill overage requirements as specified. No substitutions are permitted to make up for any shortage of
material in overage or in carpet to be installed. Flooring Contractor is totally responsible for the accuracy of his measurements of total yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for pattern match, and roll length requirements. No additional compensation will be allowed for shortage of materials.

1.12 WARRANTY

A. Special Warranty for Carpet: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet due to unusual traffic, failure of substrate, vandalism, or abuse.

2. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling wet or dry, snags, runs, loss of tuft bind strength wet or dry, excess static discharge, and back delamination wet or dry, adhesive failure.

3. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Lees Carpet – Custom Product

2.2 CARPET

A. Products: Provide (and independently test as specified under paragraph 1.5.) new carpeting complying the following minimum requirements as follows:

1. Product: Provide as follows:

   a. CPT-1: Broadloom “50311-F6139”
   b. CPT-2: Broadloom “50311-F6138”.
   c. CPT-3: Broadloom “50311-F8469”.
   d. CPT-4: Tile, Lees “StepUp DD763” color “438 Wrought Iron”

2. Face Construction: Textured Pattern Loop.

3. Fiber: Invista, Antron Lumena® nylon Fiber Dye Method: 100% Solution Dyed, except for CPT-4. Ensure that yarn is produced in large dye lots to allow no more than one dye lot per Concourse segment, plus overage required for installation and attic stock.

   a. CPT-4 Fiber: Fortis Nylon 6.6 with 6.6 scraper yarn, yard dyed.

4. Fiber Soil Resistance: Duratech per Antron (or Duracolor by Lees Carpet as approved by GSA tests).

5. Fiber Antimicrobial Treatment: Intersept®.

6. Primary Backing: Tufted, 100% woven synthetic.

7. Secondary Backing: High performance close cell vinyl cushion backing equal to The Mohawk Group “Unibond Flex Bloc” with advanced thermo-set co-polymer and cross-link polymeric barrier, non PVC.

8. CPT-4 Backing: Fiberglass reinforced thermoplastic composite.
9. Tufted Yarn Weight: CPT 1, 2 and 3: 42 oz./sq. yard, and CPT-4: 38 oz./sq. yard
10. Finished Pile Weight: CPT 1, 2 and 3: 40 oz./sq. yard.
12. Machine Gauge: 1/12 gauge, except 5/32" for CPT-4
13. Pile Height: CPT-1 and CPT-2: 0.218"/0.196"; CPT-3: 0.250"/0.093"
14. Stich per Inch: 13.5 / inch
15. Pile Density: > 8000 for severe traffic minimum
16. Size: 12 feet for broadloom CPT-1, CPT-2, CPT-3, and 24" square for tile CPT-4
17. Pattern Repeat: 36 inches minimum
19. Texture Appearance Retention:
   a. Vetermann Drum Test, ASTM D5417, > 3.5 using ARR reference scales
   b. Hexapod Drum Test, ASTM D5252, > 3.5 using ARR reference scales
20. Permanent Moisture Barrier must pass British Spill Test and 10,000 Moisture Impact Test with appropriate adhesive.
21. Stain Resistance: AATCC 171 (HWE), followed by AATCC 175 – Min. of 8 using AATCC Red 40 Stain Scale
22. Resistance to Delamination: ASTM-D3936, Minimum 4.0 lbs. / inch
23. Static Control: < 3.5 kV, kilovolts of static at 70 degrees F and 20% relative humidity, by permanent means (i.e. antistatic filaments). Electrostatic Propensity (Step): (AARCC-134)
24. Smoke Density: ASTM E662, < 450 Dm in flaming mode or state code
25. Radiant Panel: ASTM E648, > .45 watts/ cm2 critical radiant flux or state requirements
27. Colorfastness: Provide as follows:
   a. Colorfastness to Chemicals: Duracolor or equal
   b. Colorfastness to Light: AATCC 16 Part E, 200 AFU, AATCC Gray Scale for color change rating minimum of 3-4
   c. Colorfastness to Nitrogen Oxides & Ozone: AATCC 164 and 129, for 2 cycles, AATCC Gray Scale for color change rating minimum of 3-4
28. Warranties: Non-prorated / Lifetime or 15 years minimum
   a. edge ravel wet or dry
   b. back delamination wet or dry
   c. superior tuft bind wet or dry
   d. static protection as above
   e. face wear no more than 10% face yarn loss
   f. adhesive failure none

B. Performance Characteristics: As follows:
1. Edge Ravel: ASTM D 7267, 4 lbs. minimum.
2. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm., ASTM E 648.
3. **Pattern and Color:** Understanding the importance of pattern and color for aesthetics, as appearance retention and maintainability, Owner reserves the right to reject any product or manufacturer based solely on pattern and color considerations.

### 2.3 INSTALLATION ACCESSORIES

A. **Trowelable Leveling and Patching Compounds:** Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer. Provide “Ultra Skimcoat” by Mapei.

B. **Adhesives:** Water-resistant, mildew-resistant, non-staining type recommended by the carpet manufacturer to suit the Denver International Airport heavy traffic application and expected service and conforming to local Air Quality Management District and LEED requirements for volatile organic compound limitations and toxicity.
   1. Use adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. **Seam Adhesive:** Hot-melt adhesive tape or similar product recommended by carpet manufacturer for sealing and taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.
   1. **Product:** Provide seam sealer equal to Mohawk Group “Lifloc Carpet Seam Sealer” moisture-proof.

D. **Metal Edge/Transition Strips:** Extruded aluminum clamp down (tap down) without barbs, and of maximum lengths to minimize running joints. Rubber transition strip as indicated in detail 3 Sheet B-A202A. Colors: As selected by the Architect.

E. **Transition Strip Between Carpet And Hard Finishes:** “CTC Backwards Carpet Trim” by the Ceramic Tool Co., Pewaukee, WI, or approved equal.

F. **Miscellaneous Materials:** As recommended and approved in writing by manufacturer of carpet, and selected by Flooring Contractor to meet project circumstance and requirements.

### 2.4 ENVIRONMENTAL ATTRIBUTES – LEED CRITERIA

A. **Environmental claims by manufacturer must comply with FTC guidelines.**

B. **Environmentally Preferred Product – Carpet must have third party certification (such as Scientific Certification Systems) in accordance with NSF 140 as an Environmentally Preferred Product (EPP).**

C. **Recycled Content:** Carpet must contain 10 – 20% post-consumer recycled content based on total product weight. (LEED – CI: MR 4.1 & MR 4.2)

D. **Carpet Face Yarn:** In accordance with Executive Order 13101, carpet face yarn must be third party certified as an Environmentally Preferred Product (EPP).

E. **Low Emitting Materials:** Carpet and all installation components including adhesives, sealers, seam welds and seam sealers must meet the Low Emitting Materials standards as outlined in U.S. Green Building Council LEED criteria. Adhesives must meet VOC emissions standards per South Coast Air Quality Management District Rule #1168. (LEED – CI: EQ 4.1 & EQ 4.3)

F. **End of Life Reclamation:** Carpet must have an existing methodology actively in place to achieve landfill diversion. Refer to Section 3.03 of this section for specific requirements for reclamation of material.
G. Indoor Air Quality – Manufacturer must demonstrate that carpet is certified under the CRI Green Label Plus Program (LEED –CI: EQ 4.1 & EQ 4.3)

H. Main Bonding Agent – Thermoplastic containing 10 – 20% pre- and post-consumer recycled content by total weigh. (LEED –CI: MR 4.1 & MR 4.3)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
   1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
   2. Subfloor finishes comply with requirements specified in Section 033000 “Cast-in-Place Concrete” for slabs receiving carpet.
   3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

C. Testing for Alkalinity - Testing the pH at the surface of a concrete slab must be conducted in accordance with ASTM F 710-05, not to exceed 9 pH. (ASTM F710-05 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring) Proceed with installation only after unsatisfactory conditions have been corrected.

D. Moisture Vapor Emission Rate (MVER) Testing - MVER tests must be conducted in accordance with the latest edition of ASTM F 1869, not to exceed 3 pounds per 1000 sq. ft. per 24 hours. (ASTM F1869 - Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride,

3.2 PREPARATION

A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.

B. Use trowel able leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.

C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet [cushion] manufacturer.

D. Clear away debris and scrape up cementitious deposits from surfaces to receive carpeting; vacuum clean immediately before installation. Check concrete surfaces to ensure no "dusting" through installed carpet; apply sealer where required to prevent dusting

E. Broom and vacuum clean substrates to be covered immediately before installing carpet.

F. Apply primer to concrete surfaces in accordance with manufacturer's instructions.
G. Sequence carpeting with or work so as to minimize possibility of damage and soiling of carpet during remainder of construction period

3.3 CARPET REMOVAL
   A. Remove and dispose of all existing carpet and materials to make subfloor acceptable for installation if applicable. Diversion of 75% of all old materials from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)
   B. Remove used carpet in large pieces, roll tightly, and pack neatly in container. Include carpet scrap and waste from new installation. Immediately remove from Site and place in container or trailer.

3.4 INSPECTION
   A. General: Do not start work until works of other trades are substantially completed. Inspect surfaces to receive carpet and verify that all such work is complete to the point where this installation may properly commence. In the event of discrepancy, notify Construction Manager. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved. Start of carpet installation indicates acceptance of subfloor conditions and full responsibility for completed work.
   B. Materials: Unroll all goods to verify all goods uniformity, quality, color and texture against the approved samples prior to installation. Any discrepancy should be brought to the attention of the Construction Manager.

3.5 CARPET RECLAMATION
   A. SUBMITTALS
      1. Proposed dust-control measures.
      2. Proposed packing and transportation measures.
      3. Schedule of carpet reclamation activities indicating the following:
         a. Detailed sequence of removal work.
         b. Inventory of items to be removed and recycled.
      4. Reclamation agency records indicating receipt and disposition of used carpet.
   B. QUALITY ASSURANCE
      1. Reclamation Agency: Firm [or designated agent firm] providing used carpet recycling program.
      2. Carpet Remover: Firm [or designated agent firm] providing carpet removal services for recycling purposes.
      4. Record off-site removal of debris and materials and provide the following information regarding the removed materials: Time and Date of Removal; Type of Material; Weight and Quantity of Materials; Final Destination of Materials.
      5. Certification: Reclamation Agency and Carpet Remover shall certify in writing that used carpet was removed and recycled to assure carpet is not land-filled.
      6. Removed carpet and associated materials shall not be removed and placed in a landfill.
   C. PREPARATION: Vacuum used carpet before removal.

3.6 CONTAINER DISPOSAL
   A. Place used carpet in 40-yd³ (30.5 m³) container supplied by reclamation agency. Containers are fully enclosed, front (end) loading. Place only used commercial carpeting in collection container. Container shall be kept locked or supervised.
B. Use effective packing techniques to maximize the amount of material in the container. On average, container holds 2000 to 3000 yd$^2$ (1672 to 2508 m$^2$).

C. Neatly stack carpet tiles or repack in cardboard boxes prior to placing in container. Do not stack higher than 6 feet (1.8 m).

D. When container is full, contact reclamation agency to coordinate pickup and drop-off of replacement container. If container is locked for security purposes, remove the lock prior to pickup.

3.7 INSTALLATION

A. Comply with CRI 104 and carpet manufacturer's written installation instructions for the following:
   1. Direct-Glue-Down Installation: Comply with CRI 104, Section 9, and “Direct Glue-Down Installation.”

B. Comply with carpet manufacturer's written recommendations and Shop Drawings for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position. Seaming layout shall enable future replacement, especially in large open areas and traffic paths. Seaming shall run parallel to major traffic flow whenever possible, unless specifically indicated in writing by owner or owner's representative. No cross seams shall be allowed in drops of 10 feet or less. Seams shall be inconspicuous to visual inspection. No seams shall occur perpendicular to doors or entries. No carpet pieces less than 12 inches in width shall be used in the work.

C. Do not bridge building expansion joints with carpet.

D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer. All cutting of carpet for telephone and electrical outlets shall be the responsibility of the Flooring Contractor.

E. Extend carpet into toe spaces, door reveals, closets, alcoves, closets, and similar openings, under open-bottomed obstructions, removable flanges and furnishings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.

G. Install pattern parallel to walls and borders to comply with CRI 104, Section 15, and “Patterned Carpet Installations” and with carpet manufacturer's written recommendations.

H. Install edging strips where carpet terminates at other floor coverings; use full length pieces only, butt tight to vertical surfaces; where splicing cannot be avoided. Butt ends tight and flush.

I. Provide cut-outs as required for removable access devices in the substrate. Secure both sides of cuts to the substrate. Use release-type adhesive on floor and on carpet cut-outs which must be lifted from the substrate to gain access to the devices, unless otherwise indicated. Cut "H" wherever it is feasible to provide a carpet flap in lieu of a fully-removable cut-out.

J. Glue-Down Application:
   1. Fit sections of carpet into each space prior to application of adhesive.
   2. Apply adhesive uniformly to substrate in accordance with manufacturer's instructions. Butt carpet edges tightly together to form seams without gaps, apply seam sealer to seams of broadloom carpeting. Roll lightly to eliminate air
pockets and ensure uniform bond. Remove adhesive and seam sealer promptly from face of carpet.

K. Carpet Tile Application:
1. Install carpet tile using free lay method in strict accordance with carpet tile manufacturer's recommendation installation procedures. Lay carpet tile in grid pattern from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Butt carpet edges tightly together to form seams without gaps. Adhesive used for free lay application shall be applied in a grid at intervals as recommended by the carpet manufacturer.

L. Roll lightly to eliminate air pockets and ensure uniform bond. Remove adhesive promptly from face of carpet.

3.8 CLEANING AND PROTECTING
A. Perform the following operations immediately after installing carpet:
1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer. Remove and dispose of debris and unusable scraps. Diversion of 75% of all materials & debris from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)
2. Remove yarns that protrude from carpet surface.
3. Vacuum carpet using commercial machine with face-beater element. Following cleaning and vacuum carefully protect the carpeting from soiling and damage until final acceptance. Protection shall be accomplished by using approved protection paper. Edges shall be lapped 6 inches and secured with non-asphaltic tape. Covering shall be kept in repair and damaged portions replaced during the construction and move-in period.

B. Maintenance Materials: Deliver usable scraps to Owner's designated storage space, properly packaged and identified. Usable scraps are defined to include roll ends of less than 9 feet in length and pieces of more than 2 feet wide. Dispose of smaller pieces as construction waste.

C. Protect installed carpet to comply with CRI 104, Section 16, and “Protecting Indoor Installations.”

PART 4 - MEASUREMENT
4.1 METHOD OF MEASUREMENT
A. No separate measurement shall be made for work under this section.

PART 5 - PAYMENT
5.1 PAYMENT
A. No separate payment will be made for work under this section. The cost of the work described in the Section shall be included in the Lump Sum Contract price.

END OF SECTION 096816
ISSUE FOR BID

CONCOURSE B - PUBLIC CARPET REPLACEMENT

CONTRACT NUMBER 201204529

PART II – TECHNICAL SPECIFICATIONS

APRIL 5, 2012

DEPARTMENT OF AVIATION
Kim Day, Manager of Aviation

DENVER INTERNATIONAL AIRPORT
PLANNING & DEVELOPMENT DIVISION
201204529 CONCOURSE ‘B’ CARPET REPLACEMENT

TECHNICAL SPECIFICATIONS

DIVISION 01 - GENERAL REQUIREMENTS

01010 – Summary of work
01014 – Work Sequence and Constraints
01015 – Security Requirements
01016 – Vehicle and Equipment Permitting
01025 – Measurement for Payment
01051 – Project Coordination
01070 – Abbreviations and Symbols
01091 – Reference Standards
01095 – Definitions and Conventions
01110 – Construction Safety
01200 – Project Meetings
01300 – Submittals
01310 – Schedule
01340 – Shop and Working Drawings, Product Data and Samples
01370 – Schedule of Values
01400 – Contractor Quality Control
01410 – Cutting and Patching
01505 – Mobilization
01576 – Traffic Control
01580 – Temporary Signs
01620 – Storage and Protection
01630 – Substitutions
01700 – Contract Closeout
01710 – Cleaning
01720 – Contract Record Documents
01740 – Warranties and Bonds
01999 – Standard Forms

DIVISION 02 - SITE CONSTRUCTION

No work this Division

DIVISION 03 – CONCRETE

No work this Division

DIVISION 04 – MASONRY

No work this Division

DIVISION 05 – METALS

No work this Division

DIVISION 06 - WOOD AND PLASTICS

No work this Division

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

No work this Division
DIVISION 08 - DOORS AND WINDOWS

No work this Division

DIVISION 09 – FINISHES

096513       - Resilient Base
096520       - Rubber Flooring
096816.13   – Carpeting – Concourse B

DIVISION 10 – SPECIALTIES

No work this Division

DIVISION 11 – EQUIPMENT

No work this Division

DIVISION 12 – FURNISHINGS

No work this Division

DIVISION 13 - SPECIAL CONSTRUCTION

No work this Division

DIVISION 14 – CONVEYING SYSTEMS

No work this Division

DIVISION 15 – MECHANICAL

No work this Division

DIVISION 16 – ELECTRICAL

No work this Division

END OF TABLE OF CONTENTS
DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this contract consists of furnishing all management, supervision, labor, materials, tools, equipment, services, testing and incidentals for the construction of the Work indicated in the contract documents including lump sum items and unit price items.

B. The Work specified in this Contract consists of furnishing all management, supervision, labor, materials, tools, equipment, services, testing and incidentals for the construction of projects on an as-needed basis as required by the Contract Documents. Scope of Work includes the removal and recycling of existing carpeted areas, floor preparation of areas receiving new carpets, and to coordinate furnishing and installing new carpets in Concourse ’B’ Public Areas as designated by the construction drawings.

C. The Work in this Contract may impact operations of Denver International Airport. The Contractor shall bid, plan and execute the Work so as to minimize disruption of operations and inconvenience to the public. Contractor responsible for the coordination with DIA Operations and Security to provide schedules to remove, prep surface areas and install new carpets within same day service to minimize shutdown of gate areas and functions of the airport.

D. Permits are not required for carpeting projects.

1.02 WORK BY OTHERS

A. The Contractor is hereby notified that there may be other construction activities now and in the future within the project areas and adjacent to the worksites throughout the duration of this contract. The Contractor is responsible for keeping apprised of other projects and worksites and how they may affect the work.

B. The Contractor shall maintain contact with the City and with other contractors to schedule work to minimize the effect of such construction activities on other site activities. The Contractor shall also maintain, at the direction of the Project Manager, contact with tenants to ensure minimal disruption to tenant operations.

1.03 FUTURE WORK

A. The Contractor is hereby notified that there may be other future construction activities within the project and adjacent to the worksites that are scheduled after completion of this contract. It is the Contractor’s responsibility to keep apprised of such projects and how they may affect the Work.

1.04 SITE CONDITIONS

A. The Contractor acknowledges satisfaction as to the nature and location of the Work, all of the
general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, power, roads, and uncertainties of weather, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during work, and all other matters that can in any way affect the work or the cost thereof under this contract.

B. The Contractor further acknowledges, by submission of a bid and on each Work Request bid, satisfaction as to the character, quality and quantity of all surface and subsurface materials and all features on top of the surface or at worksites that would be encountered from his inspection of the site and from reviewing available records of exploratory work furnished by the City. Failure by the Contractor to become acquainted with the physical conditions of the sites and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of performing the Work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data and the site, that the Contractor can perform the Work in a good and workmanlike manner and to the satisfaction of the City. The City assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this contract unless such representation is expressly stated in the contract.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTRACTOR'S DUTIES

A. Except as otherwise specified, furnish the following to the full extent required by the contract:

1. Labor, superintendence, supervision and products.
2. Construction equipment, tools, machinery and materials.
3. Utilities required for construction and related activities.
4. Other facilities and services necessary to properly execute and complete the Work, including security for worksite, testing and storage and protection of all materials awaiting incorporation into the Work, providing a safe working environment for workers, City and County of Denver representatives, and the public in accordance with all local, state and federal requirements.

B. Prosecute the Work as specified and in a timely manner. Submit a schedule of Work that will be performed at times other than during the eight-hour working day of Monday through Friday, daylight hours. Submit this schedule five working days prior to the beginning of Work to the Project Manager for review and acceptance. Approval to work at night may be obtained after Contractor presents a written program outlining special precautions to be taken to control the extraordinary hazards presented by night work. That program shall include, but not limited to, supplementary lighting of work areas, availability of medical facilities, security precautions and noise limitations.

3.02 COORDINATION

A. Coordinate prosecution of the Work with those public utilities, governmental bodies, private utilities and other contractors performing work on and adjacent to the worksites. Eliminate or
minimize delays in the Work and conflicts with those utilities, bodies and contractors. Schedule governmental, private utility and public utility work that relies upon survey points, lines and grades established by the Contractor to occur immediately after those points, lines and grades have been established. Confirm coordination measures for each individual case with the City in writing.

B. In the coordination effort of work by others, the Contractor shall obtain and refer to equipment locations and other layouts, as available, to avoid interface problems.

C. The City reserves the right to permit access to the site of the Work for the performance of work by other contractors and persons at such times that the City deems proper. The exercise of such reserved right shall in no way or to any extent relieve the Contractor from liability for loss and damage to the work due to or resulting from its operations or from responsibility for complete execution of the Contract. The Contractor shall cooperate with other contractors and persons in all matters requiring common effort.

3.03 CONTRACTOR USE OF WORKSITE

A. Confine worksite operations to areas permitted by law, ordinances, permits and the contract.

B. Consider the safety of the Work and that of the people and property on and adjacent to the worksite when determining amount, location, movement and use of materials and equipment on worksite.

C. Do not load worksite with equipment and products that would interfere with the Work. Only equipment, tools or materials required for this Work may be stored at the worksite.

D. Protect products, equipment and materials stored on worksite.

E. Relocate stored products, equipment and materials which interfere with operations of City, government bodies, public and private utilities, and other contractors.

F. Contractor to provide a Phasing Plan for removal and installation of areas to maintain adequate accessibility to facilities by public and facility employees. Temporary signage to provide directions to accessible locations and routes.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this section including any and all necessary relocations requested by the City. The cost of the work described in this section shall be included in the applicable multiplier or bid items contract price.

END OF SECTION 01010
SECTION 01014

WORK SEQUENCE AND CONSTRAINTS

PART 1 - GENERAL

1.01 OTHER WORK

A. Other concurrent construction contracts with which the Contractor must interface are described elsewhere in the Contract Documents. Refer to Technical Specifications Section 01310 and the Special Conditions for specific work constraints and milestones.

1.02 WORK SEQUENCE

A. The work sequence shall be in compliance with Phasing, Sequencing and Milestones as indicated in the Contract Documents and in accordance with the approved Construction Schedule developed by the Contractor. The schedule shall be in compliance with requirements indicated in the Special Conditions and Technical Specifications Section 01014 Work Sequence and Constraints. The Construction Schedule is described in Technical Specifications Section 01310 Schedule.

1.03 WORK CONSTRAINTS

A. Site Constraints

1. Access to the project shall be generally as indicated in the Contract Documents. Access shall be organized and planned by the Contractor to ensure no disruption of airline or DIA operations.

2. Access to work sites will be strictly monitored and must comply with DIA Airport Operations and FAA Regulations. The Contractor shall provide monitoring and escorts as required by DIA Operations in the area of the work.

3. The Contractor's staging area will be as indicated in the Construction Documents.

4. Contractor employee parking will not be allowed within the existing revenue control system. To access the Terminal building, Contractor employees may use the DIA Landside Employee Parking Lot located on 78th Avenue at a cost of $30.00 per month per employee. A free DIA shuttle to the Terminal is available from this Lot. Material for work in the Terminal may be brought in through the Terminal Loading Dock accessed via Gate 1. Employee and material access to the Concourses will be via Gate 5.

5. The Contractor shall use the haul routes specified in the plans.

6. If required, the Contractor shall provide a bus and driver to transport the Contractor's employees between the designated employee parking area and the work sites. No separate payment will be made for this bus and driver. The cost shall be included in the bid item "Mobilization". The bus driver shall be provided at all times when Contractor employees are working on the project.

B. System Interruptions

1. The Contractor shall submit on approved forms through the Project Manager to DIA Maintenance Control any written requests for system interruptions such as fire alarm, HVAC, electrical, water systems or other systems. System interruptions shall not be
considered if the interruptions interfere with airport operations or tenant operations. Interruptions or system shut down shall be limited to between the hours of 11:00 p.m. and 5:30 a.m. Baggage system shutdown shall be limited to between the hours of 10:00 p.m. and 4:00 a.m. and in accordance with Technical Specifications Section 01014, paragraph 1.03.F. Roadway shutdown times are to be coordinated with Airport Operations and the DIA Project Manager prior to submitting a request for approval to shutdown a roadway.

2. The request forms shall be submitted only during the normal work week (Monday through Friday) between 8:00 a.m. and 4:00 p.m.

3. Upon approval of a system shutdown, the Contractor representatives and the individuals performing the work shall remain at the worksite and shall remain in contact with Maintenance Control until such time as the system is restored to working condition. The requesting party shall assume liability for the system until the system is restored to proper working order.

4. Fire Systems, HVAC, and Plumbing: Submit requests two working days prior to the time of requested interruption.

5. Electrical System Interruptions: Submit requests five working days prior to the time of requested interruption.

C. Airfield Operations at Denver International Airport

1. Full airport and aircraft operations are underway adjacent to this project. Contractors are required to obtain a Contractor Participant Manual from the Security Manager and must follow the guidelines in the manual. Copies of the Contractor section of the manual are available for review at the Denver International Airport Access Services Office.

   a. If any Work contains requirements for Work activities or access through or in the restricted area, reference Technical Specifications Section 01015 and 01016 for requirements.

   b. If not in a restricted area, the Contractor personnel still must be badged; reference Technical Specifications Section 01015.

D. CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM

1. Contractor activities shall comply with Airport Operations and Regulation 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.

E. OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION

1. All work shall be accomplished in accordance with FAA Advisory Circular AC150/5370-2C, “Operational Safety on Airports During Construction”, FAR Part 139 and FAR Part 107 except as herein modified.

F. Procedures and Constraints

1. Electrical Service: The Contractor shall be responsible for verifying with the DIA Project Manager or representatives locations acceptable for accessing electrical power for welders and other electrical equipment feeders. The Contractor shall be responsible for all work and equipment required to install temporary or permanent electrical modifications for construction power and lighting.

   a. Temporary Hook-up: Pigtails wired into electrical panels - temporary only.
Permanent installation shall require conduit, labeling, and all requirements of Division 16 Technical Specifications. Comply with the following:

1) Provide 20 amp, 3 pole plugs.
2) Wire shall be (4) #10 copper
3) 480V, 3 phase, 3 pole, 4 wire twist lock ground line
4) NEMA L16-20 or ANSI C73.87

b. The Contractor may not begin operation of the equipment prior to request for inspection by DIA representatives and acceptance of the installation.

2. Grounding: Review with DIA representative’s area of work prior to beginning work to ensure ground procedures do not induce undesirable charges in steel building system or other systems. This review should take place subsequent to the pre-work meeting. Do not ground to adjacent building systems, baggage system, hangers, or devices that support mechanical or electrical equipment.

G. Cleaning Equipment and Spoils

1. Discharge of water, liquids, or chemicals into the building waste, drain systems or storm drainage systems is prohibited. The Contractor shall comply with all Federal, State, and Local requirements for disposal of chemicals. The Contractor shall maintain and service in work areas containers for discharge of water from cleaning of any construction equipment or removal of water from excavations.

H. Vehicle Permitting for Tunnel and Basement Use

1. Electric carts require permitting. The Contractor shall provide at least one electric cart for Contractor use during the work in the tunnel and basements of the buildings. Only CNG powered trucks are allowed in the tunnel and basements of the buildings. CNG/gasoline trucks may be used and shall not be parked overnight or for long terms within the tunnel or basements. All vehicles require permitting. Permits may be acquired at the DIA Airport Security Office for a fee of $5.00 each (non refundable) with a $100.00 deposit (refundable at project completion).

I. Radio and Cell Phone Use

1. The Contractor shall have in place prior to initiation of work in the tunnel or basements communications equipment either by use of cell phone and or radio. Cell phone use is limited to “line of sight” communication. Radio equipment shall be submitted to DIA for approval of use at least 14 days prior to intended use. Radio equipment frequencies shall be submitted. Frequencies shall be subject to DIA approval.

J. Keys

1. The Contractor shall be required to contact DIA Maintenance Control to procure keys for access to all rooms having locks in order to gain access. Keys may be checked out at the beginning of each work shift by the Contractor and shall be returned to DIA Maintenance Control at the end of each work shift.

1.04 COORDINATION

A. The Contractor will designate a contact person for coordination with the Project Manager and airline tenants. The contact person shall have the authority to make decisions for the Contractor firm and shall have binding signatory power for changes in work. The contact person shall be on site at all times during work activity.
B. No additional costs shall be considered for coordination activities throughout this project. The Contractor shall include in his bid costs for coordination of all activities.

1.05 LATE COMPLETION

A. The Contractor will notify the City as soon as possible, but in no case not less than four weeks in advance, of the inability to meet any of the constraints or milestones. Notification shall be consistent with the requirements of Article 5, General Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01014
PART 1 - GENERAL

1.01 DESCRIPTION

A. Badges and Permits: DIA requires personnel badging and vehicle permitting administered by the Denver International Airport Security Office. The Contractor shall be required to obtain the proper access authorizations for badges and permits, and the Contractor shall immediately report the presence of unauthorized (unbadged) persons or unauthorized (no permit) vehicles on site to the DIA Project Manager.

B. Fences: If required, the Contractor shall establish and maintain a secure (fenced) perimeter at its primary operations area to include its field offices, staging and storage areas, and maintenance facilities. The responsibility for security within its operations area shall rest solely with the Contractor. Entrance gates to operations areas shall be equipped with a combination of locks to include a lock provided by the City for its use in accessing emergency equipment, should that need arise. The location, size and other physical characteristics of the Contractor's operations area must be approved by the City prior to its installation.

1. Unless specifically required by the Contract Documents and with the exception of the fenced operations area described above, the Contractor shall install no fences or other physical obstructions on or around the project work area without the written approval of the City.

C. Trash Dumpsters: To provide maximum security will all construction projects in public areas, all trash dumpsters must have the ability to be covered and locked when not in use.

1.02 VENDORS AND SUPPLIERS

A. The Contractor shall escort ON A FULL TIME BASIS all unbadged vendors and suppliers requiring access to the restricted areas. Only those vendors and suppliers providing materials and/or supplies shall be allowed on site.

1.03 CONTRACTOR PARTICIPANT MANUAL

A. Contractors are required to obtain a Contractor Participant Manual from the Airport Security Office and must follow the guidelines in the manual. The Airport Security Plan will be issued after receipt of a $250.00 refundable deposit. Copies of the Contractor section of the manual are available for review at the Denver International Airport Maintenance and Engineering Office. The Contractor shall comply with DIA policies and TSA regulations.

1. Airport Operations Regulations 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.

2. All work shall be accomplished in accordance with FAA Advisory Circular AC150/5370-2E, "Operational Safety on Airports During Construction", 49 CFR Part 1542 and 14 CFR Part 139 except as modified herein.

3. The following paragraphs supplement, modify, change, delete from or add to FAA AC150/5370-2E. Where any paragraph, subparagraph or clause of the Advisory
Circular is modified or deleted by these supplements, the unaltered provisions of that paragraph, subparagraph or clause shall remain in effect.

4. The Transportation Security Administration requires that all operating airports be secured from the general public and has the authority to issue citations for violations of these requirements. It is the responsibility of the Airport to ensure all fences and gates are secure. If a Contractor's operations necessitate the frequent use of a particular gate, the Contractor shall place a guard at the gate who shall have been trained and certified by Airport Operations to facilitate access to its work. The Contractor assumes full responsibility for maintaining security once this is done. Any fines levied against the Airport as a result of the failure by the Contractor to provide adequate security shall be passed on to the Contractor. A more detailed explanation of security requirements may be found in the Contractor Participant Manual.

5. Contractors will be required at all times to have a supervisor or foreman at each work location in both restricted and non-restricted areas.

B. Access to Restricted Area via Vehicles

1. The Contractor shall obtain access to the restricted area via vehicle only when the vehicle displays a Vehicle Permit issued by Airport Security (refer to Technical Specifications Section 01016) and the driver has an Airport ID badge with a driver authorization.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SUBMITTAL FOR BADGES

A. Airport identification badges and driver authorization permits shall not be issued prior to Notice to Proceed. The Contractor may at his own risk submit the required information to DIA Maintenance and Engineering Division and to DIA Airport Security prior to Notice to Proceed in order to expedite the badging and permitting process.

B. By submitting information for personnel badges, the Contractor certifies that the personnel have no disqualifying felony convictions, as defined by Federal Regulations, the employees have valid Colorado driver licenses, and the employees have not previously been required to surrender their badges due to any violations.

C. Airport ID Badges are obtained as follows:

1. The Contractor shall designate an Authorizing Agent who is a full time employee of the Contractor and who shall be authorized to sign for the Contractor on employee applications for badges.

2. The Contractor shall meet with the DIA Project Manager to review the procedures and required access points at DIA. The Contractor and the Project Manager shall visit the site to verify the access points. Access points shall be listed and submitted by the Contractor to the Project Manager for review and comment prior to Contractor’s application for badging.

3. The Contractor’s Authorizing Agent shall schedule a Participant Meeting with the DIA Airport Security Office to review DIA security procedures. A second meeting will be scheduled for the Authorizing Agent to learn how to successfully complete the required
forms for employee badges and vehicle permits.

4. A Criminal History Record Check and Security Threat Assessment (STA) are required for each employee requesting unescorted access to the restricted areas. The employee will complete the Airport Security Badging and Fingerprinting Form (two-sided form) and schedule an appointment with the Airport Security Office to have the form reviewed and to be fingerprinted. The Federal Bureau of Investigation will conduct the Criminal History Records Check and will return the results to the Airport Security Office. (Usually within 3 to 30 business days) The cost of the Criminal History Records Check is $40.00.

5. When notified by Airport Security that the Criminal History Records Check is completed and cleared, the Contractor shall call to schedule an appointment for employees to come to the Airport Security Office to receive security and driver training. The appointment will take approximately one hour for security training and approximately two hours for security and driver training.

6. All employees will see an interactive security film and must pass a test when they come in for their Airport ID badge appointment. All employees driving on the airfield must also view an interactive driving film and take a second test in addition to receiving airfield driver familiarization training by the Contractor's driver trainer before being allowed to drive on the airfield. Driver familiarization training must be completed within 10 days of receiving the badge.

7. **ALL EMPLOYEES ARE REQUIRED TO HAVE EITHER A YELLOW CONTRACTOR BADGE OR GREEN CONTRACTOR ESCORT BADGE.** The Contractor is advised that there is a $200.00 deposit due for each Airport ID issued for unescorted access (Yellow Contractor badge) in addition to the $10.00 badge fee. The deposit is refundable but not transferable. The fee for each Airport ID issued for escorted access (Green Contractor Escort badge) is also $10.00 but there is no deposit required. Rebading fee for both types of badges is $10.00. The Contractor is advised that there is a $200.00 deposit due for each Airport ID badge issued in addition to the $10.00 badge fee. The deposit is refundable but not transferable. Rebading fee is $10.00.

8. The Airport ID badges must be returned to the Airport Security Office prior to final payment. All Airport ID badges are issued with the expiration date of the project on the badge. Contractors shall notify the Project Manager as soon as possible but in no case less than four weeks in advance of any requirement to extend the duration of badge validations.

9. Total fees for startup:
   - $250 Airport Security Plan Deposit
   - $40 Criminal History Records Check (per employee) for Unescorted access.
   - $10.00 State Background & ID Check (per employee) for Escorted access
   - $10.00 Badge (per employee)
   - $200.00 Refundable badge deposit (per employee)

### 3.02 DUMPSTERS

**A. Security Requirements:** The following procedures must be followed to provide maximum security with all construction projects in public areas:

1. Roll-off dumpsters must have the ability to be covered (hard side) and locked when not in use.

2. When unlocked and in use, the Contractor shall provide an employee, or a subcontractor’s employee, to stand by the dumpster to prevent unauthorized placement of prohibited items.
3. If the Contractor is not able to have a roll-off dumpster with the ability to be locked, the dumpster shall be removed from the public area when the construction site is inactive.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01015
SECTION 01016

VEHICLE AND EQUIPMENT PERMITTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Contractor shall comply with the Airport Security Plan. Vehicle permits are required for all vehicles operating in the restricted area. Two types of permits are required. The DIA vehicle permit is required for vehicles operating in the restricted area but limited to above grade, outdoor activity. Vehicles or machinery operating within buildings shall be required to acquire a DIA emissions permit as well as a DIA vehicle permit.

B. Contractors performing work in or through restricted areas are required to obtain a Contractor Participant Manual from the Security Manager and must follow the guidelines in the manual. Copies of the Contractor section of the manual are available for review at the Denver International Airport Operations Office. Contractors shall comply with the DIA Rules and Regulations.

1. Airport Operations Regulations 130 TRAFFIC and 20 CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM shall be followed. These regulations are available from Airport Operations at Denver International Airport.


3. The following paragraphs supplement, modify, change, delete from or add to FAA AC150/5370-2C. Where any paragraph, subparagraph or clause of the AC is modified or deleted by these supplements, the unaltered provisions of that paragraph, subparagraph or clause shall remain in effect.

4. Special care shall be exercised by the Contractor when operating within clear zones, under approach and departure zones of runways and in the apron area. The clearance zones shall be considered as extending to a distance of 750 feet laterally from the centerline of runways and to a distance of 193 feet laterally from the centerline of taxiways. Where these zones overlap, the greater distance shall apply. Vertical clearance in the approach and departure zones shall be considered as starting at grade 200 feet beyond the ends of runways and rising at the rate of 50 feet horizontal to one foot vertical.

5. When Work under this contract will take place in the areas listed above, the Contractor must have a radio for communications with Airport Operations. The radio will be assigned after receipt of a $2,000 deposit. The radio must be with personnel performing work in the airfield operations areas.

6. Access to the runways, taxiways and aprons shall be gained by the Contractor after establishing radio communications with Airport Operations. No personnel or equipment will be allowed on the runways until radio contact has been made with Airport Operations and permission given.

7. Access to airport operations areas will be limited in order to allow the maximum efficient movement of aircraft. As part of this limitation the Contractor may be required to only use these areas late at night when there is less aircraft traffic.
8. Once admitted into the restricted area, the Contractor shall proceed directly to the Work location by way of a route assigned by Airport Security. At no time shall a Contractor or any of its personnel enter onto a taxiway, runway or ramp without proper clearance from the Airport Operations Manager or Assistant Airport Operations Manager. Contractors or individuals violating these requirements for driving in the restricted area may be subject to fines, suspension or permanent revocation of the Airport ID badge and driver authorization.

9. The Transportation Security Administration requires that all operating airports be secured from the general public and has the authority to issue citations for violations of these requirements. It is the responsibility of the Airport to ensure all fences and gates are secure. If a Contractor’s operations necessitate the frequent use of a particular gate, the Contractor shall place a guard at the gate, who shall be trained and certified by the Airport Operations, to facilitate access to its work. The Contractor assumes full responsibility for maintaining security once this is done. Any fines levied against the Airport as a result of the failure by the Contractor to provide adequate security shall be passed on to the Contractor. A more detailed explanation of security requirements is in the Contractor Participant Manual which is available from Airport Operations.

10. Cranes and Construction Equipment: The Contractor shall provide the necessary drawings and specifications to indicate all information needed by the FAA and the City including but not limited to location of construction activities and height of objects including cranes, construction equipment and vehicles. Drawings shall be scaleable site plans indicating northing and eastings of proposed equipment locations, air space northing and eastings of activity and elevations of equipment based on DIA datum. Specifications shall include standard sheets on equipment specifications and any non-standard modifications to the equipment.

11. The above information shall be submitted to the Project Manager for approval five days prior to mobilization. Changes to information submitted shall be re-submitted for approval at least five days prior to mobilization of any change.

12. If required by DIA, standard DIA-approved warning lights and flagging will be required on any temporary equipment or structures.

13. Lighting of the work area is subject to approval by DIA Operations and DIA Planning and Development. The Contractor shall include in item (10) above information on any site lighting proposed by the Contractor. The locations, heights and types of luminaries shall be submitted. The Contractor shall conduct his activities, especially lighting, so as not to interfere with Airport and FAA operations.

C. General safety regulations when in aircraft operations areas may include the following:

1. At all times, the Contractor shall coordinate its work with the requirements of the Airport site and operations. All work, movement of men, materials, supplies and equipment in areas used by aircraft shall be subject to regulations and restrictions established by the City. The Contractor shall take special precautions and be fully responsible for the prevention of damage to materials and equipment in the areas affected by the jet blast of taxiing aircraft. No work shall proceed until necessary protective devices are placed as required to protect the public, airport operations, property and personnel from the hazards of the Work. The Contractor shall proceed with his work, including temporary work and storage of tools, machinery and materials, to cause no interference with or hazards to the operation of the Airport.

2. Landings, takeoffs and taxiing shall take precedence over all Contractors’ operations. In the event that the Contractor is notified that an emergency landing or a takeoff is imminent, the Contractor shall stop all operations immediately, regardless of the
sequence of events in progress and shall immediately evacuate his personnel and equipment from the runway and taxiway areas as directed.

3. The Contractor shall remove its personnel and equipment to the distance specified below for the prevailing conditions:
   a. For emergencies the Contractor shall move all personnel and equipment as directed by Airport Operations or the Project Manager.
   b. At the end of a work day in areas where aircraft are operating, all equipment shall be moved to a location that is not less than 750 lineal feet measured from the near edge of the runway, taxiway or ramp area or to the location designated by the City.

4. If the Contractor is asked to leave part of its worksite to allow aircraft operation, the Contractor shall clean the area to allow safe aircraft movement. Cleaning may include sweeping the area to prevent damage to aircraft.

D. Vehicle Permitting

1. Vehicle permits are limited to those vehicles and or equipment required for completion of the work. Employee vehicles will not be issued permits. Employee parking is addressed in Technical Specification Section 01014 or as indicated in the Contract Documents. No Contractor employee parking will be acceptable in the Restricted Area.

2. The Contractor shall obtain access to the restricted area only when the vehicle displays a Contractor permit and the driver has an Airport ID badge with a driver authorization. Vehicle permits may be obtained as follows:
   a. Contractor vehicle permits cost $105.00 dollars, of which $100.00 dollars is a deposit refunded at completion of work and after the permit is returned to Airport Security. Vehicle permits must be surrendered before final payment will be made for work accomplished. A Vehicle Permit Application must be filled out and approved by the Project Manager prior to the issuance of the permit. The Contractor’s Security Coordinator must file a sponsorship form with DIA Access Services and accompany any subcontractor requesting a vehicle permit. The approved vehicle application must be presented at Airport Security to obtain the vehicle permit.
   b. All vehicles that are not permitted by Airport Operations to drive in the restricted area are required to be escorted. All vehicles that are escorted must have a minimum of $1,000,000.00 combined single limit coverage with a 30 day notice of cancellation to Airport Operations. All unescorted vehicles must have $10,000,000.00 combined single limit coverage with a 30-day notice of cancellation to Airport Operations prior to any permits being issued.
   c. Contractor permits are issued with the expiration date of the project on the permit. A $5 fee will be charged for a new permit that requires an extension of time.
   d. The Contractor must have a four-inch letter company logo on each side of the vehicle, or the Contractor shall obtain an orange and white checkered flag. The cost of the flag is $30.00, and may be obtained at Access Services. All vehicles operating in the restricted area must display the logo or the flag at all times. Contractors may use old flags in good condition.
   e. The Contractor shall obtain a driver authorization for all operators of vehicles in the restricted area. Reference Technical Specifications Section 01015.
   f. Contractors will be required to have a supervisor or foreman at each work location at all times.

E. Equipment Permitting
1. Fossil fuel powered equipment to be used in the interior of buildings and/or in basement/tunnel areas shall require inspection by DIA Maintenance and the Denver Fire Department. Only CNG fossil fuel powered equipment may be used; gasoline powered, propane powered, or diesel powered equipment will not be acceptable unless identified and operated per Specifications Section 01014.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PERMITS

   A. Vehicle permits shall not be issued prior to Notice to Proceed. The Contractor may, at his own risk, submit required information prior to Notice to Proceed to the following:

      1. Vehicle permit: DIA Engineering Group or DIA Airport Security
      2. Equipment and vehicle emissions permit: DIA Engineering or DIA Maintenance Group.

3.02 SCHEDULE

   A. The Contractor shall allow in his schedule five days for DIA review of submittals for permits. Testing of equipment and review by the Denver Fire Department shall be scheduled by the Contractor. By submitting information for permits, the Contractor certifies that equipment and vehicles comply with all city, state and federal regulations including but not limited to emissions, licensing and safety requirements.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

   A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

   A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item. All permits shall be returned to the City prior to the Contractor submittal for Final Settlement, Termination, and/or upon written request from the Project Manager.

END OF SECTION 01016
SECTION 01025

MEASUREMENT FOR PAYMENT

PART 1 - GENERAL

1.01 SCOPE

A. This Section covers the requirements for measurement of quantities for payment as they apply to this contract.

B. Measurement methods specified in the individual sections of these specifications shall govern if they differ from methods specified in this Section.

C. The Contractor will compute all final quantities subject to review and acceptance by the Project Manager. Where necessary, such computations will be based upon surveys performed by the Contractor as specified in Technical Specifications Section 01050.

1.02 MEASUREMENT OF QUANTITIES

A. Measurement Standards

1. All work to be paid for at a contract price per unit of measurement will be measured by the Contractor in accordance with United States Standard Measures.

2. Measurements are subject to check and review by the Project Manager: if errors are found the Contractor shall correct them. If, in the opinion of the Project Manager, the errors are significant or frequent enough, the Project Manager may make the measurements with his own forces at the Contractor's expense. No payment will be made on that portion of an item containing measurement or calculation errors until the errors are corrected to the satisfaction of the Project Manager.

B. Measurement by Weight

1. Items to be paid for by weight shall be measured by scale or by handbook weights for the type and quantity of material actually furnished and used. One ton shall consist of 2,000 pounds. Handbook weights will only be allowed if there is one-half of one percent or less difference between the handbook weight and the allowable deviation per manufacturer's specification of a material's finish weight.

2. Material to be measured and paid for by weight shall be weighed on accurate, approved scales, furnished by and at the expense of the Contractor. Platform scales of sufficient size and capacity shall be used to permit the entire vehicle or combination of vehicles to rest on the scale platform while being weighed. Combination vehicles may be weighed as separate units provided they are disconnected while being weighed. All scales shall be inspected and certified as often as the Project Manager may deem necessary to ascertain accuracy. Costs incurred as a result of regulating, adjusting, testing, inspecting and certifying scales shall be borne by the Contractor.

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

b. Scales shall be accurate to within one-half of one percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under
the observation of the Project Manager before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.

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

d. Scale installations shall have suitable weights or devices available for testing the weighing equipment.

e. 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.

f. Scales “overweighing” (indicating more than correct weight) will not be permitted to operate and all materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of one-half of one percent.

g. 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.

3. The Project Manager may be present to witness the weighing and to check and compile the daily record of such scale weights; however, in any case, the Project Manager will require that the Contractor furnish weigh slips and daily summary weigh sheets. In such cases, a duplicate weigh slip or load slip for each vehicle weighed shall be furnished to the Project Manager at the point of delivery of the material.

a. As a minimum, the weigh slips shall contain the following information:

1) Contractor’s name and contract number
2) Supplier’s name and location of material source
3) Type of material
4) Haul unit’s unique identification number
5) Empty weight (this should be checked three times per day)
6) Full weight
7) Weight of material hauled
8) Scale operator’s signature stating the weights are correct to within one percent of standard weights.

b. The loads shall be weighed prior to water being added.

4. If the material is shipped by rail, the certified car weights will be accepted provided that only actual weight of material will be paid for and not minimum car weight used for assessing freight tariff. Car weights will not be acceptable for material to be passed through mixing plants or material off loaded from rail cars and hauled to the jobsite by trucks from rail cars located off the worksite.

5. Trucks used to haul material being paid for by weight shall be weighed empty daily and at such additional times as the Project Manager may require. Each truck shall bear a plainly legible identification mark. The Project Manager may require the weight of the material verified by weighing empty and loaded trucks on such other scales as the he may designate.

6. When requested by the Contractor and approved by the Project Manager in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Project Manager and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.
7. The Contractor shall comply with all legal load restrictions in the hauling of equipment or materials on public roads beyond the limits of the project. A special permit will not relieve the Contractor of liability for damage resulting from the moving of equipment or material.
   a. The operation of equipment or hauling loads that cause damage to structures, the roadway or any other construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited by the Contractor to methods and equipment that will prevent damage to the pavement structure before the expiration of the curing periods. The Contractor shall be responsible for the repair of all damage and related expenses resulting from hauling equipment and construction operations.
   b. If a vehicle's gross weight exceeds the legal limit, and the material transported by the vehicle is delivered to the project, the material and the scale ticket (certificate of correct weight) will not be accepted, except a 500 pounds tolerance will be allowed for overweight loads.
   c. If a scale ticket from an overweight vehicle is inadvertently accepted and the material incorporated into the project, the Project Manager will adjust the price for the overweight load as follows:
      1) The pay item quantity represented by the amount of material in excess of the legal weight plus 500 pounds tolerance will not be paid for.
      2) A price reduction will be assessed for the overweight portion of the load based on the following schedule:

<table>
<thead>
<tr>
<th>Overweight (pounds)</th>
<th>Price Reduction (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 500</td>
<td>0</td>
</tr>
<tr>
<td>501 - 3,000</td>
<td>20</td>
</tr>
<tr>
<td>3,001 - 4,000</td>
<td>40</td>
</tr>
<tr>
<td>4,001 - 5,000</td>
<td>82</td>
</tr>
<tr>
<td>5,001 - 6,000</td>
<td>130</td>
</tr>
<tr>
<td>6,001 - 7,000</td>
<td>226</td>
</tr>
<tr>
<td>7,001 - 8,000</td>
<td>376</td>
</tr>
<tr>
<td>8,001 - 9,000</td>
<td>582</td>
</tr>
<tr>
<td>9,001 - 10,000</td>
<td>842</td>
</tr>
<tr>
<td>Over 10,000</td>
<td>870 plus $164 for each 1,000 lbs., or fraction thereof, or 10,000 lbs.</td>
</tr>
</tbody>
</table>

C. Measurement by Volumes

1. Measurement by in-place volume will be by the cubic dimension listed or indicated in the Schedule of Prices and Quantities. Volume measurements will be neat line as shown on contract documents, or if actual field measurements show that the volume is less than neat line, the actual volume will be used. Method of volume measurement shall be by average end area method, with end areas taken at no greater than 100 feet apart or every major change in the cross section area, which ever occurs first, unless noted otherwise. The Contractor may request alternate methods subject to the approval of the Project Manager.

2. Material indicated 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 Project Manager provided that the body is of such shape that the actual contents may be readily and accurately determined and is water tight so that the volume can be measured by filling with water. 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.

D. Measurement of Areas

1. Measurement of areas will be by the square dimension listed or indicated in the Schedule of Prices and Quantities and or Unit Price Items. Area measurements will be neat line as shown on contract documents or, if actual field measurements show that the area is less than neat line, the actual area will be used. All longitudinal measurements shall be horizontal unless noted otherwise. Method of square measurement will be as determined by the Project Manager.

E. Measurement of Linear Items

1. Linear measurement will be by the linear dimension listed or indicated in the Schedule of Prices and Quantities and/or Unit Price Items. Linear measurements will be neat line as shown on contract documents, or if actual field measurements show that the linear measurement is less than neat line, the actual linear measurement will be used. Method of linear measurement will be as determined by the Project Manager. Generally, items, components or work to be measured will be measured at the centerline of the item in place.

1.03 FIELD MEASUREMENT FOR PAYMENT

A. The Contractor will compute all quantities of Work performed by the Contractor, including quantities of materials and equipment delivered to the site, for final payment purposes. Computed quantities are subject to check and review by the Project Manager. If errors are found, the Contractor shall correct them. If, in the opinion of the Project Manager, the errors are significant or frequent enough, the Project Manager may make the calculations with his own forces at the Contractor's expense. No payment will be made on that portion of an item containing calculation errors until the errors are corrected to the satisfaction of the Project Manager.

1. The Contractor will show the actual measurements that are used to compute the quantities along with the formulas used. As requested by the Project Manager, the Contractor shall supply the Project Manager with computations and sketches indicating where measurements were taken and their relationship to the finished product.

B. The Contractor will supply the Project Manager with an electronic copy and instruction manual of any computer programs used to calculate quantities. Any computer program used shall be executable on an IBM compatible computer with a 286, 386, 486 or Pentium processor. The Contractor shall also provide an electronic copy of the data files used to determine quantities.

C. The Contractor shall take all measurements for payment purpose in the presence of the Project Manager in accordance with the provisions for measurement specified herein and in Technical Specifications Section 01050.

1.04 REJECTED MATERIALS

A. Quantities of material wasted or disposed of in a manner not called for under the contract, rejected loads of material including material rejected after it has been placed by reasons of the failure of the Contractor to conform to the provisions of the contract, material not unloaded from the transporting vehicles, material placed outside the lines indicated on the contract drawings or established by the Project Manager, or material remaining on hand after completion of the Work will not be paid for and such quantities shall not be included in the
final total quantities. No compensation will be permitted for loading, hauling and disposing of rejected material.

1.05 PAYMENT CONSIDERATIONS

A. Payment will be full compensation for furnishing all labor, materials, tools, equipment, transportation, services and incidentals as specified in the General Conditions, technical specifications, and contract drawings, and for performing all work necessary for completing the item or work classification including all incidental work.

B. Full compensation for all expenses involved in conforming to the requirements for measuring materials shall be considered as included in the unit or lump sum prices paid for the materials being measured and no additional compensation will be permitted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01025
PART 1 - GENERAL

A. Work specified in this Section includes coordination efforts which must be provided by the Contractor to ensure that work by others in the contract designated work area and adjacent areas does not negatively impact the Work and overall project.

1.02 CONTRACTOR'S RESPONSIBILITIES

A. The construction schedule as specified in Technical Specifications Section 01310 shall reflect all interfaces and coordination efforts as specified in General Condition 701, Special Condition SC-6, Technical Specification Sections 01010, 01014, 01051, and 01650, and other related contracts and procurement documents.

B. The Contractor will establish regular working relations with all contractors, tenants and the Airport Maintenance Department working in the same area and areas adjacent to the construction site. The Contractor will attend construction progress meetings as described in Technical Specification Section 01200 and will coordinate work as described therein.

C. The Contractor will assign a member of his staff to act as a coordinator, who will work to coordinate the Contractor's work with other parties doing work at the Denver International Airport site.

1.03 COORDINATION WITH OTHER PROJECTS

A. Minimum cooperation requirements with other contractors include the following:
   1. Regular meeting (weekly or more often)
   2. Construction schedule coordination
   3. Staging area and access planning (to include employee shuttle routes)
   4. Deliveries
   5. Traffic control.

B. When and where required, the Contractor shall develop appropriate coordination drawings for use by interfacing adjacent parties using the Denver International Airport site.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)
PART 4 - METHOD OF MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01051
PART 1 - GENERAL

REFERENCE LIST

A. Documents published by the following agencies may be referenced within these Contract Documents to define the quality of materials, equipment, workmanship and other features of work. Unless otherwise stated, the reference documents shall be of the latest edition as of the date of the Advertisement for Bids.

B. Wherever used in the Contract Documents, the following abbreviations will have the meanings listed:

- AALA: American Association of Laboratory Accreditation
- AAO: Affirmative Action Officer
- AFI: Air Filter Institute
- ANSI: American National Standards Institute, Inc.
- ASNT: American Society for Non-Destructive Testing
- ASTM: American Society for Testing and Materials
- BID: Building Inspection Division, Department of Public Works
- CAR: Corrective Action Report
- CCD: City and County of Denver
- CCR: Contractor Change Request
- CD: Change Directive
- CN: Change Notice
- CO: Change Order
- CPM: Critical Path Method
- CR: Change Request
- CSI: Construction Specifications Institute
- DIA: Denver International Airport
- DOT: United States Department of Transportation
TECHNICAL SPECIFICATIONS
DENVER INTERNATIONAL AIRPORT
DIVISION 1 – GENERAL REQUIREMENTS
PUBLIC CARPET REPLACEMENT – CONCOURSE B
SECTION 01070 – ABBREVIATIONS & SYMBOLS

DOR  Designer of Record
EEO  Equal Employment Officer or Equal Employment Opportunity
EIS  Environmental Impact Statement
EPA  Environmental Protection Agency
FM  Factory Mutual Association
FS  Federal Specifications (U.S. General Services Administration)
GCC  General Contract Conditions
ICBO  International Conference of Building Officials
NBS  National Bureau of Standards (now called National Institute of Standards and Technology)
NCR  Nonconformance Report
NFC  National Fire Code (as published by NFPA)
NFPA  National Fire Protection Association
NTP  Notice to Proceed
NVLAP  National Voluntary Laboratory Accreditation Program
OSHA  Occupational Safety and Health Administration
PS  Product Standard of NIST (U.S. Department of Commerce)
PM  Project Manager (DIA)
QA  Quality Assurance
QC  Quality Control
RAR  Remedial Action Request
RFI  Request for Information
SC  Special Contract Condition
TCP  Traffic Control Plan
TSA  Transportation Security Administration
UBC  Uniform Building Code (published by ICBO)
UL  Underwriters Laboratories, Inc.
USC United States Code
WBS Work Breakdown Structure

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT
A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT
A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01070
SECTION 01091
REFERENCE STANDARDS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. This Section contains a summary of industry-accepted and recognized standards published by trade associations, government and institutional organizations which are referred to in the various Sections of these specifications or elsewhere in the contract documents.

B. Standards listed herein are included in the contract documents by this reference and become a part of the contract documents to the same extent as though included in their entirety unless specific limitations are noted in the individual Specifications sections.

C. Listings of reference standards include name and address of the organization publishing the standard, plus the full name and designator of each of the standards referenced herein.

D. If a publication date or edition number is listed with the reference standard, that publication date or edition number shall apply; otherwise, the publication date or edition number in effect at the contract date shall apply.

E. Inclusion of reference standards herein does not make the Project Manager an agent of the publishing agency, nor does it obligate the Project Manager to perform inspections required by or to enforce rules or regulations contained in the reference standards.

1.02 REFERENCES

A. RELATED DOCUMENTS: General Conditions, Special Conditions, and applicable provisions of Division 1 sections apply to this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SCHEDULE OF REFERENCE STANDARDS

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) 1916 Race Street, Philadelphia, PA 19103, (215) 299-5585

B. National Fire Protection Association Standards (NFPA) 1 Batterymarch Park, Quincy, Massachusetts 02169-7471, (617) 770-3000

C. American Association of Textile Chemists and Colorists (AATCC) P.O. Box 12215, 1 Davis Drive, Research Triangle Park, N.C. 27709-2215, (919) 549-8141

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section.

END OF SECTION 01091
SECTION 01095
DEFINITIONS AND CONVENTIONS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section contains a list of definitions of words or phrases and grammatical or contextual conventions commonly used in these contract documents.

1.02 REFERENCES

A. Related Documents: General Conditions, Special Conditions, and applicable provisions of Technical Specifications Division 1 apply to this Section.

1.03 DEFINITIONS

A. Alphabetical Listing of Definitions

1. **As indicated:** Shown on the drawings by graphic indication, notes or schedules, or written in the specifications or elsewhere in the contract documents.

2. **As directed, as approved, as requested:** Unless otherwise indicated, these terms imply "by the Project Manager" and require that an instruction be obtained by the Contractor from the Project Manager.

3. **Concealed:** Embedded in masonry, concrete or other construction; installed in furred spaces; within double partitions or hung ceilings; in trenches; in crawl spaces or in enclosures.

4. **Ensure:** To make certain in a way that eliminates the possibility of error.

5. **Exposed:** Not installed underground or "concealed" as defined above.

6. **Furnish or Provide:** To supply, install and connect complete and ready for safe and regular operation of particular work unless specifically otherwise noted.

7. **Indicated, Shown, or Noted:** As depicted on drawings or specifications.

8. **Install:** To erect, mount and connect complete with related accessories.

9. **Or equal, or approved equal:** Refers to products which, in the opinion of the Project Manager, are similar in all respects to products specified by proprietary brand name. (Refer to Section 01630 for procedures for submittal of proposed substitutions.)

10. **Rework:** To repair existing items or work required to be removed and replaced in order to accomplish the Work in accordance with the contract documents.

11. **Related Work:** Includes, but not necessarily limited to, mentioned work associated with, or affected by, the work specified.

12. **Reviewed, Satisfactory, Accepted, or Directed:** Assumes by or to the Project Manager.

13. **Similar, or Equal:** Same in materials, weight, size, design, construction, capacity, performance and efficiency of specified product.

14. **Supply:** To purchase, procure, acquire and deliver complete with related accessories.
15. **Unless Otherwise Indicated and Unless Otherwise Noted**: General note to perform work as indicated or shown on drawings or in specifications unless specifically directed otherwise elsewhere in the contract documents; may be abbreviated "U.O.N.", "U.O.I.", or "U.N.O.".

1.04 **CONVENTIONS**

**A. Specifications Format**

1. In order to standardize the location of information in the Contract Documents, the specifications generally are organized in one or more of the following formats:

a. The 16-Division "MASTERFORMAT" published by the Construction Specifications Institute.

b. The alpha-numeric system as published by the FAA.

**B. Organization of Drawings and Specifications**

1. Organization of the specifications into divisions and sections, and arrangement or numbering of drawings is intended solely for the convenience of the Contractor in his responsibilities to divide the Work among subcontractors or to establish the extent of work to be performed by any trade.

2. Neither the Owner nor the Project Manager assume any liability arising out of jurisdictional issues or claims advanced by trade organizations or other interested parties based on the arrangement or organization of drawings or specifications.

**C. Gender and Number**

1. For convenience and uniformity, parties to the Contract, including the Owner, Contractor, and Project Manager, and their subcontractors, suppliers, installers, consultants or other interested parties are referred to throughout the contract documents as if masculine in gender and singular in number. Such reference is not intended to limit the meaning of the contract documents to the masculine gender or singular number.

**D. Singular vs. Plural**

1. Materials, products, equipment or other items of work referred to in the singular shall be construed as plural where applicable by the intent of the contract documents and shall not limit quantities to be provided by the Contractor.

**E. Imperative Mood**

1. Specifications and notes on the drawings or elsewhere in the contract documents are generally written in the imperative mood as instructions to the Contractor, whether the Contractor is specifically addressed or not.

**F. References to Subcontractors or Trades**

1. References to subcontractors, trades or other entities which are not parties to the contract shall be construed as meaning the Contractor whose responsibility it shall be to divide the Work among subcontractors or trades. Such references are used as a matter of convention, and are not intended to preclude or direct the Contractor's responsibility to divide the Work.
G. Abbreviations

1. A list of abbreviations used in the contract documents is included in Technical Specifications Section 01070; an abridged list of abbreviations used on the drawings is included with the drawings.

2. Abbreviations are believed to be those in general use in the construction industry. Contact the Project Manager for clarification of abbreviations for which the meaning is not clear.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section.

END OF SECTION 01095
SECTION 01110

CONSTRUCTION SAFETY

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Work specified in this Section includes construction safety precautions and programs by the Contractor and the basis for reviews by the Project Manager.

1.02 RESPONSIBILITY

A. The General Conditions make it clear that all safety precautions during the construction process are the responsibility of the Contractor. The Contractor is responsible for the health and safety of his employees, agents, subcontractors and their employees, and other persons on the worksite; for the protection and preservation of the work and all materials and equipment to be incorporated therein; and for the worksite and the area surrounding the worksite. The Contractor shall take all necessary and reasonable precautions and actions to protect all such persons and property.

B. This Section shall be interpreted in its broadest sense for the protection of persons and property by the Contractor and no action or omission by the Project Manager or his authorized representatives shall relieve the Contractor of any of its obligations and duties hereunder.

1.03 SUBMITTAL

A. Refer to Technical Specifications Section 01300 and 01340 for the process.

1.04 PROJECT MANAGER'S REVIEW

A. The Contractor shall provide six copies of its safety program to the Project Manager for review at least ten days before on-site construction begins. The Contractor's program must meet as a minimum all applicable federal, state and local government requirements.

1. The Contractor must, as part of the Contractor's safety program, submit six copies of the following information for acceptance by the Project Manager prior to construction:

   a. Name of the Contractor's site safety representative.

   b. If the Contractor is running multiple shifts or working more than 40 hours per week, the name of an assistant Contractor's safety representative who can act in the absence of the site safety representative.

   c. Twenty-four hours per day emergency phone numbers of Contractor site management to be used in case of injury or accident. Provide at least four contacts.

   d. How injuries or accidents will be handled including samples of the forms used to report injuries or accidents.

   e. How employees will be handled who are unable to safely perform their duties, including how the Contractor will determine whether an employee is unable to safely perform his duties.

   f. How and when equipment will be checked to see that it is safe, that all safety guards are in place and that the equipment is being used for its designed purpose and within its rated capacity.
g. How and when all electric devices will be checked for proper grounding and insulation. What system will be used to lock out electric systems that should not be energized.

h. How trash and human organic waste will be disposed.

i. How snow and ice will be removed by the Contractor in his project area.

j. How flammable materials will be stored and handled, and how any spills will be cleaned up and removed for disposal.

k. What system will be used to prevent fires, and if fires do occur who will be trained to fight them. Also what fire fighting equipment will the Contractor have available and how will this equipment’s condition be monitored.

l. How materials will be received, unloaded, stored, moved and disposed of.

m. What will be done to protect personnel in case of severe weather.

n. How adequate lighting will be provided and monitored.

o. How air quality will be monitored and personnel removed or protected from air that is hazardous for humans.

p. How the safety of work platforms, man lifts, material lifts, ladders, shoring, scaffolding, etc. will be ensured relating to load capacity and the protection of personnel using or working around them.

B. Prior to the start of any work by a contractor or subcontractor employee, the Contractor shall provide the Project Manager with a list of its employees, subcontractor’s employees and other personnel the Contractor has requested to work at Denver International Airport, who have signified in writing that they have been briefed on, or have read and understand, the Contractor's Safety Plan.

PART 2 - PRODUCTS

2.01 CONTRACTOR'S SAFETY PLAN

A. Provide a Contractor's Safety Program as described in Part 1 of Technical Specifications Section 01110.

PART 3 - EXECUTION

3.01 IMPLEMENT CONTRACTOR'S SAFETY PLAN

A. Implement the approved Contractor's Operational Safety Plan as described in Part 1 of this Technical Specifications Section 01110. Technical Specifications Section 01110.

B. If the Contractor experiences lost time or an injury rate greater than 75 percent of the national average for all construction, the Contractor shall audit its safety procedures and submit a plan to reduce its rates.

C. If at any time the lost time or injury rates experienced by the Contractor are 150 percent or more of the national average for construction, the Contractor shall immediately hire an independent safety professional who shall audit the Contractor's procedures and operations and make a report of changes that the Contractor should implement to reduce the rate including changing personnel.

1. Six copies of this report shall be submitted to the DIA Project Manager.

2. The Contractor shall immediately begin implementing the recommendations.
3. A weekly report shall be submitted by the Contractor on the status of the implementation of the recommendations.

4. Failure to comply with these requirements is a basis to withhold a portion of progress payments.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01110
SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section requires the Contractor's superintendent and Quality Control representative to attend meetings scheduled by the City for the collection and dissemination of information related to the subject contract.

B. The Project Manager will prepare the minutes of each meeting and distribute them to each of the participants.

1.02 OTHER MEETINGS

A. The Contractor will be advised of times, dates and places of contract meetings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

A. A Preconstruction Meeting will be scheduled by the City after the Contract has been signed by all parties. The purpose of this meeting is to introduce the City's Representatives to their counterparts in the Contractor's organization and to establish lines of communication between these representatives and outline some contract requirements. The Contractor's Superintendent and Quality Control Representative(s) shall attend this meeting.

B. The Project Manager will distribute a notice of this meeting, along with an agenda of the subjects to be addressed.

C. The Project Manager will explain and discuss the responsibilities and authorities of the City, the Designer, and the Project Manager's organization.

D. The Project Manager will provide highlights of the following information at this meeting:

1. Equal Employment Opportunity (EEO), Small Business Enterprise (SBE) and Disadvantaged Business Enterprise (DBE) requirements.

2. Insurance, laws, codes, traffic regulations and permit requirements of public agencies and their regulations.

3. Procedures for processing change orders.

4. Procedures for submitting shop and working drawings, product data and samples.

5. Monthly pay estimate cutoff dates.

6. Payment procedures.

7. Request for information procedures.

8. Communication procedures.
9. Contractor-required Daily Report showing the quantitative progress of work, the use of men, material and equipment, problems, potential delays, weather, shift, down equipment, material and equipment received and information received from the City. Daily reports will be submitted to the Project Manager within 48 hours of start of work. Daily Reports are required every day, including weekends and holidays.

10. Scheduling and coordination requirements.
11. Quality control/assurance procedures.
12. Environmental requirements and permits.
13. As-built documents.
14. Project closeout requirements.

E. The Contractor will introduce the Contractor's representatives and briefly describe each person's responsibilities. The Contractor will provide the following:

1. A list of all subcontractors.
2. Office, storage areas and construction area layouts, along with temporary easements.
3. Safety, first aid, emergency actions and security procedures including the name of the Contractor's insurance company.
4. 60 day preliminary schedule.
5. Sequence of Work.
6. Construction methods and general worksite layout and haul plan.
7. Housekeeping procedures. Include a written plan for dealing with and preventing FOD (Foreign Object Damage).
8. The Contractor's general erosion and sedimentation control plans, noise, hazardous material, air and water pollution control plans and Quality Control Plan.
9. Coordination and notification for utility work.
10. The Contractor's procedures to coordinate its work with the work of other contractors and its procedures for sharing access to the worksite.
11. Deliveries and priorities of major equipment.

F. Explanations provided by the City will not amend, supersede or alter the terms or meaning of any contract document and the Contractor shall not claim reliance on such explanations as a defense to any breach or failure by the Contractor to perform as specified in the contract.

3.02 CONSTRUCTION PROGRESS MEETINGS

A. Progress meetings will be scheduled weekly and more often as necessary by the Project Manager to promote the competent and timely execution of the contract.

B. The meetings will be held at the worksite or at a location selected by the Project Manager. Meetings will be chaired by the Project Manager or the Project Manager’s representative.

C. The Contractor's personnel, as listed in Technical Specification Section 01200, 3.01.A, shall attend unless otherwise agreed by the Project Manager.

D. The Project Manager will be responsible for publishing minutes of the meetings.
E. At a minimum, the following items will be addressed at each meeting. The items addressed in the meeting do not waive notification or submittal requirements as required elsewhere in the contract.

1. Safety: Contractor shall report any safety issues

2. Quality Control
   a. The Contractor's Quality Control representative shall present and review all RAR's, CCR's, and NCR's issued and the status of each item.
   b. The Contractor's Quality Control Representative shall present and discuss the Independent Testing Agency weekly test report and/or testing schedule.
   c. The Contractor's Quality Control representative shall report on inspections by other agencies and any follow-up activity required.
   d. The Project Manager will present and discuss issues regarding quality control and quality assurance.

3. Design activities: open discussion

4. Shop drawings/submittals
   a. The Contractor shall provide four copies of and review the Contractor's submittal schedule and provide any updated information and/or changes to the schedule.
   b. The Contractor shall provide information on the status of submittals requiring re-submittal.
   c. The Contractor shall review any accepted submittals that the Contractor plans to re-submit with changes.

5. Construction activities: Open discussion to include coordination items with other Contractors and or agencies.

6. Schedule
   a. The Contractor shall provide to the Project Manager four copies of the Contractor's two week look-ahead schedule and review at the meeting the items on the schedule. The schedule shall be in bar chart format based on the approved CPM, and shall include dates of testing activities, anticipated dates of inspection by DIA and other agencies, items in progress, percentage of completion of items, responsible subcontractor for the items.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier or work request bid item.

END OF SECTION 01200
SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section summarizes the requirements for the submittal of documents to the City that are defined in these Specifications. It also describes the procedures for "supplemental" submittals.

PART 2 - PRODUCTS

2.01 SUBMITTAL SCHEDULE

A. The Contractor shall provide a submittal schedule within 14 days after Notice to Proceed. The Submittal Schedule shall be directly related to the CPM schedule, shall identify all the submittals, and shall include the following information for each submittal item:
   1. Specification section, contract article, or special condition
   2. Specification Subparagraph
   3. Item description
   4. Date the submittal shall be submitted
   5. Name of subcontractor or supplier

B. The submittal schedule shall be updated every two weeks by the Contractor and submitted with the progress payment request.

C. Unless stated otherwise, nine copies of all submittals shall be furnished. Only one electronic submittal is required. Any submittal larger than 11 x 17 inches shall also be submitted as a Mylar. Two-sided submittals will not be accepted.

2.02 INITIAL SUBMITTAL

A. Each submittal document shall include a title block showing the following information:
   1. Date of submittal and revision dates.
   2. Contract title and number.
   3. The names of Contractor, subcontractor, supplier, manufacturer and when applicable, the seal and signature of an engineer registered in the State of Colorado, for the involved discipline.
   4. Identification of product by either description, model number, style number or lot number.
   5. Subject identification by contract drawing or specification reference.

B. On each submitted drawing, include a blank space on each sheet, three inches by four inches, in the lower right corner, just above the title block, in which the City or the Designer of Record may indicate the action taken.
C. Make submissions sufficiently in advance so that the City review may be completed not less than 30 days before Work represented by those submittals is scheduled to be performed.

D. Allow a minimum cycle of 30 days for review of each submittal by the City.

E. Accompany submittal documents with DIA transmittal form CM-30 (refer to Technical Specification Section 01999) that shall contain the following information:
   1. Contractor's name, address and telephone number.
   2. Submittal number and date.
   3. Contract title and number.
   4. Supplier's, manufacturer's or subcontractor's name, address and telephone number.
   5. Identification of variations from contract documents.
   6. Contractor's stamp and signature certifying his review.
   7. Identification of submittal:
      a. If the submittal is being made on a General Condition or Special Condition, reference the General or Special Condition number.
      b. If the submittal is being made under a specification section, reference the specification number, paragraph number and subparagraph number.
      c. If the submittal is being made under a drawing, reference the drawing(s) number and subnumber.

F. The Contractor shall at the time of submission describe variations from the contract documents in writing, separate from the submittal document. If the Project Manager approves any such variations, an appropriate contract change order shall be issued except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued. If a submission contains variations and the variation column is not marked on the transmittal form, it will not be considered for review and acceptance. Along with marking the transmittal as a variation, a description must be included which outlines all the differences including maintenance and utility services along with any cost savings from an item not containing the variation.

G. Changes in accepted submittal documents will not be permitted unless those changes have been accepted, in writing, by the City.

H. The form and quality of submittal documents shall comply with Technical Specifications Section 01340.

2.03 SUPPLEMENTAL SUBMITTALS

A. Supplemental submittal documents initiated by the Contractor for consideration of corrective procedures shall contain sufficient data for review. Make supplemental submittals in the same manner as initial submittals with the appropriate primary transmittal referenced.

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

A. The Contractor shall review submittal documents, stamp and sign as reviewed and approved as complying with contract documents prior to submission to the City.
3.02 CITY REVIEW

A. Submittal documents will be reviewed by the City, the designer and the Project Manager for conformance to requirements of the contract drawings and specifications. Review of a separate item will not constitute review of an assembly in which the item functions. The City will withhold approval of submittals that depend on other submittals not yet submitted. Review and acceptance will not relieve the Contractor from his responsibility for accuracy of submittals, for conformity of submittal document to requirements of contract drawings and specifications, for compatibility of described product with contiguous products and the rest of the system, or for protection and completion of the contract in accordance with the contract drawings and specifications.

B. The City, the designer, and/or the Project Manager will review the submittal documents for general conformance with the contract documents and mark the Action Code, sign and date the transmittal.

C. The Action Codes have the following meanings:

1. **A - ACCEPTED** is an approval, and means that the illustration and description appears to conform to the respective requirements of the contract documents.

2. **B - ACCEPTED AS NOTED** is an approval, and means that the illustration and description will conform to the respective requirements of the contract documents after changes in recognition of the reviewer's comments. Submittals so marked need not be resubmitted.

3. **C - REVISE AND RESUBMIT** means that the submittal is unacceptable and must be revised and resubmitted.

4. **E - NOT ACCEPTED** means that the submittal is not approved and that a new submittal in accordance with the contract documents shall be made.

5. **F - RECEIPT ACKNOWLEDGED**, means an item is received by the Project Manager but no review was made. This mark is for use in resubmitting items that were previously Accepted as Noted and the Contractor has incorporated the notes and wants the Project Managers' staff to have the same material that the Contractor's field staff is using.

3.03 CONTRACTOR'S RESPONSIBILITIES

A. Coordinate each submittal document with the requirements of the Work; place particular emphasis upon ensuring that each submittal of one trade is compatible with other submittals of that trade and submittals of other trades including producing as needed drawings showing the relationship of the work of different trades.

B. Contractor's responsibility for errors and omissions in submittal documents and associated calculations is not relieved by the City's review, correction and acceptance of submittals.

C. Contractor's liability to the City, in case of variations in the submittal document from the requirements of the contract documents, is not relieved by the City's review and acceptance of submittals containing variations unless the City expressly approves the deviation in writing, in which the City describes the variation.

D. The Contractor shall maintain a file of all approved submittal documents at the worksite. The complete file of approved submittal documents shall be turned over to the City with the as-built documents at the end of the job.
E. Schedule impact due to resubmittal requirements is the responsibility of the Contractor.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01300
SECTION 01310

SCHEDULE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section specifies the preparation of a preliminary schedule, construction schedule, related narratives and monthly progress reports, all encompassing complete performance of contract requirements.

B. The Contractor shall schedule and coordinate the work of all of its subcontractors and suppliers including their use of the worksite. The Contractor shall keep the subcontractors and suppliers informed of the project construction schedule to enable the subcontractors and suppliers to plan and perform their work properly.

C. The Contractor shall, in accordance with the requirements of the technical specifications, submit a construction schedule which shall provide for the expeditious and practicable execution of the Work.

D. The construction schedule for the performance of the Work shall be a bar chart (unless an alternate system is specifically identified in the technical specifications) with reasonable detail including a time scaled network.

E. Float or slack is defined as the amount of time between the early start date and the late start date or the early finish date and the late finish date of any activities in the schedule. Float or slack is not time for the exclusive use or benefit of either the Contractor or the City.

F. The Contractor shall submit a monthly progress report and schedule update in accordance with the scheduling provisions of the technical specifications.

G. The Contractor shall complete the Work within the contract time and in accordance with the most recent schedule submittal that has been approved in writing by the Project Manager.

1.02 PLANNING

A. The total contract time, including project milestones as indicated in the Special Conditions or elsewhere in the contract documents, is a contract requirement. Included in the contract price shall be the cost of overhead and field support for the total contract time.

B. The Contractor shall prepare a work plan to complete the work within the contract time and complete those portions of work relating to each milestone date and other contract requirements. The Contractor shall generate a bar chart schedule for the Work.

C. In addition to the construction activities the schedule shall include activities for furnishing materials and equipment and vendor shop drawing preparation. The construction schedule and a supporting narrative shall be submitted for approval within 30 days after Notice to Proceed. Within 14 days the City will respond with approval or direction to revise and resubmit within 10 days. Failure of the Contractor to have a construction schedule approved by the City will be considered cause for withholding progress payment(s).
D. To the extent that the construction schedule or any revisions thereof contains anything not jointly agreed upon in writing, or fails to show anything jointly agreed upon in writing, it shall not be considered to have the approval of the City. Failure to include any work item required for performance of this contract shall not excuse the Contractor from completing all work within applicable completion dates, regardless of the City's approval of the schedule.

E. Failure of the Contractor to comply with this Section will be considered cause for withholding progress payment(s) or termination for default.

1.03 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures. Submit the following as indicated;
   1. Preliminary schedule (with narrative)
   2. Construction schedule data and work plan (with narrative)
   3. Monthly progress report with updated construction schedule
   4. Construction schedule change request with narrative (as needed)
   5. As built construction schedule.

PART 2 - PRODUCT

2.01 PLOT AND REPORT FORMAT

A. All plots shall be either 24 x 36 inches or 34 x 44 inches. They shall contain a title block with a minimum 18 point font showing:
   1. Contractor's name
   2. Contract number and title
   3. Plot date
   4. Data date
   5. Symbol definitions
   6. List of all approved changes to the original approved schedule.

B. Plots shall contain a time line at the top.

C. Reports shall be submitted on 8-½ x 11 inch paper with a 1-inch left margin in a 3-ring binder, or as directed by the Project Manager.

PART 3 - EXECUTION

3.01 PRELIMINARY SCHEDULE

A. The Contractor shall prepare a preliminary schedule covering the first 60 calendar days of the contract. All reports shall be on 8-½ x 11 inch paper. This preliminary schedule shall be submitted at the Preconstruction Meeting and shall be accompanied by a narrative description of the work plan. Within 14 days, the City will respond with acceptance or direction to revise and resubmit within 10 days. The preliminary schedule shall be a bar chart.

B. The preliminary schedule shall show all significant work tasks that occur in the first 60 days including planning, mobilization, shop submittals and approvals, procurement, fabrication and
construction. It shall identify work items or milestones that affect or are affected by the City, other Contractor's work, utilities and other third parties, and it shall list major data submittals required by the contract.

C. The preliminary schedule shall be accompanied by a narrative describing the Contractor's approach to mobilization, procurement and construction during the first 60 days. The narrative shall elaborate on the basis of duration, production rates, and major equipment to be used and shall identify all major assumptions used to develop the schedule.

3.02 CONSTRUCTION SCHEDULE

A. The construction schedule shall be a bar chart schedule that includes:
   1. The order, sequence and interdependence of all significant work items including construction, procurement, fabrication, testing, start up and inspection and delivery of critical or special materials and equipment, submittals and approvals of critical samples, shop drawings, procedures or other documents that could have a schedule impact.
   2. Work items by the City, other Contractors, utilities and other third parties that may affect or be affected by Contractor's activities.
   3. Proper referencing of all work items to identify applicable subcontractors or other performing parties.
   4. Work item duration not to exceed 20 working days. No more than 25 percent of the work items may be on the critical path.
   5. A narrative that explains the basis for the Contractor's determination of construction logic and estimated duration and man-hours. It shall include estimated quantities and crew types with production rates, hours per shift, work days per week, and types of major construction equipment to be used, including number and capacities and whether the Contractor plans to work weekends or holidays.

B. The construction schedule shall be prepared to include the data for the total contract duration and the critical path shall be identified, including critical paths for interim completion dates. Scheduled start or completion dates imposed on the schedule by the Contractor shall be consistent with contract milestone dates. Milestone events shall be the schedule dates specified in the Special Conditions and shall be prominently identified and connected to the appropriate work item denoting its start or completion. Work items related to any interim milestone shall be coded for that milestone.

C. The Contractor shall submit the following documents to the City upon completion of preparation of the construction schedule:
   1. A time scaled plot of the bar chart schedule showing all logic ties.
   2. The narrative described in Technical Specifications Section 01310-3.02.A.5.

3.03 PROGRESS REPORTING

A. At the end of each month, following the Notice to Proceed, the Contractor and Project Manager shall meet to review and agree on the progress of the work. Subsequently the Contractor shall submit a monthly progress report at the end of each month. A monthly progress report is a prerequisite to the submittal of the Contractor's application for progress payment.
B. The Contractor shall submit the monthly progress report consisting of a written narrative and the updated construction schedule. Both the narrative and updated schedule will be reviewed by the Project Manager.

1. The narrative report shall describe overall progress of the work, provide a critical path analysis, discuss significant problems with proposed corrective action, and show the status of major changes and any other changes in sequence of the work.

2. The updated construction schedule shall include a bar chart showing completed items, in-progress items and all remaining work items. The schedule shall be made in accordance with Technical Specification Section 01310-3.02.

3. This review does not constitute an approval of the schedule but shall be used for the purposes of modifying the initially approved construction schedule.

C. If the latest completion time for any work item does not fall within the time allowed by the construction schedule, the sequence of work and/or duration shall be revised by the Contractor through concurrent operations, additional manpower, additional shifts or overtime, additional equipment or alternative construction methods until the schedule produced indicates that all significant contract completion dates, occupancy dates and milestones will be met. No additional costs will be allowed if such expediting measures are necessary to meet the agreed completion date or dates except as provided elsewhere in the contract documents.

3.04 SCHEDULE CHANGES

A. The Contractor's request for construction schedule changes shall be made on the latest approved construction schedule and shall be accompanied by a narrative description and justification for the change and shall be submitted in accordance with the General Conditions, Article 1105 on changes in time. Minor revisions submitted at monthly progress review meetings are not considered as changes in this context.

B. The construction schedule may be changed when one or more of the following occur:

1. When a change order significantly affects the contract completion date or sequence of work items.

2. When the Contractor elects to change the sequence or duration of work items affecting the critical path.

3. When the City directs a change that affects a milestone date(s) specified in the Special Conditions or alters the length of a critical path.

C. If, after submitting a request for change to the construction schedule, the Project Manager does not agree with the request, the Project Manager will schedule a meeting with the Contractor to discuss the differences. If a settlement cannot be reached on the change in the construction schedule or if the Contractor has failed to submit revisions to the network, the Project Manager has the option of providing suggested logic and/or duration times in all subsequent updating reports. The suggested logic and/or duration times will remain in effect until the change in the construction schedule is settled or until the logic and duration are superseded.

1. If the Contractor has any objections to the data furnished by the Project Manager, he shall advise the Project Manager within 10 days in writing, fully supporting the objections with a counterplan. The Project Manager’s revisions shall be used for updating reports until the Project Manager approves the counterplan.
2. If the Contractor does not submit a counterplan and data within 10 days after the date of the Project Manager's suggested logic, the Contractor is deemed to have concurred with the Project Manager's suggested logic/duration time changes. The Project Manager's plan will be the basis of negotiations for any adjustment of the time and cost for performance of the Work.

3.05 CONTRACT EXTENSIONS

A. If the Contractor is granted an extension of time for completion of any milestone or contract completion date under the provisions of the contract, the determination of the total number of extended days will be based upon the current analysis of the schedule and upon all data relevant to the extension. Such data shall be incorporated in the next monthly update of the schedule.

B. The Contractor acknowledges and agrees that delays in work items which, according to the schedule analysis, do not actually affect any milestone dates or the contract completion date shown on the CPM network at the time of the delay, will not be the basis for a contract extension.

3.06 AS-BUILT CONSTRUCTION SCHEDULE

A. After all contract work items are complete, the Contractor shall submit an as built construction schedule showing actual start and finish dates for all work items and milestones.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01310
SECTION 01340

SHOP AND WORKING DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparing and submitting shop and working drawings, product data, samples and record documents required by other technical specifications sections.

1. The Contractor shall submit all shop drawings, working drawings, product data and samples, as defined in Title 1 of the General Conditions, to the Project Manager in accordance with the requirements in the technical specifications. The Project Manager will return one copy of the shop drawings, working drawings and product data to the Contractor with a written transmittal within the time periods noted in the technical specifications.

B. The Contractor shall not submit as shop drawings copies or reproductions of drawings issued to the Contractor by DIA.

1.02 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures.

B. All submittals shall be delivered to the DIA Project Manager in electronic format. All submittals must be of a consistent format (all Acrobat or all Word, etc). No combination of electronic file types will be allowed unless required by a specific specification section.

1. Acceptable electronic formats
   a. Adobe Acrobat 6.0 or newer. All files shall be fully compatible with Adobe Acrobat 6.0
   b. Microsoft Office 2000 or newer. All files shall be fully compatible with Microsoft Office 2000.
   c. AutoDesk AutoCAD 2000 or newer. All files shall be fully compatible with AutoDesk AutoCAD 2000.
      1) AutoCAD files shall be self contained with no external x-references.
   d. Other files pre-approved by the DIA Project Manager

2. Adobe Acrobat Requirements:
   a. Drawings shall have security set to “No Security”. Commenting, printing, adding photos, form fields and document signing must be allowed.
   b. PDF submittals shall be one continuous file. No external links are allowed.
   c. All individual components of submittals shall be bookmarked inside the PDF file.
   d. Failure to comply with these requirements will result in a return of file to the Contractor for immediate revision.

3. Electronic files submitted shall correspond with DIA File Control Numbering System available from the DIA Project Manager. All files shall contain the prefix CE80018.14.02.submittalnumber.specsection.item.revision.
   a. SUBMITTALNUMBER attribute shall be obtained from the DIA Project Manager.
   b. SPECSECTION attribute shall be a five digit number corresponding to the
specification section requiring submitted data.

c. ITEM attribute will be a two digit number designating the corresponding submittal item number.

d. REVISION attribute will be for revised and resubmitted submittals, an "R" followed by a number (IE: R3).

C. Quantities

1. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine prints of each shop or working drawing.

2. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer's standard schematic drawings.

3. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer's calculations and six copies of manufacturer's standard data.

4. One DVD-ROM, CD-ROM or 3.5" floppy disk and nine copies of manufacturer's printed installation, erection, application and placing instructions.

5. Nine samples of each item specified in the various specification sections, unless otherwise specified.

6. One DVD-ROM, CD-ROM or 3.5" floppy disk, one original and nine copies of inspection, test reports and certificates of compliance.

7. **Note:** If manufacturer's printed information is in color, all copies of submittals must be in color.

D. Review

1. Submittal review comments by the City will be in electronic form and incorporated into the electronic submittal file.

2. Resubmittals of electronic documents shall modify the original electronic file with new information and include the City's comments with appropriate responses and additional information.

1.03 CHANGES

A. Changes in products for which shop or working drawings, product data or samples have been submitted will not be permitted unless those changes have been accepted and approved in writing by the Deputy Manager of Aviation as provided in Technical Specifications Section 01630.

1.04 QUALITY CONTROL

A. Shop drawings and record documents shall be prepared to a high standard of quality such as that set forth in MIL STD 100, ANSI Standard Drafting Manual Y14 or other equivalent specification defining equal drafting quality for microfilming.

PART 2 - PRODUCTS

2.01 SHOP AND WORKING DRAWINGS

A. Prepare shop and working drawings on a reproducible sepia sheet size of 24 x 36 inches to a
scale large enough to easily depict and annotate each of the various items.

B. Include the following as they apply to the subject:
   1. Contract title, work order and number.
   2. Respective contract drawing numbers.
   3. Applicable specification section numbers.
   4. Relation to adjacent structure or materials.
   5. Field dimensions clearly identified as such.
   6. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO and pertinent authority specifications or standards.
   7. Identification of deviations from the contract drawings and specifications.
   8. Drawing name, number and revision.
   9. Contractor's stamp, initialed or signed, certifying:
      a. Verification of field measurements.
      b. Review of submittals for compliance with contract requirements.
      c. Compatibility of the Work shown thereon with that of affected trades.
   10. Blank space on each sheet per Technical Specifications Section 01300, paragraph 2.02.B.

C. Drawings of equipment and other items that contain multiple parts shall include exploded views showing the relationship of parts and the description of the parts into the smallest units that may be purchased or serviced.

2.02 PRODUCT DATA

A. Modify manufacturer's standard and/or schematic drawings to delete information which is not applicable to the contract. Supplement standard information with additional information applicable to this contract.

B. Modify manufacturer's standard(s), diagrams, schedules, performance charts, illustrations, calculations and other descriptive data to delete information which is not applicable to the contract. Indicate dimensions, clearances, performance characteristics and capacities. Include with the submittal electrical, plumbing, HVAC and any other diagrams, as applicable.

C. Modify erection, application and placing instructions to delete information that is not applicable to the contract or work order.

D. Include the following:
   1. Contract title, work order and number
   2. Respective contract drawing numbers
   3. Applicable contract technical specification section numbers
   4. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO and pertinent authority specification or standards
   5. Identification of deviations from the contract drawings and specifications
   6. Contractor's stamp, initialed or signed, certifying:
a. Dimensional compatibility of the product with the space in which it is intended to be used
b. Review of submittals for compliance with contract requirements
c. Compatibility of the product with other products with which it is to perform or which will be next to it.

E. Certificates of compliance shall be submitted for all products. The certificates shall:
   1. State that the product complies with the respective specification and contract drawing requirements
   2. Be accompanied by a certified copy of test results pertaining to the product
   3. Show the submittals date, Contractor's name and address, contract title and number, product represented and its location in the contract, producer's name, product trade name and catalog number, place of product origin, test date, testing organization's name and address, quantity of the product to be furnished and related contract drawing and specification section numbers
   4. Be signed by an officer or another authorized representative of the producer and notarized
   5. Submit nine copies
   6. Be received by the City not later than 30 days before the acceptance is needed of the products for ordering.

2.03 SAMPLES
A. Submit samples of sizes and quantities to clearly illustrate full color range and functional characteristics of products and materials including attachment devices.

B. Erect field samples and mock ups at the worksite as specified in the several technical specifications sections and at locations acceptable to the Project Manager. All field samples shall be erected in a location that will be readily visible throughout the life of the contract to allow comparison of the work as it progresses to the field sample.

C. The Contractor shall verify, through appropriate inspections and tests, that the samples submitted meet the specifications and shall provide inspection and test data with the samples. The review and comments on the sample shall not relieve the Contractor of his responsibility for completion of the contract.

D. Show the following information:
   1. Contract title and number
   2. Respective contract drawing numbers
   3. Applicable technical specification section numbers
   4. Applicable standards such as ASTM or Federal Specification number
   5. Identification of deviations from the contract drawings and specifications
   6. Contractor's stamp, initialed or signed, certifying:
      a. Dimensional compatibility of the product with the space in which it is intended to be used
      b. Review of submittals for compliance with contract requirements
      c. Compatibility of the product with other products with which it is to perform or which
PART 3 - EXECUTION

3.01 CONTRACTOR RESPONSIBILITIES

A. Reference requirements of General Conditions Article 405.

B. Verify field measurements, catalog numbers and similar data.

C. The Contractor shall not start work for which submittals are required until a transmittal has been received by the Contractor showing acceptance or acceptance as noted by the Project Manager.

D. Before making submittals ensure that products will be available in the quantities and at the times required by the contract.

E. Submit final, corrected, reproducible sepias of contract and shop and working drawings showing the Work as actually installed, placed, erected and applied. Refer to Technical Specification Section 01700, Contract Closeout.

3.02 REVIEW BY THE CITY

A. One copy of the marked-up shop and working drawing and one copy of the product data will be returned to the Contractor by the Project Manager. Only the transmittal form, appropriately marked, will be returned on sample submittals.

B. Contractor’s responsibility for errors and omissions in submittals for compatibility will not be reduced, waived or otherwise limited by the review and acceptance of submittals by the City.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls.

END OF SECTION 01340
SECTION 01370

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparing and submitting the Schedule of Values ("Schedule") as referenced in the General Conditions. The Schedule will be built upon a breakdown of the Work using specification sections and milestones. The Work also includes the preparing and submitting of updated copies of the Schedule if the Schedule is affected by change orders.

B. A Schedule of Stored Material is a detailed cost breakdown for permanent materials that will be temporarily stored prior to their being installed and for which the Contractor seeks partial payments. The Schedule of Stored Material will be incorporated as a part of the Schedule of Values.

C. Within 14 calendar days of issuance of the Notice to Proceed, the Contractor shall submit the Schedule of Values including the Schedule of Stored Material if applicable. The Schedule of Values and Schedule of Stored Material used to prepare the work/cost breakdown for the Schedule will be used for the Contractor's billings.

D. Any contract allowances shall be included in the Schedule. Expenditure of allowances shall be done through the use of the Allowance Authorization form. Use of this form does not increase or decrease the contract value.

1.02 RELATED DOCUMENTS

A. General Contract Conditions, Title 9 Compensation

B. Technical Specifications Section 01300 Submittals

C. Technical Specifications Section 01340 Shop and Working Drawings, Product Data and Samples

D. Technical Specifications Section 01999 Standard Forms

1.03 SUBMITTAL

A. The Schedule shall be submitted in a format approved by the Project Manager.

B. The Schedule shall identify each item of work. Work items in the Schedule shall represent all work and shall be referenced with the Technical Specifications section numbers, specification subparagraph, specification section title and the bid item number used for the Schedule of Prices and Quantities when applicable. The Schedule shall address the subcontractor, fabricator or supplier furnishing the materials and or labor for each work item.

C. Upon request by the City, the Contractor shall support values given with the data which will substantiate the correctness of the values.

D. The Schedule will be utilized only as a basis for review of the Contractor's application for
progress payment.

1.04 REVIEW AND RESUBMITAL

A. If review by the City indicates that changes to the Schedule are required, the Contractor shall revise and resubmit the Schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PREPARING SCHEDULE OF VALUES

A. Breakdown of the items used in the Schedule shall include costs as follows:

1. Delivered cost of product with applicable taxes paid
2. Total installation cost with overhead and profit
3. Breakdown costs of each lump sum item with a list of products and major operations for which the Contractor seeks to receive progress payments to recover his costs for that bid item
4. Each unit price item as listed in the bid Schedule of Prices and Quantities shall list products and major operations for which the Contractor seeks to receive progress payments for that bid item.

3.02 PREPARING SCHEDULE OF STORED MATERIAL

A. The Contractor shall submit with the Schedule an indication of whether products will be stored on or off the worksite. The Schedule of Stored Material shall show quantities and types of products that will be stored.

B. Material allowances consist of only the net cost of the product, the cost of delivery and unloading at the storage site, the cost of applicable sales taxes and all discounts.

C. In no case will the cost paid for a permanent material be greater than 90 percent of the contract price for the work in which they are included.

3.03 PAYMENT FOR STORED MATERIALS

A. Only materials that are described in the specifications and on the drawings will be considered permanent materials. Permanent materials are materials that will be left in the work after the contract is completed.

B. Nothing in these specifications shall be interpreted as requiring the City to pay for stored materials. The Project Manager shall decide on a case-by-case basis whether stored materials shall be paid for. No payment will be made for stored materials which have not been submitted and accepted.

C. The Contractor must, at all times, store permanent materials in accordance with manufacturer's recommendations. Any material not properly stored will not be paid for. Amounts will be deducted from payments for any stored permanent material previously paid for and subsequently found to be improperly stored or not present, based upon a physical inventory of stored permanent material.

D. Only the neat line quantity of material needed for the finished product may be paid for.
E. All requests for stored permanent material payment must be accompanied by paid invoices clearly showing the quantity of permanent material, the type of permanent material and discounts or rebates and the net amount paid to the supplier along with a certificate stating that the permanent material is free of any liens or judgments preventing its use by the City.

F. If the permanent material is stored outside the Denver area the Contractor must pay for the City representative’s transportation and lodging to see the stored material as needed. Acceptable lodgings must, as a minimum, have a Mobil Travel Guide Rating Criteria® rating of Two-Star or the American Automobile Association Lodging Listing Requirements & Diamond Rating Guidelines® rating of Two Diamonds. The minimum transportation shall be by regularly scheduled commercial air carrier at coach rates. The Project Manager will determine if an overnight stay is required.

G. All permanent material stored off site, for which payment is being requested must be insured and stored in bonded, insured warehouses.

H. Any permanent material on which payment is requested must be in such a form that it cannot be used on work other than this contract, or stored in a manner acceptable to the Project Manager to ensure that the permanent material cannot be used on work other than this contract.

3.04 ALLOWANCE AUTHORIZATION AND PAYMENT

A. Contractor shall request written approval for expenditure of any contract allowances PRIOR TO performing the Work involved. List work to be performed and estimated cost in the requesting correspondence.

B. Original copies of all invoices and receipts must be submitted with the Allowance Authorization as part of the request for payment.

C. Using the format provided by the City, the Contractor’s request for payment of all contract allowances shall be included in the Schedule of Values.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01370
SECTION 01400

CONTRACTOR QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section identifies the Quality Control activities to be performed during all phases of the contract by the Contractor.

B. The Contractor shall have in place his Quality Control Program as necessary to ensure that all materials and work are completed in compliance with contract documents. The Contractor is solely responsible for Quality Control with the exception of those tests and/or audits that may be conducted by the City as defined in the contract documents.

C. Test schedules and/or testing requirements for materials used on this project are included in the technical specifications. Laboratory and field testing identified in the technical specifications shall be conducted by an Independent Testing Agency (ITA) retained by the Contractor.

1.02 SUBMITTALS

A. Refer to Technical Specification Section 01300 and Technical Specifications Section 01340, for submittal requirements.

B. Quality Control Plan: Within 10 days after Notice to Proceed, the Contractor shall submit a Quality Control Plan for review and acceptance. Acceptance by the Project Manager does not relieve the Contractor of compliance with the contract requirements. The Contractor Quality Control Plan shall address the following as a minimum:

1. Provide a general description of Quality Control monitoring to be performed until final acceptance by DIA. Include monitoring activities of Work and the worksite during times no construction activity is scheduled to take place.

2. The Contractor shall designate an employee as the Quality Control Manager qualified to perform quality control monitoring of the Work. The designated individual shall have the authority to direct work changes required to bring the Work into conformance with contract requirements including stopping non-conforming work in progress.

3. The Quality Control Plan shall address each technical specification division’s requirements for quality control. The Contractor shall identify each item requiring submittal and approval/acceptance prior to installation of work. Also, the Contractor shall identify each item of work requiring testing by the independent testing agency.

4. The Quality Control Plan shall address and establish controls and documentation format to ensure that items or materials that have been accepted through receiving inspection are used or installed. Identification and traceability shall be provided throughout all inspections, test activities and records. For stored items, provisions shall be made for the control of item/material identification, consistent with the expected duration and type of storage.

5. Provide methodology of monitoring, testing and exercising of all equipment, valves and/or assemblies to ensure the Work installed is in proper working order.
6. The Contractor shall submit a list of suppliers and subcontractors. This list shall include items to be supplied by each supplier and/or subcontractor and shall identify work to be performed by each subcontractor. The list shall be updated and resubmitted as required.

7. Provide emergency contact information including name, company, title, work phone number, home phone number and other means of contact. The Emergency Contact list shall include at least four individuals. The Emergency Contact list shall be maintained on a daily basis. In the event there is any change in any of the information, the Contractor shall forward the updated list to the Project Manager and to DIA Maintenance Control (303-342-2800). The Emergency Contact list shall include the project number, project title and date of issue.

C. Daily Quality Control Report:

1. The Daily Quality Control Report shall be submitted daily on the form included in Technical Specifications Section 01999. The Contractor may add sheets of information to this form as required. The report shall address as a minimum the following: identify number of workers on site each day by trade, identify notifications and discussions with/by DIA Quality Assurance Inspectors and other agency inspectors, identify quality of work placed that day and any deviations and/or corrections required to bring the Work into conformance with the contract. Daily reporting may not be computerized or typed. Only legible, hand written reports on the approved form shall be accepted.

2. Submit three copies of the Daily Quality Control Report to the Project Manager the day following the work. The report shall be signed by the Contractor's Quality Control Representative and the Contractor's Superintendent.

D. Corrective Action Report (CAR)

1. Conditions adverse to quality will be reviewed by the Contractor to determine the cause and to recommend a corrective action that will preclude recurrence. The condition, its cause and the corrective action planned shall be reported to the Project Manager prior to implementation. Follow-up action shall be taken to verify implementation of the corrective action. The Contractor will document the corrective action and a copy of the Corrective Action Report (CAR) will be transmitted to the Project Manager.

1.03 DOCUMENTATION

A. The Contractor shall not change or alter approved submittals, procedures, specifications, drawings or other pertinent documentation without the Project Manager's written authorization.

B. All records and documents that are quality related shall be prepared, identified and maintained by the Contractor and shall be made available to DIA upon request. Records shall be protected from damage, deterioration or loss. A copy of the records and documents shall be maintained at the Work site at all times unless the Project Manager has approved other locations in writing. Retention time for all quality records shall be not less than three years from date of Final Acceptance of the contract.

C. The Contractor shall maintain records at the actual worksite and at Contractor's office to show the inspection status of materials and items installed in order to ensure that the required inspections and tests have been performed in a timely and correct manner.
1.04 INSPECTIONS AND TESTS

A. Inspection and tests, conducted by persons or agencies other than the Contractor, shall not in any way relieve the Contractor of his responsibility and obligation to meet all specifications and the referenced standards. The Contractor's designated Quality Control Representative shall inspect the work and shall ensure the work complies with the contract requirements prior to any requests for inspection or testing.

B. When the specifications, laws, ordinances, rules, regulations or orders of any public agency having jurisdiction require the Project Manager's surveillance of inspections or tests, the Contractor shall notify the Project Manager of the place, date and time 48 hours prior to the inspection and/or test. The Contractor shall be responsible for notifying and requesting inspection by other agencies including but not limited to the Denver Building Inspection Division, Denver Fire Department and Denver Water Department. Prior to request for other agency inspections, the Contractor shall meet and plan inspection times with the Project Manager and or the Project Manager's designated representative.

C. Special inspections or tests may be required by the technical specifications, City, State and/or Federal Agencies in addition to those tests already performed. The Contractor shall notify the Project Manager at least 48 hours in advance of the additional inspections or tests.

1.05 INSPECTION PLAN

A. The Contractor shall utilize the following six-point inspection plan to ensure the conformance of the Work performed by the Contractor meets the requirements of the contract drawings and specifications, the referenced codes and standards and the approved submittals:

1. Prework Coordination: Prior to the start of construction work on the contract and prior to the start of work under each separate specification section and prior to the start of work where a change in a construction operation is contemplated by the Contractor and prior to a new subcontractor starting work, a coordination meeting will be held with the Contractor's superintendent, Quality Control and Safety representative(s), the ITA representative, the DIA Project Manager and DIA inspectors. Supervisory, Safety and Quality Control, representatives of all applicable subcontractors will also attend. The Contractor's Quality Control Representative shall chair, prepare and distribute minutes of Quality Control meetings. Meeting minutes shall be distributed within 24 hours of the meeting.

2. The purpose of the meeting is to ensure that the Contractor’s personnel have no misunderstandings regarding their safety and quality procedures as well as the technical requirements of the contract. The following items shall be presented and reviewed by the Contractor:
   a. Contract requirements and specifications
   b. Shop drawings, certifications, submittals and as-built drawings
   c. Testing and inspection program and procedures
   d. Contractor's Quality Control program
   e. Familiarity and proficiency of the Contractor's and subcontractor's workforce to perform the operation to required workmanship standards including certifications of installers
   f. Safety, security and environmental precautions to be observed
   g. Any other preparatory steps dependent upon the particular operation
   h. The Contractor's means and methods for performing the Work.
3. Initial Inspection: Upon completion of a representative sample of a given feature of the Work and no later than two weeks after the start of a new or changed operation, the Project Manager and/or the Project Manager's designated representatives will meet with the Contractor's Quality Control representative and applicable subcontractor's supervisor and their Quality Control representatives to check the following items, as a minimum:
   a. Workmanship to established quality standards  
   b. Conformance to contract drawings, specifications and the accepted shop drawings  
   c. Adequacy of materials and articles utilized  
   d. Results of inspection and testing methods  
   e. Adequacy of as-built drawings maintained daily.

4. Once accepted, the representative sample will become the physical baseline by which ongoing work is compared for quality and acceptability. To the maximum practical extent, approved representative samples of work elements shall remain visible until all work in the appropriate category is complete. Acceptance of a sample does not waive or alter any contract requirements or show acceptance of any deviation from the contract not approved in writing by the Project Manager.

5. Follow-up Inspection: The Contractor's Quality Control representative will monitor the work to review the continuing conformance of the work to the workmanship standards established during the preparatory and initial inspections.

6. Completion Inspection: Forty-eight hours prior to the completion of an item or segment of work and prior to covering up any work, the Contractor will notify the Project Manager who will verify that the segment of work is substantially complete, all inspections and tests have been completed and the results are acceptable. The purpose of this inspection is to allow further corrective work upon, or integral to, the completed segment of work. THIS IS NOT AN ACCEPTANCE INSPECTION. If any items are determined to be deficient, need correction or are non-conforming, a Deficiency List will be prepared and issued to the respective Contractor for correction, repair or replacement of any deficient or non-conforming items. The Project Manager and Contractor's Quality Control representative will verify the correction of the deficient and/or non-conforming items prior to the start of the next operation.

7. Pre-Final Acceptance Inspection: Prior to requesting a Pre-Final Acceptance Inspection by DIA, all work and operational systems to be inspected shall be satisfactorily completed and tested by the Contractor. The Contractor's written request for this inspection shall be made 72 hours in advance. With the request shall come a list of any known deficiencies and when they will be corrected. If the list is too large or contains too many significant items, in the opinion of the Project Manager, no inspection will be held because of the incompleteness of the work.

8. The Project Manager will schedule the Pre-Final Acceptance Inspection and will prepare a list of deficient items (punch list) discovered during the inspection. If during the inspection the list becomes too large or too many significant items are on the list, the inspection will be canceled. After the inspection is completed, the Deficiency List will be transmitted to the Contractor for correction of the deficient items.

9. Final Acceptance Inspection: After the Contractor has completed all items on the Deficiency List (generated from the Pre-Final Acceptance Inspection) he shall request a Final Acceptance Inspection. The request shall be made in writing at least 72 hours in advance of the inspection. All areas must be cleaned and ready for turnover prior to this inspection. The Project Manager, the design consultant, a representative of the funding agency (if applicable) and other interested parties will inspect the subject Work to
ensure that all deficiencies have been satisfactorily attended to and that no new deficiencies have appeared and that all systems are completely functional. Any outstanding or additional deficient items will be noted and handled per the requirements of the Pre-Final Acceptance Inspection noted above until the Work is acceptable to the Project Manager.

1.06 SAMPLES

A. The Contractor shall maintain at the worksite a copy of all samples submitted and accepted by DIA. Samples shall be made available to the designer or the Project Manager’s designated representatives for review and comparison in the field. The Project Manager prior to use on the project must accept all items and materials.

B. The installed work will be compared to the samples and if any of the work is not of the same quality, material, finish, color, texture or appearance as the sample, that portion that is not the same will be considered defective and in nonconformance.

C. Contractor selection of samples will only be considered if taken at random. The Contractor shall permit representatives of DIA to witness the selection of samples. Inspection or tests of items or materials that fail shall be sufficient cause to terminate further inspections/tests of the same brand, make or source of that product.

D. The Contractor is obligated to correct any item deemed deficient.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 REQUIREMENTS

A. All materials required for the contract shall be new except where specified otherwise. The Project Manager may elect to perform additional inspections and/or tests at the place of the manufacture, the shipping point or at the destination to verify conformance to applicable specifications. Inspections and tests performed by DIA shall not relieve the Contractor from the responsibility to meet the specifications, nor shall such inspections/tests be considered a guarantee for acceptance of materials that will be delivered at a later time.

B. The Contractor is obligated to correct or remove non-conforming materials, whether in place or not. If necessary, the Project Manager will send written notification to the Contractor to correct or remove the defective materials from the project. If the Contractor fails to respond, the Project Manager may order correction, removal and/or replacement of defective materials by others, in which case the Contractor shall bear all costs incurred by such actions.

C. Materials accepted on the basis of a Certificate of Compliance may be sampled and inspected/tested by DIA or its designer at any time. The fact that the materials were accepted on the basis of such certification shall not relieve the Contractor of his responsibility to use materials that conform to the specifications.

D. The Contractor shall impose upon his suppliers the same quality control requirements, including inspection and test procedures, as imposed upon him by the specifications and referenced standards. The Contractor shall apply appropriate controls, designed to ensure that all materials supplied meet the requirements and specifications.
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls. If the City is required to re-inspect work or conduct a special test because a previous inspection, requested by the Contractor, showed that the work was defective or not in conformance, the Deputy Manager or his authorized representative may deduct from the contract value the cost of re-inspection at the rate of $75.00 per man-hour.

END OF SECTION 01400
SECTION 01410

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Reference General Contract Conditions, GC 315.

1.02 DEFINITIONS

A. Cutting: Removal of existing construction to permit installation of or to perform other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.03 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Cutting and Patching Proposal: Submit a proposal describing procedures at least 30 calendar days before the time cutting and patching will be performed, requesting approval to proceed. Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work. The proposal shall include the following information:

1. Identification of the contract and the Contractor’s name.

2. Description of proposed work:
   a. Scope of cutting, patching, alteration or excavation
   b. The necessity for cutting or alteration
   c. Trades that will execute the work
   d. Products proposed to be used
   e. Extent of refinishing to be done
   f. Alternatives to cutting and patching

3. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in the building’s appearance and other significant visual elements.

4. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.

5. Proposed Dust Control and Noise Control Measures: Submit a statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.

6. Effect on the work and other surrounding work or on structural or weatherproof integrity of project

7. Written concurrence of each contractor or entity whose work will be affected.

8. Cost proposal, when applicable.
1.04 QUALITY CONTROL

A. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance, decreased operational life or safety unless approved by the Project Manager:

1. Primary operational systems and equipment
2. Air or smoke barriers
3. Fire protection systems
4. Control systems
5. Communication systems
6. Conveying systems
7. Electrical wiring systems
8. Operating systems of special construction as described in Division 13 and 16
9. HVAC systems.

B. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or those results in increased maintenance, decreased operational life or safety unless approved by the Project Manager:

1. Water, moisture or vapor barriers
2. Membranes and flashings
3. Exterior curtain wall construction
4. Equipment supports
5. Piping, ductwork, vessels and equipment
6. Noise control and vibration control elements and systems
7. Stud walls.

C. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in DIA’s sole opinion, reduce the building’s aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactorily manner.

1. If possible, retain the original installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm as approved by the Project Manager:
   a. Processed concrete finishes
   b. Stonework and stone masonry
   c. Ornamental metal
   d. Matched-veneer woodwork
   e. Preformed metal panels
   f. Firestopping
   g. Window wall systems
h. Terrazzo  
i. Wall coverings  
j. HVAC enclosures, cabinets or covers.

D. Cutting and Patching Conference: Before proceeding, meet at the Project site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.05 WARRANTY

A. Existing Warranties: Remove, replace, patch and repair materials and surfaces cut or damaged during cutting and patching operations by methods and with materials so as not to void existing warranties.

1. If possible, retain the original installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm as approved by the Project Manager:
   a. Ornamental metal  
b. Preformed metal panels  
c. Firestopping  
d. Terrazzo  
e. ProCoat paint finishes  
f. Granite flooring  
g. Wall coverings  
h. HVAC enclosures, cabinets or covers.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: All patching material shall be of the type specified for the material being patched. Comply with requirements specified in other Sections of these Technical Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials as approved by the Project Manager.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

2. Immediately notify the Project Manager, in writing, of unsuitable, unsafe or unsatisfactory conditions.
3. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

4. Proceed with patching only after construction operations requiring cutting are complete and inspected by the Project Manager.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut to ensure structural value or integrity.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated or abandoned, bypass such services before cutting to avoid (or minimize) interruption of services to occupied areas.

3.03 POLLUTION CONTROLS

A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

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

2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosures. Vacuum carpeted areas.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Cleaning: Clean adjacent structures and improvements of dust, dirt and debris caused by selective demolition operations. Return adjacent areas to the condition existing before selective demolition operations began.

3.04 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Execute cutting and demolition by methods that will prevent damage to other work and will provide a proper surface to receive patching.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

2. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerance and finishes.

3. Restore work that has been cut or removed; install new products to provide complete work in accordance with requirements of the contract documents.

4. Fit work airtight and fire safe to pipes, sleeves, ducts, conduit and other penetrations
through surfaces as required by the contract documents.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and other similar operations, including excavation, using methods least likely to damage elements retained to adjoining construction. If possible, review proposed procedures with original installer and comply with original installer’s written recommendations.

1. In general, use ground fault hand or small power tools designed (to short if metal is hit) for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to the size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Technical Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing. For continuous surfaces, refinish entire unit to the nearest break line. For an assembly, refinish entire unit.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

a. Where patching occurs on a painted surface, apply primer and intermediate paint coats over the patch and apply the final coat over the entire unbroken surface containing the patch. Provide additional coats until the patch blends with adjacent surfaces.

4. Ceilings: Patch, repair or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Fire Rated Construction: Where rated elements are cut, reconstruct to approved designs to provide original fire rating.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT
A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable multiplier for the division under which the work falls.

END OF SECTION 01410
PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of preparatory work and operations including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the worksite; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the worksite.

1.02 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Submit a Mobilization Schedule 15 days prior to first billing for mobilization.

1.03 DELIVERY

A. Delivery to the worksite of construction tools, equipment, materials and supplies shall be accomplished in conformance with local governing regulations.

PART 2 - PRODUCTS

2.01 PRODUCTS

A. Provide construction tools, equipment, materials and supplies of the type and quantities that will facilitate the timely execution of the Work.

PART 3 - EXECUTION

3.01 EXECUTION AND REMOVAL

A. Provide personnel, products, construction materials, equipment, tools and supplies at the worksite at the time they are scheduled to be installed or utilized.

B. Upon completion of the Work, remove construction tools, apparatus, equipment, unused materials and supplies, plant, and personnel from the jobsite.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. The Contractor shall submit for the Project Manager's approval 15 days prior to the first mobilization billing a detailed breakdown of all items, including subcontractor mobilization items, that are proposed to be invoiced under Mobilization as part of the Schedule of Values (reference Technical Specifications Section 01370). This breakdown shall be labeled MOBILIZATION SCHEDULE. This schedule will be reviewed by the Project Manager to inform the Contractor what exact types of costs will be approved and paid under Mobilization.
B. All requests for payment for mobilization shall include a detailed Mobilization Schedule which shall identify the nature of each expense item, its delivery date, setup and startup date and the actual invoice amounts inclusive of acquisition, taxes, transportation assembly, and installation less all discounts.

C. The Contractor shall identify a line item in the Mobilization Schedule as "Demobilization" and shall establish the value for this line item, at a minimum, of 15 percent of the pay item for mobilization.

D. The initial approved Mobilization Schedule shall determine the basis for all future mobilization payments.

PART 5 - PAYMENT

5.01 MOBILIZATION

A. Payment will be made monthly in accordance with the approved Mobilization Schedule to the limit of the contract lump sum amount for the pay item Mobilization. In no case will the City pay Mobilization in excess of five percent of the total bid amount.

B. Payment for the Contractor's bonds may be included in the Mobilization Schedule to the limits of the actual amount.

C. Payment amounts for personnel involved in mobilization and listed on the approved Mobilization Schedule shall be limited to the Contractor's certified payroll amounts.

D. Payment amounts for materials, supplies and transportation involved in mobilization and listed on the approved Mobilization Schedule shall be for the actual amounts paid as shown on invoices marked paid. No payment will be made under mobilization for the cost of permanent materials to be installed for this contract. See Section 01370 for Stored Materials.

E. No payment under mobilization will be made for rented or leased equipment other than actual transportation cost.

F. No separate payment will be made as part of the Mobilization Schedule for the maintenance and/or use of personnel, equipment, supplies and incidentals after project setup except for demobilization. These costs are to be incorporated in the remaining items of work in the Schedule of Values by multiplier or work request.

G. For any mobilization payment amounts requested by the Contractor which are unsubstantiated or exceed the allowable limit of five percent of the total bid amount, those amounts shall be, as approved by the Project Manager, reallocated to other work items in the Schedule of Values for lump sum contracts or disbursed on a prorated basis for unit price contracts.

END OF SECTION 01505
SECTION 01576

TRAFFIC CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of furnishing plans and designs for traffic control and haul routes, implementing these plans with all necessary personnel and equipment. Installation may require but not be limited to signage, cones, flaggers, signal lights, lighting and temporary roads. All work must be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD), Colorado Department of Highway Standards and SSPWC Specifications. The Contractor must coordinate his proposed traffic control needs with the needs of other contractors on the airport construction site in writing through the Project Manager.

B. Reference Contract General Condition, GC 805.

1.02 QUALITY CONTROL

A. Temporary signal work shall conform to “Standard Specifications for Public Works Construction”.

B. Designate a qualified person to inspect and test traffic control devices daily and to ascertain that those devices are continuously operating, serviceable, in place and clean.

C. Provide trained personnel who will be responsible for design, implementation and inspection of traffic control needs.

1.03 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. Submit a Traffic Control Plan (TCP) that includes, at a minimum, the following list of items for approval before starting work. Submit an updated TCP when necessary to modify traffic operation or undertake a construction activity that creates a different traffic pattern.

1. Traffic blockade and reductions anticipated to be caused by construction operations.

2. Temporary detours.

3. Show and describe proposed location, dates, hours and duration of detours, vehicular traffic routing and management, traffic control devices for implementing detours and details of barricades.

C. Submit Haul Route Plan for both on- and off-site hauls. The Haul Route Plan shall be submitted 30 days prior to hauling any permanent material. The plan shall be updated as the contractor’s plans change.

D. Specific Traffic Considerations: The Project Manager may require the Contractor to revise the Traffic Control Plan to address traffic considerations not included in the Contractor’s plan.
PART 2 - PRODUCTS

2.01 TRAFFIC CONTROL DEVICES

A. Such devices which include signs, delineators, striping, barriers, barricades and high level warning devices shall conform to the latest revision of the “Manual on Uniform Traffic Control Devices” and the latest revision of the CDOT Supplement thereto.

PART 3 - EXECUTION

3.01 TEMPORARY TRAFFIC CONTROL DEVICES

A. Place temporary control devices in those locations that will enable traffic to traverse the area without hazard or abrupt changes in direction. Place traffic cones or delineators on not more than 35 foot centers. Operate warning lights between sunset and sunrise; place control devices so that approaching traffic is alerted to hazards and variances to normal traffic patterns. Place high rise warning flag units where motorist’s visibility of warning devices, traffic signals, and pedestrian crosswalks will be either limited or obscured. Place barricades, cones and similar protective devices where personnel and equipment will be working within five feet of the edge of a lane bearing traffic. Clean and repair damaged devices or replace them with new devices as required.

3.02 FLAGGERS

A. Furnish flaggers where construction equipment may intermittently encroach on traffic lanes, already existing haul routes, and where construction operations would affect public or construction safety and convenience and also where active haul roads cross existing access roads.

3.03 CONSTRUCTION VEHICULAR TRAFFIC

A. Restrict construction vehicles to approved haul routes.

3.04 CONTROLLING VEHICULAR AND PEDESTRIAN FLOW ADJACENT TO WORKSITE

A. Ensure that construction operations will not impede normal traffic. Where work is in the area of pedestrian or occupant activity, the Contractor shall erect barriers to prevent pedestrian intrusion into the worksite. The barriers will be a minimum of 42 inches in height and shall not be penetrable from floor or grade to the top of the barrier. Barriers erected in areas where there is a change in grade of over six inches shall meet barrier requirements as defined in the UBC and the DBC.

3.05 SIGNS

A. Coordinate and pay any expense associated with the furnishing and installation of all parking regulatory signs, such as "No Stopping Any Time," etc. at the worksite. The Contractor must contact the Project Manager a minimum of five working days in advance of construction for installation, relocation or removal of regulatory parking signs.

B. Furnish and install any necessary advance detour or guidance signing.

C. Authorize, modify and install regulatory parking controls and vehicle turn restrictions.
D. Implement those traffic control modifications outside of the traffic control zone which are necessary to manage diverted traffic.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. Payment for Traffic Control under these schedules will be for work performed under the applicable work request lump sum bid item.

END OF SECTION 01576
SECTION 01580

TEMPORARY SIGNS

PART 1 - GENERAL

1.01 CONSTRUCTION SIGNAGE VISIBLE TO THE PUBLIC.

1.02 TEMPORARY DIRECTIONAL, INFORMATIONAL OR REGULATORY SIGNAGE.

1.03 QUALITY CONTROL

A. Construction and other temporary signage visible to the public must be commercial grade quality, professionally fabricated and installed for the location of the sign. The contractor is responsible to maintain this signage until it is no longer needed.

PART 2 - PRODUCTS

2.01 GENERAL

A. Interior signs that are visible and not physically accessible to the public may be made of rigid board, such as "Gator Board" with vinyl messages. All edges must be finished and conceal all attachments.

B. Interior signs that are visible and physically accessible by the public must be vandal-proof. Acceptable examples of vandal-proof signs are messages applied second surface with concealed tamperproof fasteners.

C. Exterior signs must be vandal-proof and fabricated of weatherproof materials.

PART 3 - EXECUTION

3.01 HARDWARE

A. Interior Signs: Attach with suitable adhesive and/or tape which may be removed with out damage to finishes.

B. Exterior Signs: Must be secured to withstand site conditions and varying weather conditions.

3.02 SIGN FINISHES, MATERIALS AND PAINT

A. Provide temporary signage to reflect permanent sign design and/or as directed by the Signage Design Project Manager. Submit temporary sign finishes, materials and paint, etc., for review and approval prior to any fabrication.

3.03 MAINTENANCE

A. The Contractor is responsible to maintain temporary signage until it is no longer needed.

3.04 REMOVAL

A. The contractor is responsible to remove all temporary signs, clean and refurbish affected areas to their original (or intended) condition.
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01580
SECTION 01620

STORAGE AND PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of providing storage and protection of the materials, products and supplies which are to be incorporated into the construction and indicating such storage areas on the working drawings with the location and dates when such areas will be available for each purpose.

1.02 SUBMITTALS

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures. Submit concurrently with submittals required in Section 01050.

B. Submit working drawings showing locations of storage areas not indicated on the Contract Drawings.

C. Submit descriptions of proposed methods and locations for storing and protecting products.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Materials required for the storage and protection of the items specified shall be durable, weatherproof and either factory finished or painted to present an appearance acceptable to the City. Storage facilities shall be uniform in appearance with similar materials used to the maximum extent possible.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS OF EXECUTION

A. Palletize materials, products and supplies which are to be incorporated into the construction and stored off the ground. Material and equipment shall be stored only in those areas that are indicated as storage areas on the contract drawings and on the reviewed and accepted working drawings. Store these items in a manner which will prevent damage and which will facilitate inspection. Leave seals, tags and labels intact and legible. Maintain access to products to allow inspection. Protect products that would be affected by adverse environmental conditions.

B. Periodically inspect stored products to ensure that products are being stored as stipulated and that they are free from damage and deterioration.

C. Do not remove items from storage until they are to be incorporated into the Work.

D. The Contractor shall ensure that all protective wrappings and coverings are secure and ballasted to prevent any items from deterioration and/or subsequent dislodgment. All items on the worksite that are subject to becoming windborne shall be ballasted or anchored.
3.02 HANDLING AND TRANSPORTATION

A. Handling
   1. Avoid bending, scraping or overstressing products. Protect projecting parts by blocking
      with wood, by providing bracing or by other approved methods.
   2. Protect products from soiling and moisture by wrapping or by other approved means.
   3. Package small parts in containers such as boxes, crates or barrels to avoid dispersal
      and loss. Firmly secure an itemized list and description of contents to each container

B. Transportation
   1. Conduct the loading, transporting, unloading and storage of products so that they are
      kept clean and free from damage.

3.03 STORAGE

A. Store items in a manner that shall prevent damage to the owner's property. Do not store
   hydraulic fluids, gasoline, liquid petroleum, gases, explosives, diesel fuel and other
   flammables in excavations, except one day's supply of diesel fuel may be stored in open
   excavations.

B. Provide sheltered weather-tight or heated weather-tight storage as required for products
   subject to weather damage.

C. Provide blocking, platforms or skids for products subject to damage by contact with the
   ground.

D. All material shall be stored according to the manufacturer's recommendations. Any material
   that has to be stored within specified temperature or humidity ranges shall have a 24-hour
   continuously written recording made of the applicable condition. Should the recording show
   that the material was not stored within the recommended ranges the material shall be
   considered defective and in nonconformance. If a certification from the manufacturer's
   engineering design representative is provided stating that the actual variations are acceptable
   and will in no way harm the material or affect warranties, then the deficiency will be
   considered corrected.

E. Store hazardous material separately, with all material marked with a label showing the hazard
   and how to treat exposure to the material.

3.04 LABELS

A. Storage cabinets and sheds that will contain flammable substances and explosive substances
   shall be labeled FLAMMABLE--KEEP FIRE AWAY and NO SMOKING with conspicuous
   lettering and conforming to OSHA requirements.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.
PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. The cost of the Work described in this Section shall be included in the applicable unit price item, work order, or lump sum bid item. See Technical Specifications Section 01370 for additional requirements for the possible payment of stored material.

END OF SECTION 01620
SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of submitting for the approval of a different material, equipment or process then is described in the Contract Documents. The Contractor is to use the Request for "Or Equal" Approval form found in the Instructions to Bidders before submitting his bid. The Request for Substitution form, found in Section 01999, is used after the Contractor receives his Notice to Proceed.

B. If the substitution changes the scope of work, contract cost or contract time, a change order is required. As-built drawings and specifications must include all substitutions even if a change order is not issued.

1.02 QUALITY CONTROL

A. The substitution must provide the same quality as what it is replacing. The level of quality is defined by:

1. Maintenance and operating cost
2. Reliability
3. Durability
4. Life expectancy
5. Ease of cleaning
6. Ability to be upgraded as needed
7. Ease of interacting with other systems or components
8. Ability to be repaired
9. Availability of replacement parts
10. Established history of use in similar environments
11. Performance equal or superior to that which it is replacing.

1.03 SUBMITTAL

A. Refer to Technical Specifications Sections 01300 and 01340 for submittal procedures.

B. A complete Request for Substitution using the form in Section 01999 must be made at least 60 days prior to when an order needs to be placed or a method needs to be changed.

C. The submittal shall contain, as appropriate, detailed product data sheets for the specified items and the substitution. Samples and shop drawings shall also be submitted of the substitution as applicable. The submittal shall contain all the data required to be submitted for acceptance of the originally specified item or process.
D. The submittal shall contain all the applicable information required in Technical Specifications Section 01630, paragraph 2.01 below.

E. A signed statement as outlined in Technical Specifications Section 01630, paragraph 2.03.B below must accompany the Request for Substitution.

PART 2 - EXECUTION

2.01 INFORMATION

A. Provide the following information as applicable with the Request for Substitution on the item or process that is being requested to be substituted:

1. A complete description of the item or process
2. Utility connections including electrical, plumbing, HVAC, fire protection and controls
3. The physical dimensions and clearances
4. A parts list with prices
5. Samples of color and texture
6. Detailed cost comparisons of the substitution and the contract specified item or process
7. Manufacturer warranties
8. Energy consumption over a one-year period
9. What local organization is certified to maintain the item
10. Performance characteristics and production rates
11. A list of any license fees or royalties that must be paid
12. A list of all variations for the item or method specified
13. A list of at least three other projects of similar nature to this contract where the products or methods have been in use for at least one year including telephone number and name of the person to contact at these other projects
14. An analysis of the effect of the substitution on the schedule and contract cost and on the overall project as it relates to adjoining work.

2.02 SUBSTITUTION REQUEST

A. The formal Request for Substitution will be evaluated by the Project Manager and the Designer of Record based on the following criteria:

1. Compatibility with the rest of the project
2. Reliability, ease of use and maintenance
3. Both initial and long term cost
4. Schedule impact
5. The willingness of the Contractor to share equally in any cost savings
6. The ability of the item or process to meet all applicable governing regulations, rules and laws along with funding agency requirements
7. The cost of evaluating the substitution.
B. Based upon the above evaluation the Deputy Manager of Aviation will make a final determination of what is in the best interest of the City and either approve, disapprove or approve as noted the requested substitution.

2.03 CONDITIONS

A. As a condition for submitting a Request for Substitution the Contractor waives all rights to claim for extra cost or change in contract time other than those outlined in the request and approved by the Deputy Manager of Aviation. The Contractor, by submitting a Request for Substitution, also accepts all liability for cost and scheduling impact on other contractors or the City due to the substitution.

B. Included with the Request for Substitution shall be the following statement:

"The substitution being submitted is equal to or superior in all respects to the contract-required item or process. All differences between the substitution and the contract-required item or process are described in this request along with all cost and scheduling data."

C. The statement shall be signed and dated by the Contractor's Superintendent.

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or the lump bid item.

END OF SECTION 01630
SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION

Work specified in this Section includes procedures required prior to Final Acceptance of the Work in addition to those specified in General Conditions Title 20 and Technical Specifications Section 01720.

1.02 PREPARATION FOR FINAL INSPECTION

Before requesting inspection for Final Acceptance of the Work by the City, inspect, clean and repair the Work as required.

1.03 FINAL INSPECTION

A. When the Contractor considers that the Work is complete, he shall submit written certification that:
   1. Work has been inspected by the Contractor for compliance with contract documents.
   2. Work has been completed in accordance with contract documents.
   3. Work is ready for final inspection by the City.
   4. All as-built required documents have been submitted and accepted.
   5. All damaged or destroyed real, personnel, public or private property has been repaired or replaced.
   6. All operation and maintenance manuals have been submitted and accepted and all training has been completed.
   7. All personnel badges and vehicle permits have been returned to DIA Airport Security.

B. The Project Manager will inspect to verify the status of completion with reasonable promptness after receipt of such certifications. The inspection of the work will be done in accordance with the General Conditions.

C. If the Project Manager finds incomplete or defective work:
   1. The Project Manager may, at the Project Manager's sole discretion, either terminate the inspection or prepare a punch list and notify the Contractor in writing, listing incomplete or defective work.
   2. The Contractor shall take immediate steps to remedy stated deficiencies and send a second written certification to the Project Manager that Work is complete.
   3. The Project Manager will then reinspect the Work.
1.04 REINSPECTION FEES

A. Should the Project Manager perform reinspection due to failure of the Work to comply with the claims of status of completion made by the Contractor:

1. The Contractor shall compensate the City for such additional services at the rate of $75.00 per man-hour.

2. The City shall deduct the amount of such compensation from the final payment to the Contractor.

1.05 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a Final Statement of Accounting to the Project Manager.

B. The Final Statement of Accounting shall reflect all adjustments to the contract amount and shall include the following:

1. The original contract amount.

2. Additions and deductions resulting from:
   a. Previous change orders.
   b. Allowances.
   c. Final quantities for unit price items. Along with this statement shall be detailed backup for the quantities.
   d. Deductions or corrected work.
   e. Penalties.
   f. Deductions for liquidated damages.
   g. Deductions for reinspection payments.
   h. City resurveys required due to the Contractor.
   i. Other adjustments.

3. Total contract amount, as adjusted.

4. Previous payments.

5. Sum remaining due.

C. If required, the Project Manager will prepare a final change order, reflecting approved adjustments to the Contract sum which were not previously made by change orders.

1.06 FINAL APPLICATION FOR PAYMENT

A. The Contractor shall submit the final application for payment in accordance with the procedures and requirements stated in the General Conditions Title 20.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)
PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order, or lump sum bid item.

END OF SECTION 01700
SECTION 01710

CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION

The Work specified in this section consists of maintaining a clean, orderly, hazard free worksite during construction, and final cleaning for the City's Final Acceptance. Failure to maintain the worksite will be grounds for withholding monthly payments until corrected to the satisfaction of the Project Manager.

1.02 JOB CONDITIONS

A. Safety Requirements

Maintain the worksite in a neat, orderly and hazard-free manner in conformance with all federal, state and local rules, codes, regulations and orders, including all OSHA requirements, until Final Acceptance of the Work. Keep catwalks, underground structures, worksite walks, sidewalks, roadways and streets, along with public and private walkways adjacent to the worksite, free from hazards caused by construction activities. Inspect those facilities regularly for hazardous conditions caused by construction activities.

B. Hazards Control

1. Store volatile wastes in covered metal containers and remove those wastes from worksite daily.
2. Do not accumulate wastes which create hazardous conditions.
3. If volatile and noxious substances are being used in spaces that are not naturally ventilated, provide artificial ventilation.
4. Hazard controls shall conform to the applicable federal, state and local rules and regulations.
5. Provide appropriate waste receptacles in all areas in which employees are working. Waste receptacles shall be kept covered at all times. All materials on site shall be anchored and covered to prevent any objects from becoming wind-borne.

C. Access

Maintain the worksite to permit access by other City contractors as required and to allow access by emergency personnel.

1.03 SUBMITTALS

A. Washing Plan. The Contractor shall prepare a plan describing the specific procedures and materials to be utilized for any equipment, vehicle, etc. washing activities. The plan must be submitted to the PM and also approved by the PM and Environmental Services. Outdoor washing at DIA is not allowed unless the materials will be collected or managed in a manner to ensure that they will not enter the municipally-owned separate storm sewer system (MS4). The materials can only be disposed at a location pre-approved by DIA Environmental Services (refer to DIA SWMP). Failure to comply with this requirement would result in the discharge of non-stormwater. Indoor washing must be conducted in accordance with the Best
Management Practices (BMPs) detailed in the DIA SWMP. Refer to Technical Specification 01566. In addition, all indoor washing must be conducted in a manner that ensures that there are no prohibited discharges to the sanitary sewer system.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

A. Utilize the type of cleaning materials recommended by the manufacturer for the surfaces to be cleaned.

B. Maintain current Material Safety Data Sheets (MSDS) on site for all chemicals.

C. Ensure proper disposal of all wastes generated from the use of these materials. Must ensure compliance with all environmental regulations.

PART 3 - EXECUTION

3.01 INTERIM CLEANING

A. Clean the worksite every shift/workday for the duration of the construction contract. Maintain structures, grounds, storage areas and other areas of worksite, including public and private properties immediately adjacent to worksite, free from accumulations of waste materials caused by construction operations. Place waste materials in covered metal containers. All hard concrete, steel, wood and finished walking surfaces shall be swept clean daily.

B. Remove or secure loose material on open decks and on other exposed surfaces at the end of each workday or more often in a manner that will maintain the worksite hazard free. Secure material in a manner that will prevent dislodgment by wind and other forces.

C. Promptly empty waste containers when they become full and legally dispose of the contents at dumping areas off the City's property.

D. Control the handling of waste materials. Do not permit materials to be dropped or thrown from structures.

E. Immediately remove spillage of construction related materials from haul routes, work site, private property, public rights of way, or on the Denver International Airport site.

F. Clean only when dust and other contaminants will not precipitate upon newly painted surfaces.

G. Cleaning shall be done in accordance with manufacturer's recommendation.

H. Cleaning shall be done in a manner and using such materials as to not damage the Work.

I. Clean areas prior to painting or applying adhesive.

J. Clean all areas that will be concealed prior to concealment.

K. Dispose of all fluids according to the approved Washing Plan.
3.02 FINAL CLEANING

A. Inspect interior and exterior surfaces, including concealed spaces, in preparation for completion and acceptance.

B. Remove dirt, dust, litter, corrosion, solvents, discursive paint, stains and extraneous markings.

C. Remove surplus materials, except those materials intended for maintenance.

D. Remove all tools, appliances, equipment and temporary facilities used in the construction.

E. Remove detachable labels and tags. File them with the manufacturer's specifications for that specific material for the City's records.

F. Repair damaged materials to the specified finish or remove and replace.

G. After all trades have completed their work and just before Final Acceptance, all catch basins, manholes, drains, strainers and filters shall be cleaned; roadway, driveways, floors, steps and walks shall be swept. Interior building areas shall be vacuum cleaned and mopped.

H. Final cleanup applies to all areas, whether previously occupied and operational or not.

I. Dispose of all fluids according to the approved Washing Plan.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01710
SECTION 01720

CONTRACT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work specified in this Section consists of maintaining, marking, recording and submitting contract record documents which include shop drawings, warranties, contract documents and contractor records.

1.02 SUBMITTALS

A. Each submittal of record documents shall contain the following information:
   1. Date
   2. Project title and numbers
   3. Contractor’s name and address
   4. Title and number of each record document
   5. Certification that each document as submitted is complete and accurate
   6. Signature of the Contractor or his authorized representative.

B. At the completion of this contract, deliver all record documents including the following:
   1. As-built shop drawings, diagrams, illustrations, schedules, charts, brochures and other similar data
   2. Warranties, guarantees and bonds
   3. Contract documents
   4. Contractor records.

C. As-built contract drawings shall be submitted with each monthly progress payment application, and a complete set shall be submitted prior to final payment.
   1. The Contractor shall provide legible full size prints (4 copies) of each contract drawing sheet which has been used to produce work during the payment period or work that payment is being requested on, which records the current as-built conditions of work, including the posting of any change orders or change directives not shown on the contract documents at the time of contract signing.
      a. The Contractor must show as-built work completed through the payment application date including but not limited to utilities, empty conduit, conduit for actual electrical lines, plumbing, HVAC, location of anchor bolts and support points for use by others.
      b. The Contractor shall be liable for any costs incurred by the City or a third party due to errors or lack of information provided on the as-built drawings.
      c. All markings on drawings shall be legible to identify the portion of work completed.
1.03 QUALITY CONTROL

A. Record documents shall be prepared to a high standard of quality, such as that set forth in MIL STD 100, ANSI Standard Drafting Manual Y14 or other relevant lower tier specification defining equal drafting quality for microfilming, except for daily reports.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MAINTENANCE OF DOCUMENTS

A. The Contractor shall maintain at the worksite on a current basis one record copy of all drawings, specifications, addenda, change orders, approved shop drawings, working drawings, product data and samples in good order and marked currently to record all changes made during construction.

B. Maintain at the field office one copy of the following record documents:

1. Contract Documents
   a. Contract drawings with all clarifications, requests for information, directives, changes and as-built conditions clearly posted.
   b. Contract specifications with all clarifications, requests for information, changes, directives and record of manufacturer actually used along with product trade name.
   c. Reference Standards in accordance with Technical Specifications Section 01091.
   e. One set of drawings to record the following:
      1) Horizontal and vertical location of underground utilities affected by the Work.
      2) Location of internal utilities; include valves, controls, conduit, duct work, switches, pressure reducers, size reducers, transitions, crosses, tees, filters, motors, heaters, dampers, regulators, safety devices, sensors, access doors and appurtenances that are concealed in the construction shall be shown with dimensions given from a visible and recognizable reference to the item being located in all three dimensions. The drawing shall also reference the applicable submittal for the item being located.
      3) Field changes of dimensions and details including as-built elevations and location (station and offset).
      4) Details not on original contract drawings but obtained through requests for information or by other communications with the City.

2. Contractor Records
   a. Daily QC Reports
   b. Certificates of compliance for materials used in construction
   c. Nonconformance Reports (NCRs)
   d. Remedial Action Requests (RARs)
   e. Completed inspection list
   f. Inspection and test reports
   g. Test procedures
   h. Qualification of personnel
   i. Approved submittals
   j. Material and equipment storage records
   k. Safety Plan
   l. Erosion, sediment, hazardous and quality plans
3.02 RECORDING

A. Label each document page or article "PROJECT RECORD" in two inch high printed letters.

B. Keep record documents current daily.

C. Legibly mark copies of the contract drawings to record actual construction.

D. Legibly mark up each Section of the technical specifications and contract drawings to record:
   1. Manufacturer, trade name, catalog number and supplier of each product and item actually installed
   2. Changes made by change orders, requests for information, substitutions and variations approved by submittals.

3.03 DOCUMENT MAINTENANCE

A. Provide files and racks for storage of documents to maintain in clean, dry and legible condition, which shall be turned over to the City prior to final acceptance.

B. Do not use record documents for construction purposes.

C. Make documents available for inspection by the Project Manager and any others having jurisdiction.

3.04 MONTHLY REVIEW

A. Prior to any application for payment, the Project Manager or his designated representative will inspect the record documents to ensure that they are being maintained and contain the most current correct data with particular attention to as-built drawings.

B. If, during the inspection, the Project Manager determines that the documents are not being maintained and kept current as to as-built conditions, an amount may be withheld from the payment request and deducted from the contract value to cover the City's cost of collecting and recording the as-built contract data. This cost will be determined on the basis of $75.00 per man-hour of effort.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01720
SECTION 01740

WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 DESCRIPTION

The Work specified in this Section consists of preparing and submitting warranties and bonds required by these specifications.

1.02 SUBMITTALS

A. Refer to Technical Specifications Section 01300 for submittal procedures.

B. Submit executed warranties and bonds.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 WARRANTIES AND BONDS

A. Execute the warranties and bonds required by the Contract Documents. Prepare and submit a list of all warranties and bonds on the form provided by the City. Reference Technical Specifications Section 01999.

B. Provide warranties or bonds for the materials, labor and time period set forth in the sections of these specifications requiring such documents. All warranties shall be for a minimum period of one year unless the technical specifications for a specific item require a greater period of time.

C. Provide all warranties and bonds that the manufacturer or supplier furnishes at no additional cost in regular commercial trade. All warranties shall be for a minimum period of one year unless the technical specifications for a specific item require a greater period of time.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01740
SECTION 01999

STANDARD FORMS

PART 1 - GENERAL

1.01 FORMS

A. The forms listed below and appended to this Section will be used for performance of the Work as indicated. This is not a complete listing of all required forms. The Contractor shall properly complete all forms required by the contract or the Project Manager. The Project Manager shall review and approve all submitted forms. If submitted forms are not acceptable the Contractor shall resubmit forms in an acceptable format.

1.02 APPENDICES

A. Attached to this Technical Specifications Section are the following forms:
   1. Daily Quality Control Report (Form CM-13) (1 Page)
   2. Request for Information (Form CM-17) (1 Page)
   3. Submittal Form Instructions for Form CM-30 (1 Page)
   4. Submittal Transmittal Form (Form CM-30); Page 1 & Supplement (2 Pages)
   5. Contractor Warranty (Form CM-10) (4 Pages)
   6. Contractor/Subcontractor Warranty (Form CM-11) (4 Pages)
   7. Contractors Certification of Payment (Form CM-19) (this form shall be completed and submitted with each pay application) (1 Page)
   8. Pay Application Form (CM-18) (1 Page)
   9. Certificate of Current Cost or Pricing Data (Form CM-69) (1 Page)
   10. Subcontractor Partial Lien Release Form (Form CM-26) (1 Page)
   11. Subcontractor Final Lien Release Form (Form CM-70) (1 Page)
   12. Request for Substitution (Form CM-09) (5 pages)
   13. Request for Temporary Re-Location of Accessible Parking Space (Form CM-94) (1 Page)
   14. System Shutdown Request Forms:
      a. Electrical Power and Lighting
      b. Elevator, Escalator and Autowalk
      c. Fire Protection Plumbing
      d. HVAC Systems
      e. Life Safety
      f. Plumbing
      g. Roadways
      h. Security

PART 2 - PRODUCTS (NOT USED)
PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 01999
DENVER INTERNATIONAL AIRPORT
REQUEST FOR SUBSTITUTION

CONTRACT NO. (Number) CONTRACT TITLE: (Title)

This form is to be used only after Notice to Proceed. Completely fill in this form. If necessary, use additional pages. If a question is not applicable, write “NA”. Use of this form will help ensure a faster response to the Contractor’s request.

I. In accordance with General Condition 406, check the appropriate item for the reason for the substitution request:

A. The specified material or equipment is not available (provide name and telephone number of who was contacted at bid time and at time order was placed):

_______________________________________________________________________

B. The specified material or equipment is not deliverable within a reasonable time (provide the delivery time quoted at the time of bid, telephone number and name of person contacted, when the contractor was notified this time could not be met, and why:

_______________________________________________________________________

C. The substitution is being requested as allowed by technical specification:

_______________________________________________________________________

II. What is specified in the contract?

A. Specification section and page ______________________________________________
B. Drawing number and detail _________________________________________________
C. Specific product __________________________________________________________
D. Specified manufacturer ____________________________________________________
E. Specified model number and features ________________________________________
F. Other specified requirements _______________________________________________

III. Substitution being requested:

A. Substitution product _______________________________________________________
B. Substitution manufacturer _________________________________________________
C. Substitution model number and features _____________________________________
IV. Provide additional reasons why the substitution is being requested under technical specification Section 01630:
______________________________________________________________________________

V. Provide a list of all variations from what is specified in the contract. Any variation not listed and later found to impact the City could lead to rejection of the substitution at a later date.

VI. Provide detailed manufacturer’s literature, samples and drawings to comply with technical specification submittal requirements.

VII. Provide details on compatibility with the rest of the project, including but not limited to:

A. Dimensions, including required clearances (provide a sketch showing an outline of the substitution with dimensions and clearances as required).

B. Utility connection size, type and locations, including electrical, plumbing, HVAC, fire protection, and controls (provide a sketch showing the locations of each utility connection and a brief description of the connection).

C. Samples of color and texture, as required.

D. Performance characteristics, including performance curves and different operating conditions.

VIII. Provide details on reliability, ease of use and maintenance, including:

A. Instructions on operation and maintenance

B. The name and location of the local organization that is certified to maintain the substitution.

C. A list of at least three other projects of similar nature to this contract where the substitution has been in use for at least one year. This list shall include the telephone number and the name of the person to contact at these projects.

IX. Provide detailed information on cost of the specified material versus the substitution, including but not limited to:

A. Operating cost for one year and for the life of the substitution

B. Energy consumption for one year.

C. Maintenance cost for one year and for the life of the substitution

D. Cleaning cost for one year and for the life of the substitution
DENVER INTERNATIONAL AIRPORT
REQUEST FOR SUBSTITUTION

E. Repair parts list recommended by the manufacturer, including prices

F. Cost to install parts

G. Cost to upgrade to the next higher performance level

H. A list of any license fees or royalties that must be paid

I. Any additional costs for the area in which the substitution is located; such as, additional heating or cooling requirements to maintain a prescribed environment

X. Provide detailed information on the schedule impact of approving the substitution, including but not limited to:

A. Date by which the substitution must be approved to avoid any schedule impact (note that substitution requirements must be submitted 30 days prior to when the order must be placed per GC 406).

B. Date the order will be placed.

C. What item in the schedule is the substitution connected to or with, and how is it connected?

D. When the submittal requirements of technical specification section 01300 and 01340 will be met.

E. Any impact on Milestone dates or Contract Time.

F. Any impact on the sequence of work as shown on the accepted schedule.

XI. Provide potential cost savings to the Contractor and the Contractor’s willingness to share with the City, including but not limited to savings in:

A. Change in material price due to substitution $__________________________

B. Change in installation price due to substitution $__________________________

C. Increased float or altered schedule critical path? Yes _____ No _____

D. Increased production rates on other work? Yes _____ No _____

E. Change in prices from subcontractors due to substitution? $__________________
SUBSTITUTIONS WHICH WILL INCREASE OR DECREASE THE CONTRACT AMOUNT OR MODIFY ANY SCHEDULED EVENT MUST BE SUBMITTED WITH A DETAILED NARRATIVE AND COST AND/OR SCHEDULE BREAKDOWN

XII. The substitution’s ability to meet all applicable governing regulations, rules and laws, including funding agency requirements.

**NOTE:** Specified materials and equipment on FAA funded contracts must meet FAA requirements. The Contractor will provide proof that the exact substitution being requested is FAA approved.

**CONTRACTOR’S STATEMENT:**

The substitution being submitted is equal to or superior in all respects to the contract required item or process. All differences between the substitution and the contract required items or process are described in this request along with all cost and scheduling data.

____________________________________  __________________________
Contractor’s Superintendent Name    Date

___________________________________
Signature

As a condition of submitting a Request for Substitution, the Contractor waives all rights to claim for extra cost for change in Contract Time other than those outlined in the request and approved by the Deputy Manager of Aviation. The Contractor also, by submitting a Request for Substitution, accepts all liability for cost and scheduling impact on other contractors or the City due to the substitution.
If approval is given, it is based on the information provided with particular emphasis on the list of variations. If any information is incorrect or incomplete, approval may be withdrawn at the Contractor’s expense.
DENVER INTERNATIONAL AIRPORT
CONTRACTOR WARRANTY

Contractor:

Work – means all work performed by the Contractor under the contract referred to above.

City – means the City and County of Denver, Colorado

Contract Documents – means contract documents for the DIA contract between the City and the contractor referred to above.

I. CONTRACTOR’S WARRANTIES AND CORRECTION WORK

A. The contractor warrants to the City that all parts, materials, components, equipment and other items incorporated into the Work are new, unless otherwise specified, and are suitable for the purpose used, are of good quality, are free from faults and defects, and are in conformance with the contract documents. The contractor also warrants that its workers are sufficiently skilled to produce quality work free from faults and defects. Work not so conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The contractor, when requested, shall furnish the City with satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. The contractor further warrants that the construction processes and methods employed to perform the Work have in the past proven to be suitable for the results expected.

B. The contractor further warrants that it has full title to all parts, materials, components, equipment and other items conveyed to the City under the terms of this contract, that its transfer of such title to the City is rightful, and that all such parts, materials, components, equipment and other items shall be transferred free and clear from all security interests, liens or encumbrances whatsoever. The contractor agrees to warrant and defend such title against all persons claiming the whole, or any part thereof, at no cost to the City.

C. The contractor shall promptly investigate, repair, replace or otherwise correct any of its workmanship and any parts, materials, components, equipment or other items incorporated into the Work which contain faults or defects whether such failures are observed by the City or the contractor at any time during the contract term or during the warranty period. The contractor shall bear all costs of investigating and correcting, which includes the design efforts necessary to correct such Work covered by the warranty as described under the 1999 edition of the General Contract Conditions, Title 18 or elsewhere in the contract documents. If repair or replacement of faulty items of the Work is necessary, proper temporary substitutions shall be provided by the contractor in order to maintain the progress of the Work and/or keep systems operating without any additional costs to the City. The obligations of this Contractor Warranty shall survive termination of the contract under the provisions of the 1999 edition of the General Contract Conditions, Title 22. Nothing herein shall limit the City’s right to seek recovery for latent defects that are not observable until after the warranty periods have run.

D. The contractor’s warranty for all Work components shall continue for the following period:

1. For a period of one (1) year after the date of Substantial Completion or for such longer period of time as may be prescribed by the terms of any special warranties required by the contract documents.

E. Nothing contained in this Contractor Warranty shall be construed to establish a period of limitation with respect to any other obligation that the contractor might have under the contract documents. The establishment of the warranty period set forth above relates only to the specific obligation of the contractor to
correct the Work and has no relationship to the time within which its obligation to comply with the contract
documents may be sought to be enforced, nor to the time within which proceedings may be commenced to
establish the contractor’s liability with respect to its obligations and resulting damages other than specifically to
correct the Work.

F. The contractor, at its own expense, shall also investigate, repair or replace any damages to any
equipment, facilities or other personal or real property owned or leased by the City which is damaged as a result
of any such fault or defect in the Work with no cost to the City.

G. All subcontractor’s, manufacturer’s and supplier’s warranties, express or implied, for any part of the
Work and any materials used therein, shall be obtained and enforced by the contractor for the benefit of the City
whether or not these warranties have been assigned or otherwise transferred to the City. The contractor shall
assign or transfer such warranties to the City if the City requests the contractor to do so, but such transfer shall
not affect the contractor’s obligation to enforce such warranties. These warranties are listed at the end of this
document and attached hereto.

II. PERFORMANCE DURING WARRANTY PERIOD

A. The City will notify the contractor of Work found to be defective and fails to satisfy the warranties as
described in the 1999 edition of the General Contract Conditions, Article 18, Section 1801, or elsewhere in the
contract documents. The contractor shall, within ten (10) days or such longer time as may be requested and set
forth in the notice, commence the repair, replacement or correction of the defective work. Should the contractor
fail to complete such Work within a reasonable period, the City may make the repairs or replacements at the
expense of the contractor. If the City determines that immediate action to make repairs, replacements or other
corrections is necessary because of emergency conditions or to prevent further loss or damage, the City may
proceed without notice to the contractor, but at the expense of the contractor.

B. If the contractor does not proceed with the correction of such defective work within the time fixed by
written notice from the Project Manager, or in an emergency condition, the City may remove the defective work
and may store the materials or equipment at the expense of the contractor. If the contractor does not pay the
cost of the removal and storage within ten (10) days thereafter, the City may, upon ten (10) additional days
written notice, sell the stored Work at auction.

C. If the proceeds of any such sale do not cover all costs which the City has incurred and which the
contractor should have borne, the difference shall be charged to the contractor and the contractor and its surety
shall be liable for and pay the difference to the City.

D. If the contractor does not agree that the work is defective or the defective work is its responsibility and
if there are no emergency conditions, the contractor may request, in writing, a review of the City’s decision in
accordance with the 1999 edition of the General Contract Conditions, Title 13. If such review is not requested
within ten (10) days of the notification of defective work, the contractor shall have waived the right to contest
its responsibility for the correction of the defective work. Under emergency conditions, the contractor shall
immediately correct the alleged defective work, and the question of responsibility for the expense shall be
determined by the Deputy Manager of Aviation, subject to the right of the contractor to seek review, within ten
(10) days of the City’s notice allocating responsibility for the expense.

E. Should the City claim by written communication sent or mailed before the warranty period expires that
certain defective work exists and that it requires repair or replacement, the warranty period for such defective
work shall be automatically extended for as long as that defective work exists.
DENVER INTERNATIONAL AIRPORT
CONTRACTOR WARRANTY

III. CONTRACTOR’S SPECIAL EXTENDED WARRANTIES AND OTHER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents contractor warranty requirements and warranty periods specifically required by the contract document technical specifications. The fact that warranty requirements or warranty periods for all work performed by the contractor are not listed in the technical specifications does not affect or limit the contractor’s general warranty described in paragraph I of this Contractor Warranty.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Specification Title</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

IV. MANUFACTURER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents the manufacturer’s warranties specifically required by the contract documents. These warranties are attached.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>
DENVER INTERNATIONAL AIRPORT
CONTRACTOR WARRANTY

ASSIGNMENT OF WARRANTY

The contractor hereby assigns this Contractor Warranty, special extended warranties and manufacturer’s warranties listed above, and attached hereto, to the City (except those that may be listed below), but such assignment shall not affect the contractor’s obligation to enforce such warranty as provided under paragraph I.G above of this Contractor Warranty and such assignment does not affect the contractor’s warranties described elsewhere in the contract documents.

Contractor:

By: _________________________________

Title: ________________________________

Date: ________________________________
I. SUBCONTRACTOR'S WARRANTIES AND CORRECTION WORK

A. The subcontractor warrants to the contractor that all parts, materials, components, equipment, systems and other items incorporated into the Work are new, unless otherwise specified, and are suitable for the purpose used, are of good quality, are free from faults and defects, and are in conformance with the subcontract documents. The subcontractor also warrants that its workers are sufficiently skilled to produce quality work free from faults and defects. Work not so conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The subcontractor, when requested, shall furnish the contractor with satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. The subcontractor further warrants that the construction processes and methods employed to perform the Work have in the past proven to be suitable for the results expected.

B. The subcontractor further warrants that it has full title to all parts, materials, components, equipment and other items conveyed to the contractor under the terms of this subcontract, that its transfer of such title to the contractor is rightful, and that all such parts, materials, components, equipment and other items shall be transferred free and clear from all security interests, liens or encumbrances whatsoever. The subcontractor agrees to warrant and defend such title against all persons claiming the whole, or any part thereof, at no cost to the contractor.

C. The subcontractor shall promptly investigate, repair, replace or otherwise correct any of its workmanship and any parts, materials, components, equipment or other items incorporated into the Work which contain faults or defects whether such failures are observed by the City or the contractor at any time during the subcontract term or during the warranty period. The subcontractor shall bear all costs of investigating and correcting, which includes the design efforts necessary to correct such Work covered by the warranty as described under the 1999 edition of the General Contract Conditions, Title 18 or elsewhere in the subcontract documents. If repair or replacement of faulty items of the Work is necessary, proper temporary substitutions shall be provided by the subcontractor in order to maintain the progress of the Work and/or keep systems operating without any additional costs to the contractor or the City. The obligations of this Subcontractor Warranty shall survive termination of the subcontract under the provisions of the 1999 edition of the General Contract Conditions, Title 22. Nothing herein shall limit the contractor’s right to seek recovery for latent defects that are not observable until after the warranty periods have run.
DENVER INTERNATIONAL AIRPORT
CONTRACTOR / SUBCONTRACTOR WARRANTY

D. The subcontractor’s warranty for all Work components shall continue for the following period:

1. For a period of one (1) year after the date of Substantial Completion or for such longer period of time as may be prescribed by the terms of any special warranties required by the subcontract documents.

E. Nothing contained in this Subcontractor Warranty shall be construed to establish a period of limitation with respect to any other obligation that the subcontractor might have under the subcontract documents. The establishment of the warranty period set forth above relates only to the specific obligation of the subcontractor to correct the Work and has no relationship to the time within which its obligation to comply with the subcontract documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the subcontractor’s liability with respect to its obligations and resulting damages other than specifically to correct the Work.

F. The subcontractor, at its own expense, shall also investigate, repair or replace any damages to any equipment, facilities or other personal or real property owned or leased by the contractor or the City which is damaged as a result of any such fault or defect in the Work with no cost to the contractor or the City.

G. All subcontractor’s sub-tier subcontractors, manufacturer’s and supplier’s warranties, express or implied, for any part of the Work and any materials used therein, shall be obtained and enforced by the subcontractor for the benefit of the City whether or not these warranties have been assigned or otherwise transferred to the contractor or the City. The subcontractor shall assign or transfer such warranties to the contractor or the City if the contractor requests the subcontractor to do so, but such transfer shall not affect the subcontractor’s obligation to enforce such warranties. These warranties are listed at the end of this document and attached hereto.

II. PERFORMANCE DURING WARRANTY PERIOD

A. The contractor will notify the subcontractor of Work found to be defective and fails to satisfy the warranties as described in the 1999 edition of the General Contract Conditions, Article 18, Section 1801, or elsewhere in the subcontract documents. The subcontractor shall, within ten (10) days or such longer time as may be requested and set forth in the notice, commence the repair, replacement or correction of the defective work. Should the subcontractor fail to complete such Work within a reasonable period, the contractor may make the repairs or replacements at the expense of the subcontractor. If the contractor determines that immediate action to make repairs, replacements or other corrections is necessary because of emergency conditions or to prevent further loss or damage, the contractor may proceed without notice to the subcontractor, but at the expense of the subcontractor.

B. If the subcontractor does not proceed with the correction of such defective work within the time fixed by written notice from the contractor, or in an emergency condition, the contractor may remove the defective work and may store the materials or equipment at the expense of the subcontractor. If the subcontractor does not pay the cost of the removal and storage within ten (10) days thereafter, the contractor may, upon ten (10) additional days written notice, sell the stored Work at auction.

C. If the proceeds of any such sale do not cover all costs which the contractor has incurred and which the subcontractor should have borne, the difference shall be charged to the subcontractor and the subcontractor and its surety shall be liable for and pay the difference to the contractor.

D. If the subcontractor does not agree that the work is defective or the defective work is its responsibility and if there are no emergency conditions, the subcontractor may request, in writing, a review of the contractor’s
DENVER INTERNATIONAL AIRPORT
CONTRACTOR / SUBCONTRACTOR WARRANTY

decision in accordance with the 1999 edition of the General Contract Conditions, Title 13. If such review is not requested within ten (10) days of the notification of defective work, the subcontractor shall have waived the right to contest its responsibility for the correction of the defective work. Under emergency conditions, the subcontractor shall immediately correct the alleged defective work, and the question of responsibility for the expense shall be determined by the contractor, subject to the right of the subcontractor to seek review, within ten (10) days of the contractor’s notice allocating responsibility for the expense.

E. Should the contractor claim by written communication sent or mailed before the warranty period expires that certain defective work exists and that it requires repair or replacement, the warranty period for such defective work shall be automatically extended for as long as that defective work exists.

III. SUBCONTRACTOR’S SPECIAL EXTENDED WARRANTIES AND OTHER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents subcontractor warranty requirements and warranty periods specifically required by the subcontract document technical specifications. The fact that warranty requirements or warranty periods for all work performed by the subcontractor are not listed in the technical specifications does not affect or limit the subcontractor’s general warranty described in paragraph I of this Subcontractor Warranty.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Specification Title</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

IV. MANUFACTURER WARRANTIES REQUIRED BY THE TECHNICAL SPECIFICATIONS
(Copies of applicable pages from the Technical Specifications are attached.)

The list below represents the manufacturer’s warranties specifically required by the contract documents. These warranties are attached.

<table>
<thead>
<tr>
<th>Specification Number</th>
<th>Warranty Period</th>
</tr>
</thead>
</table>

Subcontractor:

By: ____________________________

Title: ____________________________

Date: ____________________________
ASSIGNMENT OF WARRANTY

The subcontractor hereby assigns this Subcontractor Warranty, special extended warranties and manufacturer’s warranties listed above, and attached hereto, to the contractor (except those that may be listed below), but such assignment shall not affect the subcontractor’s obligation to enforce such warranty as provided under paragraph 1.G above of this Subcontractor Warranty and such assignment does not affect the subcontractor’s warranties described elsewhere in the contract documents.

Subcontractor:

By: ______________________________________

Title: _____________________________________

Date: _________________________________

Contractor:

By: ______________________________________

Title: _____________________________________

Date: _________________________________
### Weather

- Sunny
- Fair
- Cloudy
- Rain: _____ inches
- Snow: _____ inches

### Max. Wind

- _______ mph

### Max/Min Temp.

- ___________ deg F / ___________ deg F

### DAILY ACTIVITIES WITH LOCATION

<table>
<thead>
<tr>
<th>SHIFT</th>
<th>LOAD</th>
<th>COMPLIES WP&amp;S</th>
</tr>
</thead>
<tbody>
<tr>
<td>START</td>
<td>COUNTS</td>
<td>YES</td>
</tr>
</tbody>
</table>

### QUANTITY COMPLETE

<table>
<thead>
<tr>
<th>MAJOR SHIPMENTS RECEIVED</th>
</tr>
</thead>
</table>

### EQUIPMENT AT SITE

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>NO.</th>
<th>HRS.</th>
</tr>
</thead>
</table>

### Subcontractors

<table>
<thead>
<tr>
<th>Craft</th>
</tr>
</thead>
</table>

### Craft(s)

<table>
<thead>
<tr>
<th>PERSONNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Delayed and Reason</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rework and Reason</th>
</tr>
</thead>
</table>

### Potential Future Delays

<table>
<thead>
<tr>
<th>Problems and Unusual Conditions</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>UNDER REPAIR</th>
</tr>
</thead>
</table>

### Direction Received

<table>
<thead>
<tr>
<th>CERTIFIED BY (signature required):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor QC Representative:</td>
</tr>
<tr>
<td>Contractor Superintendent:</td>
</tr>
</tbody>
</table>

**NOTE:** This report must be completed with legible handwriting and submitted to the City and County of Denver Project Manager with original signatures. Use a separate sheet per shift.
CONTRACTOR:
I hereby warrant that: 1) The title to the Work covered by this estimate of Work completed will pass to the City by incorporation into the completed work; 2) The Work covered by previous estimates of Work completed is free and clear of liens, claims, security interests or encumbrances, except for any interest created by retainage; and 3) No Work covered by this estimate of Work completed is subject to an agreement under which an interest therein, or an encumbrance thereon, is retained by the seller or otherwise imposed by the Contractor or any other person or entity.

SIGNATURE/TITLE DATE

CITY AND COUNTY OF DENVER:
I hereby certify that, to the best of my knowledge, this payment application represents a true and correct statement of the work performed and is in conformance with the terms of the Contract documents.

Project Manager DATE
DIA Engineering

Michael H. Steffens DATE
Manager of Construction
DIA Engineering

David Rhodes DATE
Assistant Deputy Manager of Aviation
DIA Engineering

APPROVED FOR PAYMENT:

Margo Blu DATE
Senior Agency Budget Analyst
Maintenance and Engineering Division

CM-18 Rev. OCTOBER 2007

<table>
<thead>
<tr>
<th>CONTRACT STATUS</th>
<th>TOTAL CONTRACT</th>
<th>CURRENT APPLICATION</th>
<th>PREVIOUS PAYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ORIGINAL CONTRACT AMOUNT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) PREVIOUS CHANGE ORDERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOS. (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) NEW CHANGE ORDERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO. (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO. (+ or -)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) ADJUSTED TOTAL CONTRACT</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d = [a + b + c]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) PREVIOUS EARNINGS</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) EARNINGS THIS APPLICATION</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) TOTAL CURRENT EARNINGS</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g = [e + f]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) TO COMPLETE</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h = [d - g]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) PREVIOUS RETENTION</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j) RETENTION THIS APPLICATION</td>
<td>10%</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>k) TOTAL RETENTION</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k = [i + j]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l) OTHER DEDUCTIONS</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n) BALANCE DUE ON CONTRACT</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m = [h + k + l]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>o) PAYMENT THIS APPLICATION</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o = [f - j - l]</td>
<td></td>
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</tbody>
</table>

Note: Items a, b, c, d, g, h, k and m amounts - place only in TOTAL CONTRACT column.
# CONTRACTOR'S CERTIFICATION OF PAYMENT

## CITY AND COUNTY OF DENVER
DEPARTMENT OF AVIATION

<table>
<thead>
<tr>
<th>CONTRACT NO.:</th>
<th>PAYMENT NO.:</th>
<th>CONTRACTOR NAME:</th>
<th>TELEPHONE NO.:</th>
<th>PROJECT NAME:</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>CONTRACT ENCUMBRANCE NO.:</th>
<th>CURRENT COMPLETION DATE:</th>
<th>PERCENT COMPLETE:</th>
<th>ORIGINAL CONTRACT AMOUNT: $</th>
<th>REVISED CONTRACT AMOUNT THRU C.O. NO. : $</th>
</tr>
</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>SUBCONTRACTOR NAME</th>
<th>TIER OR SUPPLIER</th>
<th>SUBCONTRACTOR PERSON TO CONTACT</th>
<th>SUBCONTRACTOR TELEPHONE NO.</th>
<th>SUBCONTRACT AMOUNT ($)</th>
<th>DBE, SBE or NON</th>
<th>PERCENT OF ORIGINAL CONTRACT</th>
<th>PERCENT OF REVISED CONTRACT</th>
<th>NET PAID TO DATE ($)</th>
<th>NET PAID PERCENT COMPLETE</th>
<th>NET DUE THIS MONTH ($)</th>
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</tbody>
</table>

( ) Check here if all undisputed CERTIFIED PAYROLLS have been submitted to the CITY AUDITOR for this Pay Application

( ) Check here if copies of documentation for all disputed CERTIFIED PAYROLLS for this Pay Application have been attached

The undersigned certifies that the information contained in this document is true and accurate and that the payments shown have been made to all subcontractors and suppliers used on the project and listed herein.

Contractor Name (print): ________________________________ Date: ________________

Contractor Signature: ________________________________

Page ________ of ___________

**DENVER INTERNATIONAL AIRPORT**  
**PARTIAL LIEN RELEASE – CONSTRUCTION**  
(Subcontractor)

| Project: ____________________________ | Date: ____________________________ |
| City Contract No. __________________ | Current Subcontract Amount: $______ |

**FROM:**  
Subcontractor ________________________  
Address: _______________________________  
City/State: ____________________________  
Telephone: _____________________________

**(1)** Last Progress Payment for billing period ending ________________ 20____

**(2)** Progress invoiced for previous billing period (if unpaid) ________________ 20____

**(3)** Progress invoiced for current billing period ending ________________ 20____

**(4)** Total Paid to Date: $__________________________

( ) MBE/WBE  ( ) SBE  ( ) DBE  ( ) Non

The undersigned Subcontractor hereby (1) acknowledges receipt of the progress payment referred to above as the Last Progress Payment which, when added to the total of all previous progress payments, constitutes full payment, less retainage, for all labor, services, material and supplies which the undersigned has provided for use in and upon the project described above through ________________, 20____ and, (2) hereby releases the Contractor, surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier from any and all claims prior to the above mentioned date, except for the withheld retainage.

The Subcontractor also hereby agrees that the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier shall be released from any and all claims arising out of its performance or non-performance of any contract associated with the above project through ________________, 20____, except for withheld retainage after it has received full payment, less retainage, of the amount invoiced for the current billing period.

Subcontractor: ____________________________

Certified by: ____________________________

Title: ____________________________

Date: ____________________________
CM-30 INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each submittal shall be numbered consecutively in the space provided for "Submittal No.". This number shall begin with the overall sequential number 001 through the last total number of submittals to date. This number shall not be repeated. Next, show the specification section number (e.g.; 01370) and end with the specification section sequential number 001 through the last submittal in that section.

   EXAMPLE NO. 1:   005-01370-002  five submittals have been logged overall with two submittals made to specification section 01370.

   EXAMPLE NO. 2:   009-01370-002R1 nine submittals made overall and one revision to submittal 01370-002.

Mark the appropriate box "New Submittal" or "Resubmittal". For first time specification section submittals place the submittal number in the "Transmittal No." box and an N/A in the "Previous Submittal No." box. For resubmittals place the new submittal number in the "Submittal No." box with the previous submittal number of that item in the "Previous Submittal No." box.

3. The "Item No." will be consecutive from 001 to the last item on the submittal form.

4. Use separate submittal forms for each specification section. Do NOT use more than one specification section on the same CM-30.

5. A check mark shall be placed in Column "g" when a submittal is not in accordance with the plans and specifications. Include a written statement to that effect in the "Remarks" box.

6. This form is self-transmitted; a separate Letter of Transmittal is NOT required.

7. When a sample of material or manufacturer's Certificate of Compliance is submitted, indicate "Sample" or "Certificate" in Column "c".

8. The CCD approving authority will assign action codes as indicated below in spaces provided in Column "h" for each item submitted. In addition, the CCD will ensure enclosures are indicated and attached to the form prior to return to the Contractor.

   THE FOLLOWING ACTION CODES SHALL BE GIVEN TO ITEMS SUBMITTED:

   A - Accepted as submitted.
   B - Accepted as Noted. Resubmission is NOT required.
   C - Revise and Resubmit. Resubmission IS required.
   D - Will be returned to the Contractor by separate correspondence.
   E - Not Accepted.
   F - Receipt Acknowledged.
   G- Other (specify).

9. Acceptance of items does not relieve the Contractor from complying with all requirements of the contract plans and specifications.
Section I

REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the Contractor)

TO: City and County of Denver  
8500 Pena Boulevard  
Denver, Colorado 80249  
Attention:  

FROM: CONTRACT NO. SUBMITTAL NO.  

SPECIFICATION SECTION NO. (Cover only one section with each submittal) PROJECT TITLE AND LOCATION  

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION OF ITEM SUBMITTED</th>
<th>MFG. OR CONTR. CAT. CURVE DRAWING OR BROCHURE NO. (See Instruction No. 7)</th>
<th>CONTRACT REFERENCE DOCUMENT</th>
<th>VAR. (See Instruction No. 5)</th>
<th>FOR CCD ACTION CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a.</td>
<td>c.</td>
<td>SPEC. PARAGRAPH NO.</td>
<td>d.</td>
<td>e.</td>
</tr>
<tr>
<td></td>
<td>b.</td>
<td>g.</td>
<td>DRAWING SHEET NUMBER</td>
<td>f.</td>
<td>h.</td>
</tr>
</tbody>
</table>

REMARKS:  

Section II

APPROVAL ACTION  

CONTRACTOR'S CERTIFICATION:  
(SEAL & SIGNATURE OF CONTRACTOR P.E. (as required))  
I certify that the above submitted items have been reviewed in detail, and are correct and in strict conformance with the Contract Drawings and Specifications except as otherwise noted.  

PROJECT MANAGER REVIEW:  

[ ] ACCEPTED Item Nos.  
[ ] ACCEPTED AS NOTED Item Nos.  
[ ] REVISE & RESUBMIT Item Nos.  
[ ] NOT ACCEPTED Item Nos.  
[ ] RECEIPT ACKNOWLEDGED Item Nos.  

Review is only for conformance to the respective requirements of the Contract Documents. Confirmation of dimensions, fabrication processes, construction techniques and coordination of the work of all trades are the sole responsibility of the Contractor. Permission to proceed with procurement, fabrication and/or construction is general only and shall not relieve nor diminish the responsibility of the Contractor for full compliance with the requirements of the Contract Documents.

NAME AND SIGNATURE OF CONTRACTOR:  

ENCLOSURES RETURNED (List by Item No.)  

FORM CM-30  
<table>
<thead>
<tr>
<th>Task No.</th>
<th>Task Description</th>
</tr>
</thead>
</table>

**TO:** City and County of Denver  
Denver International Airport  
8500 Pena Boulevard  
Denver, Colorado 80249  
Attention:  

**FROM:**  

**CONTRACT TITLE:**  

**CONTRACT NUMBER:**  

**TASK ITEM NUMBER:**  
(check all that apply)  

**DATE:**  

**NEW SUBMITTAL**  

**RESUBMITTAL**  

**SUBMITTAL NO.:** (Same as CM-30 Form)  

**PREVIOUS SUBMITTAL NO.:**  

---

CM-30 Supplement  
File:  
Sheet ___ of ___
DENVER INTERNATIONAL AIRPORT

CERTIFICATE OF CURRENT COST OR PRICING DATA

Contract Title:

Contract No.:

This is to certify that, to the best of my knowledge and belief, the cost of pricing data submitted in writing to the City in support of ________________ is accurate, complete and current as of ________________ and represents the best price that is available from suppliers and subcontractors.

This certification includes the cost of pricing data supporting any advance agreements and forward pricing rate agreements between the offeror and the City that are part of the proposal.

<table>
<thead>
<tr>
<th>FIRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>TITLE</td>
</tr>
<tr>
<td>DATE</td>
</tr>
</tbody>
</table>

FORM CM-69
DENVER INTERNATIONAL AIRPORT
FINAL LIEN RELEASE – CONSTRUCTION
(Subcontractor)

Project: ________________________________ Date: ________________________________

City Contract No. __________________________ Subcontractor Contract No. __________

FROM:
Subcontractor: ____________________________ (1) Last Progress Payment for billing
Dated: ____________________________, 20 __ period ending _____________, 20 __

Address: ________________________________ $ ________________________________
City/State: ________________________________ (2) Does not apply
Telephone: ________________________________

TO:
Contractor: ________________________________ (3) Does not apply

Address: ________________________________
City/State: ________________________________ (4) Total Paid to Date:

$ ________________________________

( ) SBE ( ) DBE ( ) Non

The undersigned Subcontractor hereby (1) acknowledges receipt of the progress payment referred to
above as the Last Progress Payment which, when added to the total of all previous progress payments,
constitutes full payment for all labor, services, materials and supplies which the undersigned has provided
for use in and upon the project described above through ________________, 20 ____ and, (2) hereby
releases the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or
supplier of any tier from any and all claims prior to the above mentioned date.

The Subcontractor also hereby agrees that the Contractor, Surety, the City and County of Denver, and
any intermediate subcontractor or supplier of any tier shall be released from any and all claims arising out
of its performance or non-performance of any contract associated with the above project.

Subcontractor: ________________________________

Certified by: ________________________________

Title: ________________________________

Date: ________________________________
Request for Temporary Re-Location of Accessible Parking Space

TO: DIA ADA Compliance Officer
    7th Floor, Airport Office Building

Activity Requesting Re-Location of Accessible Parking Space:

☐ DIA Maintenance Dept. ________________________________ (description of work)
☐ DIA Parking Office ________________________________ (description of work)
☐ DIA Operations Dept. ________________________________ (description of work)
☐ Contractor ________________________________

Contract Number ________________________________
Contract Title ________________________________
☐ Other ________________________________ (activity name and description of work)

I hereby request approval to re-locate ______ handicap accessible parking spaces and ______ access aisles from ________________________________ to ________________________________ in order to facilitate construction on the above project. Spaces will be re-located on __________ and shall be returned to their permanent location on __________.

(date)  (date)

I acknowledge my contractual and/or legal obligations to re-locate the same number and type of accessible parking spaces and access aisles as are temporarily removed during this work. Re-located accessible parking spaces shall be placed as close to an accessible route into the facility as possible. Temporary signs indicating the new location of accessible parking spaces and accessible routes shall be placed in accordance with ADA specifications. Re-located accessible parking spaces shall remain clear of construction material, debris, safety cones and barriers at all times.

________________________________________
Authorized Requesting Official

Approved by: ________________________________
ADA Compliance Officer date ________________________________ Date of Request

cc: (Section Manager)
    (DIA Project Manager)
    Suzanne Saunders, Airport Legal Office
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

Electrical

Power

Lighting

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ________________________________

DIA CONTACT PERSON _____________________ radio channel & # ___________ cell ____________

MAINTENANCE-HITECH PAT KELLY / DAN COOK or A. GONZALES
NOTIFIED ____________________________ SIGN / DATE

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM
NOTIFIED ____________________________ SIGN / DATE

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM
NOTIFIED ____________________________ SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR
NOTIFIED ____________________________ SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________________________

COMPANY: _________________________________________________________________________________________

CONTACT PERSON: ___________________________________________________________________________________  

24-HR PHONE NUMBERS: OFFICE ___________ CELL ___________ HOME __________

REQUESTED SHUTDOWN: TIME: ___________ DATE: __________

SCHEDULED COMPLETION: TIME: ___________ DATE: __________

PURPOSE OF SHUTDOWN: _____________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

___________________________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________

OTHER CONDITIONS: _____________________________________________________________________________

___________________________________________________________________________________________

___________________________________________________________________________________________

Signature of requesting individual: _____________________________ DATE: ________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

☐ Elevator
☐ Escalator
☐ Autowalk

This form is to be submitted anytime an elevator or escalator will be shutdown for a time period greater than four hours or anytime that elevators BE-10 (the B-tower access elevator), AOB-3, or the elevator used to access the FAA control tower is to be turned off for maintenance. This form is to be completed in its entirety and submitted for the MCC supervisor’s signature no later than three (3) working days (Monday – Friday) prior to the requested shutdown time. Completed forms may be submitted via fax to: MCC Supervisor, 303-342-2823, or e-mail to maintenance.control@diadenver.net.

KONE: R. GOODWIN NOTIFIED _____________________________ SIGN / DATE
LIFE SAFETY: M. KELLY or V. VASQUEZ NOTIFIED _____________________________ SIGN / DATE
OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED _____________________________ SIGN / DATE
PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED _____________________________ SIGN / DATE
MAINTENANCE CONTROL: SUPERVISOR NOTIFIED _____________________________ SIGN / DATE

REQUESTED BY: NAME: _________________________________________________________________
COMPANY: _________________________________________________________________
CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ____________________________ CELL __________________________
RADIO CHANNEL AND CALL SIGN: ________________________________________________

EQUIPMENT, LOCATION AND TIMEFRAME INFORMATION:
REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________
SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________
ELEVATOR OR ESCALATOR UNIT NUMBER: _____________
APPROXIMATE LOCATION OF UNIT: ______________________________________________
PURPOSE OF SHUTDOWN: __________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
• Maintenance Control must be notified prior to the start of work and immediately upon completion.
• The individual doing the work is to remain at the site until the system is restored to working condition and should have some means of being contacted by Maintenance Control (either a cell phone, pager or radio).
• The requesting party, or his designee, will be responsible for the system until the system is restored. Any delays must be coordinated through Maintenance Control at (303)342-2800.
• DIA reserves the right to deny or reschedule any shutdown that may adversely affect airport operations.

Signature of requesting individual: _____________________________ DATE: __________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ________________________________________________________________

DIA CONTACT PERSON _________________________radio #________pgr.___________cell______________

MAINTENANCE-PLUMBING: DON GAASVIG OR JAY MEEK NOTIFIED _________________________SIGN / DATE

MAINTENANCE-FIRE PROTECTION: MIKE KELLY NOTIFIED _________________________SIGN / DATE

OPERATIONS: LEE / CLOYD or DUTY AOM NOTIFIED _________________________SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED _________________________SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________
COMPANY: ________________________________________________________________
CONTACT PERSON: ________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ____________ PAGER ____________ HOME ____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________

PURPOSE OF SHUTDOWN: ________________________________________________________________
______________________________________________________________________________________
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APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
- The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
- DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:
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______________________________________________________________________________________

OTHER CONDITIONS: ____________________________________________________________________
______________________________________________________________________________________

Signature of requesting individual: _______________________________ DATE: ________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON __________________________ radio channel & #________________ cell________

FACILITY MAINTENANCE: J. MENDOZA / C. WILLIAMS NOTIFIED _____________________________

MAINTENANCE HVAC: S. SMITH or SUPERVISOR on duty NOTIFIED SIGN / DATE

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED SIGN / DATE

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED ______________________________________________

REQUESTED BY: NAME: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE _____________ CELL _____________ HOME _____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: ______________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: ______________________

PURPOSE OF SHUTDOWN: ________________________________________________________________

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APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

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OTHER CONDITIONS: ___________________________________________________________________

____________________________________________________________________________________

Signature of requesting individual: __________________________ DATE: _____________

Revised 10/29/07
DENVER INTERNATIONAL AIRPORT

SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA PROJECT MGR. ____________________________________________________________ SIGN / DATE

DIA CONTACT PERSON ________________________radio channel & # ___________ cell______________

MAINTENANCE-PLUMBING: DON GAASVIG OR J. MEEK NOTIFIED ________________________

SIGN / DATE

MAINTENANCE-FIRE PROTECTION: MIKE KELLY NOTIFIED ________________________

SIGN / DATE

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED ________________________

SIGN / DATE

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED ________________________

SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED ________________________

SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: ________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ___________ CELL ___________ HOME ___________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: _____________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: _____________________

PURPOSE OF SHUTDOWN: ______________________________________________________________

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APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy(s) of CCD Construction permit(s) and approved shop drawings (non returnable).

• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.

• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.

• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

____________________________________________________________________________________

____________________________________________________________________________________

OTHER CONDITIONS: ___________________________________________________________________

____________________________________________________________________________________

The undersigned agrees to maintain code approved FIRE WATCH until such time the system is restored.

Signature of requesting individual: ________________________ DATE: ___________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ______________________radio channel & # __________ cell __________

MAINTENANCE: J.MEDOZA OR C.WILLIAMS NOTIFIED _____________________________

MAINTENANCE-PLUMBING: DON GAASVIG NOTIFIED _____________________________

OPERATIONS: S.LEE / M. KULLAS or DUTY AOM NOTIFIED _____________________________

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED ____________________________

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED _____________________________

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ____________ CELL ____________ HOME ____________

REQUESTED SHUTDOWN: TIME: ________________ DATE: ________________

SCHEDULED COMPLETION: TIME: ________________ DATE: ________________

PURPOSE OF SHUTDOWN: ________________________________________________________________

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APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
- Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
- The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.
- DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

____________________________________________________________________________________

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OTHER CONDITIONS: ________________________________________________________________

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____________________________________________________________________________________

Signature of requesting individual: _______________________________ DATE: ________________

Revised 3/28/06
DENVER INTERNATIONAL AIRPORT
SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than three (3) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ______________________________________________________

DIA CONTACT PERSON ____________________ radio channel & # ____________ cell ________

ENGINEERING: M. STEFFENS NOTIFIED ____________________ SIGN / DATE

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED ____________________ SIGN / DATE

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED ____________________ SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED ____________________ SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: ________________________________________________________________

24-HR PHONE NUMBERS: OFFICE ____________ CELL ____________ HOME ____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: ________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: ________________

PURPOSE OF SHUTDOWN: __________________________________________________________________

____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.

• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303)342-2800.

• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

OTHER CONDITIONS: __________________________________________________________________
____________________________________________________________________________________

Signature of requesting individual: ______________________ DATE: ________________

Revised 03/28/06
DENVER INTERNATIONAL AIRPORT

SECURITY SYSTEM SHUTDOWN REQUEST

Completed form is to be received no later than five (5) working days, (Monday – Friday) prior to requested shutdown time. PLEASE COMPLETE THIS FORM IN ITS ENTIRETY.

DIA DEPT. SUPV. / PROJECT MGR. ________________________________________________

DIA CONTACT PERSON ____________________radio channel & #____________cell______________

OPERATIONS: S. LEE / M. KULLAS or DUTY AOM NOTIFIED __________________________________

PUBLIC SAFETY: L. BECKMAN / W. CLOYD / S. DAVIS or DUTY AAOM NOTIFIED SIGN / DATE

OPERATIONS COMM CENTER: K. MAYS or R. THOMAS NOTIFIED SIGN / DATE

MAINTENANCE CONTROL: SUPERVISOR NOTIFIED SIGN / DATE

REQUESTED BY: NAME: ________________________________________________________________

COMPANY: _________________________________________________________________

CONTACT PERSON: _________________________________________________________________

24-HR PHONE NUMBERS: OFFICE _______________ CELL ____________ HOME ____________

REQUESTED SHUTDOWN: TIME: ______________________ DATE: _____________________

SCHEDULED COMPLETION: TIME: ______________________ DATE: _____________________

PURPOSE OF SHUTDOWN: ______________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

• Attach legible copy of CCD Construction Permit and Plan Drawing locating area of work.
• Maintenance Control must be notified prior to start of work and immediately upon completion. Individuals doing work are to remain at the site until the system is restored to working condition.
• The requesting party will be responsible for the system until the system is restored. Any delays must be coordinated with Maintenance Control (303) 342-2800.
• DIA reserves the right to deny and reschedule any shutdown that is necessary to maintain Airport Operations.

SPECIFIC LOCATIONS / EQUIPMENT AFFECTED:

____________________________________________________________________________________

____________________________________________________________________________________

OTHER CONDITIONS: ___________________________________________________________________

____________________________________________________________________________________

Signature of requesting individual: _______________________________ DATE: ________________

Revised 03/28/06
SECTION 096513

RESILIENT BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Resilient base.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 9 Section "Rubber Flooring."

1.3 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of product specified.

C. Samples for verification purposes in manufacturer's standard sizes, but not less than 12 inches long, of each different color and pattern of product specified.

D. LEED Submittal Requirements:

1. Statement indicating material costs for each product. Information may be included on schedule of values material cost breakdown or by separate written documentation.

2. Credit EQ 4.1: Manufacturers' product data for sealants, adhesives, and primers including printed statement of VOC content in g/L.

3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.

4. Credit MR 5: Address and phone number of location of manufacturer for each product. Manufacturer's statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer's letter specific to the project giving direct mileage in lieu of locations will be accepted.
1.4 QUALITY ASSURANCE
A. Single-Source Responsibility for Products: Obtain each type and color of product specified from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver products to Project site in original manufacturer’s unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
B. Store products in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F and 90 deg F.
C. Move products into spaces where they will be installed at least 48 hours in advance of installation.

1.6 PROJECT CONDITIONS
A. Maintain a minimum temperature of 70 deg F in spaces to receive products specified in this Section for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. After this period, maintain a temperature of not less than 55 deg F.
B. Do not install products until they are at the same temperature as that of the space where they are to be installed.
C. Close spaces to traffic during installation of products specified in this Section.

1.7 SEQUENCING AND SCHEDULING
A. Sequence installing products specified in this Section with other construction to minimize possibility of damage and soiling during remainder of construction period.

1.8 EXTRA MATERIALS
A. Deliver remnant materials to Owner. Furnish extra materials matching products installed as described below, packaged with protective covering for storage, and identified with labels clearly describing contents.

PART 2 - PRODUCTS
2.1 RESILIENT WALL BASE
A. Base: Rubber, complying with ASTM F1861, Type TP, and as follows:
   1. Reference Standard: Roppe
   2. Acceptable Manufacturers:
      a. Johnsonite
b. Burke Mercer Flooring Products, A Division of Burke Industries, Inc.
c. Roppe Corporation

3. Height: 4", unless otherwise noted or scheduled.

4. Thickness: 1/8".

5. Length: Provide in rolls to minimize joints.


7. Style: Standard top-set cove (at hard floor finishes); straight base without cove (at carpet).

8. Color: Roppe “100 Black”.

2.2 INSTALLATION ACCESSORIES

A. Adhesives: Water-resistant type recommended by manufacturer to suit resilient flooring product and substrate conditions indicated. Adhesive shall not exceed 50g/L in VOC content.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where installation of products specified in this Section will occur, with Installer present, to verify that substrates and conditions are satisfactory for installation and comply with manufacturer’s requirements and those specified in this Section.

3.2 PREPARATION

A. General: Comply with manufacturer’s installation specifications for preparing substrates indicated to receive products indicated.

B. Do not install resilient products until they are same temperature as the space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

3.3 INSTALLATION

A. General: Install products specified in this Section using methods indicated according to manufacturer’s installation directions.

B. Apply resilient wall base to walls, columns, pilasters, casework, and other permanent fixtures in rooms and areas where base is required. Install wall base in lengths as long as practicable. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
1. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer’s recommended adhesive filler material.

2. Field Formed Straight Base Corners:
   a. Form inside corners on job from straight pieces of maximum lengths possible by cutting an inverted V-shaped notch in toe of wall base at the point where corner is formed. Shave back of base where necessary to produce snug fit to substrate.
   b. Form outside corners on job from straight pieces of maximum lengths possible by shaving back of base at point where bending will occur. Remove a strip perpendicular to length of base and only deep enough to produce a snug fit without bends whitening or removal of more than half the thickness of wall base.

3. Preformed Corners: Install preformed inside and outside corners before installing straight pieces.

C. Place resilient edge strips so they are butted to adjacent materials of type indicated and bond to substrates with adhesive. Install edge strips at edges of flooring that otherwise would be exposed.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after completing installation:

1. Remove visible adhesive and other surface blemishes using cleaner recommended by manufacturers of resilient product involved.

B. Clean products specified in this Section not more than 4 days prior to dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products using method recommended by manufacturer.

END OF SECTION 096513
SECTION 096520
RUBBER FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Rubber tile flooring.

1.3 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1
   Specification Sections.

B. Product data for each type of product specified.
   1. Certification by flooring manufacturer that products supplied for flooring
      installation comply with local regulations controlling use of volatile organic
      compounds (VOC’s).

C. Shop Drawings: Submit shop drawing seaming layout, details and accessories, and
   joining method

D. Samples for verification purposes of each different color and pattern of rubber flooring
   specified, showing full range of variations expected in these characteristics.

E. Maintenance data for rubber flooring.

F. LEED Submittals:
   1. Statement indicating material costs for each product. Information may be
      included on schedule of values material cost breakdown or by separate written
      documentation.

   2. Credit EQ 4.1: Manufacturers’ product data for sealants, adhesives, and primers
      including printed statement of VOC content in g/L.

   3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled
      content, documentation indicating percentages by weight of postconsumer and
      preconsumer recycled content.

   4. Credit MR 5.1: Address and phone number of location of manufacturer for each
      product.
5. **Credit MR 5.2:** Manufacturer’s statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer’s letter specific to the project giving direct mileage in lieu of locations will be accepted.

1.4 **QUALITY ASSURANCE**

   A. **Single-Source Responsibility for Rubber Flooring:** Obtain each type, color, and pattern of flooring from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

   B. **Installer:** A firm specializing in rubber work with not less than three years of experience in installing flooring similar to those required for this project, and who certified by the flooring manufacturer’s as an approved installer.

1.5 **DELIVERY, STORAGE, AND HANDLING**

   A. Deliver flooring and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.

   B. Store flooring materials in dry spaces protected from the weather with ambient temperatures maintained between 65 deg F and 75 deg F.

   C. Store on flat surfaces. Move flooring and installation accessories into spaces where they will be installed at least 48 hours in advance of installation.

1.6 **PROJECT CONDITIONS**

   A. Maintain a minimum temperature of 70 deg F in spaces to receive flooring for at least 72 hours prior to installation, during installation, and after installation. After this period, maintain a temperature of not less than 65 deg F.

   B. Do not install flooring until they are at the same temperature as the space where they are to be installed.

   C. Close spaces to traffic during flooring installation.

1.7 **SEQUENCING AND SCHEDULING**

   A. Install flooring and accessories after other finishing operations, including painting, have been completed.

   B. Do not install flooring over concrete slabs until the slabs have cured and are sufficiently dry to bond with adhesive as determined by flooring manufacturer's recommended bond and moisture test.

1.8 **EXTRA MATERIALS**

   A. Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
PART 2 - PRODUCTS

2.1 RUBBER FLOORING

A. Rubber Flooring: “Norament 986 Luxor” by Nora Systems, Inc., or approved equal as follows:


2. Surface: Mat-silk, smooth.

3. Color: Match Nora “4766 Dolomites”.

4. Tile Size: 0.14 inches (3.5mm) overall thickness, 19.8 inches by 19.8 inches (503mm by 503mm).

5. Back of Tile: Smooth, double-sanded back


7. Limited Wear Warranty: 10 years.


9. Static Load: Per ASTM F970 Standard Test Method for Static Load Limit, residual compression, when tested with 800 lbs, ≤ 0.005”.

10. PVC Free: Product shall contain no polyvinyl chloride.

11. Abrasion Resistance: Taber abrasion test, ASTM D3389, H-18 wheel, 500 gram load, 1000 cycles, gram weight loss ≤ 0.4.


13. Halogen Free: Product shall contain no halogens.


16. Flammability: ASTM E648; NFPA 253; NBSIR 75 950, ≥ 0.45 watts per square centimeter, Class 1.

17. Smoke Density: ASTM E662, NFPA 258, NBS smoke density, < 450

18. Asbestos Free: Product shall contain no asbestos

2.2 INSTALLATION ACCESSORIES

A. Resilient Edge Strips: 1/8” thick, homogeneous vinyl composition, tapered or bullnose edge, color black, or as selected by Architect from standard colors available; not less than 1” wide.
B. Adhesives (Cements): Waterproof, VOC compliant, stabilized type as recommended by manufacturer to suit material and substrate conditions. Adhesive shall not exceed 60 g/L for rubber floor.

C. Concrete Slab Primer: Non-staining type as recommended by vinyl sheet manufacturer.

D. Leveling and Patching Compounds: Portland cement type as recommended by respective flooring manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Comply with manufacturer’s installation specifications to prepare substrates indicated to receive tile.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by flooring manufacturer.

2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

C. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

D. Moisture Testing:

1. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.

E. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

F. Do not install floor tiles until they are same temperature as space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
G. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.

H. Broom or vacuum clean substrates to be covered by tiles immediately before tile installation. Following cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust.

I. Apply concrete slab primer, if recommended by flooring manufacturer, prior to applying adhesive. Apply according to manufacturer's directions.

3.3 INSTALLATION OF FLOORING

A. General: Comply with flooring manufacturer's installation directions and other requirements indicated that are applicable to each type of flooring installation included in Project. Flooring shall be dry laid prior to adhesive installation.

B. Match edges for color shading and pattern at seams in compliance with manufacturer's recommendations. Support floor coverings at horizontal and vertical junction by cove strip.

C. Adhere flooring to substrates using method approved by flooring manufacturer for type of flooring, and substrate condition indicated.

D. All joints in flooring shall tightly butted together.

E. Lay out tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths at perimeter that equal less than one-half of a tile. Install tiles square with room axis, unless otherwise indicated.

F. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Cut tiles neatly around all fixtures. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain running in one direction.

G. Extend flooring into toe spaces and similar openings.

H. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent marking device.

I. Use full spread of adhesive applied to substrate in compliance with flooring manufacturer's directions including those for trowel notching, adhesive mixing, and adhesive open and working times.

J. Scribe, cut, and fit flooring to butt tightly to vertical surfaces, permanent fixtures, built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.

K. Adhere flooring to substrates without producing open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections in completed tile installation.

L. Hand roll flooring where required by flooring manufacturer.
3.4 CLEANING AND PROTECTION

A. Touch-up and repair minor damage to eliminate all evidence of repair. Remove and replace work which cannot be satisfactorily repaired.

B. Clean surfaces only after adhesive has fully cured, no sooner than 72 hours after installation. Clean surfaces using non-abrasive materials and methods recommended by manufacturer. Remove and replace work that cannot be successfully cleaned.

C. Protect completed work from damage and construction operations and inspect immediately before final acceptance of project.

END OF SECTION 096520
SECTION 096816.13 – CARPET

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
A. Section Includes:
   1. Carpet removal, new carpet and accessories.
   2. Tufted carpet. Carpet patterns and color to be approved by Owner.

1.3 PREINSTALLATION MEETINGS
A. Pre-installation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to carpet installation including, but not limited to, the following:
      a. Review delivery, storage, and handling procedures.
      b. Review ambient conditions and ventilation procedures.
      c. Review subfloor preparation procedures.

1.4 ALTERNATIVES OR SUBSTITUTIONS – No substitutions for custom DIA Brand carpets; only prep, installation and project related materials
A. Approval of alternate or substitute products will be considered only under the terms and conditions as outlined below:
   1. Whenever a particular make of material or trade name is specified herein, it shall be regarded as being indicative of the standards required. Regardless of format of specifications, any Specification other than those named in Part 2 - Products must proceed as an alternate or substitute. On the basis of an alternate or substitute material or system shall submit to the Project Manager the ‘Request for “Or Equal” Approval form, at least ten (10) days prior to the scheduled bid date with following information:
      a. Written application for approval of alternate or substitute to include specifications of alternate or substitute carpet on company letterhead and signed by a company officer.
      b. Copies of warranties for proposed alternate or substitute.
      c. List of a minimum of three (3) jobs, one of which must be in use for at least ten (10) years, where alternate or substitute is/was used under similar conditions. Each job shall be available for inspection by the owner’s representative.

1.5 SUBMITTALS
A. Product Data: Submit manufacturer’s product data for all items furnished. For the following, including installation recommendations for each type of substrate:
   1. Carpet: For each type indicated. Include manufacturer’s written data on physical characteristics, durability, and fade resistance.
B. LEED Submittals:

1. Statement indicating material costs for each product. Information may be included on schedule of values material cost breakdown or by separate written documentation.

2. Credit EQ 4.1: Manufacturers' product data for sealants, adhesives, and primers including printed statement of VOC content in g/L.

3. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content.

4. Credit MR 5.1: Address and phone number of location of manufacturer for each product.

5. Credit MR 5.2: Manufacturer's statement indicating the locations where the base materials of each product were extracted, mined, quarried, harvested, etc. A manufacturer's letter specific to the project giving direct mileage in lieu of locations will be accepted.

6. Credit EQ 4.3: provide Manufacturers' product data for carpet, installation adhesive, and seam sealer. Carpet data information shall include CRI GLP (Green Label Plus) number.

C. Shop Drawings, at 1/8” scale format. Measure Verification: dimensions shown on drawings are approximate. It is the Flooring Contractor's responsibility to verify all dimensions and job site conditions; order sufficient yardage to fully carpet areas as indicated and to fill overage requirements as specified. No substitutions are permitted to make up for any shortage of material in overage or in carpet to be installed. Flooring Contractor is totally responsible for the accuracy of his measurements of total yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for pattern match, and roll length requirements. No additional compensation will be allowed for shortage of materials. In the shop drawings, show the following:

1. Columns, doorways, enclosing walls or partitions, built-in fixtures, and locations where cutouts are required in carpet.

2. Carpet type, color, and dye lot.

3. Locations where dye lot changes occur.

4. Seam locations, types, and methods.

5. Type of subfloor.

6. Type of installation.

7. Pattern type, repeat size, location, direction, and starting point.

8. Pile direction.

9. Type, color, and location of insets and borders.

10. Type, color, and location of edge, transition, and other accessory strips.

11. Transition details to other flooring materials.

D. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
1. Carpet: Eight, 36-inch square sample. Prepare samples from same material to be used on the project.
   a. CPT-1 – Concourse Walkways.
   b. CPT-2 - Holdrooms.
   c. CPT-3 – Borders.

2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch long Samples.

3. Carpet Seam: 6-inch (150-mm) Sample.

E. Qualification Data: For qualified Installer.

F. Fiber Verification: Certification from the fiber producer verifying use of the premium branded fiber in the submitted carpet product.

G. Product Test Reports: For carpet, for tests performed by a third party qualified testing agency. Owner reserves the right to test carpet at the Owner's expense to verify that the delivered carpet is as specified. If carpet does not meet specifications, manufacturer will reimburse Owner the testing expense and the carpet may be rejected.

H. Pre-Shipment/Carpet Testing: The manufacturer shall provide testing on all field and border/edge carpet(s) as indicated on the carpet description under 2.2 CARPET through the approved qualified outside/independent agency, refer to Section 1.02 Submittals, Item B. Submittal of the testing agency qualifications is required. The Table outlines the method to be used, the minimum carpet performance requirements, and the sequence of testing and additional comments. Test samples to be a minimum of 1'6" by width of roll. All backup information from the independent testing lab test results need to be submitted on independent testing lab letterhead. Test results and the samples shall be submitted to the DIA Project Manager and Architect/DOR for review and approval upon the completion of each set of tests and for review and approval prior to shipping carpet.

I. Manufacturing Test Reports: During the manufacturing process the manufacturer shall be required to submit test reports after the initial minimal production run of the project carpet showing compliance with the minimum performance requirements specified under paragraph 2.2. All reports shall be submitted directly the Owner. All testing shall be paid for by the manufacturer.

J. Sample Warranties: For special warranties.

K. Existing Floor Test Data: Prior to installation submit test report indicating the results of calcium chloride moisture test and pH test. Indicate the conclusions drawn from the tests, noting the suitability of substrate or noting corrective actions necessary. Submit test data to the Owner.

L. Maintenance Data: For carpet to include in maintenance manuals. Include the following:
   1. Methods for maintaining carpet, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
   2. Precautions for cleaning materials and methods that could be detrimental to carpet.
1.6 ALTERNATES

A. Alternate: Quote a separate amount to be added to or deducted the based bid for performing work described herein.

1. Alternate No. 1: All carpeting at the Apron Level at the Northeast Commuter Corridor.

2. Alternate No. 2: Carpeting east of expansion joint just east of column line E50.1 at the east end of the Concourse Level.

1.7 LUMP SUM ALLOWANCE

A. Allowance shall include cost to Contractor of specific products and materials selected by Architect under allowance and shall include taxes, delivery to Project site and installation.

B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

D. Schedule Of Allowances:

1. All quantities listed herein include 2%, but this is for “Architectural Plan Adjustment Factor” and thus considered net yardage. Any average amount shall be determined and stated by the Contractor. The following manufacturer's quoted material prices are FOB the mill and exclude tax and freight. The quotes noted of, January 27, 2012, are good through the end of 2012.

a. CPT-1: Broadloom "50311-F6139" (12,320 sq. yds. - $34.86/sq. yd.)

b. CPT-2: Broadloom "50311-F6138" (10,113 sq. yds. - $34.86/sq. yd.)

c. CPT-3: Broadloom "50311-F8469" (16,619 sq. yds. - $35.95/sq. yd.)

d. CPT-4: Tile, Lees “StepUp DD763” color “438 Wrought Iron” (1,240 sq. yds. - $48.73/sq. yd.)

1.8 MAINTENANCE MATERIAL

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering against rodents and moisture for storage and identified with labels describing contents.

1. Carpet Cuts: Full-width rolls equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

2. No overage shall be furnished; Owner does not have anywhere to store materials. Remnants shall be salvaged for any future repairs or use by Owner.
3. Storage: Deliver extra materials and overstock at location directed by the Owner at the Denver International Airport.

1.9 QUALITY ASSURANCE

A. Installer: Firm with not less than 7 years of commercial carpeting experience in installation of carpeting similar to that required for this project, and who is approved and certified by the carpet manufacturer.

B. Mockups: Build 1200 square foot mockup carpet border and field to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockups in the facility, location at Owner's discretion.
2. Approved mock-up shall not be incorporated into the finished installation.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Comply with CRI 104 and requirements specified herein.

B. Deliver carpeting materials in original mill protective wrapping with mill register numbers and tags attached. Store inside, in well-ventilated area, protected from weather, moisture and soiling.

C. Inspection of carpet: Before roll carpet is cut, it shall be inspected for defects, color variations or shipping damage and be immediately replaced if any of these conditions exist at no additional cost to the Owner. Prior to installation, carpet shall be rolled out for Owner's inspection to insure that carpet rolls are from the same dye lot.

1.11 FIELD CONDITIONS

A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.

B. Environmental Limitations: Do not deliver or install carpet [and carpet cushion] until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at occupancy levels during the remainder of the construction period. Maintain temperatures in space in accordance with carpet or adhesive manufacturer's recommendations, but in no case less than 60 degrees F for 24 hours prior to, during, or after installation. Subfloor temperature should be a minimum of 60 degrees F for 24 hours prior to and after installation.

C. Do not install carpet over concrete slabs until slabs have cured, are sufficiently dry to bond with adhesive, and have pH range recommended by carpet manufacturer.

D. Prior to cutting and installing: All of the carpet shall be spread in a room on site 24 hours prior to actual installation with the room preconditioned at a minimum of 60 degrees F with humidity between 35% and 65%.

E. Prepare subfloor as specified under paragraph 3.2.

F. It is the Flooring Contractor's responsibility to verify all dimensions and job site conditions; order sufficient yardage to fully carpet areas as indicated and to fill overage requirements as specified. No substitutions are permitted to make up for any shortage of
material in overage or in carpet to be installed. Flooring Contractor is totally responsible for the accuracy of his measurements of total yardage, individual floor yardage, and dye lot yardage requirements, extra yardage for pattern match, and roll length requirements. No additional compensation will be allowed for shortage of materials.

1.12 WARRANTY

A. Special Warranty for Carpet: Manufacturer agrees to repair or replace components of carpet installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet due to unusual traffic, failure of substrate, vandalism, or abuse.

2. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling wet or dry, snags, runs, loss of tuft bind strength wet or dry, excess static discharge, and back delamination wet or dry, adhesive failure.

3. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Lees Carpet – Custom Product

2.2 CARPET

A. Products: Provide (and independently test as specified under paragraph 1.5.) new carpeting complying the following minimum requirements as follows:

1. Product: Provide as follows:

   a. CPT-1: Broadloom "50311-F6139"
   b. CPT-2: Broadloom "50311-F6138".
   c. CPT-3: Broadloom "50311-F8469".
   d. CPT-4: Tile, Lees “StepUp DD763” color “438 Wrought Iron”

2. Face Construction: Textured Pattern Loop.

3. Fiber: Invista, Antron Lumena® nylon Fiber Dye Method: 100% Solution Dyed, except for CPT-4. Ensure that yarn is produced in large dye lots to allow no more than one dye lot per Concourse segment, plus overage required for installation and attic stock.

   a. CPT-4 Fiber: Fortis Nylon 6.6 with 6.6 scraper yarn, yard dyed.

4. Fiber Soil Resistance: Duratech per Antron (or Duracolor by Lees Carpet as approved by GSA tests).

5. Fiber Antimicrobial Treatment: Intersept®.

6. Primary Backing: Tufted, 100% woven synthetic.

7. Secondary Backing: High performance close cell vinyl cushion backing equal to The Mohawk Group “Unibond Flex Bloc” with advanced thermo-set co-polymer and cross-link polymeric barrier, non PVC.

8. CPT-4 Backing: Fiberglass reinforced thermoplastic composite.
9. Tufted Yarn Weight: CPT 1, 2 and 3: 42 oz./sq. yard, and CPT-4: 38 oz./sq. yard
10. Finished Pile Weight: CPT 1, 2 and 3: 40 oz./sq. yard.
12. Machine Gauge: 1/12 gauge, except 5/32" for CPT-4
13. Pile Height: CPT-1 and CPT-2: 0.218”/0.196”; CPT-3: 0.250”/0.093”
14. Stich per Inch: 13.5 / inch
15. Pile Density: > 8000 for severe traffic minimum
16. Size: 12 feet for broadloom CPT-1, CPT-2, CPT-3, and 24” square for tile CPT-4
17. Pattern Repeat: 36 inches minimum
19. Texture Appearance Retention:
   a. Vetermann Drum Test, ASTM D5417, > 3.5 using ARR reference scales
   b. Hexapod Drum Test, ASTM D5252, > 3.5 using ARR reference scales
20. Permanent Moisture Barrier must pass British Spill Test and 10,000 Moisture Impact Test with appropriate adhesive.
21. Stain Resistance: AATCC 171 (HWE), followed by AATCC 175 – Min. of 8 using AATCC Red 40 Stain Scale
22. Resistance to Delamination: ASTM-D3936, Minimum 4.0 lbs. / inch
23. Static Control: < 3.5 kV, kilovolts of static at 70 degrees F and 20% relative humidity, by permanent means (i.e. antistatic filaments). Electrostatic Propensity (Step): (AARCC-134)
24. Smoke Density: ASTM E662, < 450 Dm in flaming mode or state code
25. Radiant Panel: ASTM E648, > .45 watts/ cm2 critical radiant flux or state requirements
27. Colorfastness: Provide as follows:
   a. Colorfastness to Chemicals: Duracolor or equal
   b. Colorfastness to Light: AATCC 16 Part E, 200 AFU, AATCC Gray Scale for color change rating minimum of 3-4
   c. Colorfastness to Nitrogen Oxides & Ozone: AATCC 164 and 129, for 2 cycles, AATCC Gray Scale for color change rating minimum of 3-4
28. Warranties: Non-prorated / Lifetime or 15 years minimum
   a. edge ravel wet or dry
   b. back delamination wet or dry
   c. superior tuft bind wet or dry
   d. static protection as above
   e. face wear no more than 10% face yarn loss
   f. adhesive failure none

B. Performance Characteristics: As follows:
1. Edge Ravel: ASTM D 7267, 4 lbs. minimum.
2. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm., ASTM E 648.
3. Pattern and Color: Understanding the importance of pattern and color for aesthetics, as appearance retention and maintainability, Owner reserves the right to reject any product or manufacturer based solely on pattern and color considerations.

2.3 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet manufacturer. Provide “Ultra Skimcoat” by Mapei.

B. Adhesives: Water-resistant, mildew-resistant, non-staining type recommended by the carpet manufacturer to suit the Denver International Airport heavy traffic application and expected service and conforming to local Air Quality Management District and LEED requirements for volatile organic compound limitations and toxicity.
   1. Use adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Seam Adhesive: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for sealing and taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.

D. Metal Edge/Transition Strips: Extruded aluminum clamp down (tap down) without barbs, and of maximum lengths to minimize running joints. Rubber transition strip as indicated in detail 3 Sheet B-A202A. Colors: As selected by the Architect.

E. Transition Strip Between Carpet And Hard Finishes: “CTC Backwards Carpet Trim” by the Ceramic Tool Co., Pewaukee, WI, or approved equal.

F. Miscellaneous Materials: As recommended and approved in writing by manufacturer of carpet, and selected by Flooring Contractor to meet project circumstance and requirements.

2.4 ENVIRONMENTAL ATTRIBUTES – LEED CRITERIA

A. Environmental claims by manufacturer must comply with FTC guidelines.

B. Environmentally Preferred Product – Carpet must have third party certification (such as Scientific Certification Systems) in accordance with NSF 140 as an Environmentally Preferred Product (EPP).

C. Recycled Content: Carpet must contain 10 – 20% post-consumer recycled content based on total product weight. (LEED – CI: MR 4.1 & MR 4.2)

D. Carpet Face Yarn: In accordance with Executive Order 13101, carpet face yarn must be third party certified as an Environmentally Preferred Product (EPP).

E. Low Emitting Materials: Carpet and all installation components including adhesives, sealers, seam welds and seam sealers must meet the Low Emitting Materials standards as outlined in U.S. Green Building Council LEED criteria. Adhesives must meet VOC emissions standards per South Coast Air Quality Management District Rule #1168. (LEED – CI: EQ 4.1 & EQ 4.3)

F. End of Life Reclamation: Carpet must have an existing methodology actively in place to achieve landfill diversion. Refer to Section 3.03 of this section for specific requirements for reclamation of material.
G. Indoor Air Quality – Manufacturer must demonstrate that carpet is certified under the CRI Green Label Plus Program (LEED –Ci: EQ 4.1 & EQ 4.3)

H. Main Bonding Agent – Thermoplastic containing 10 – 20% pre- and post-consumer recycled content by total weigh. (LEED –Ci: MR 4.1 & MR 4.3)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet performance. Examine carpet for type, color, pattern, and potential defects.

B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
   1. Slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet manufacturer.
   2. Subfloor finishes comply with requirements specified in Section 033000 “Cast-in-Place Concrete” for slabs receiving carpet.
   3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

C. Testing for Alkalinity - Testing the pH at the surface of a concrete slab must be conducted in accordance with ASTM F 710-05", not to exceed 9 pH. (ASTM F710-05 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring) Proceed with installation only after unsatisfactory conditions have been corrected.

D. Moisture Vapor Emission Rate (MVER) Testing - MVER tests must be conducted in accordance with the latest edition of ASTM F 1869, not to exceed 3 pounds per 1000 sq. ft. per 24 hours. (ASTM F1869 - Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride,

3.2 PREPARATION

A. General: Comply with CRI 104, Section 7.3, "Site Conditions; Floor Preparation," and with carpet manufacturer's written installation instructions for preparing substrates.

B. Use trowel able leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch (3 mm) wide or wider, and protrusions more than 1/32 inch (0.8 mm), unless more stringent requirements are required by manufacturer's written instructions.

C. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet [cushion] manufacturer.

D. Clear away debris and scrape up cementitious deposits from surfaces to receive carpeting; vacuum clean immediately before installation. Check concrete surfaces to ensure no "dusting" through installed carpet; apply sealer where required to prevent dusting

E. Broom and vacuum clean substrates to be covered immediately before installing carpet.

F. Apply primer to concrete surfaces in accordance with manufacturer's instructions.
G. Sequence carpeting with or work so as to minimize possibility of damage and soiling of carpet during remainder of construction period

3.3 CARPET REMOVAL

A. Remove and dispose of all existing carpet and materials to make subfloor acceptable for installation if applicable. Diversion of 75% of all old materials from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)

B. Remove used carpet in large pieces, roll tightly, and pack neatly in container. Include carpet scrap and waste from new installation. Immediately remove from Site and place in container or trailer.

3.4 INSPECTION

A. General: Do not start work until works of other trades are substantially completed. Inspect surfaces to receive carpet and verify that all such work is complete to the point where this installation may properly commence. In the event of discrepancy, notify Construction Manager. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved. Start of carpet installation indicates acceptance of subfloor conditions and full responsibility for completed work.

B. Materials: Unroll all goods to verify all goods uniformity, quality, color and texture against the approved samples prior to installation. Any discrepancy should be brought to the attention of the Construction Manager.

3.5 CARPET RECLAMATION

A. SUBMITTALS
   1. Proposed dust-control measures.
   2. Proposed packing and transportation measures.
   3. Schedule of carpet reclamation activities indicating the following:
      a. Detailed sequence of removal work.
      b. Inventory of items to be removed and recycled.
   4. Reclamation agency records indicating receipt and disposition of used carpet.

B. QUALITY ASSURANCE
   1. Reclamation Agency: Firm [or designated agent firm] providing used carpet recycling program.
   2. Carpet Remover: Firm [or designated agent firm] providing carpet removal services for recycling purposes.
   4. Record off-site removal of debris and materials and provide the following information regarding the removed materials: Time and Date of Removal; Type of Material; Weight and Quantity of Materials; Final Destination of Materials.
   5. Certification: Reclamation Agency and Carpet Remover shall certify in writing that used carpet was removed and recycled to assure carpet is not land-filled.
   6. Removed carpet and associated materials shall not be removed and placed in a landfill.

C. PREPARATION: Vacuum used carpet before removal.

3.6 CONTAINER DISPOSAL

A. Place used carpet in 40-yd³ (30.5 m³) container supplied by reclamation agency. Containers are fully enclosed, front (end) loading. Place only used commercial carpeting in collection container. Container shall be kept locked or supervised.
B. Use effective packing techniques to maximize the amount of material in the container. On average, container holds 2000 to 3000 yd$^2$ (1672 to 2508 m$^2$).

C. Neatly stack carpet tiles or repack in cardboard boxes prior to placing in container. Do not stack higher than 6 feet (1.8 m).

D. When container is full, contact reclamation agency to coordinate pickup and drop-off of replacement container. If container is locked for security purposes, remove the lock prior to pickup.

3.7 INSTALLATION

A. Comply with CRI 104 and carpet manufacturer's written installation instructions for the following:

1. Direct-Glue-Down Installation: Comply with CRI 104, Section 9, and "Direct Glue-Down Installation."

B. Comply with carpet manufacturer's written recommendations and Shop Drawings for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under the door in closed position. Seaming layout shall enable future replacement, especially in large open areas and traffic paths. Seaming shall run parallel to major traffic flow whenever possible, unless specifically indicated in writing by owner or owner's representative. No cross seams shall be allowed in drops of 10 feet or less. Seams shall be inconspicuous to visual inspection. No seams shall occur perpendicular to doors or entries. No carpet pieces less than 12 inches in width shall be used in the work.

C. Do not bridge building expansion joints with carpet.

D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer. All cutting of carpet for telephone and electrical outlets shall be the responsibility of the Flooring Contractor.

E. Extend carpet into toe spaces, door reveals, closets, alcoves, closets, and similar openings, under open-bottomed obstructions, removable flanges and furnishings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, non-staining marking device.

G. Install pattern parallel to walls and borders to comply with CRI 104, Section 15, and "Patterned Carpet Installations" and with carpet manufacturer's written recommendations.

H. Install edging strips where carpet terminates at other floor coverings; use full length pieces only, butt tight to vertical surfaces; where splicing cannot be avoided. Butt ends tight and flush.

I. Provide cut-outs as required for removable access devices in the substrate. Secure both sides of cuts to the substrate. Use release-type adhesive on floor and on carpet cut-outs which must be lifted from the substrate to gain access to the devices, unless otherwise indicated. Cut "H" wherever it is feasible to provide a carpet flap in lieu of a fully-removable cut-out.

J. Glue-Down Application:

1. Fit sections of carpet into each space prior to application of adhesive.

2. Apply adhesive uniformly to substrate in accordance with manufacturer's instructions. Butt carpet edges tightly together to form seams without gaps, apply seam sealer to seams of broadloom carpeting. Roll lightly to eliminate air.
pockets and ensure uniform bond. Remove adhesive and seam sealer promptly from face of carpet.

K. Carpet Tile Application:
   1. Install carpet tile using free lay method in strict accordance with carpet tile manufacturer's recommendation installation procedures. Lay carpet tile in grid pattern from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Butt carpet edges tightly together to form seams without gaps. Adhesive used for free lay application shall be applied in a grid at intervals as recommended by the carpet manufacturer.

L. Roll lightly to eliminate air pockets and ensure uniform bond. Remove adhesive promptly from face of carpet.

3.8 CLEANING AND PROTECTING

A. Perform the following operations immediately after installing carpet:
   1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer. Remove and dispose of debris and unusable scraps. Diversion of 75% of all materials & debris from landfill disposal (recycle) is required. (LEED – CI: MR 2.1 & MR 2.2)
   2. Remove yarns that protrude from carpet surface.
   3. Vacuum carpet using commercial machine with face-beater element. Following cleaning and vacuum carefully protect the carpeting from soiling and damage until final acceptance. Protection shall be accomplished by using approved protection paper. Edges shall be lapped 6 inches and secured with non-asphaltic tape. Covering shall be kept in repair and damaged portions replaced during the construction and move-in period.

B. Maintenance Materials: Deliver usable scraps to Owner's designated storage space, properly packaged and identified. Usable scraps are defined to include roll ends of less than 9 feet in length and pieces of more than 2 feet wide. Dispose of smaller pieces as construction waste.

C. Protect installed carpet to comply with CRI 104, Section 16, and “Protecting Indoor Installations.”

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT
A. No separate measurement shall be made for work under this section.

PART 5 - PAYMENT

5.1 PAYMENT
A. No separate payment will be made for work under this section. The cost of the work described in the Section shall be included in the Lump Sum Contract price.

END OF SECTION 096816