# SEALS PAGE

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Dallas Fort Worth
International Airport
Standard Technical Specification Book

01 01 07 Page 1 of 1
Seals Page

Publish Date
June 1, 2018
Incorporated into the contract documents will be the Dallas Fort Worth International Airport Standard Technical Specification Book: Published June 01, 2018 and can be found at www.dfwairport.com/business/solicitations.

Specifications marked as “Applicable” below will be incorporated into the contract documents. Specifications may be revised and or added to the above published book will be as indicated and dated below. Revised or Added specifications are attachere herin.

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– END OF SECTION –
This EXHIBIT is a record of every issuance of “revision(s)” to the Technical Specifications and Construction Documents issued to the General Contractor or JOC and shall be attached to each written description for record keeping purposes.

**ADDENDUM MATRIX**

Cover Letter to the Written Description(s) of Contract Revisions

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### RFI’S (Responses to questions and clarifications requested by the General Contractor or JOC)

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### Addendum (Pre-contract Changes to the Drawings and Technical Specifications)

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### Revisions (Post-contract Changes to the Drawings and Technical Specifications)

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PART 1 – GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- To be defined within each contract –

A. Work of this Contract comprises of ______________. Construction will be inside/outside the Airport’s Air Operations Area (AOA). The Contractor shall be responsible for reviewing all existing conditions associated with the work prior to commencement of work activities.

1.2 FORMS

A. The Contractor and all subcontractors must obtain and pay for all Airport Operations Area Access Badges and Permits as required by DFW.
B. All appropriate forms and applications must be obtained, completed and submitted. A minimum required list of forms and applications is as follows:
   1. Air Operations Area Access or Parking Revenue Area Access Permits Form (1 page). This form can be obtained from DFW Code Department.
   2. DFW Access Badge Application (3 pages). This form can be obtained on the DFW website: https://www.dfwairport.com/badge/
   3. Erosion Control Best Management Practices. This form can be obtained from DFW Environmental Affairs Department.

1.3 CONTRACT TIME & SCHEDULE MILESTONES

- To be defined within each contract –

A. Sequence and stage work in accordance with the requirements of the Contract Documents so as to meet the following interim requirements and final contract completion dates.
   1. ___ consecutive calendar days for Substantial Completion, from the date set forth in the Notice to Proceed (NTP).
   2. 60 consecutive calendar days for Final Completion, from the date set forth for Substantial Completion.
   3. Total Contract Time = ___ consecutive calendar days from NTP.

B. Owner reserves the right to request the completion of work based on critical “Milestone” date(s).
C. Owner reserves the right to apply Liquidated Damages associated with request the completion of work based on critical “Milestone” date(s).

1.4 HOURS OF WORK

A. Work may be performed in all areas up to 24 hours a day, 7 days a week as necessary to meet the project completion dates, except as noted below.
B. Exceptions to above work hours:
1. Work within aircraft parking aprons and Object Free Areas of active taxiways/taxi lanes will be restricted to the following:
   a. From 22:45 hrs to 05:15 hrs.
   b. Work activities within these areas may be canceled and the area reopened in the event of airfield emergencies, late airline complexes, and unforeseen conditions that could create significant delays to the airport.

2. Board recognized holidays / construction blackout dates
   a. During the Thanksgiving and Christmas holiday period, the Airport has designated construction blackout dates. Construction activity that impacts ramp level operations, roadways, guests inside the terminals and non-emergency utility outage requests will normally not be approved during the blackout dates. Work and utility outage requests that do not impact stakeholder operations or have limited impact will be reviewed for approval on a case by case basis. The blackout period normally commences the Friday prior to the Thanksgiving holiday through to the Monday that follows the Thanksgiving holiday. The second blackout period normally commences the Friday before the Christmas holiday, through to the Monday that follows the New Year’s Day holiday.
   b. The following 2018 dates have been established as Landside/Customer Service area construction blackout dates. The dates listed are the primary dates and others may follow:
      - No airfield closures or lighting circuit lockouts should be scheduled beginning at 2200 hours on Friday night, November 16, 2018, until 2200 hours on Monday night, November 26, 2018.
      - No airfield closures or lighting circuit lockouts should be scheduled beginning at 2200 hours on Friday night, December 16, 2018, until 2200 hours on Monday night, January 2, 2019.

1.5 CONSTRUCTION
   A. The project shall be constructed in accordance with the requirements and restrictions shown on the construction documents.

1.6 WORK REQUIREMENTS AND RESTRICTIONS
   A. The specific work requirements and restrictions are identified throughout the specifications and contract drawings. Special attention is to be given to the notes on contract drawings for construction phasing and sequencing that may only be amended by executing a change order.
   B. All Contractor work activities shall be under the oversight of the Owner’s Authorized Representative (OAR).
   C. Do not perform work in the AOA without prior coordination with the OAR and/or without advance approval of Airfield Operations.
D. Construction operations at the site shall be confined to areas permitted by Law, Ordinances, Permits, and these Contract Documents.

E. Restrict construction personnel from access to areas other than those designated within these specifications and associated drawings.

F. Obtain a permit from the DFW Department of Public Safety for all hot work activities including cutting, welding, grinding or open flame operations.

G. The Contractor is responsible for maintaining grass (vegetation) within the construction areas on the AOA to a height of 6 to 10- inches.

H. The Contractor will be required to submit the following items prior to issuance of a construction permit:

1. Spill Response Plan (SRP) - Projects that involve the use of fuels, oils, paints, chemicals, and any other material that may pose a threat to human health or the environment may require a Spill Response Plan (SRP).

2. Erosion Control Plan (ECP) - Projects that involve the disturbance of surface soils, grass, vegetation or impervious surfaces require erosion control measures. An ECP is required for projects disturbing less than one acre.

3. Construction Storm Water Pollution Prevention Plan (SWPPP) - Projects that involve the disturbance of surface soils, grass, vegetation or impervious surfaces require erosion control measures. A SWPPP is required for projects disturbing one acre or more.

4. Solid Waste Management Plan (SWMP) - Identify the types and quantities of all solid wastes (including hazardous, non-hazardous or otherwise regulated wastes) that will be generated during this project and provide details on the management of these wastes, including labeling, storage, transportation and disposal. A sample Solid Waste Management Plan spreadsheet is contained in the Guidance document.

5. Soil Management Plan (SMP) - Projects that involve the excavation, stockpiling or movement of soils and subsurface drilling require a Soil Management Plan (SMP). The SMP details the procedures that will be employed to ensure the proper handling and disposition of soils.

6. Air Emission Estimate - Projects that involve the emission of volatile organic compounds (VOC’s) or nitrogen oxides (NOx) into the atmosphere during construction or subsequent operations may require an emissions estimate.

7. Asphalt Documentation - Projects that involve the installation of asphalt pavement require documentation of the asphalt characteristics. The use of cutback asphalt is prohibited between April 15 and September 15.

8. Concrete Batch Plant Documentation - Projects that involve the operation of a concrete batch plant require information on the plant location, documentation of TCEQ’s approval for the plant and a SWPPP for the plant.
9. HVAC Documentation - Projects that involve the installation, maintenance, repair or removal of HVAC equipment that uses Class I or Class II refrigerants require documentation as to the procedures that will be used to prevent release of refrigerants to the atmosphere.

10. Underground Storage Tank (UST) and Above Ground Storage Tank (AST) Documents - Projects that involve the installation, removal, repair or upgrade of UST or AST require certain documentation including the TCEQ 30-Day Construction Notification form, copy of TCEQ Contractor Registration Certificate, copy of TCEQ Contractor UST On-Site Supervisor license A and B, as applicable and documents evidencing how installation will comply with 40 CFR 112 (in particular, provide design of spill containment to be installed pursuant to 40 CFR 112.7).

11. Construction Site SPCC Plan - Projects that involve the temporary storage of petroleum fuels for fueling construction equipment in quantities greater than 42,000 gallons below ground or 1,320 gallons above ground (with any single container greater than 660 gallons) will require submittal of a Construction Site Spill Prevention, Control and Countermeasure (SPCC) Plan.

1.7 CONTRACTOR USE OF PREMISES

A. Authority and Project Coordination:

1. Coordination with the Board, governmental agencies, utility companies or other entities associated with performance of work required under this Contract shall be accomplished through the OAR.

2. Under unusual, urgent or emergency circumstances, Board Representatives such as the Departments of Public Safety and Airfield Operations may issue instructions directly to Contractor or subcontractor personnel.

3. Cooperate fully with other Contractors, Board, or FAA personnel who may be performing maintenance, navigational aid or other work within the project areas. Access to FAA facilities shall be coordinated through the OAR.

4. Notify the OAR immediately of any project conditions or situations that might affect the safety of Airport operations or constitute a deviation from the requirements and restrictions contained in these Contract Documents.

B. Safety:

1. The Contractor is required to prepare a Safety Manual and provide it to the OAR within seven days after the Notice to Proceed.

2. Ensure that all Contractor and subcontractor employees present on the job site are thoroughly familiar with and adhere to the safety and security requirements and restrictions stipulated in the Specifications before commencing work.

3. The Contractor and all subcontractors are required to attend a kickoff safety meeting prior to the start of work. Periodic safety meetings will be required during the construction of the project.
4. Implement and maintain an effective program to control the blowing of dust and debris due to wind or jet blast.

5. Provide reverse movement alarms on construction vehicles as required under OSHA regulations.

6. Ensure that all Contractor and subcontractor employees present on the job site are thoroughly familiar with and adhere to the safety and security requirements and restrictions stipulated in the Specifications before commencing work.

7. Employ adequate and OAR-approved fire and safety precautions when using open flame welding or torch cutting operations. Maintain adequate shielding to prevent pilot, employee, or public viewing of such open flame operations.

8. Provide adequate levels of artificial temporary lighting for areas of work when natural lighting is not adequate for safety and for the proper performance of work. Temporary lighting shall be approved in advance by the OAR. Lighting shall be shielded and/or aimed in a manner to prevent lighting from impairing the vision of pilots, airport personnel, air traffic controllers or the general public.

9. Provide head, ear, and eye protection to all personnel working within AOA work areas. Reflectorized vests are required outer clothing for all AOA work.

10. Adhere to supplemental project safety or security procedures that shall be prepared and issued by the OAR from time to time on an as-needed basis.

11. The Contractor shall provide a full time safety/security representative who has the authority to enforce safety requirements. For construction projects related to this Contract, that representative can have shared responsibilities, whether it be the Project Manager, Superintendent, and/or Foreman.

12. Maintain, on a 24-hour per day, seven days-a-week basis, clear unobstructed routes for routine and emergency vehicle traffic within project areas and access routes to and from project areas.

C. Construction Facilities and Storage Areas:

1. Restrict Contractor's material/equipment storage and employee parking to areas defined in the Contract documents or as approved by the OAR.

2. The Contractor assumes full responsibility for protection and safekeeping of all stored products.

3. Storage areas should be fenced and secured.

4. The Contractor will be required to hire either off duty airport DPS security or law enforcement officers or contract security guards to protect the job site, material storage areas, equipment storage areas, etc if security is required. Security guards will not be permitted to carry a firearm.

5. Do not block or obstruct any portion of any roadway while conducting activities associated with delivery or movement of materials, equipment or personnel, unless approved by the OAR in conjunction with a Traffic Control Plan.
6. General Storage: Store products immediately upon delivery and in accordance with the manufacturer's instructions, with labels and seals intact. Protect until installed. Contractor will not be allowed to store materials in terminal areas. Storage shall be arranged to provide access for maintenance and inspection.

7. Enclosed Storage: Store products subject to damage by the elements in substantial weather tight enclosures. Maintain temperature, humidity, and ventilation per manufacturer's instructions.

8. Exterior Storage: Provide substantial platforms, blocking or skids to support fabricated products above ground; slope to provide drainage. Provide impervious sheeting over products subject to dislocation and deterioration from exposure to the elements. Provide proper drainage and prevent the mixing of refuse and chemically injurious materials.

D. Vehicle Access and Haul Routes:
1. Contractor vehicles shall have proper identification and permits for AOA access.
2. For project work areas located within the AOA, the Contractor will escort all non-permitted vehicles from AOA access gates to project work areas and from project work areas back to AOA access gates.
3. Do not unreasonably encumber site with material or equipment. All dumpsters left on the AOA shall be tightly covered to prevent debris from blowing out onto the AOA, thus creating Foreign Object Debris (FOD).

E. Storage and Disposal of Spoils and Refuse:
1. Maintain project areas in a clean and safe condition at all times. Immediately remove all trash, debris, and surplus materials from work areas regardless of source. Clean paved surfaces within project related areas as required or directed by OAR.

G. Vehicle Relocation Procedures: The following procedures are established in order to relocate legally parked vehicles in public parking facilities operated by the Airport Board due to construction.
1. The Contractor shall post a "30 Day Closure Notice" sign at the entrance to the parking facility. Sign specifications are available from the DFW Sign Shop.
2. If the closure involves only a section of the parking facility, the signs should be posted in the affected area to delineate closure of the specific section. Cones, barrels, tape, barricades, or any combination thereof may be used to secure vacant spaces.
3. If vehicles have not been removed after 30 days, the DFW Project Manager will ensure that the Contractor:
   a. Contacts the Board's contract wrecker service 48 hours in advance to ensure the company has adequate staffing.
   b. Barricades the entrance to prevent additional vehicles from parking (only if the entire facility is involved).
   c. Ensure that before and after photographs are taken of vehicles that will be relocated.
d. Create a vehicle log that includes the color, make, model, license plate number and any existing damage.

e. Note the location where the vehicle was parked and where it has been relocated. Relocation should be as close as practical to the original location.

f. Fax a copy of the vehicle log to DPS Communications at 972-973-3194 and the Airport Operations Center (AOC) at 972-973-3188.

1.8 WORK BY OTHERS

A. During this contract, there may be other construction activities occurring on behalf of the AIRPORT BOARD in the same area(s). Coordination and cooperation with these contractors will be required during the prosecution of the project.

1.9 INDEX OF DRAWINGS

A. An index of all the drawings for this project is to be listed on the cover sheet of the Contract Drawings set.

1.10 UNATTENDED CONSTRUCTION VEHICLES ON AIRPORT PROPERTY

A. Construction vehicles left unattended anywhere on Airport property shall be identified with the name of the company and a telephone number that is answered 24-hours a day, on both sides of the vehicle. If there is no company contact information on the sides of the vehicle, the contact information may be printed legibly on a minimum size 12” x12” white placard, securely attached to the windshield of the vehicle and clearly visible from fifty (50) feet away. Unattended and/or unidentified vehicles are subject to removal from Airport property at the contractor’s expense.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. General project coordination of different Contract phases, trades and disciplines.
   2. General coordination of construction site operations with operations of Owner.

1.2 GENERAL COORDINATION

A. Coordinate scheduling, submittals, and work of various sections of Specifications to ensure efficient and orderly sequence of installation of construction elements with provisions for accommodating items furnished by Owner to be installed by Contractor.

B. Coordinate construction operations included under different sections of Specifications that are dependent upon each other for proper installation, connection, and operation.

C. Coordinate sequence of Work to accommodate partial Owner occupancy as specified in Section 01 11 00, Summary of Work.

D. Coordinate construction operations when constructing within the Aircraft Operations Area (AOA)

E. Coordinate Quality Assurance testing as specified in Section 01 45 23, Testing and Inspecting Services.

F. Maintain services of major subcontractors throughout duration of Contract, except as required by provisions of General Conditions of Contract. Notify Owner in writing of intention to replace subcontractors, outlining reasons for action and naming proposed replacement subcontractor.

G. Each subcontractor shall ensure that devices and equipment installed under its subcontract is operational. Subcontractor shall inform Contractor when completion and operation of their system is dependent on work of other trades. Arbitrate and resolve coordination conflicts between subcontractors to ensure complete and operational systems.

H. Coordinate work of subcontractors, and record subcontractor installation data on Project Record Drawings in accordance with Section 01 78 39, Project Record Documents.

I. Coordinate installation of Owner-furnished equipment.

J. Communications to Owner from Contractor regarding Contract requirements shall be through Owner’s Authorized Representative.
1.3 COORDINATION MEETINGS

A. In addition to project meetings scheduled in Section 01 31 19, Project Meetings, hold coordination meetings and pre-installation meetings with Contractor’s personnel, subcontractors, suppliers, manufacturers, and Owner, as necessary, to assure coordination of different trades and disciplines.

B. Schedule coordination and pre-installation meetings with Owner’s Authorized Representative. Meeting shall initially be called within 10 days of Notice to Proceed.

C. When necessary, prepare memoranda for distribution to each party outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings. Prepare similar memoranda for Owner’s Authorized Representative and separate contractors when coordination of their work is required.

D. Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Installation and removal of temporary facilities.
   3. Delivery and processing of submittals
   4. Progress meetings
   5. Project closeout procedures

1.4 COORDINATION OF SUBMITTALS

A. Schedule and coordinate submittals.

B. Coordinate Work of various trades having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate compatibility of space, of operating elements, effect on Work of other trades, and on Work scheduled for early completion.

1.5 COORDINATION OF SPACE AND INSTALLATION SEQUENCE

A. Coordinate use of project space and sequence of installation of equipment, elevators, escalators, walks, mechanical, electrical, plumbing, baggage handling systems, information/telecommunications/security systems or other Work that is indicated diagrammatically on Drawings. Follow routings shown for tubes, pipes, ducts, conduits, and other items as closely as practical, with due allowance for available physical space. Make runs parallel with lines of building, except where not feasible by construction. Utilize space efficiently to maximize accessibility for other installations, for Owner maintenance, and for repairs.
B. Except as otherwise indicated in finished areas, conceal ducts, pipes, wiring, and other non-finish items within construction. Coordinate locations of concealed and exposed items with finish elements.

C. Where availability of space is limited, coordinate installation of different components to ensure maximum accessibility for required maintenance, service and repair.

D. Coordinate exact location and dimensioning of exposed items and items which occur within, hung ceilings with reflected ceiling plans. In event of conflict, request clarification from Owner’s Authorized Representative prior to proceeding with fabrication or installation.

E. Contractor shall be responsible for coordination of Work. Ensure subcontractors coordinate their Work with the Work of the Contractor and other trades. Prepare coordination drawings as required by individual technical sections and hold coordination meetings in accordance with Section 01 33 23, Shop Drawings, Product Data, and Samples.

F. Schedule construction sequence required to obtain best results where installation of one part of work is dependent on installation of other components.

G. Accommodate items scheduled for later installation, including accepted Bid alternates, Owner-supplied Contractor-installed items, Work by others, and installation of products purchased with allowances.

H. Verify the new location(s) are within the scope of the asbestos survey when necessary to deviate from routings shown in the Drawings. Contact the Owner’s Authorized Representative if the proposed routing changes are not covered by the project asbestos survey before proceeding. The Owner’s Authorized Representative will obtain a survey amendment.

1.6 COORDINATION OF BUILDINGS FINISHES

A. Identify each room by name and number as it appears on finish schedules by posting a room identification sign outside each room at main entry to each room. Identification shall be clearly visible, legible, and attached without damaging surface.

B. Post accepted finishes scheduled for each room on each door or frame in a manner that does not damage or stain surface. Use copy of accepted finish schedule that clearly identifies each finish and location of finishes for that particular room or area.

C. Room identification signs and finish schedules shall remain posted until permanent interior signage has been installed and Owner’s Authorized Representative has reviewed finishes, unless otherwise directed.

D. Where mounting heights are not indicated, refer decisions to Owner’s Authorized Representative prior to installation.
1.7 COORDINATION OF CONTRACT CLOSEOUT

A. Coordinate completion and cleanup of Work of separate phases and sections in preparation for Substantial Completion of portions of Work designated for Owner partial occupancy as designated in Section 01 11 00, Summary of Work and Section 01 74 23, Final Cleaning.

B. Coordinate access to site by Contractor for correction of defective Work after Owner has occupied the project. Minimize disruption of Owner's operations.

C. Assemble and coordinate closeout submittals in accordance with Section 01 77 00, Closeout Procedures.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. This specification covers requirements to determine if an operation is classified as a significant industrial user and is therefore required to obtain a Significant Industrial User Permit from DFW Airport Board (DFW Airport).

1.2 REFERENCES
The following is a list of regulations which may be referenced in this Section:

1.3 ABBREVIATIONS
A. EAD: DFW Airport Environmental Affairs Department.
B. USEPA: United States Environmental Protection Agency.
C. POTW: Publicly Owned Treatment Works.
D. TCEQ: Texas Commission on Environmental Quality

1.4 DEFINITIONS
A. Categorical Standards: National Categorical Pretreatment Standards or Pretreatment Standard as set forth in any regulation containing pollutant discharge limits promulgated by the USEPA which applies to a specific category of industrial Users.
B. Industrial User: A non-residential source of Indirect Discharge as defined in 40 CFR 403 which does not constitute a ‘discharge of pollutants’ to a receiving stream under Clean Water Act.
C. Significant Industrial User: Any user meeting the following criteria:
   1. Industrial users subject to categorical pretreatment standards as defined in 40 CFR 403; and/or
   2. Any other industrial user that:
      a. Discharges an average of 25,000 gallons per day (gpd) or more of process wastewater; (excluding boiler blow down and non-contact cooling water)
      b. Contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the treatment plant or;
      c. Is designated as significant by the Utility Director on the basis that the industrial user has a reasonable potential for adversely affecting the POTW’s operation or for violating any pretreatment standard or requirement.

1.5 SUBMITTALS
A. All submittals must comply with the DFW Airport Code of Rules and Regulations.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
3.1 COMPLIANCE
A. Comply with all federal, state, and DFW Airport Code of Rules and Regulations.
B. Contractor shall not introduce or cause to be introduced into the Publicly Owned Treatment Works (POTW) any pollutant or wastewater which causes pass through or interference.
C. If wastewater will be discharged, Contractor shall determine if they are a significant industrial user as defined in applicable regulations. Significant industrial users shall be required to obtain a permit prior to discharge.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY

A. This item shall govern the field location of all underground existing utilities and sub drains in areas to be improved. It shall include, but not be limited to, the location of electrical and communication ducts, airfield lighting and control cables, fiber optic and FAA NAVAID cables. It is the intent of this specification to provide for the location of existing utilities by hand digging, particularly underground cables and NAVAIDs.

NOTE: The significance of protecting and maintaining all utilities cannot be overstated. Direct-buried fuel, gas and water pipes, and electric, fiber-optic, navigational aid, security and telephone cables are found both inside and outside the Air Operations Area (AOA), and are very susceptible to damage during trenching and earthmoving operations. Any cut NAVAID cable could have disastrous consequences.

1.2 CONSTRUCTION METHODS

A. It is the sole responsibility of the contractor to locate all utilities on the construction site except for FAA lines. It is the contractor's responsibility to coordinate with the FAA the location of the FAA lines.

B. Utilities, utility appurtenances and cables encountered by the Contractor during the construction of this project shall be protected by the Contractor as needed to permit construction and to conform to the finished grades on the project. Use of mechanical equipment of any kind to verify utility locations are expressly prohibited. The Contractor shall immediately repair any damaged utilities at his own expense to the satisfaction of the respective Department/Division/Section of the DFW Airport and/or the FAA.

C. Coordinate all contacts with companies maintaining utilities at the Airport as well as DFW through the Owner's Authorized Representative prior to any excavation/digging to ensure they have all available as-built information, and provide the Owner's Authorized Representative with written documentation of how utility locations were verified.

D. The Contractor shall continuously maintain utilities for facilities and/or systems, which are or may be affected by work associated with the project (see Utility Location Sign-Off Sheet), section 01 18 16.13. Prepare and maintain a contingency plan, approved by the Owner's Authorized Representative, to restore to service all utilities and/or control/signal cables which may be placed out of service or damaged during performance of the work. The Contractor shall provide immediate notification to D/FW Airfield Operations and D/FW Airport Maintenance through the Owner's Authorized Representative on all damage to underground utilities, and follow up with written reports (see Underground Utility Damage Report in 01 18 16.13 page 2).
C. Accurately locate all the routing of underground cable and utilities within project areas to be excavated, trenched, or drilled. This shall be accomplished by hand digging and once located, placing highly visible and durable markers along all such cable and utility routes at intervals of not greater than 25’. Obtain Owner’s Authorized Representative approval of proposed marking devices. Use semi-permanent markers that are low profile, frangible and non-metallic within runway/taxiway safety areas, and navigational and restricted zones. The Contractor shall maintain these markers in their original locations throughout the project, and shall also be responsible for providing and maintaining a field survey and plan of the marker locations replacing any disturbed markers at its own expense.

D. Do not use power equipment with teeth when excavating within five (5) feet of an area of marked cables unless the cables or other utilities are completely visible and the contractor can guarantee that they will not be nicked, severed, or damaged in any way.

E. The Contractor will be responsible for the completion of all forms required by DFW and the assemblage of all the executed forms into a meeting binder (commonly called a “dig book”) which will require signatures and formal approval by DFW. The dig book must also be kept onsite by the Contractor until the work is completed. It is suggested that the Contractor allow at least one month for the assemblage and approval of all requirements.

F. Contents of the Dig Book:

1. Develop an overall utility and cable chart/map that shall be maintained throughout the construction. This chart/map shall have all underground utilities and cables shown, including the field survey information and other utility information provided by the FAA, telephone, electrical and other utility companies, and shall be kept in the Contractor's office. This chart/map shall be furnished to the Owner at the completion of the project.

2. At the beginning of each work period check the utility and cable chart/map for cables and utilities in the areas of work. If any of the Contractor's personnel removes the chart/map from the office, then that person will initial a sign-out sheet for the chart/map.

3. Develop and provide a comprehensive plan and procedures for controlling vehicle travel to and/or within AOA work areas that avoids underground cables to the extent possible. Obtain Owner’s Authorized Representative’s approval of the plan prior to commencing work operations within the AOA. Strictly adhere to the approved plan and procedures throughout the duration of the project.

4. The cable or utility shall be exposed by hand (pot-holed) after the Contractor performs a circuit lock out. The cable or utility must be visibly exposed. The contractor shall verify adjacent width of five (5) feet parallel to each side of the exposed cable for any other existing cables.

5. Both the Owner’s Authorized Representative and the Contractor’s representative must sign off that the cable or utility has been located before any work is started (see Utility Location Sign-Off Sheet attached. Coordinates of the cable or utility shall be taken at this time and placed on the as-built drawings and the cable chart/map.
6. Operators or any other Contractor's personnel who observe sand or bedding material in trenches or excavations shall cease operations and notify their supervisor immediately.

G. If the Contractor does damage a NAVAID Cable that has been previously located, the Contractor shall be required to repair the cable and install either a pull box or manhole and/or complete cable replacement depending on the type and or size of the NAVAID Cable. Whether a pull box, manhole, or complete cable replacement is required shall be totally the decision of the FAA. All cost related to the said damaged NAVAID shall be the sole responsibility of the Contractor.

H. Any irrigation lines that are damaged must be repaired by a licensed irrigation company.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

– END OF SECTION –
DFW AIRPORT UTILITY LOCATION SIGN-OFF SHEET

EXCAVATION SHALL NOT PROCEED IN THE AREA DESCRIBED BELOW UNTIL THIS FORM IS PROPERLY COMPLETED.

DATE: ____________________

LOCATION OF UTILITY: ______________________________________________________

DFW MAPSCO#:______________________________________________________________

TYPE OF UTILITY: ____________________________________________________________

UTILITY FIELD LOCATION CONFIRMATION#: __________ DATE: ______________

DATE FIELD LOCATION OCCURRED: ________________ N/A: ____________________

DATE UTILITY UNCOVERED FOR OBSERVATION: __________ N/A: __________________

LOCATION UTILITY WILL IMPACT PROPOSED WORK: YES ☐ NO ☐

COMMENTS:
______________________________________________________________
______________________________________________________________
______________________________________________________________

DATE AS-BUILT INFORMATION FOR UNCOVERED UTILITY OBTAINED: ________________

The Contractor verifies, by signature below, that a thorough examination of all available as-built information has been made and that a field investigation to locate any utilities in the work area, where the proposed excavation will occur, has been made.

Contractor’s Representative: __________________________ Date: ________________

Concurrence by
Owner’s Authorized Representative: __________________________ Date: ________________

CC: D.C.C. Utility Coordinator, D.C.C. Project Manager
D.C.C. – Quality Assurance Representative
AOPS (6/91)
Dallas Fort Worth International Airport
OPERATIONS DEPARTMENT
UNDERGROUND UTILITIES DAMAGE REPORT

DATE: ________________  TIME: _____________  CONTRACT No.: ________________
PROJECT: ____________________  CONTRACTOR: ____________________
UTILITY: ____________________

LOCATION (Attach sketch, including location, depth, etc.): ____________________

TIME/DATE RETURNED TO SERVICE: ________________  WAS UTILITY MARKED? _________
WAS EXCAVATION EQUIPMENT USED? WHAT KIND? ____________________

DESCRIBE HOW DAMAGE OCCURRED: ____________________

WHAT PRECAUTIONS WERE TAKEN? ____________________

COMMENTS/RECOMMENDATIONS: ____________________

ATTACHMENTS: ____________________

SIGNED ____________________

cc: Airfield Operations Projects and Standards Administrator
PART 1  DESCRIPTION

1.01 GENERAL

A. Some of the work in this Contract must be constructed at locations that are critical to the overall operation of the airfield. The Contractor will coordinate the scheduling and sequencing of the Work with the Owner in a manner that avoids unacceptable construction impacts on airfield operations. However, aircraft arrivals and departures are subject to weather conditions and cannot always be accurately predicted. Portions of the Work will require the Contractor to work within allotted time frames that could be subject to changing airfield conditions. On occasion, the Owner, on short notice, may direct the Contractor to temporarily stop work for departing and/or arriving aircraft. The purpose of this section is to establish a means to compensate the Contractor for temporary disruptions to his work resulting from airfield operations. Any compensable disruptions, further identified as Standby Time, must be approved by the Owner.

B. Work under this section is subject to the requirements of the Contract Documents.

1.02 SUBMITTALS

A. During the Mobilization phase of the Contract, the Contractor will submit a listing of hourly billing rates (idle and operating rates) for each type of equipment that will be used on the Project. The Owner will review these rates and negotiate any differences with the Contractor. The agreed upon equipment rates will be used to pay for any approved Standby Time.

B. Only Regular equipment scheduled for actual use and operation will be subject to Standby Time. Standby equipment as replacement for the Regular equipment will not be subject to Standby payment.

PART 2  MATERIALS

2.01 STORAGE OF MATERIALS

A. The Contractor will not be allowed to stockpile materials in any locations that could interfere with airfield operations unless the Contractor can demonstrate to the Owner that: (1) the materials must be staged in critical areas to facilitate construction, and (2) the
Contractor will be able to remove the materials within 30 minutes of notification.

2.02 PAYMENT FOR IMPACTS TO MATERIALS

A. If a Standby Time period results in impacts to materials that renders the materials unusable, the Contractor will submit invoices to the Owner documenting the costs for these materials. For example, if the Contractor has concrete on site that cannot be used due to a Standby Time period, and the concrete has to be discarded, the costs for this material can be submitted for reimbursement. No Contractor mark up will be allowed for this type of material reimbursement.

PART 3 EXECUTION

3.01 PROJECT WORK SCHEDULE

A. Prior to beginning construction, the Contractor will prepare and submit a construction schedule to the Owner for review and approval. In preparing the schedule, the Contractor will incorporate phasing details and construction restraints set forth in the Contract Documents. During the review of the Contractor’s schedule, the Owner will conduct a meeting with the Contractor and Airfield Operations to review potential airfield operational impacts on the Contractor’s schedule. The Contractor, as necessary, will modify his schedule to minimize these impacts.

3.02 DAILY WORK SCHEDULES

A. Prior to the end of each work day (by 6:00 pm local time), the Contractor will meet with the Owner to review the next day’s schedule for work in proximity to active taxiways and runways. Prior to the meeting, the Owner will check with Airfield Operations to determine which taxiways and runway configurations are planned for the next 24 hours. During the daily meeting, the Contractor and Owner will determine which construction activities can be scheduled for the following 24 hours, and those construction activities that will be significantly impacted by planned airfield operations and will not be approved for the following day/night. For any work activity the Owner approves that could be impacted by an airfield operation, the Contractor will provide a plan for removing equipment, materials, and manpower from that area within thirty (30) minutes of notification.
3.03 AUTHORIZATION AND CANCELLATION OF WORK

A. At the daily scheduling meeting described above, the Owner will authorize the Work for the following 24 hour period. If airfield conditions change such that the Contractor’s scheduled work will be significantly impacted, and the Owner notifies the Contractor at least four (4) hours prior to the start of the scheduled shift that the work will be cancelled, the Contractor will not be eligible to receive any additional compensation as a result of the cancellation.

3.04 ADDITIONAL COMPENSATION

A. If a Contractor is authorized to perform work that is not cancelled four (4) hours prior to the start of the scheduled shift, and airfield operations require the Owner to either temporarily stop the work or terminate the work for the day, the Contractor will be eligible for compensation as follows.

1. Work is Terminated for the Day Prior to Starting
   a. If the Contractor’s crew for the cancelled work arrives at the site and is sent home, the Contractor will be compensated for two crew hours based on the hourly rates provided in certified payrolls. If the Contractor diverts the crew to other Project work, no additional compensation will be approved. The Contractor will also be compensated for two (2) hours of idle equipment time for any equipment that was scheduled for the cancelled work. If the Contractor diverts the equipment to other Project work, no additional compensation for lost equipment time will be approved. If the Contractor has rented specialized equipment for a portion of the work that was cancelled, and the Contractor incurs additional rental time as a result of the cancellation, the Owner may approve additional payment for more than two (2) hours of the shift. Before the Owner will consider this additional payment, the Contractor must provide information (actual invoices) quantifying the Contractor’s costs.

2. Work is Temporarily Stopped and Restarted
   a. If the Contractor is directed to temporarily stop any portion of work as a result of airfield operations, the Contractor will be compensated for the labor impacted by the temporary stoppage. The Owner’s representative will document the crew members and the duration of the temporary stoppage. Additional compensation will be
calculated using hourly rates provided in certified payrolls. If the Contractor’s production is not impacted by the temporary stoppage, no Standby Time compensation will be approved. Additional compensation for equipment Standby Time will only be authorized for impacted equipment that directly reduced the Contractor’s production during the temporary stoppage. This compensation will be calculated using approved idle time rates.

3. Work is Started and Terminated for the Day
   a. If the Contractor is directed to stop an element of work for the remainder of the day, additional compensation will be authorized for two hours of impacted labor if, at the time of the stoppage, the impacted labor has worked six (6) hours or less for the day/night. For any stoppage after six (6) hours of work, additional compensation will be made for the difference between eight (8) hours and the actual time worked. Compensation for labor will be calculated based on hourly rates provided in certified payrolls. Additional compensation for equipment will be calculated in the same manner as long as the Owner agrees that the lost equipment time reduced the Contractor’s production for the shift. Compensation will be calculated using approved idle time rates.

4. Standby Time Documentation
   a. For any component of authorized work temporarily stopped by the Owner as a result of airfield operations, the Contractor will complete the “DFW Standby Time Work Report” form included with this Section. At the end of the work shift the Contractor and Owner’s representative will verify the labor and equipment impacted, the duration of the temporary stoppage, and any materials lost as a result of the temporary stoppage.

PART 4  METHOD OF MEASUREMENT

4.01 Compensation for Standby Time
   A. Compensation for Standby Time will be made to the Contractor in accordance with the criteria set forth in this subsection. Compensation will be limited to the Contractor’s labor and equipment costs and materials lost. Materials lost due to delays or work stoppages qualified as “Standby Time” per the criteria of this subsection, will be paid for at
the discretion of the Owner. All compensation requests must be documented on the “DFW Standby Time Work Report” found in this section of the specifications. In calculating compensation for Standby Time, the Owner will not authorize any Contractor mark up on materials, labor, or equipment. This includes Subcontractor expenses.

4.02 Additional Contract Time

A. Additional Contract time will be allowed for any day during which all of the following criteria are met:

1. The impacted work was scheduled by the Contractor and authorized by the Owner

2. The Contractor can demonstrate that the impacted work is critical to meeting one or more of the Contract phase durations.

3. The temporary work stoppage impacts more than four (4) hours of scheduled work.

4. The Contractor submits a written request in accordance with General Provisions 80-9 “DETERMINATION AND EXTENSION OF CONTRACT TIME”, requesting that additional time be added to the Contract duration.

PART 5 BASIS OF PAYMENT

5.01 STANDBY TIME

A. Payment will be made on a time and material basis as specified above and supported by completed “DFW Standby Time Work Reports”.

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END OF SECTION 01210

(attached “DFW Standby Time Work Report” follows)
**STANDBY TIME WORK REPORT**

**DATE OF WORK**

**CONSTRUCTION INSPECTOR**

**CONSTRUCTION MANAGER**

**CONTRACTOR**

**Work Report #___**

**GENERAL CONTRACTOR**

**SUBCONTRACTOR**

**LABOR / PERSONNEL**

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**EQUIPMENT USED**

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**TOTAL LABOR / PERSONNEL**

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**CORRECT AS TO TIME, MATERIALS AND EQUIPMENT SUBMITTED**

**CONTRACT NO**

**CONTRACT NAME**

**WORK DESCRIPTION, LOCATION**

**Contractor**

**Construction Manager**
PART 1 – GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Identification of each Alternate by number, and description of basic changes to be incorporated into Work.
   2. Submission procedures.

1.2 REQUIREMENTS
A. Submit Alternates with full description of proposed Alternate and effect on adjacent or related components.
B. Alternates quoted on Bid Form will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.
C. Coordinate related work and modify surrounding work to integrate Work of each Alternate.

1.3 SELECTION AND AWARD OF ALTERNATES
A. When alternates are used, the Board reserves the right to Contract for any combination of Base and or Alternates stated, or none of the above. Contractor must bid on the base and all alternates. Bids addressing only the base or alternate items will be considered non-responsive.

PART 2 – PRODUCTS

- To be defined within each contract -

1.1 Additive Alternate, Deductive Alternate, True Alternate

A. Alternate A – Detail here
B. Alternate B – Detail here
C. Alternate C – Detail here

1.2 REFERENCE SECTIONS

A. Technical Specification Sections here
B. Plan Sheets here

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Requests for substitutions of products.

1.2 RELATED REQUIREMENTS
A. Section 01 61 16 - Materials and Equipment

1.3 DEFINITIONS
A. Substitutions: Request for changes in products, materials, equipment and methods of construction required by Contract Documents after award of the Contract are considered request for "substitutions". The following are not considered substitutions:
   1. Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents, and are not subject to requirements specified in this Section.
   2. Specified options of products and construction methods included in the Contract Documents.
   3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 CONTRACTOR'S REPRESENTATION
A. Request for substitution is a representation that Contractor:
   1. Has investigated proposed product and has determined that it is equal to or superior in all respects to that specified.
   2. Will provide same warranties or bonds for substitution as for product specified.
   3. Will coordinate installation of accepted substitution into Work, and will make such changes as may be required for Work to be complete in all respects.
   4. Waives claims for additional costs caused by substitution, which may subsequently become apparent.
   5. Has provided complete Cost data which includes related costs under this Contract, but not costs under separate contracts.

1.5 OWNER’S DUTIES
A. Owner will determine acceptability of proposed substitutions.
B. Owner will review Contractor's requests for substitutions with reasonable promptness.
C. Owner will notify Contractor, in writing, of decision to accept or reject requested substitution.
D. Owner or design professionals review, acceptance or failure to take exceptions to substitutions or other review documents, shall not relieve Contractor of
responsibility for item meeting performance or other requirements of Contract Documents.

PART 2  PRODUCTS

2.1  SUBSTITUTIONS

A.  Contractor’s Options

1. For products specified only by reference or performance standards, select any approved product and manufacturer meeting that standard.

2. For products specified by naming several products or manufacturers, select any approved product and named manufacturer which complies with Specifications.

3. For products specified by naming one or more products and manufacturers, there is no option, unless a substitution is approved.

B.  Owner will consider requests from Contractor for substitution of products in place of those specified only on the attached form.

C.  Within period of 30 days after award of the respective subcontract, Owner’s Authorized Representative will consider formal requests from Contractor for substitution of Products in place of those specified. After end of that period, requests will be considered only if product is no longer manufactured.

D.  Substitutions will only be considered when the Contractor can demonstrate to the satisfaction of the Owner’s Authorized Representative that there is reasonable cause for requesting the substitution.

E.  Submit separate request for each substitution, supported with complete data, drawings and appropriate samples substantiating compliance of proposed substitution with Contract Documents, including:

1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
   a. Product identification, including manufacturer’s name and address.
   b. Manufacturer’s Literature: Identify with product description, reference standards, and performance and test data.
   c. Drawings, samples, as applicable.
   d. Name and address of similar projects on which product has been used, and date of each installation.

2. Itemized comparison of proposed substitution including its quantities with product specified and list significant variations.

3. Data relating to changes in construction schedule. Indicate the effect of proposed substitution on overall Contract Time.

4. Adjustment in Contract Price or Guaranteed Maximum Price for each substitution.

5. Changes required in other elements of Work and to construction performed by Owner or separate Contractors, if any, to accommodate proposed substitution.
6. Availability of maintenance service and source of replacement parts and materials, as applicable.

7. Provide test data from independent testing laboratory to show compliance with performance characteristics specified.

8. Designation of required license fees or royalties.

F. Properties including, but not limited to the following, will be considered as applicable:
   1. Physical dimension requirements to satisfy space limitations.
   2. Static and dynamic weight limitations, structural properties.
   3. Audible noise levels.
   5. Interchangeability of parts or components.
   6. Accessibility for maintenance, possible removal or replacement.
   7. Colors, textures and compatibility with other materials, products, assemblies and components.
   8. Equipment capacities and performance characteristics.

G. Substitutions will not be considered for acceptance when:
   1. Indicated or implied on shop drawings or product data submittals without formal request from Contractor for a modification to the Contract Documents.
   2. Requested directly by subcontractor or supplier.
   3. Acceptance will require substantial revision of Contract Documents or Contract time.
   4. Additional cost to Owner is involved.

H. Do not order or install substitute products without written acceptance of Owner’s Authorized Representative.

I. Assume full responsibility for justifying each substitution. Owner’s decision of acceptance or rejection of proposed substitution will be final.

J. If proposed substitution is not accepted, provide specified product or materials.

K. Pay for any expenses incurred by Owner or his design professionals for changes to Contract Documents required by accepted Contractor requested substitutions.

PART 3 – EXECUTION
   Not Used.

- END OF SECTION -
SECTION 01 25 13

PRODUCT SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY
A. Section Includes:
   1. Requests for substitutions of products.

1.2 RELATED REQUIREMENTS
A. Section 01 25 13.01 - Product Substitution Procedures Addendum
B. Section 01 61 16 - Materials and Equipment

1.3 DEFINITIONS
A. Substitutions: Request for changes in products, materials, equipment and methods of construction required by Contract Documents after award of the Contract are considered request for "substitutions". The following are not considered substitutions:
   1. Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents, and are not subject to requirements specified in this Section.
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A. Request for substitution is a representation that Contractor:
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   2. Will provide same warranties or bonds for substitution as for product specified.
   3. Will coordinate installation of accepted substitution into Work, and will make such changes as may be required for Work to be complete in all respects.
   4. Waives claims for additional costs caused by substitution, which may subsequently become apparent.
   5. Has provided complete Cost data which includes related costs under this Contract, but not costs under separate contracts.

1.5 OWNER'S DUTIES
A. Owner will determine acceptability of proposed substitutions.
B. Owner will review Contractor's requests for substitutions with reasonable promptness.
C. Owner will notify Contractor, in writing, of decision to accept or reject requested substitution.
D. Owner or design professionals review, acceptance or failure to take exceptions to substitutions or other review documents, shall not relieve Contractor of responsibility for item meeting performance or other requirements of Contract Documents.

PART 2 – PRODUCTS

2.1 SUBSTITUTIONS

A. Contractor’s Options

1. For products specified only by reference or performance standards, select any approved product and manufacturer meeting that standard.

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3. For products specified by naming one or more products and manufacturers, there is no option, unless a substitution is approved.

B. OAR will consider requests from Contractor for substitution of products in place of those specified only on the attached form.

C. Within period of 30 days after award of the respective contract or subcontract, Owner’s Authorized Representative will consider formal requests from Contractor for substitution of Products in place of those specified. After end of that period, requests will be considered only if product is no longer manufactured.

D. Substitutions will only be considered when the Contractor can demonstrate to the satisfaction of the Owner’s Authorized Representative that there is reasonable cause for requesting the substitution.

E. Submit separate request for each substitution, supported with complete data, drawings and appropriate samples substantiating compliance of proposed substitution with Contract Documents, including:

1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
   a. Product identification, including manufacturer's name and address.
   b. Manufacturer's Literature: Identify with product description, reference standards, and performance and test data.
   c. Drawings, samples, as applicable.
   d. Name and address of similar projects on which product has been used, and date of each installation.

2. Itemized comparison of proposed substitution including its quantities with product specified and list significant variations.

3. Data relating to changes in construction schedule. Indicate the effect of proposed substitution on overall Contract Time.

4. Adjustment in Contract Price or Guaranteed Maximum Price for each substitution.

5. Changes required in other elements of Work and to construction performed by Owner or separate Contractors, if any, to accommodate proposed substitution.
6. Availability of maintenance service and source of replacement parts and materials, as applicable.
7. Provide test data from independent testing laboratory to show compliance with performance characteristics specified.
8. Designation of required license fees or royalties.

F. Properties including, but not limited to the following, will be considered as applicable:
   1. Physical dimension requirements to satisfy space limitations.
   2. Static and dynamic weight limitations, structural properties.
   3. Audible noise levels.
   5. Interchangeability of parts or components.
   6. Accessibility for maintenance, possible removal, or replacement.
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G. Substitutions will not be considered for acceptance when:
   1. Indicated or implied on shop drawings or product data submittals without formal request from Contractor for a modification to the Contract Documents.
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   3. Acceptance will require substantial revision of Contract Documents or Contract time.
   4. Additional cost to Owner is involved.

H. Do not order or install substitute products without written acceptance of Owner's Authorized Representative.

I. Assume full responsibility for justifying each substitution. Owner's decision of acceptance or rejection of proposed substitution will be final.

J. If proposed substitution is not accepted, provide specified product or materials.

K. Pay for any expenses incurred by Owner or his design professionals for changes to Contract Documents required by accepted Contractor requested substitutions.

PART 3 – EXECUTION
3.1 Substitution Request
A. Refer to Section 01 25 13.01 – Product Substitution Procedures Addendum for the Substitution Request Form.
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## SUBSTITUTION REQUEST

<table>
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<tr>
<th>PROPERTY</th>
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<td>2. Governing quality standards</td>
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<td>11. Explanation of how substitution is beneficial</td>
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Complete SPECIFIED and PROPOSED sections for each item as applicable.
To DFW Project Manager:

Project Name:

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<th>Paragraph</th>
<th>Description</th>
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The undersigned (General Contractor) (Construction Manager) requests consideration of the following:

**PROPOSED SUBSTITUTION:**

1. Attached data include product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified, both on the proposed substitution and the original specified product.

2. Attached data also includes description of changes to Contract Documents, which proposed substitution will require for its proper installation.

The undersigned (General Contractor)(Construction Manager) states that the following paragraphs, unless modified on attachments, are correct.

1. The proposed substitution does not affect dimensions on Drawings.

2. The undersigned (General Contractor)(Construction Manager) will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse effect other trades, the construction schedule, or specified warranty requirements.

4. Maintenance and service parts will be locally available for the proposed substitution.

The (General Contractor) (Construction Manager) further states that the function, appearance, and quality of the Proposed Substitution are equivalent or superior to the Specified Item. The General Contractor) (Construction Manager) further warrants that specification Section 01 62 00, paragraph 1.6G intent has been met.

5. Cost Reduction to the Owner: $
# ACCEPTANCES:

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- Accepted as Noted
- Not Accepted
- Received too late
- Resubmit with complete information
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- Accepted as Noted
- Not Accepted
- Received too late
- Resubmit with complete information
PART 1 – GENERAL

1.1 GENERAL
A. Prepare and submit Applications for Payment.

1.2 FORMAT
A. Use the Pay Request Forms provided at the Preconstruction Conference.
   1. DFW Form E-184 – Construction Contract Pay Request
   2. PPAR Form – Pay Period Activity Report
   3. Government Form 702
   4. Government Form 703

B. Adequate copies of the DFW forms may be obtained from the Owner’s Authorized Representative.

1.3 PREPARATION OF APPLICATIONS
A. Type required information on the Pay Request Form.
B. Execute certification by signature of Contractor’s Authorized Representative. The copy submitted must have an original signature in ink of the Contractor’s Authorized Representative.
C. Use data on Approved Project Schedule with the Schedule of Values or from actual computer produced Cost Control Reports, as applicable. Provide percent complete for each line item for portion of Work performed.
D. Prepare Application for Final Payment as specified in the Construction Contract General Provisions, Section 90, Measurement and Payment.

1.4 SUBMITTAL PROCEDURES
A. Submit one originally signed copy of the Pay Request Forms at times designated in the schedule provided at the preconstruction conference.

1.5 SUBSTANTIATING DATA
A. When the Owner requires substantiating information, submit data justifying line item amounts in question.
B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date, and line item by number and description.
C. Copy of the project schedule, updated to the application date line.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Section includes procedures for preparation and submittal of Schedule of Values.

1.2 FORMAT
A. Provide Schedule of Values on 8-1/2 by 11 inch bond paper.
B. Contractor’s standard form or media-driven printout will be considered on request.

1.3 CONTENT
A. List installed value of each major item as a separate line item to serve as a basis for computing values for Progress Payments.
B. Include Allowances as a separate line item. Coordinate listings with Progress Schedule general activities.
C. List values for cost of stored products with taxes paid for items on which payments will be requested for stored products,
D. The sum of values listed shall equal total Contract Sum.

1.4 SUBMITTAL
A. Submit three copies of Schedule of Values at the Pre-construction Conference.
B. Transmit under Owner-accepted form transmittal letter. Identify Project by title and number; identify Contract by number.

1.5 SUBSTANTIATING DATA
A. When Owner’s Authorized Representative requires substantiating information, submit data justifying line item amounts in question.
B. Provide one copy of data with cover letter for each copy of application. Show application number and date, and line item by number and description.

PART 2 - PRODUCTS
Not Used.

PART 3 - EXECUTION
Not Used.

-END OF SECTION-
PART 1 – GENERAL

1.1 SUMMARY

A. This section includes the required Forms and Schedules.

1.2 FORMS

A. Request for Authorization of Additional Classification and Rate - Standard Form 1444 (www.wdol.gov)

B. General Wage Decision Rates for Tarrant and Dallas County, Texas (http://www.wdol.gov)

1.3 WAGE RATES

A. U.S. Department of Labor (DOL) provides the required minimum wages and fringe benefits to be paid to all laborers and mechanics employed to work on this contract, either under this contract or under a related subcontract. The Contractor and all subcontractors are required to report the actual wages paid to laborers and mechanics doing work under this contract. The reported wages will be verified by review of the weekly payroll reports and by periodic on-site interviews conducted by the Construction Manager.

B. The Wage Determination establishes the minimum wages and fringe benefits to be paid to laborers and mechanics throughout the duration of this contract. In no event shall these minimum wages be modified.

C. In the event that the work specified in this contract requires work to be done by laborers or mechanics whose job classification is not listed in the Wage Determination, the Contractor is responsible for preparing the attached Request for Authorization of Additional Classification and Rate Standard Form 1444 (additional copies are available from the Owner’s Authorized Representative). The Contractor must complete Items 3 through 15 and submit the request to the Owner’s Authorized Representative prior to issuance of the Contractor’s Notice to Proceed or as soon as the need for the additional classification or rate is identified (if the work has been authorized to begin).
**REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND RATE**

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the OMB (Office of Information and Regulatory Affairs), and to the Department of Labor. Paperwork Reduction Project (1235-0058), Department of Labor, Washington, DC 20210.

**INSTRUCTIONS: THE CONTRACTOR SHALL COMPLETE ITEMS 3 THROUGH 16, KEEP A PENDING COPY, AND SUBMIT THE REQUEST, IN DUPLICATE, TO THE CONTRACTING OFFICER.**

1. TO:
   - ADMINISTRATOR, Employment Standards Administration
   - WAGE AND HOUR DIVISION
   - U.S. DEPARTMENT OF LABOR
   - WASHINGTON, D.C. 20210

2. FROM: (REPORTING OFFICE)

3. CONTRACTOR

4. DATE OF REQUEST

5. CONTRACT NUMBER

6. DATE BID OPENED (SEALED BIDDING)

7. DATE OF AWARD

8. DATE CONTRACT WORK STARTED

9. DATE OPTION EXERCISED (IF APPLICABLE) (SCA ONLY)

10. SUBCONTRACTOR (IF ANY)

11. PROJECT AND DESCRIPTION OF WORK (ATTACH ADDITIONAL SHEET IF NEEDED)

12. LOCATION (CITY, COUNTY AND STATE)

13. IN ORDER TO COMPLETE THE WORK PROVIDED FOR UNDER THE ABOVE CONTRACT, IT IS NEEDED TO ESTABLISH THE FOLLOWING RATE(S) FOR THE INDICATED CLASSIFICATION(S) NOT INCLUDED IN THE DEPARTMENT OF LABOR DETERMINATION NUMBER:

   **LIST IN ORDER: PROPOSED CLASSIFICATION TITLE(S), JOB DESCRIPTION(S), DUTIES, AND RATIONALE FOR PROPOSED CLASSIFICATIONS (SCA ONLY)**

   **DATING:**

   **WAGE RATE(S)**

   **FRINGE BENEFITS PAYMENTS**

   **(Use reverse or attach additional sheets, if necessary)**

14. SIGNATURE AND TITLE OF SUBCONTRACTOR REPRESENTATIVE

15. SIGNATURE AND TITLE OF PRIME CONTRACTOR REPRESENTATIVE

16. SIGNATURE OF EMPLOYEE OR REPRESENTATIVE

   **TITLE**

   **CHECK APPROPRIATE BOX REFERENCING BLOCK 13**

   **AGREE**  **DISAGREE**

**TO BE COMPLETED BY CONTRACTING OFFICER (CHECK APPROPRIATE - SEE FAR 22.1019 (SCA) OR FAR 22.406-3 (DBA))**

- THE INTERESTED PARTIES AGREE AND THE CONTRACTING OFFICER RECOMMENDS APPROVAL BY THE WAGE AND HOUR DIVISION. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.
- THE INTERESTED PARTIES CANNOT AGREE ON THE PROPOSED CLASSIFICATION AND WAGE RATE. A DETERMINATION OF THE QUESTION BY THE WAGE AND HOUR DIVISION IS THEREFORE REQUESTED. AVAILABLE INFORMATION AND RECOMMENDATIONS ARE ATTACHED.

(Send copies 1, 2, 3 to Department of Labor)

SIGNATURE OF CONTRACTING OFFICER OR REPRESENTATIVE

**TITLE AND COMMERCIAL TELEPHONE NO.**

**DATE SUBMITTED**

**STANDARD FORM 1444 (REV. 12-2001)**

Prescribed by GSA-FAR (48 CFR) 53.222(f)
PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

- END OF SECTION -
PART 1 - GENERAL

1.1 SUMMARY

A. Allowances are not included in the Lump Sum Base Bid for Lump Sum contracts.

B. Allowances have been set aside to complete elements of work that are within the intended scope of work, but which are not absolutely defined. Any and all unused portions of the stipulated Allowances amounts will not be paid to the Contractor and shall be deducted from the contract value at the completion of the project.

C. Use of allowance funds is for work, which, while considered to be within the original scope of work, could not have been reasonably anticipated based upon the information available at the time the cost estimate was established. Use of the fund is not to be construed as including upgrading or enlarging the Scope of the Project and is at the sole discretion of the Owner.

D. All price quotes and scopes of work requested by the Airport for each Allowance item of work, shall be provided to and approved by the Airport prior to the Contractor proceeding with the work. The Contractor shall provide price quote within seven (7) days of receipt of request by the Airport.

E. The Airport will approve an Allowance item of work by issuance of a Change Order prior to the Contractor proceeding. The Change Order will clearly define the Allowance item scope and agreed to amount.

F. Contract time extensions may not be executed under this process, but within the change order process. Any adjustment to the contract time shall be handled in accordance with Technical Specifications Section 01 32 16, Construction Progress Schedule.

1.2 RELATED SECTIONS

A. Section 01 21 00, Standby Time Allowance

1.3 ALLOWANCE SCOPE

A. Standby Time: This allowance provides a means to compensate the Contractor for temporary disruptions to his work resulting from airfield operations. Any compensable disruptions, further identified as Standby Time, must be approved by the Owner.

B. Unforeseen Field Conditions: This allowance provides a payment method for changes in the various work areas / phases or scope of work as directed by the Airport to mitigate unforeseen field conditions. The scope of work and associated compensation under this allowance includes, but is not limited to: additional demolition, relocation, or construction of necessary infrastructure to mitigate miscellaneous unforeseen conditions. Potential unforeseen items include abandoned utilities from prior permanent and temporary FAA facilities, drainage...
structures abandoned in place, direct buried cabling, and similar items. This allowance will also cover costs to maintain and remove existing erosion control devices left by other projects and not shown in the Construction Documents.

C. Utility Investigation/Relocation: This allowance provides for payment for Level A Potholing and modification in various work areas of the Project as directed by the Airport. The scope of work under this allowance includes, but is not limited to: additional exploratory investigation, relocation of utilities, and other additional miscellaneous utilities requirements not included in the scope of work. Investigation of utilities shown on the Plans to confirm location and depth is not part of this allowance but is included within the contract documents.

D. Supplemental Safety and Part 139 Measures: This allowance establishes a mechanism to compensate the Contractor for all labor, equipment and material as may be required to procure, place, remove, and/or modify the airfield construction safety plan as it relates to barricades, haul route signage, haul route construction, and sweepers as deemed necessary to make traffic flow and protect aircraft. This allowance also includes labor, equipment, and materials as may be required to address FAA Part 139 inspection items, not already included in Construction Documents. – ONLY FOR AIRFIELD WORK –

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT
A. All price quotes and scopes of work requested by the Airport for each Allowance item of work, shall be provided to and approved by the Airport prior to the Contractor proceeding with the work.

4.2 PAYMENT
Payment will be made under:
Pay Item 01 30 00-1 Standby Time
Pay Item 01 30 00-2 Unforeseen Field Conditions
Pay Item 01 30 00-3 Utility Investigation/Relocation
Pay Item 01 30 00-4 Supplemental Safety and Part 139 Measures

– END OF SECTION –
PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. General Project coordination of different Contract phases trades and disciplines.
   2. General coordination of construction site operations with operations of Owner.

1.2 GENERAL COORDINATION

A. Coordinate scheduling, submittals, and work of various Sections of Specifications to assure efficient and orderly sequence of installation of construction elements with provisions for accommodating items furnished by Owner to be installed by Contractor.

B. Coordinate construction operations included under different sections of Project Manual that are dependent upon each other for proper installation, connection, and operation.

C. Coordinate sequence of Work to accommodate partial Owner occupancy as specified in Section 01 11 00 - Summary of Work.

D. Coordinate Quality Assurance Testing as specified in Section 01 45 23 - Testing and Inspection Services.

E. Maintain services of major subcontractors throughout duration of Contract, except as required by provisions of Conditions of Contract. Notify Owner in writing of intention to replace subcontractors, outlining reasons for action and naming proposed replacement subcontractor.

F. Each subcontractor shall ensure that devices and equipment installed under their subcontract is operational. Subcontractor shall inform Contractor when completion and operation of their system is dependent on work of other trades. Arbitrate and resolve coordination conflicts between subcontractors to ensure complete and operational systems.

G. Coordinate work of subcontractors, and record subcontractor installation data on Project Record Drawings in accordance with Section 01 78 39 - Project Record Documents.

H. Coordinate installation of Owner-furnished equipment as scheduled on Section 01 11 00.

I. Communications to Owner from Contractor regarding Contract requirements shall be through Owner’s Authorized Representative.

1.3 COORDINATION MEETINGS

A. In addition to Project Meetings scheduled in Section 01 31 19, hold coordination meetings and pre-installation meetings with Contractor’s personnel, subcontractors, material men, and Owner, as necessary, to assure coordination of different trades and disciplines.
B. Schedule coordination and pre-installation meetings with Owner’s Authorized Representative. Meeting shall initially be called within 30 days of Contract award.

C. When necessary, prepare memoranda for distribution to each party outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings. Prepare similar memoranda for Owner’s Authorized Representative and separate contractors when coordination of their work is required.

D. Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of schedules.
   2. Installation and removal of temporary facilities.
   3. Delivery and processing of submittals.
   4. Progress meetings.
   5. Project closeout procedures.

1.4 COORDINATION OF SUBMITTALS
A. Schedule and coordinate submittals.
B. Coordinate Work of various trades having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
C. Coordinate requests for substitutions to assure compatibility of space, of operating elements, effect on work of other trades, and on work scheduled for early completion.

1.5 COORDINATION OF SPACE AND INSTALLATION SEQUENCE
A. Coordinate use of Project space and sequence of installation of equipment, walks, mechanical, or other Work that is indicated diagrammatically on Drawings. Utilize space efficiently to maximize accessibility for other installations, for Owner maintenance, and for repairs.
B. Where availability of space is limited, coordinate installation of different components to ensure maximum accessibility for required maintenance, service and repair.
C. Contractor shall be responsible for coordination of work. Ensure subcontractors coordinate their Work with the Work of the Contractor and other trades. Prepare coordination drawings as required by individual technical sections and hold coordination meetings in accordance with Section 01 33 23 - Shop Drawings, Product Data and Samples.
D. Where installation of one part of work is dependent on installation of other components, either before or after its own installation, schedule construction activities in sequence required to obtain best results.
E. Accommodate items scheduled for later installation, including accepted Bid alternates, Owner-supplied Contractor-installed items, and work by others, and installation of products purchased with allowances.

1.6 COORDINATION OF CONTRACT CLOSEOUT

A. Coordinate completion and cleanup of Work of separate phases and sections in preparation for Substantial Completion of portions of Work designated for Owner partial occupancy as designated in Section 01 11 00 - Summary of Work.

B. After Owner occupancy of premises, coordinate access to site by requirements of individual Specification Sections regarding correction of defective Work and Work not in accordance with Contract Documents. Minimize disruption of Owner's operations.

C. Assemble and coordinate Closeout submittals in accordance with Section 01 77 00 - Closeout Procedures.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SECTION INCLUDES
   A. Contractor participation in Pre-Construction Conference.
   B. Contractor participation in Site Mobilization Conference.
   C. Contractor participation in Progress Meetings.

1.2 PRE-CONSTRUCTION CONFERENCE
   A. The Owner’s Authorized Representative will schedule the “Pre-Construction Conference” after the Notice to Proceed has been issued.
   B. Attendance: Owner’s Authorized Representative, Architect/Engineer, Consultants and Contractor.
   C. Agenda:
      1. Purpose of the meeting;
      2. Brief project description;
      3. Project duration and milestones;
      4. Introduction and explanation of functions of DFW, the IMT personnel and organization (including responsibilities and authority);
      5. DFW requirements
         a. Wage and Hour Rate
         b. Payroll audits
         c. S/D/M/WBE Goals
         d. Pay Estimate Forms, Procedures and Applications
         e. Field Alteration Forms and Procedures
         f. Security Badge Procedures
         g. Other Security Procedures
      6. Project Control Procedures
         a. Project Meetings
         b. Construction Schedules
         c. Major Equipment Deliveries and Priorities
         d. Submittals
         e. Alternates/Substitutions
         f. Utilities
         g. Contractor’s Quality Control Plan
         h. Security and Housekeeping
         i. Maintenance and Protection of Vehicular and Pedestrian Traffic
j. Coordination of the Work

7. Construction Management Procedures
   a. Permits
   b. Correspondence and Documentation
   c. Processing of RFI’s
   d. Coordination of contract work with adjacent projects
   e. Monthly Progress Photographs and Videos
   f. Environmental Concerns and Drainage Control
   g. Contract Modification and Claim Procedures
   h. Completion of the Work and Punch List procedures
   i. Record Drawings
   j. Final payment and Closeout Procedures

1.3 SITE MOBILIZATION CONFERENCE
   A. Owner will schedule a conference at Project site prior to Contractor occupancy.
   B. Attendance: Owner’s Authorized Representative, Architect/Engineer, Consultants, Contractor, and major subcontractors.
   C. Agenda:
      1. Use of roadways by Owner and Contractor.
      2. Roadway closing.
      3. Transporting equipment.
      4. Temporary utilities.
      5. Schedules
      6. Procedures for maintaining record documents.
      7. Requirements for start-up of equipment.
      8. Inspection and acceptance of equipment put into service during construction period.

1.4 PROGRESS MEETINGS
   A. Project meetings will be held weekly to monitor the progress of the work.
   B. The Owner shall make physical arrangements for meetings; prepare agenda with copies for participants. The Owner’s Authorized Representative will preside at these meetings; record minutes, and will prepare and distribute copies of minutes.
   C. Attendance: Contractor’s Authorized Representative, Job superintendent, major subcontractors and suppliers, Architect/Engineer as appropriate to agenda topics for each meeting.
D. Meeting Agenda:

1. Review Previous Meeting Minutes
2. Safety
3. Schedule (3 Week Look Ahead, Pre-Activity Meetings, Work Progress, Work Status)
4. Davis-Bacon (if applicable)
5. Submittals
6. Requests for Information
7. QA/QC
8. Environment/Erosion Control/Utilities
9. Correspondence
10. Changes & Revisions (Pending CO, Potential CO, Problems)
11. Application for Payment
12. Airport Operations
13. Code/Commissioning
14. Other Business

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for schedules and reports required for proper performance of the Work.

B. Before the Contractor can start work, a project schedule shall be submitted, and approved by the Owner’s Authorized Representative (OAR).

1.2 REFERENCE SECTIONS

A. Section 01 11 00 - Summary of Work

1.3 REQUIREMENTS

A. The Contractor shall prepare and maintain a project Schedule in accordance with the requirements of this Section. The requirement for a Schedule is included to:

1. Assure adequate planning and execution of the Work by the Contractor.

2. Assure coordination of the Work of the Contractor with other contractors, subcontractors and suppliers.

3. Incorporate proper coordination of the work between Owner and the airlines/tenants.

4. Assist the Contractor and the OAR in evaluating:
   A. Contract performance relative to the Schedule Milestones as referenced in Section 01 11 00 - Summary of Work of this Contract
   B. Monthly progress
   C. Proposed Contract modifications

B. The CPM Schedule shall include:

1. Detailed Critical Path Method (CPM) Diagram of all project activities, including procurement and delivery of major deliverables or field equipment, and subcontractor schedules.

2. Work Breakdown Structure (WBS) as defined by project’s Scope of Work

3. Respective WBS assignment for each Activity

4. Summary Bar Chart-(Gantt Chart)

5. Resource & Cost loading – see Section 1.3.D for requirements
   A. Cost loading must include:
      1. Budgeted Cost
      2. Cost to Date
      3. (S-Curve) graphical report including: Contract amount line, Baseline curve, Milestone markers, Work-in-Progress, ETC Curve, EAC line.

6. Planned cash flows based on early and late activity dates. Bi-weekly graphical reporting of actual cashflow vs. baseline plan.

7. Responsibility Code by Company

C. Provide a CPM Schedule suitable for planning, scheduling and reporting the Work to be performed under the Contract. The Schedule shall be developed using the Owner’s approved project planning software, Oracle-Primavera P6 (current version) as updated by Oracle (Primavera) throughout the project. Other Primavera P6 versions that are fully compatible with the current version, or other schedule software, may be acceptable if approved by the OAR. The principles and definitions of terms herein are as set forth in the Project Management Institute (PMI) publications, "A Guide to the Project Management Body of Knowledge (PMBOK) 5th Edition" (ISBN: 978-1-933589-67-9), "Practice Standard for Scheduling" (ISBN: 978-1-93069984-7) and "Practice Standard for Work Breakdown Structures, Second edition" (ISBN: 978-1-933890-13-5). In the event of conflicts, the provisions of these articles shall govern.

1. Acceptance of the Schedule Software and version by the OAR that will be used for the baseline schedule and updates shall be used throughout the project, unless a new software version is approved by the OAR.
D. The schedule shall be resource & cost loaded at the WBS Summary Level if the period of Work from NTP to Substantial Completion exceeds 12 months, or if the Contract Amount exceeds $2.0 Million, or upon written notice by the OAR who has determined it is necessary for evaluating schedule performance regardless of whether the above limits apply.

1. Cost can be loaded as either a lump sum non labor resource or a price per unit labor/material resource as appropriate and agreed upon by the OAR.
2. The cost shall be broken down to align with the WBS level and loaded to match the Contract Line Items or Schedule of Values (SOV) breakdown, as appropriate, for the Contract.
3. Mobilization shall be loaded across a Level of Effort (LOE) activity and invoiced as required in Specification Section xx xx xx.
4. Period Cost and Cost to Date shall be coordinated between the Pay Applications and the construction activity progress.
5. Cumulative amount of cost loaded Work activities shall equal total Contract Amount.
6. Change Orders including changes that are addressed using allowances, shall be added to the schedule and cost loaded with corresponding cost, activity description, and logic. An updated CPM Diagram, Gantt Chart and S-Curve must be submitted with all Change Order requests and will include the impact of each request.
7. The Contractor shall include additional cost breakdown or information requested by the OAR at no additional cost.
8. Refer to Section 1.7.D.5.c for additional reporting requirements.

E. The Schedule shall at a minimum adhere to industry standards for scheduling of activities maximum durations, use of open ended activities, the percentage of logic types, the use of constraints and their type, and the use of activity leads and lags, etc.

F. The Contractor shall use the following Planning Schedule Logic:

1. Calculate start-to-start lag from early start.
2. Define critical activities as; Total Float less than or equal to zero.
3. Show open-ends as non-critical.
4. Calculate total float as Late Finish – Early Finish.
5. Calendar for scheduling shall be 7 days with no holidays considered.
6. The use of terminal float or buffering activities within the schedule shall not constitute ownership of that float by the contractor.

G. The Contractor shall use assign Activity Assignments to the following:

1. Duration type is Fixed Duration and Units.
2. Activity Type should be Task Dependent for “working” activities.

H. The Contractor shall use the following Project Calculation and Settings:

1. Link actual to date and actual this period.
2. Link budget and Estimate at Completion (EAC) for non-progressed activities.

I. Schedule Detail shall be broken down such that the activity duration is no longer than 14 calendar days and no activity shall exceed 30 calendar days without the consent of the OAR.

J. Activity descriptions shall follow the naming convention of “LOCATION –VERB NOUN”. That is: a common Location ID followed by an action verb (i.e. DEMO, INSTALL, SET, etc.), followed by the item name (noun) requiring action.

K. Summary Bar Chart (Gantt Chart)

1. The Summary Bar Chart shall be based on the activity durations and logic indicated in the CPM Diagram area of the schedule.
2. The Contractor and the OAR shall jointly select summary level activities.
3. Each summary level activity shall include:
   a. A concise description of the Work represented by the activity
   b. A time bar indicating planned/actual activity start and finish dates and actual cumulative percent complete at the end of each reporting period.
   c. A status line as of the end of the reporting period. (Data Date)
   d. Major procurement items required to support the summary activity duration.
4. The Summary Bar Chart shall display all Contract milestones.

L. Seasonal weather conditions shall be considered and included in planning and scheduling via a “weather calendar” assigned to such affected activities for all work influenced by high or low ambient temperatures, precipitation and/or saturated soil to ensure completion of all Work within the Contract Time.
1. Contract time extensions for abnormal weather will be granted in accordance with paragraph 1.10 only to the extent that the actual time lost during a particular month exceeds the average lost time indicated in the General Provisions, Section 80, Prosecution and Progress. Time extensions granted for abnormal weather are not compensable.

1.4 SCHEDULE REPRESENTATIVE
A. Within seven (7) calendar days after receipt of the Notice to Proceed (NTP) the Contractor shall designate in writing a schedule representative in the Contractor's organization who shall be responsible for coordinating with the OAR during preparation and maintenance of the Schedule.
B. The Contractor's schedule representative shall have complete authority to act for the Contractor in fulfilling the Schedule requirements of the Contract, and if such authority is interrupted during the Contract it shall be obtained in writing by the OAR. This scheduler cannot be replaced without the approval of the OAR.

1.5 INITIAL SCHEDULE SUBMITTAL
A. The Contractor and major subcontractors shall meet with the OAR immediately after the issuance of the Notice to Proceed to jointly agree on guidelines, WBS, level of detail and summaries to be used in developing the Schedule. The contractor must prepare a preliminary Baseline CPM Schedule for this meeting showing in detail the activities to be accomplished during the entire project duration. This will be used to establish an agreed to baseline CPM Schedule. Once approved by the OAR, the baseline will not change for the remainder of the project duration.
B. PROSECUTION AND PROGRESS – Refer to General Provisions Section 80, Prosecution and Progress.
C. The CPM Schedule needs to include reasonable operational, seasonal, economic, weather, facility or manpower restrictions required for sequencing of Work.
D. The Contractor shall be responsible for assuring all work sequences are logical and the CPM Schedule shows a coordinated plan for complete performance of the Work. Failure of the Contractor to include any element of work required for performance of the Contract in the CPM Schedule shall not excuse the Contractor from completing all Work within the Contract Time.
E. The CPM Schedule shall comply with the various limits imposed by the Contract Documents and by any contractually specified intermediate milestone dates and completion dates.
F. The degree of detail shall be to the satisfaction of the OAR and shall be sufficient to identify:
   1. The work breakdown structure of the project.
   2. Contract milestones and phasing
   3. The types of work to be performed by subcontractor and labor trades involved including the respective quantities and durations required for timely prosecution of stated work.
   4. Submittal review, procurement, fabrication, delivery, installation and testing of major materials and equipment.
   5. Access and availability to work areas.
   6. Manpower, material, space and equipment constraints.
   7. Delivery of Owner-furnished equipment as applicable.
   8. Interfaces and dependencies with preceding, concurrent and following contractors.
   9. Cash flow curves showing the planned cash flow at each Application for Payment for the Contract, and including the cumulative cash flow for the Contract.
G. The Initial Schedule submittal shall be made and revised, if required, in accordance with the General Provisions, Section 80, Prosecution and Progress.
H. The Initial Schedule will become the Baseline Schedule upon approval by the OAR.
I. The Contractor shall upload the Baseline Schedule into the Owner's data base for approval of the schedule.

1.6 ROLLING FOUR WEEK LOOK AHEAD SCHEDULES
A. A Rolling Four Week Look Ahead Schedule shall be submitted weekly and shall be the basis of the weekly Contractor Review meetings.
B. The Rolling Four Week Look Ahead Schedule shall be the actual detailed work plan used by the Contractor in meeting the Contract Schedule and Milestones.
C. The basis of the Rolling Four Week Look Ahead Schedule shall be the Detailed CPM Schedule.
D. The Rolling Four Week Look Ahead Schedule shall display at minimum:
1. Activity Description
2. Planned Activity Expected Duration and representative Dates
3. Activities or data for the previous week, current week, the and next two (2) following weeks
4. Indicator for Action Items that require resolution before execution of the Activity can occur.
5. Indicator of all critical path activities.
6. Any additional information the Contractor wishes to include information to assist in the organization and understanding of the selected Activities.

E. The Contractor shall prepare a written narrative status report of the project progress and key forecasted activity starts or completions or any anticipated issues to accompany the Rolling Four Week Look Ahead Schedule. The reports shall be submitted to the Project Manager as part of the weekly Contractor meetings. Written status reports shall include but are not limited to:
   2. Progress made on critical activities indicated on CPM Schedule.
   3. Explanations for any lack of work on critical path activities planned to be performed during last week and a recovery plan of how the project will be brought back on schedule.
   4. Explanations for any proposed schedule changes, including changes to logic or to activity durations.
   5. Status of major material and equipment procurement.
   6. Any delays encountered or expected during reporting period and upcoming reporting periods.
   7. Any changes in the planned early and late cash flow curves.

1.7 BI-WEEKLY (every other week) PROJECT STATUS REPORTING AND UPDATING
A. After the baseline schedule is approved, the CPM Schedule (as defined in 1.3.B) shall be updated bi-weekly until Project Completion. Entering of actual progress made through the end of the reporting period, including actual dates activities started and/or completed, the percentage of work completed, application for payment amounts, and estimated remaining duration for each activity in progress will be subject to approval of the OAR. If requested by the OAR, the Contractor shall participate in pre-update conferences to verify progress and review modifications to the CPM Schedule prior to the formal submittal.
B. In case of disagreements concerning actual progress to date, the OAR’s determination shall govern.
C. The contractor shall update the CPM Schedule to reflect period and cumulative progress, and reflect any approved schedule revisions.
D. The updated CPM Schedule shall be submitted and entered into the Owner’s data base within seven (3) calendar days of the schedule status date, and with the corresponding Pay Application and early/late/actual cash flow curves, and shall include the following:
   1. A PDF file (.pdf) of the complete CPM Schedule sorted Early Start, Total Float, then by Remaining Duration and shall identify the following:
      a. Activity Identification
      b. Activity Description
      c. Original Duration
      d. Remaining Duration (based on an estimate of the actual days remaining to complete the activity and not the quantity survey percent complete)
      e. BL Start Date or Actual Start Date
      f. BL Finish Date or Actual Finish Date
      g. Total Float
      h. Variance from BL (baseline)
   2. If required by the OAR, a PDF of the 90-day Look Ahead grouped by WBS Sorted by Early Start, Total Float, then by Remaining Duration.
   3. If required by the OAR, a PDF of the 90-day Look Ahead Grouped by Responsibility Code (with page breaks), Sorted by Early Start, Total Float, then by Remaining Duration.
   4. A copy of the contractor’s updated Primavera P6 .xer file, unless other OAR approved software is being used, and then the data shall be transmitted electronically in a format compatible with the current version of Primavera.
5. A narrative report:
   a. The Contractor shall explain all progress made during the period;
   b. Status of critical Project components (percent complete, amount of time ahead or behind schedule) and an explanation of corrective actions taken or proposed to bring the project back on schedule if delays have occurred.
   c. The Contractor shall include schedule analysis along with calculations. The following is a minimum analysis to be reported: (Refer to Section 1.3.D to determine if required).
      1. Earned Value at the Project Summary Level
      2. EV to Pay Application Request Variance
      3. Cash Flow Variance
      4. Estimated at Completion (EAC)
      5. Estimate to Completion (ETC)
      6. Current and projected schedule Variance
      7. Cost Variance
   d. Updates for the forthcoming report period.
   e. Status of major material and equipment procurement.
   f. Mitigation measures on all negative variances.
   g. Delaying factors / Problem areas, current and anticipated.
   h. Identify known current and or potential risks and detail mitigation options for each.
   i. Identify and provide explanations for all schedule changes, including changes to logic or to activity durations.
   j. Explanations for any lack of work on critical path activities planned to be performed during the last period.
   k. Identify any changes to the critical path and the drivers for them.
   l. Report indicating actual versus planned resource loading for each trade and each activity.
   m. The Contractor may include any other information pertinent to status of project.
   n. The Contractor shall include additional status information requested by the OAR at no additional costs.

E. Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

F. If the Contractor’s update of the Schedule reflects, or OAR determines, that the Contractor is at least ten percent (10%) or fifteen (15) or more calendar days behind the approved baseline schedule for any of the project interim or completion milestones, then the contractor shall submit a Recovery Schedule.
   1. A Recovery Schedule, if triggered by the above or upon written notification by the OAR, shall be submitted separate from the update of the Schedule within seven (7) calendar days of the knowledge of the event triggering the need for recovery or upon receipt of a written request from the OAR.

1.8 SCHEDULE REVIEW AND APPROVAL
A. The OAR and the Contractor shall meet within five (5) workdays of receipt of the Contractor's Initial Schedule Submittal for joint review of the proposed CPM Schedule. The Contractor shall revise any areas which, in the opinion of the OAR, conflict with either the intent of this Section or the timely completion of the Project.
B. In the event the Contractor fails to define any element of work activity or logic currently designed and the OAR review does not detect this omission or error, such omission or error, when discovered by the Contractor or OAR, shall be corrected by the Contractor at the next Schedule Update.
C. As required by the General Provisions, Section 80, Prosecution and Progress, the Contractor shall revise the CPM Schedule in accordance with agreements reached during the joint review meeting defined in paragraph 1.5 of this Specification and submit the revised CPM Schedule in the same form and detail as the Initial Schedule Submittal.
D. Submittal and Approval of the Contractor's CPM Schedule will be a condition precedent to the making of any progress payments under the Contract.
1. All or part of progress payments may be withheld for work performed prior to the approval of a Baseline CPM Schedule. Approval of the Baseline CPM Schedule will not be unreasonably withheld.

2. All or part of progress payments may be withheld for work performed during the subsequent progress periods without acceptance of the CPM Schedule Update. Acceptance of the update will not be unreasonably withheld.

E. Acceptance of approval of the CPM Schedule by the OAR does not relieve the Contractor of any of its responsibility for the accuracy or feasibility of the CPM Schedule. However, to the extent that the approved CPM Schedule is reasonable, it becomes a part of this contract and defines the obligations of both the Contractor and the Owner to achieve a timely contract completion.

F. In the event that the approved Schedule indicates the Contractor's plan to finish prior to the Contract completion date, the Contractor and the Owner may execute a Contract Change Order adjusting the Contract completion date to coincide with the Contractor's planned finish date at no expense to the Owner.

1.9 SCHEDULE REVISIONS
A. Updating the Schedule to reflect actual progress to date shall not be considered a revision of the Schedule. All schedule revisions must follow the process prescribed for Contract changes in the General Conditions.

B. The Contractor shall revise the Schedule when one or more of the following conditions occur:
   1. When a change or delay significantly affects any specified intermediate milestone dates or completion dates.
   2. When the Contractor elects to change any sequence of activities affecting the critical path or to significantly change the previously approved CPM schedule logic.
   3. When, in the opinion of the OAR, the status of the work is such that the CPM and supporting analysis is no longer representative for planning and evaluation of the work.

C. Submit any revised Schedule in the same form and detail as the initial submittal.

D. The OAR must approve any CPM Schedule revisions.

1.10 TIME IMPACT ANALYSIS FOR CONTRACT MODIFICATIONS, DELAYS, AND TIME EXTENSIONS
A. When changes to the Contract are initiated or delays are experienced, the Contractor shall submit to the OAR a written Time Impact Analysis illustrating the influence of each change or delay on any specified intermediate milestone date and the current projected completion date as per the Project Change Management Plan.
   1. The Contractor, as required by the General and Special Provisions of the Contract, shall notify the OAR of a change that may impact an intermediate milestone or the Contract completion date.
   2. Each Time Impact Analysis shall include a fragmentary network (fragnet) indicating all necessary logic, duration of impact, and demonstrate how the Contractor proposes to incorporate the change or delay into the current approved CPM Schedule.
   3. The event times used in the analysis shall be those included in the latest update of the detailed progress schedule or as adjusted by mutual agreement to reflect project status at the time the delay occurred or notification of the change was issued.
   4. The Analysis should include any additional supporting evidence that the OAR deems necessary.
   5. A .pdf copy of the Time Impact Analysis shall be submitted and entered into the owner’s document control system.
   6. A Primavera P6 .xer of the impacted CPM Schedule representing the impact calculations shall be submitted and entered into the owner’s document control system.
   7. A narrative in the same form and detail as the schedule update identifying all steps taken to calculate the impact and Recovery Plan, shall be submitted to and accepted by the OAR.
   8. Upon agreement by both parties, the influence of changes and delays shall be incorporated into the CPM Schedule at the next update.
   9. Where the OAR has not yet made a final determination as to the amount of time extension, or the parties are unable to agree as to the amount of time extension to be
reflected, the Contractor shall reflect that amount of time extension in the CPM Schedule as the OAR may determine to be appropriate for such interim purpose. It is understood and agreed that any such interim determination for the purpose of this paragraph shall not be binding upon either party for any other purpose and that, after the OAR has made a final determination as to any time extension, the Contractor shall revise the Schedule prepared thereafter in accordance with the final decision.

10. It is understood and agreed that schedule float time is not for the exclusive use of either the Owner or the Contractor. Extensions of time for performance under any and all of the provisions of this Contract will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total float along the channels involved at the time a delay occurred or notification of a change was issued. It is expressly agreed and understood that the contractor shall not be entitled to any compensation or damages on account of potential delays which can be avoided by re-sequencing activity times or logic used to sequester float.

11. Time Impact Analyses related to Contract time extensions and/or changed work shall be incorporated into and attached to the applicable Contract Change Order(s).

1.11 RESPONSIBILITY FOR COMPLETION

A. The Contractor shall furnish sufficient forces, offices, facilities and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensure the prosecution of the Work. If, in the opinion of the OAR, the Contractor, due to its own action, falls behind in meeting the Schedule, the Contractor shall take such steps as may be necessary to improve its progress, and the OAR may require the Contractor to increase the hours of work, the number of shifts, the amount of supervision, overtime operations and/or the amount of construction plant and equipment without additional cost to the Owner. The provisions of this section shall not be construed as prohibiting work on Saturdays, Sundays, and/or holidays, if the Contractor so elects and gives reasonable notice to the OAR. Work hours shall be within those stipulated in Section 01 11 00, Summary of Work, and the Plans.

B. The Contractor may improve its progress by performing sequential activities concurrently, by performing activities more quickly than planned, or by revising schedule logic to reflect a work around sequence. The Contractor may make minor logic changes, which are required to reflect actual work as it is performed, pertaining to out-of-sequence work. The minor logic changes shall be included in the schedule narrative and incorporated into the CPM in the approved format.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

- END OF SECTION –
PART 1 GENERAL

1.1 SUMMARY

A. The Contaminated Media Management Plan (CMMP) provides airport board employees tenants and contractors with information and guidance on potential environmental concerns that may be encountered during the disturbance, excavation and relocation of soils at Dallas/Fort Worth International Airport (DFW Airport).

1.2 RELATED SECTIONS

A. Section 01 55 29, Staging Area.
B. Section 01 57 23, Temporary Storm Water Pollution Control.
C. Section 01 74 19, Construction Waste

1.3 SUBMITTALS

A. Contractors will be required to submit
   a. Excavation Soil Management Form
   b. Soil Transfer Request Form

1.4 REFERENCES

A. The following is a list of policies and regulations which may be referenced in this Section:


1.5 QUALITY ASSURANCE

A. Persons conducting environmental related construction activities shall possess the training and experience necessary to recognize environmental conditions, conduct soil screening, and use field instrumentation.

1.6 CONTAMINATED MEDIA MANAGEMENT PLAN
A. Refer to the complete CMMP at https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_906633.pdf

B. No soil can leave or be brought onto DFW Airport Property unless approved by DFW Environmental Affairs Department (EAD).

C. Work Areas

1. The CMMP classifies a jobsite into three potential work areas: General Work Area, Area of Concern, and Remediation Area. See design plan sheet for delineation of work areas.

2. Work area delineation is based on known potential contaminants. The work area delineation may change as new information becomes available.
   
   i. General Work Area
   
   1. Soil will be monitored for visual and olfactory evidence of contamination. Contact EAD immediately if potential contamination is encountered.
   
   2. The contractor will complete the Excavation Soil Management Form to track excavation activities and the transport of soil. This form will be turned in to the assigned EAD representative weekly.
   
   3. Water that collects on site will be monitored for visual or olfactory evidence of contamination. If no evidence of contamination is observed, the contractor may pump the water in accordance with all applicable SWPPPs or ECPs. If contamination is present, contact EAD for sampling requirements. The contractor will be responsible for all sampling and disposal.

   ii. Area of Concern

   1. The soil will be sampled or field-screened every 50 cyd. The screening method is determined by EAD based on the chemical of concern present onsite.

   2. Photoionization Detector (PID)

      a. PID will be equipped with a 10.6 eV lamp or greater. Equipment calibration will be conducted on a daily basis regardless of manufacturer’s recommendations; and documented on the Excavation Soil Management Form.

      b. If PID readings greater than 25 ppm are encountered, stop work immediately and contact EAD. Field screening will be conducted every 50 cyd. All field screening results must be submitted to EAD for review. The contractor is responsible for all sampling and disposal.

   3. Laboratory Analysis
a. Samples will be collected every 50 cyd and submitted to a National Environmental Laboratory Accreditation Certification (NELAC) certified laboratory for analysis. All analytical reports must be submitted to EAD for review. The contractor is responsible for sample collection and analysis.

4. The contractor will complete the **Excavation Soil Management Form** to track excavation activities, field screening results, and the transport of soil. This form will be turned in to the assigned EAD representative weekly.

5. Water that collects on site will be checked for visual or olfactory evidence of contamination. If no evidence of contamination is observed, the contractor may pump the water in accordance with all applicable SWPPPs or ECPs. If contamination is present, contact EAD for sampling requirements. The contractor will be responsible for all sampling and disposal.

iii. Remediation Area

1. Place soil back into the excavation whenever possible.

2. All soil generated that cannot be placed back in the excavation shall be stockpiled and sampled to determine appropriate soil classification.

   a. Excavated soils are to be stored on, and securely covered by, 10 mil plastic sheeting or similar method to protect the soil from exposure to rain or storm water runoff (i.e. lined roll-off). These soils cannot be combined or co-mingled with soils from other work areas within the project.

   b. A soil sample shall be collected every 50 cyd and submitted to a NELAC certified laboratory for analysis. All analytical laboratory reports must be submitted to EAD for review. The contractor is responsible for sample collection and analysis. Refer to page 27 in the CMMP for additional details.

3. The contractor will complete the **Excavation Soil Management Form** to track excavation activities and the transport of soil. This form will be turned in to the assigned EAD inspector weekly.

   a. Water that accumulates on the site will be collected and stored in a labeled, water-tight container. EAD will identify the chemicals of concern. Water samples will be collected and submitted to a NELAC certified laboratory for analysis. All analytical laboratory reports must be submitted to EAD for review. The
contractor is responsible for sample collection and analysis.

D. Soil Transfer
1. The CMMP identifies five methods to transfer soil: Deposit at DFW Stockpile Area, Remove from DFW Stockpile Area, Transfer Between DFW Airport Project Sites, Import Material from an Off-Airport Location, Export Material to an Off-Airport Location
   i. Deposit at DFW Stockpile Area
      1. Complete the **Environmental Authorization to Transfer Soil Form**. The form must be submitted for EAD and DCC review at least 48 hours in advance. EAD and DCC must approve the request prior to any soil leaving the project site.
      2. Soil must originate from either
         a. A general work area with no visual olfactory evidence of contamination
         b. An area of concern with either
            i. PID readings of 0ppm
            ii. Analytical samples non-detect
   ii. Remove from DFW stockpile area
      1. Complete the **Environmental Authorization to Transfer Soil Form**. The form must be submitted for EAD and DCC review at least 48 hours in advance. EAD and DCC must approve the request prior to any soil leaving the project site.
      2. Soil must be PID screened every 50 cyd. PID readings must be below 25ppm.
   iii. Transfer Between DFW Airport Project Sites
      1. Complete the **Environmental Authorization to Transfer Soil Form**. EAD must approve the request prior to any soil leaving or entering the project site.
      2. Soil must originate from either
         a. A general work area with no visual olfactory evidence of contamination
         b. An area of concern with
            i. PID readings below 25ppm
            ii. Analytical samples non-detect
            iii. Analytical samples below TRRP residential standards and placed in a “capped” location
   iv. Import Material from an Off-Airport Location
      1. Complete the **Environmental Authorization to Transfer Soil Form**. EAD must approve the request prior to any soil entering the project site.
   v. Export Material to an Off-Airport Location
1. Complete the **Environmental Authorization to Transfer Soil Form**. EAD must approve the request prior to any soil leaving the project site.

2. Soil must originate from either
   a. A general work area with no visual olfactory evidence of contamination
   b. An area of concern with
      i. PID readings below 25ppm
      ii. Analytical samples non-detect
      iii. Analytical samples below TRRP residential standards and placed in a “capped” location
SECTION 01 35 13.13

MINIMUM STANDARDS FOR CONSTRUCTION AND MAINTENANCE ON THE AOA

PART 1 – GENERAL

1.1 AOA PROCEDURES

A. These Procedures specify requirements and limitations imposed on construction and maintenance activity within the Aircraft Operations Area (AOA), the purpose of which is to ensure the safe and efficient operation of the Airport while providing maximum allowable flexibility for personnel. Any deviation from the procedures as stated herein constitutes a violation and shall be subject to enforcement in accordance with Article 1.11 ENFORCEMENT OF CONTRACTOR AOA PROCEDURES.

B. Construction projects at the Airport are reviewed through conferences prior to the start of work to establish the parameters within which the work can be performed.

C. Construction projects within the Security Identification Display Area (SIDA)/AOA require that personnel display appropriate Airport Access/Identification Badges issued in accordance with Article 1.11 AIRPORT IDENTIFICATION/ACCESS BADGE.

D. Motor vehicles entering the AOA must display an AOA Access permit and be in compliance with Article 1.12 AIR OPERATIONS AREA (AOA) ACCESS PERMIT.

E. Construction projects that take place in the public areas of terminal concourses (sterile area) to include “back of house” areas such as offices and concessions within the Security Identification Display Area/Air Operations Area (SIDA/AOA) require a tool management plan in accordance with Article 1.17 CONSTRUCTION SECURITY PROCEDURES TOOL – MANAGEMENT PLAN.

F. Prior to beginning a project, the Contractor shall submit to Owner's Authorized Representative and the Airport Board’s Department of Public Safety (DPS) a security plan that describes how the Contractor intends to provide for the security of the construction site, Contractor staging area, and property throughout the duration of the project.

G. The Project Manager is responsible for ensuring that these procedures are followed. Any exceptions require specific authorization by the Airport’s Operations Department and DPS on a case-by-case basis.

H. Disruption of underground utility services on the airport can cause degradation of aviation safety, and widespread loss of the use of airport facilities and or services. Procedures concerning underground utilities location and protection are located in Section 01 71 33, Protection of Adjacent Construction, and shall be adhered to at all times.

I. Progress meetings are to be held weekly unless otherwise stated in Contract Documents, in order to discuss schedules, planned closures, dig book, safety and security issues, and other related matters.

J. The Contractor is required to conduct daily safety briefings with all workers who will access AOA construction sites and include topics relevant to these rules and regulations and the activities being performed. Discuss specific project movement restrictions as well as general AOA safety procedures and guidelines. Follow the safety meeting agenda provided by the Owner's Authorized...
Representative. The meeting will be conducted both in English and Spanish when the size of the worker population requires bilingual communications, and will be attended by all Contractor and subcontractor personnel working inside the AOA that day. The Contractor shall record meeting attendance, including attendees’ names and employers, and shall provide a copy of the attendance sheet to the Owner’s Authorized Representative. Failure by the Contractor or subcontractor personnel to attend these mandatory meetings could result in AOA access being denied to those individuals.

K. The Contractor’s designated Quality Control representative will conduct an “AOA Readiness Checklist” review with all personnel prior to crews entering the AOA.

1. The AOA Readiness Checklist is to be provided by the Owners authorized representation (OAR) upon completion. The purpose of the checklist is to ensure that all personnel entering the AOA understand the limits of the designated work area, have all tools, materials, and equipment necessary to complete the planned activities, and have verified the operability of all powered equipment and hand tools prior to entering the AOA.

2. The intent of this checklist is to reduce or eliminate superfluous travel to and from the work site due to Contractor’s lack of initial readiness. The Owner’s Authorized Representative will not call for Operations escort until the checklist review is complete.

L. Prior to the start of any project on the AOA, the Contractor, through the Owner’s Authorized Representative, shall provide the Airport Operations Center (AOC) with an Emergency Phone List listing the pager, cell phone and/or home phone numbers of key members of the construction team including Owner’s Authorized Representative personnel. The listing shall be in priority order for contacting personnel during off-duty hours, and specifically identify the individual(s) on call 24-hours a day for emergency maintenance of hazard lighting and barricades. This list shall be revised as required.

M. Project management including the Contractor’s designated Safety Officer must be on duty at the Airport whenever the Contractor is performing work on the AOA.

N. The Contractor shall document the condition of the work site and access roads to it prior to start of construction, and restore the area to original (or better) condition when area is no longer marked as a construction site. This requirement does not apply to attaining a stand of grass as long as grass has been planted.

1.2 FORMS AND INSTRUCTIONS

A. The following forms and instructions have been included for Contractor’s use, as applicable:

1. AOA Readiness Checklist
2. AOA Construction Escort Release/Pick up Point Instruction Sheet
3. Tool Management Plan
4. Lockout procedure for Airfield Series Lighting
5. Lockout Log
6. Airfield Closure/Activity/ Circuit Lockout Request.
a. Form attached
b. Instructions for filing form

7. Contractor's Application for Access Card or Key(s)
   a. Form attached
   b. Access card/keys Rules and Regulations

1.3 CONSTRUCTION - AIRCRAFT MOVEMENT AREA

A. When construction is being performed within the Aircraft Movement Area, the following procedures will apply:
   1. The Owners Authorized Representative will provide notification to and obtain approval from Airfield Operations before entering the AOA and proceeding into the construction site.
   2. Approval to enter closed areas within the Movement Area must be obtained from Airfield Operations Port Control.
   3. A log of each vehicle entering and exiting the closed area shall be maintained by Port Control or his/her designee.
   4. Contractors are required to obtain approval to clear a work site which must be compliant with these rules and regulations.
   5. The Owners Authorized Representative will again notify Airfield Operations when the construction activity has been cleared of all personnel.

B. Vehicle Operator
   1. As approved by Airfield Operations, contractors may designate personnel to complete Airport-approved training for driving within the Aircraft Movement Area. Successful completion of the annual training includes passing all required tests.
   2. Trained and qualified vehicle operators shall only drive routes within the Movement Area specified by Airfield Operations. These routes shall not include crossing of an active runway or any portion of an active runway safety area. Vehicle operators will not operate in the Movement Area during SMGCS Conditions (low visibility operations).
   3. No vehicle shall operate unescorted within the Movement Area unless it is equipped with an operational flashing yellow beacon, an Airport Board radio (800 MHz, contractor furnished), and a VHF frequency radio (contractor furnished) to monitor FAA ATCT communications. This does not apply to crossing a taxiway through an approved flagging operation.
   4. All Vehicles, unescorted and escorted, operating within the Movement Area shall not interfere with aircraft operations and must always yield right-of-way to aircraft and emergency vehicles.
   5. Airfield Operations may suspend or discontinue contractor vehicle operations involving Movement Area-trained drivers at any time it is deemed necessary for safety and/or operational purposes.

C. Personnel Escort Requirements
   1. At least one person with escort privileges possessing an AOA Airport
Identification / Access Badge must escort any individual or group of unbadged persons.

2. The proximity of the badged person to non-badged person(s) must be such that the unbadged person(s) must remain within sight and sound of the escort at all times and be under the control of the badged escort individual at all times.

3. At a minimum, the Project Manager, Quality Control Representative, Safety Officer, and all Superintendents, foremen and lead men will be badged. Although other members of the construction work force may obtain an AOA Airport Identification / Access Badge, not all badged personnel will be granted escort privileges based on job classification.

4. The maximum ratio for escorting individuals within the AOA/SIDA will be one AOA badged individual to five non-badge individuals.

D. Vehicle Escort Requirements

1. Each Certified Movement Area Escort (CMAE) must be currently licensed as required by the State of Texas, possess valid insurance coverage as required by the Airport, possess a valid Airport Identification / Access Badge, and be thoroughly familiar with the provisions of this Section. A CMAE must escort all other vehicle operators at all times within the movement area.

2. A CMAE must possess their unexpired Movement Area Driver’s Certification on their person during all times driving unescorted within the Movement Area. That certification must be presented to an Airport Board employee upon request.

3. In order to sustain Movement Area driving privileges, a CMAE must ensure training (retraining) is completed within 12 calendar months of their initial or previous retraining session.

4. A maximum of five vehicles may be escorted for a total of six vehicles including the escort.

5. Vehicle operators must have the ability to communicate via radio or phone with project management and each vehicle must possess a map of the project site with detailed depictions of AOA entrance/exit points, haul routes, restricted areas, and other vital information.

6. Dedicated escort requirements must be coordinated with Airfield Operations in advance through the Owner’s Authorized Representative.

E. All vehicle escorts must enter the AOA through a DPS Security services staffed AOA gate.

F. The Escort and person(s) to be escorted will meet prior to the escort and verbally communicate the location of the intended destination, the route to be taken, and give further instruction as necessary. All escorts for construction projects on the AOA, including, without limitation, the aircraft movement area, shall be performed in a manner calculated to ensure that the escorted party (contractor equipment, vehicles, personnel, etc.) will be released from the escort only at the designated Release Point inside the construction work area.

Details of Contractor Provided Escort Operations (Details of DFW provided escort are identical to using DFW Airfield Agent):
1. The CMAE will arrive at location to begin an escort.
2. The CMAE will get out of his/her vehicle and meet with all personnel who will be under their escort and will pass out laminated Release/Pick-Up Point Escort Instruction sheets to the operator of each vehicle to be escorted.
3. The CMAE will ensure there is at least one badged person for every five non-badged persons.
4. The CMAE shall verbally instruct each vehicle operator to follow the escort vehicle at all times, and as closely as considerations of safety will permit, until the vehicles are released from the escort at the Release/Pickup Point preferably located at least 50’ inside of the construction work area. Contractor shall be responsible for the materials and maintenance of the Release/Pickup Point.
5. The CMAE will then escort the vehicles to the Release Point within the construction work area.
6. Upon arrival at the construction work area Release Point, the CMAE will drive around it and verify that all vehicles have arrived there.
7. After the CMAE has verified that all escorted vehicles have arrived, all escorted vehicles will be directed to stop and their drivers to return the laminated escort instruction sheets back to the Airfield Operations employee.
8. Same procedure will apply for escorting vehicles out of the construction work area to an AOA gate.
9. The CMAE will not terminate the escort or release any escorted party except at a designated Release Point. For example, the CMAE shall not release the vehicle(s) being escorted outside of a cone line established for a closure and allow the vehicles to drive past the cone line into the work area unescorted. The CMAE will perform the escort past the cone line into the construction work area.
10. The CMAE will release the escort at the designated Release Point, ensuring all vehicles being escorted follow the escort vehicle past the established cone line and inside to their work area.
11. Escorts performed to construction work areas on the AOA in which a closure of a taxiway or runway is not in effect and an established Release Point is not being used will be conducted in a manner that the vehicles will be released at the designated point agreed to by the person performing the escort and the person being escorted. The release of the escort will be agreed to at the verbal briefing performed prior to the escort getting underway.

G. DFW provided escorts must be coordinated with Airfield Operations in advance through the Owner’s Authorized Representative.

H. Contractors may perform escorts only along established Haul Routes provided the following procedures are adhered to:
1. The vehicle operator displays a valid Airport Identification / Access Badge.
2. The vehicle displays a valid AOA Access Permit.
3. The vehicle is clearly marked with a three-foot square orange and white checkered flag for daytime activities or a 360-degree rotating or flashing amber light for daytime or nighttime activities.

4. Supervisor vehicles shall have a rotating or flashing amber light that operates continuously

**NOTE:** Only authorized Airport Board and FAA personnel or their assigned agents may perform escorts off established haul routes.

### 1.4 HAUL ROUTES

**A.** Airfield Operations must approve the establishment of contractor haul routes. Prior to approving haul route activities, the following must be established:

1. Green flags or markers, not to be smaller than 6 inches square mounted on wooden stakes no higher than 18 inches above the ground, must prominently mark each side of the haul route at intervals of not more than 100 feet apart.

2. Stop signs (30 in. x 30 in.), or other traffic control devices, conforming to the "Texas Manual of Uniform Traffic Control Devices" (TMUTCD), must be clearly posted on either side of intersecting roadways, emergency roads, taxiways and other areas specified by the Airfield Operations. Signs must normally be no nearer than 160 feet (193 feet for certain taxi routes) from the taxiway centerline or 10 ft. from the emergency road centerline.

3. In some cases, traffic control signal lights may be required for controlling taxiway crossings. When they are used, they shall have either 8 inch or 12 inch circular red and green lenses, and shall normally be located a minimum of 160 feet (or up to 193 feet) from the taxiway centerlines and between 2 and 10 feet from the outside edge of the haul road surface. Their height shall be no less than 9 feet or more than 15 feet above the haul road surface. Approval for use of traffic control signal lights will be approved on a case by case basis only by Airfield Operations.

4. Flaggers, wearing bright reflective outer clothing, shall be posted at each crossing to control haul route traffic either through flags or traffic signals. A flagger may not be allowed to perform any other function and must be able to speak and understand English.

   a. For active taxiway crossings, flaggers shall have completed Airport-approved training concerning the Aircraft Movement Area. Successful completion of the annual training includes passing all required tests. Each flagger must actively monitor a VHF tower radio (contractor furnished) tuned into the appropriate frequency when engaged in flagging operations at or near an active taxiway. Unless otherwise specified, a flagger is required on each side of the active taxiway to be crossed, i.e., two (2) for a single crossing point.

5. Paved areas must be kept clean at all times. An operational sweeper driven by a Certified Movement Area Escort shall be provided at each active taxiway crossing during hauling operations.

6. All vehicles shall stop at each taxiway and/or emergency road before
crossing to ensure the route is clear.

7. Construction vehicles must yield right-of-way to all Airport vehicles and aircraft at all times.

8. Hauling operations will be discontinued at the direction of Airfield Operations when the operation of the airfield warrants due to inclement weather or other conditions affecting aircraft movement.

9. Provide wheel wash stations for the removal of mud from trucks and other vehicles at the following locations:
   a. Prior to entry onto public thoroughfares.
   b. Prior to crossing airport roadways, ramps, taxiways and runways.

   **Note:** If the Contractor can successfully exhibit his ability to keep the paved areas, listed above, clean, the Owner’s Authorized Representative may waive the requirement for wheel wash stations.

1.5 CLOSING AIRFIELD AREAS

A. No portion of the airfield may be closed to aircraft or vehicles without specific authorization from Airfield Operations. Any construction activity that affects the utilization of roadways, taxiways, runways, Nav aids, or associated electrical circuits must be prearranged and scheduled in accordance with contract documents, and specific approval granted by Airfield Operations. The lockout Procedure for Airfield Series Lighting Circuits is explained in attachments.

B. The following activities are considered an impact to airfield areas and require closures:
   1. Obstruction of any roadway or emergency access road.
   2. Objects, excavations, men, or material within:
      a. Runway Safety Area - 250 feet from runway centerline
      b. Runway Safety Area - 1000 feet off end of runway
      c. Taxiway Object Free Area - 160 feet from taxiway centerline (193 feet for certain taxi routes)
      d. Taxilane Object Free Area - 138 feet from taxilane centerline (up to 167 feet for certain taxi routes)
      e. Within NAVAID critical areas

C. Initial notification of intended airfield closures should be prearranged no less than 30 days in advance, except where noted otherwise within Airport contract documents and specifications or as granted by Airfield Operations on a case-by-case basis.

D. In order to enable proper coordination of airfield activities, a description of all AOA activity and planned closures must be e-mailed to the Coordination Center by 11:00 a.m. of the morning preceding nighttime closures (7:00 p.m. to 7:00 a.m.) and/or the following day’s daytime closures (7:00 a.m. to 7:00 p.m.). For closures on a holiday, daytime on the day following a holiday, Saturday, Sunday and daytime on Monday, the request must arrive at the Coordination Center by 11:00 a.m. on the last workday prior to the holiday or weekend. The Contractor will use the Airfield Closure/Activity/Circuit Lockout Request form (Attachment 2) processing the form through his/her Owner’s Authorized Representative in time for correlation with airfield activities.
to meet the requirement to get the request to the Coordination Center by 11:00 a.m. Notification of cancellation of scheduled closures should be made to the Coordination Center by the most expeditious means available.

E. Airfield Operations reserves the right to refuse any closure due to unforeseen conditions that may require continued utilization of the area for aircraft operations. These conditions include, but may not be limited to:

1. Inclement weather/low visibility conditions.
2. Delayed aircraft operations
3. Closures of higher priority (e.g. urgent maintenance activities).
4. Emergency situations.

F. Closures require the placement of low profile barricades (edge of grass to edge of grass) with reflective tape and red flashing lights placed across closed taxiways or portions of the runway. Airfield Operations can require the contractor to modify the locations of the barricades from what may be shown on contract drawings if in their opinion such modification is necessary due to aircraft utilization of the airport. Lighted cones may be approved in certain circumstances at the discretion of Airfield Operations. For closures involving cross taxiways intersecting at runways, the closure will include the portion of that same taxiway on the opposite side of the runway.

G. Runway closures require the placement of lighted “X’s” at each end of the runway if personnel or equipment will be on the runway at any time. Preferably, those will be trailered X’s. Note, runway closures are only restrictions for aircraft takeoffs and landings and not necessarily restrictions for aircraft taxi operations on available runway pavement.

1. On runways with intersection departures, the placement of barricades (edge of grass to edge of grass) with reflective tape and red flashing lights placed across the closed runway to prevent inadvertent departures from the intersection will be directed by Airfield Operations.

H. For work that requires any runway closure, required construction equipment, materials, etc. shall be mustered on-site or at a designated area approved by the Owner’s Authorized Representative prior to the execution of a runway closure. Prior to a runway closure, the Contractor may also be required to demonstrate the good working order of his equipment, availability of materials if off-site, adequacy of material quantities on-hand, or any other factors which might delay the Contractor’s work and subsequent reopening of the closed runway to the satisfaction of the Owner’s Authorized Representative and/or Airfield Operations.

I. All areas closed to aircraft operations must be prominently marked and lighted in accordance with these standards, or as directed by Airfield Operations or Owner’s Authorized Representative. **No construction activities will be allowed to begin prior to completion of all marking and lighting requirements as well as the installation of the Release/Pick up point.**

J. Taxiway guidance signs, centerline lights, and edge lights that could otherwise lead an aircraft into a closed area shall be deactivated and/or covered as directed by Airfield Operations. Signs must be obscured with blank panels. Plastic wrap is prohibited.

K. Taxiway centerline markings that could otherwise lead an aircraft into a closed area shall be obliterated by means of water blasting. Any existing markings that
are effected by the removal operations must be restored for continuity, i.e., centerline removed over top of runway edge marking.

L. For any work activity located at or beyond the runway holding position markings and on or within 50 feet of pavement, a runway closure is required regardless of the distance from the runway centerline.

1.6 MARKING AND LIGHTING

A. All construction equipment must be marked by a 3-foot square orange and white checkered flag during daylight hours or an amber rotating or flashing beacon during daylight or nighttime. Supervisory and escort vehicles must display a 360-degree amber rotating or flashing beacon. For nighttime construction, certain other vehicles, cranes, and pieces of construction equipment may require lighting as directed by Airfield Operations.

B. All excavations and closed areas on the AOA must be prominently marked with low profile barricades with reflective tape and lighted with red flashing lights or as directed by Airfield Operations and Owner’s Authorized Representative.

C. The low profile barricades shall be interconnected and must extend from edge of grass to edge of grass or across entire paved surface of closed area.

D. No construction activities will be allowed to end before all excavations have been marked and lighted as required.

E. Excavations adjacent to full strength taxiway pavement of an active taxiway or excavations within a taxiway safety area shall be marked with lighted barricades that must be as low as possible to the ground; of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, or other surface wind currents. If the barricades are affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inches above the ground. Non-frangible hazard markings, such as concrete barriers, metal-drum type barricades or timbers (railroad ties) shall not be used in the AOA.

F. Excavations within the non-movement areas shall be marked with collapsible barricades marked with diagonal, alternating orange and white stripes; each barricade attached or joined together with two flashing red lights on each end.

G. Excavations within 10 ft. of emergency roads shall be marked with lighted Type A barricades or DFW Airfield Compliance approved traffic control devices.

H. Orange construction fencing shall be used in the AOA as depicted in the construction phasing plans in accordance with the following:

1. Plastic construction fencing shall not be utilized within a runway or taxiway object free areas, within 138 feet (up to 193 feet in some locations) of a taxilane centerline, or in any other area where jet blast could be a problem.

2. Approval of the material by the Owner’s Authorized Representative is required before using construction fencing on the AOA.

3. Construction fencing and supports must be kept in a satisfactory condition (all supports in place, material securely attached to the supports and no tears in the material).

4. The use of construction fencing is no substitute for prominently marking
and lighting an excavation.

5. When used to mark the boundaries of the construction site, the posts shall have a white reflective marker at the top of the post that is visible from outside the construction site.

I. Barricades, cones, and/or construction fence shall be removed when directed by the Owner’s Authorized Representative or when the requirement for marking of hazardous areas no longer exists.

J. Release/Pick Up Point markings shall consist of 3 foot square black and white checkered flag located within a group of 5 orange cones with amber lights placed 50’ inside of the closed area.

K. All marking, lighting, signs, flags, cones, barricades, and other safety related devices shall be maintained to 100% serviceability at all times.

1.7 SAFETY AREAS

1. Safety areas are surfaces surrounding runways and taxiways in which no potentially hazardous ruts, humps, depressions, or other surface variations (in excess of 3 inches) may exist. Surface conditions must be capable under dry conditions of supporting aircraft rescue (ARFF) vehicles and other heavy equipment, and supporting the occasional passage of aircraft without causing major damage to the aircraft.

2. Safety area dimensions are as follows:
   a. Runways: 250 feet either side of centerline, 1000 feet off each end.
   b. Taxiways: 107 feet either side of the centerline, total 214 feet side (131 feet from centerline on certain taxi routes).

3. The Contractor may be required to immediately terminate his work within Runway Safety Areas at the instructions of the Owner’s Authorized Representative or Airfield Operations. Work may be performed outside Runway safety areas without closure as long as weather minimums are not less than 1000-foot ceiling and/or 3 miles visibility.

4. Barricades with lights will be required to mark the RSA adjacent to the actual work areas.

5. Barricades will be required to be placed on both sides of the nearest taxiway intersection to prevent any planes turning into the closed area.

1.8 Obstacle Free Zone (OFZ)

1. OFZs are three-dimensional areas involving imaginary surfaces in the vicinity of runways. Objects, vehicles, and stockpiled material will not be permitted to penetrate an OFZ whenever the weather conditions are below an 800-foot ceiling or less than two miles visibility and aircraft are using an Instrument Landing System (ILS) approach.

2. OFZ surfaces are as follows:
   a. Inner-transitional surface OFZ begins at 200 feet from runway centerline, rises vertically to an elevation of 39 feet above the runway elevation, and then slopes 6:1 to a height of 150 feet above the established airport elevation. (For Category II/III runways, it rises vertically to an elevation of 23 feet above the Dallas Fort Worth International Airport Standard Technical Specification Book.)
runway elevation and then slopes 5:1 for a distance of 657 feet from the runway centerline, then slopes 6:1 to 150 feet above the established airport elevation.)

b. Inner-approach OFZ begins 200 feet from the runway threshold at the same elevation as the runway threshold and ends 200 feet beyond the last approach light unit. Its width is 400 feet and it rises at a slope of 50:1.

c. Objects that do not penetrate the OFZ may still require approval by Airport Operations based on the requirements contained in Federal Aviation Regulation Part 77.

B. Object Free Area (OFA)

1. Object Free Areas are two-dimensional areas surrounding taxiways and taxilanes within which no object may be located that is not completely mobile and capable of clearing the OFA for each passing aircraft. EXCEPTION: Airport Approved objects such as barricades, markers, flags, and lights used to define excavations are allowed to remain within the OFA.

2. Normal OFA dimensions are as follows:

   a. Taxiways - 160 feet from centerline. (193 feet for certain taxi routes).

   b. Taxilanes - 138 feet from centerline. (167 feet for certain taxi routes).

3. Airfield Operations must authorize construction activities within OFAs in advance.

4. No objects will be allowed to remain within taxiway/taxilane OFA above barricade height.

5. At the approval of Airfield Operations, mobile equipment and/or personnel on foot may operate within the OFA provided it is properly marked and lighted, and a flag person is used to signal the pullback of all persons and equipment for each passing aircraft. A flag person may not be allowed to perform any other function.

6. Using "pull back" procedures when working within taxiways' OFA during nighttime hours is prohibited unless the area of work has sufficient light in the opinion of Airfield Operations. Sufficient light may include artificial light that is either existing or supplied by the Contractor. If it is chosen to bring in additional artificial light for the work area, a layout plan shall be submitted to Airfield Operations for approval. At a minimum, the plan shall show the type(s) of light, the location of light(s) and whether or not the light(s) will be shielded. Airfield Operations may require additional information to determine the impact of construction lights on airfield operations.

   **Exception:** No activities will be allowed within 160 feet (193 feet for certain taxi routes) of a High Speed Exit Taxiway unless that HSE Taxiway is closed.

C. NAVAID Critical Areas (NCA)

1. Work will not be authorized within NCAs without specific approval by
Criteria for Marking Construction Sites, Safety Areas, Object-Free Areas, and NAVAID Critical Areas

1. White markers or flags are used to prominently mark the boundaries of construction sites when such marking is determined to be feasible. Alternatively, orange construction fence may be used for this purpose in accordance with Article 1.6.H above.

2. Red markers or flags must prominently mark the boundary of Runway Safety Areas and NAVAID Critical Areas. Prior to beginning any activity within 50 feet of the runway safety area, the boundary shall be further marked with low profile barricades that are interconnected.

3. Yellow markers or flags must prominently mark Object Free Areas (400 feet* from a runway centerline, 160 feet (or 193 feet) from a taxiway centerline, and 138 feet (167 feet) from a taxilane centerline). NOTE: Construction activities are subject to being terminated whenever visibility is at or below 3/4 mile, except as approved on a case-by-case basis.

4. All markers/flags must be made of reflective material and be no smaller than 6 inches square mounted on 2x2 wooden stakes no higher than 18 inches above the ground. Each marker must be placed no further apart than 100 feet and extend to the limits of the construction site. NOTE: Airfield Operations on a case-by-case basis may grant exceptions.

5. No work shall begin in areas requiring these flags until the Owner’s Authorized Representative have confirmed their correct placement.

6. The flags must be continuously maintained as installed unless work is confined to periods when the associated runway, taxiway, or taxilane is closed or the NAVAID has been removed from service.

7. Workers and equipment are prohibited from passing beyond red or yellow markers designating safety areas, object free areas or NAVAID critical areas without Owner’s Authorized Representative approval as obtained from Airfield Operations on a case-by-case basis except when the associated runway or taxiway/taxilane is closed.

8. Flags shall be removed when directed by the Owner’s Authorized Representative or when work within these areas is completed.

E. Trenches, Excavations, and Stockpiles

1. No trenches or excavations will be permitted within the following areas:
   a. Within 250 feet of a runway centerline (200 feet if approved by Airfield Operations).
   b. Within 1000 feet from runway end.
   c. Within 107 feet (131 feet on certain taxi routes) of a taxiway centerline unless the opening is properly barricaded and lighted.

2. Stockpiles (including spoils piles) are not normally permitted within the boundaries of the AOA. When they are authorized, they are typically restricted to 3 feet tall and shall not be permitted in the following areas unless additional specific approval has been granted:
a. Within 400 feet of a runway centerline.

b. Within 160 feet of a taxiway centerline (193 feet on certain taxi routes).

c. Within 138 feet of a taxilane centerline (167 feet on certain taxi routes).

d. Within 2700 feet of the end of a runway (Runway Object Free Area Extension).

e. Within NAVAID Critical Areas.

3. All trenches, excavations, and stockpiles must be prominently marked and lighted.

F. Staging of Construction Equipment

1. Construction equipment is not normally permitted to be staged (stored) on the AOA. When authorization has been obtained from Airfield Operations, the equipment shall not be permitted in the following areas unless additional specific approval has been granted:

   a. Within 400 feet of a runway centerline.

   b. Within 160 feet of a taxiway centerline (193 feet on certain taxi routes).

   c. Within 138 feet of a taxilane centerline (167 feet on certain taxi routes).

   d. Within 2700 feet of the end of a runway (Runway Object Free Area Extension).

   e. Within NAVAID Critical Areas.

2. All construction equipment authorized to be staged (stored) on the AOA must be prominently marked and lighted in accordance with Article 1.8.F of this Section.

G. Use of Extended Height Equipment

1. The use or installation of extended height construction equipment (more than 20 ft. high) such as cranes, "cherry pickers," drill rigs and batch plants is prohibited without prior approval of Airfield Operations through the Owner’s Authorized Representative.

2. Advanced notice for the use of such equipment at any location on the project site must be made to the Owner’s Authorized Representative in accordance with Section 01 41 00, “Regulatory Requirements”, of these specifications.

3. If utilized at night or in conditions of poor visibility (less than 3 miles visibility), the equipment must be lighted in accordance with FAA Advisory Circular 70/7460-1 (most current version) Obstruction Marking and Lighting and/or as directed in the airspace study. Lights must be visible throughout 360°, and steady burning red lights must have a minimum light intensity of 32.5 candelas and flashing red lights shall have a peak effective intensity of 2000 ± 25 % candela.

4. This equipment shall be lowered to its stowed height or as low as feasible when not in use or when directed by Airfield Operations or the Owner’s
H. Maintenance of Construction Areas

1. Construction boundaries shall be clearly defined and marked/fenced as directed by Airfield Operations.

2. The contractor is responsible for maintaining construction areas to the same standards used on the remainder of the airfield. That includes such things as:
   a. Keeping grass mowed to a height of 6 to 10 inches.
   b. Keeping the area clear of debris, trash, and excessive construction materials at all times.
   c. Maintaining all markers, barricades, cones, signs, lighting and erosion control devices in proper working/functional condition.

1.9 CONSTRUCTION - NON-MOVEMENT AREAS

A. When construction activity is being performed within the Non-Movement Area of the AOA (ramps, taxiways, etc.), the procedures established for the movement area generally apply unless otherwise authorized by Airfield Operations, EXCEPT:

1. Unescorted access through Terminal Security Gates is limited to those persons displaying a valid (Airport Identification/Access) Badge encoded with “terminal gate access” authorization. The term “Terminal gate access” is defined as any badge holder whose badge has been encoded to grant access through security gate checkpoints within passenger terminals. Those badge holders who do not have terminal gate access privileges encoded in their badge must be escorted by someone who has terminal access privileges.

1.10 AIR OPERATIONS AREA SECURITY

A. Each employee working within the AOA must be briefed on AOA security regulations and a record of such training maintained by the Contractor. Each employee must attend AOA Safety Coordination meetings prior to the start of work within the AOA that includes security enforcement subject matter. Failure to attend may result in employee being denied access to the AOA.

B. Each non-badged employee that is allowed escorted access to the AOA for the purpose of construction activities must possess and render for inspection government-issued picture identification. Identification documents shall be subject to being verified through a credential check process by an authorized representative of the Airport Board. All non-badged individuals will be required to carry valid government issued identification with them at all times while working inside the AOA.

C. It is the responsibility of every Airport Identification/Access Badge holder to challenge anyone in the AOA who does not have an Airport Identification/Access Badge prominently displayed unless that individual is under escort by a properly badged individual.

D. Construction storage/office areas located outside the AOA must be secured to prevent unauthorized entry by the public.
E. The Contractor shall maintain project related AOA fences intact and secure at all times. A 10 foot clear zone will be maintained on both sides of the fence. The clear zone will remain free of stockpiled materials and/or vehicles.

F. Notify Airfield Operations each day, through the Owner’s Authorized Representative, prior to initial entry of any personnel into the AOA. Airfield Operations shall be notified again after the last personnel leave the AOA at the end of each workday.

G. The Contractor shall utilize approved AOA gates to gain access to the AOA provided coordination has been made through the Owner’s Authorized Representative and the Department of Public Safety. The Contractor may also request approval from Airport Operations and the Department of Public Safety to install a new gate (normally such gates are not approved within the SIDA). If approved, a gate number will be assigned by DPS and a work order will be submitted to install an Intellikey lock. Gates in the Central Terminal Area will require Access Control equipment and will be manned by DPS Security Officers. Gates not located in the Central Terminal Area will also be manned by DPS Security Officers.

H. The Contractor will be responsible for funding and coordination of staffing with DPS and the DFW Project Manager. Additionally, the Contractor will be responsible for installing an air conditioned and heated security post, restroom and telephone. Specifications for guard houses can be obtained from the DFW Design Criteria Manual. Any exceptions will be at the discretion of the Department of Public Safety.

I. All AOA gates, that are not automatic or manned, shall be secured with a single Airport locking mechanism.

J. The use of Contractor locks in place of or in addition to Airport locks is specifically prohibited. Contractors may make application through their sponsoring department for a key to Airport locks on required access gates in accordance with established procedures. Those procedures include the following:

1. All Contractors requesting a key to any AOA gate must have a valid Airport Identification/Access Badge.

2. A deposit will be required for each key issued.

3. Deposit for an AOA key will be authorized for release only upon the return of the key.

4. Applications for a key requires completion of the "Authorization for Key(s)" application and approval from the sponsoring department Vice President or designee, and a letter on company letterhead indicating the term for which the key is expected to be required and the name of the responsible individual.

5. Keys shall not be duplicated.

6. Lost or stolen keys shall be reported immediately to the DFW Access Control at the non-emergency number (972-973-5100).

7. Lost or stolen keys will result in forfeiture of the deposit.
K. In the event that construction requires a portion of the AOA fence or gate to remain open on a temporary basis, the opening will be secured by a DPS Police or Security Officer.

1. The Contractor will be responsible for the funding and coordination of staffing with DPS. The DFW Department of Public Safety provides Police or Security Officers from the off-duty employment pool. Contact the DPS Project Planning and Management Lieutenant (972-973-3531) or the Desk Sergeant (972-973-3533) at least 48 hours in advance.

2. All fence openings or gates shall remain closed until the Security Officer has verified the vehicle and all occupants are authorized to enter the AOA.

3. Persons or vehicles with proper identification shall be denied entry if their presence in the AOA is not project related. Forced entry shall be reported immediately to the D/FW Department of Public Safety and the AOC.

L. Entrance through Terminal Security Gates in the CTA may be permitted under the following conditions:

1. Unescorted access though Terminal Security Gates is limited to those persons displaying a valid Airport Identification/Access Badge programmed with "access" authorization in a vehicle displaying a valid AOA Vehicle Access permit.

2. All who have been issued an Airport Identification/Access Badge with "access" must present their badge to the badge reader and receive a green light indicating they have current access authorization.

3. Persons who have been issued an Airport Identification/Access Badge with "access" authorization but do not have it in their possession and those who have been issued badges without "access" authorization shall not be permitted to enter the AOA through a Terminal Security Gate even under escort.

4. Those persons who do not possess a valid Airport Identification/Access Badge or who have not been issued a badge may be allowed to enter the AOA through a Terminal Security Gate only on official business and only when under escort. The non-badged individuals will be required to sign a visitor's log along with the authorized individual conducting the escort and must also have a valid government issued photo identification on their person at all times.

5. The maximum ratio for escorting individuals within the CTA will be one Airport Identification/Access Badge individual to five non-badged individuals. Non-badged individuals must remain within visual and physical proximity to the badge holder and also must have valid government issued photo identification on their person at all times.

6. No one will be permitted to enter a Terminal Security Vehicle Gate on foot. All persons and property are subject to search by security personnel.

**NOTE:** Violations of AOA security requirements within Contractor controlled areas of responsibility, which result in criminal or civil penalties, or fines shall be the responsibility of the Contractor and/or individual to resolve or pay, and may result in the temporary
or permanent suspension of the Airport Identification/Access Badge.

M. For AOA access and/or construction activities in the west airfield, all badged personnel shall successfully complete the West Cargo Area training program. Upon completion of the training, each badge holder must request the West Cargo Matrix be added to their badge access through the badge Sponsor.

1.11 AIRPORT IDENTIFICATION/ACCESS BADGE
A. No person shall enter the SIDA/AOA without authorization. Any person found on the SIDA/AOA without proper identification as described herein shall be considered unauthorized, removed from the SIDA/AOA, and subject to prosecution and suspension or revocation of the Airport Identification/Access Badge.

B. All persons authorized access to the SIDA/AOA shall clearly display a valid AOA Airport Identification/Access Badge issued by the Airport on their outer garment, above the waist and below the neck or shall be escorted by an authorized Airport Identification/Access Badge agent of the Airport, the FAA, or a representative of the airline or tenant.

C. It is the responsibility of every Airport Identification/Access Badge holder to challenge anyone on the SIDA who does not have a valid Airport Identification/Access Badge prominently displayed unless that individual is obviously under the escort of a properly Airport Identification/Access Badged individual.

D. The Access Control Office administers Airport Identification/Access Badges and is managed by the Department of Public Safety: The Airport Identification/Access Badge is an easily identifiable badge, about the size of a standard credit card. It must be prominently displayed on the outermost garment above the waist and below the neck of the person to whom it was issued.

E. Applications

1. New applications for an Airport Identification/Access Badge shall be submitted in the manner prescribed by the Access Control Office and coordinated with the Owner’s Authorized Representative. Copies of the application may be obtained from the Owner’s Authorized Representative. Instructions for filling out the form are on the back. Care should be followed in filling out the application.

2. Each applicant must submit to a criminal history records check through submission of fingerprints to the FBI. In addition, each applicant must receive an “Approved” Security Threat Assessment (STA) result from the TSA prior to badge issuance. Those persons who have been convicted of a disqualifying crime and/or who do not receive an “Approved” STA result from the TSA per CFR 1542 shall be denied a badge.

3. Upon approval of the Airport, the application shall be submitted in person by the applicant to the Access Control Office located at Terminal D, on the departure level, between gates 19 and 22, between the hours of 07:00 and 17:00 Monday through Thursday or between the hours of 07:00 and 12:00 on Friday.

4. The fees for fingerprinting and the Airport Identification/Access Badge shall be per the current schedule of charges.
F. Revocation
   1. Violation of AOA Rules and Regulations, Policies and procedures, is grounds for immediate revocation of Airport Identification/Access Badge.
   2. Upon termination or upon conclusion of the requirement to access the SIDA as authorized by the Airport, the employer/Contractor shall be responsible for immediately surrendering the Airport identification/Access Badge to the badge holder's sponsor.
   3. Employers/Contractors shall be billed a non-returned badge fee for all badges not returned to the Access Control Office within ten business days from the date the Access Control Office is notified of the termination of access privileges.
   4. DPS and the badge holder's sponsor have authority to revoke an Airport Identification/Access badge. If an individual’s Airport Identification/Access Badge is revoked, he/she will be immediately escorted from the SIDA/AOA or detained by DPS.

G. Authority
   1. The authority to produce and issue Airport Identification/Ac cess Badges lies solely with the Airport.
   2. No person shall produce, copy, issue, or use a similar badge at the Airport.
   3. No person shall in any way alter an Airport Identification/A ccess Badge.
   4. Airport Identification/Access Badges are the sole property of the Airport and issued for the exclusive use of the individual identified thereon.
   5. Airport Identification/Access Badges must be surrendered for inspection upon request of an Agent of the Airport.

1.12 AIR OPERATIONS AREA (AOA) ACCESS PERMIT
A. No motor vehicle shall enter the AOA unless such vehicle displays an AOA Access Permit or is under escort by a duly authorized representative of the Airport, the FAA or tenant responsible for the AOA gate through which the person is to enter.
C. A permanent permit is an easily identifiable decal affixed to the left front and rear bumpers of the vehicle to which the permit has been issued and is valid for a maximum of three years. It displays the permit number and expiration date.
   1. A temporary permit is a green colored hanging card placed on the rear-view mirror of the vehicle to which the permit has been issued. A temporary permit is not transferable to another vehicle. This permit is valid for a specific period of time up to 90 calendar days, and contains the following information:
      a. Vehicle license plate number
      b. Expiration date
      c. AOA rules
   2. Applications
Applications for AOA Access Permits shall be submitted in the manner prescribed by the Department of Public Safety and coordinated with the Owner’s Authorized Representative. Copies of the Application may be obtained from the Owner’s Authorized Representative or the Department of Public Safety webpage at: http://www.dfwairport.com/badge/

Applications for AOA Access Permits approved by the sponsoring department shall be submitted to the Access Control Office for issuance. Note: Contact the Airport Risk Management Office for insurance requirements necessary to obtain a vehicle permit.

Revocation

Violation of AOA Rules and Regulations is grounds for immediate revocation of AOA vehicle access authority.

Upon termination or upon conclusion of the requirement to access the AOA as authorized by the Airport, the employer/holder shall be responsible for surrendering the AOA Access Permit to the Airport.

Authority

The authority to produce and issue AOA Access Permits lies solely with the Airport.

No person shall produce, copy, issue or use a similar permit at the Airport.

No person shall in any way alter an AOA Access Permit.

AOA Access Permits are issued for the exclusive use of the vehicle identified on the Permit Application.

1.13 MOTOR VEHICLES ON AOA

A. Authorization and Registration of Vehicles

No motorized vehicle shall enter the AOA unless its driver thereof is duly authorized to operate such vehicle on state or municipal highways and has duly authorized access to the AOA/SIDA (if required). All persons authorized unescorted access to the AOA/SIDA shall display an Airport Identification/Access Badge issued by the Airport.

No motorized vehicle shall enter the AOA unless such vehicle displays an AOA Access Permit issued by the Airport, or is under proper escort by an Airport, FAA or tenant representative and is properly identified with the company name.

All Traffic: All traffic within the AOA shall comply with all lawful orders, signals, or directions of any authorized representative of the Airport. When signs or pavement markings control such traffic, they shall be obeyed unless otherwise directed by an officer or agent of the Airport.

B. Safe Operation of Vehicles:

No vehicle shall be operated within the AOA, in a careless or negligent manner, in disregard of the rights and safety of others, at a speed or in a manner which endangers persons or property, while the driver thereof is
under the influence of an intoxicant, or if such vehicle is so loaded or poorly maintained as to endanger persons or property.

2. Prior to driving within the AOA, all vehicle operators must complete DFW's Driver Training Program on AOA Awareness and/or Nonmovement Area driving. For activities in the west airfield, vehicle operators must also complete the West Cargo Area driver's training.

3. Night or Low Visibility Operations: For night or low visibility operation, all headlights, tail lights, and running or clearance lights on the vehicle shall be operational. The driver of each vehicle shall be responsible for the proper operation of such lights. During Surface Movement Guidance and Control (SMGCS) conditions (visibility less than 1,200 feet visibility) there may be restrictions on the use of vehicles on the AOA. Vehicles not directly in support of aircraft operations will not be allowed access to the Movement Area of the AOA; and non-essential vehicles in support of aircraft operations should not be operated on ramps and aircraft parking areas.

4. Vehicles to Stay to the Right: All vehicles on the AOA shall remain on the right side of a roadway, shall pass any vehicle approaching on an open unmarked traffic area to the right, and shall yield the right-of-way to vehicles approaching from the driver's right unless otherwise directed by sign, signal or agent of the Airport or when necessary to maintain the safe operation of the vehicle relative to traffic flows.

5. Vehicle Speed:
   a. The maximum speed limit on all AOA ramps is 20 mph and is enforced by the Department of Public Safety.
   b. Vehicles operating on the ramps, aprons, and operational areas of the airport shall proceed with care. Erratic driving and excess speeds on these areas are forbidden. Judgment of such excess speed or erratic driving shall lie with the Department of Public Safety, Airfield Operations and other authorized agents of the Airport.

6. Involvement of Vehicles in Accidents:
   a. The driver of any vehicle involved in an accident within the AOA, which results in injury or death to any person or damage to any property, shall stop at the scene of the accident and render such assistance as may be needed. The driver shall also provide his or her name, address, and operator's license number to the person injured or to the representative of the owner of the property damaged or to any officer or witness of the injury. Further, the operator shall immediately notify the AOC and make a report of that accident to the Department of Public Safety.

7. Parking Vehicles:
   a. No person shall park a vehicle or permit the same to remain in the AOA except at such places and for such a period of time as may be prescribed or permitted by the Airport or under emergency conditions.
   b. No person shall stop or park a vehicle so as to block a driveway,
an AOA gate, an aircraft gate or a fire lane, or in other than authorized areas or within 15 feet of a fire hydrant.

8. Right-of-Way:
   a. All motor vehicles on the AOA shall yield the right-of-way to aircraft in motion under all conditions, and all DFW Airport vehicles have right of way over Contractor vehicles.

C. Prohibited Vehicles:
   1. The use of motorcycles, bicycles, and two-wheeled motor scooters on the AOA is prohibited. EXCEPTION: DPS vehicles.
   2. Vehicles that are not in sound mechanical order with adequate lights, horn, brakes, and have clear vision from the driver's seat are prohibited from operating on the AOA.
   3. Trailers and semi-trailers shall be equipped with proper brakes so that when disengaged from towing vehicle, neither aircraft engine blast nor wind shall cause them to become free rolling. Positive couplings shall be required for all towed equipment.
   4. Vehicles that have not obtained specific authorization from Airfield Operations are prohibited from operating on active portions of the Aircraft Movement Area. When authorized, vehicles shall have a radio transceiver or shall be escorted by a vehicle with such equipment to ensure clear two-way radio communication with the Control Tower, and all operators shall have had successfully passed ground vehicle operator training prior to operating vehicles on the Movement Area.

D. Driving Under Aircraft: It is prohibited to drive under any portion of an aircraft.

E. Taxiway: At no time shall a vehicle enter an active taxiway, unless it is operated by an Aircraft Movement Area trained and qualified driver and appropriately equipped, or accompanied or directed by a radio-equipped vehicle in contact with, and has been so authorized by the FAA tower.

F. Runway: At no time shall a vehicle enter a runway, unless it is accompanied or directed by a radio-equipped vehicle in contact with, and has been so authorized by the FAA tower.

G. Taxiway: At no time shall a vehicle enter an active taxiway, unless it is operated by an Aircraft Movement Area trained and qualified driver and appropriately equipped, or accompanied or directed by a radio-equipped vehicle in contact with, and has been so authorized by the FAA Tower.

H. Runway: At no time shall a vehicle enter a runway, unless it is accompanied or directed by a radio-equipped vehicle in contact with, and has been so authorized by the FAA Tower.

I. Driving between Aircraft and Loading Gate: No Person shall drive any vehicle between an aircraft and a loading gate, when passengers are using the surface walkway between such gate and aircraft, or between an aircraft signal person and an aircraft being pushed out or preparing to taxi.

J. Driving Distance from Exhaust: Modern, large jet aircraft produce exhaust velocities that can be hazardous to vehicle operations as much as 70-ft. behind the aircraft at idle thrust. At the thrust levels required for an aircraft to start moving from a stop, that distance increases to as much as 300-ft. Therefore,
extreme caution must always be exercised whenever passing behind large jet aircraft.

K. Fueling or De-fueling of Vehicles:
   1. No person shall fuel or de-fuel vehicles, or other equipment, in an enclosed space at the Airport without the prior approval of the DPS Fire Prevention Bureau.

L. Special Vehicle Marking:
   1. Vehicles operating on runways or taxiways that do not require an escort must display an amber-rotating beacon.

1.14 ENFORCEMENT OF AOA PROCEDURES
A. Violations of any of these procedures may, at the discretion of the Vice President of Operations (Vice President of Public Safety for regulatory statutes, i.e. DFW Airport Rules & Regulations) or his/her designated representative(s) and depending on the severity of the violation, result in the following:
   1. A verbal and/or written warning.
   2. The individual or vehicle in violation being temporarily or permanently removed from the AOA.
   3. The Contract work being stopped until corrective measures are taken to preclude a recurrence of the violations.
   4. Civil and/or criminal penalties per applicable local, state, and federal laws and the DFW Airport Code of Rules and Regulations.

1.15 RULES AND REGULATIONS FOR THE CONTROL OF AOA BOUNDARY CROSSING BY VEHICLES
A. General Requirements
   1. Statement of Policy: It is the policy of the Airport that all vehicles, unless otherwise authorized herein, shall enter and exit the AOA via established gates.
   2. Authority for Enforcement: The Vice President of Public Safety is designated the Administrator of the Airport Vehicle Code of Rules and Regulations for the control of AOA boundary crossings. He/she may establish procedures not inconsistent with the Code of Rules and Regulations that he/she determines are necessary to affect the policy of the Code of Rules and Regulations. The Department of Public Safety shall be responsible for the enforcement of the Rules and Regulations.

B. Enforcement of AOA Boundary Crossing Regulations
   1. Violations
      a. If the Administrator determines that a badge holder violates terms of its operating authority, the Code of Rules and Regulations, the Administrator may notify the holder in writing of the violation and by written order direct the holder to correct the violation within a reasonable period of time. In setting the time for correction, the Administrator shall consider the nature of the violation.
      b. If the violation involves equipment that is unsafe or functioning improperly, the Administrator or his authorized agent shall order
the holder to immediately cease use of the equipment.

c. If the Administrator determines that a violation is an imminent and serious threat to the public health or safety, the Administrator or his /her agent shall order the holder to correct the violation immediately. If the holder fails to comply, the Administrator shall promptly take, or cause to be taken, any action he considers necessary for the immediate enforcement of the order.

2. The Administrator shall include in a notice issued under this section:
   a. An identification of the violation;
   b. The date of issuance of the notice;
   c. The time period within which the violation must be corrected;
   d. A warning that failure to comply with the order may result in suspension or revocation of operating authority; and
   e. A statement indicating that the order may be appealed to the Executive Vice President Airport Operations.

C. Service of Notice
1. A holder shall designate and maintain a representative to:
   a. Receive service of notice required under the Code of Rules and Regulations to be given a holder; and
   b. Serve notice required under the Code of Rules and Regulations to be given a driver employed or contracting with a holder.

2. Notice required under the Rules and Regulations to be given:
   a. A holder must be personally served by the Administrator or on notice sent by certified United States mail, five-day return receipt requested, to the holder or the holder's designated representatives.
      1) A driver must be personally served by the Administrator or notice sent by certified United States mail, five-day return receipt requested, to the address last known to the Administrator of the person to be notified, or to the designated representative for the driver.
      2) Service executed per this Section constitutes notice to the person to whom the notice is addressed. The date of service for a notice that is mailed is the date of receipt.

D. Appeal
1. A holder may appeal a correction order issued under subparagraph 1.b. above or any other action of the Administrator if an appeal is requested in writing not more than fourteen (14) calendar days after notice of the order or action is received.

2. The Executive Vice President Airport Operations shall act as the appeal-hearing officer in an appeal hearing under this Article. The hearing officer shall give the appealing party an opportunity to present evidence and make argument in his/her behalf.
3. The hearing officer may affirm, modify, or reverse all or part of the order of the Administrator.

1.16 SURFACE INCIDENTS AND RUNWAY INCURSIONS

The Contractor shall perform all work in compliance with this Section 01 35 13.13 MINIMUM STANDARDS FOR CONSTRUCTION AND MAINTENANCE ON THE AOA, and avoid surface incidents and runway incursions at all possible cost. Should a surface incident or runway incursion occur due to contractor’s negligence, it will constitute a violation and shall be subject to enforcement per Article 1.11 AOA PROCEDURES. Entry into the Aircraft Movement Area (AMA) without an AMA Escort and AOA Construction Escort Release/Pick Up Point Instruction Card or without clear instruction/direction from a flag person at a controlled intersection are examples of violations.

Course of action for such occurrence includes a monetary fine of $30,000 for each occurrence.

A. Definitions

1. Surface Incident is an unauthorized or unapproved movement within the designated movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight. Examples include, but are not limited to, not yielding right-of-way to aircraft; entering a taxiway when not qualified, under escort, or directed by a flag person; or depositing debris on a taxiway resulting in a stopped or damaged aircraft.

2. Runway Incursion is any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft. Examples include, but are not limited to, crossing the runway holding position marking or entering the runway safety area from the grassy area regardless of whether or not an active aircraft operation was taking place at the time.

B. An AOA Incident Review Board, chaired by the Vice President of Operations or designee will review the facts surrounding movement area surface incidents and/or runway incursions including the affected Contractors and/or department’s policies and procedures.

C. The Review Board’s recommendation(s) will be coordinated with the Human Resources advisor (if required), and a decision as to the level of disciplinary action to be taken per DFW Airport Board Policy will be made by the Chairman.

D. The Chairman will notify the affected Contractor and/or department vice president of the disciplinary action to be administered.

1.17 SURFACE INCIDENTS AND RUNWAY INCURSIONS PREVENTION BONUS

A project monetary bonus incentive in the amount of $50,000 (“Surface Incidents and Runway Incursions Prevention Bonus”) will be added to the monies owed the Contractor under the agreement, should the construction be completed without any surface incident and runway incursion within the Contract Time. Under no circumstances will the Contractor be due or the Airport be liable for such bonus incentive if any surface incident or runway incursion occurs, or if the project is delayed.
1.18 CONSTRUCTION SECURITY PROCEDURES – TOOL MANAGEMENT PLAN

A. Mobilization of the “Tool Management Plan” must precede all phases of construction and will be enforced during the duration of the projects.

B. The Construction Manager shall be responsible for assigning a Safety/Security Officer per the DFW International Airport Construction Procedures – Tool Management Plan.

C. The Safety/Security Officer is responsible for the implementation and maintenance of the Tool Management Plan.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

PART 4 – APPENDIX

4.1 The following documents/forms attached following “End of Section” are a part of the Specification.

A. Contractor’s AOA Readiness Checklist
B. Lockout Procedure for Airfield Series Lighting Circuits
C. Construction Security Procedures – Tool Management Plan
D. AOA Construction Escort Release/Pick Up Point Instruction Sheet

PART 5 – MEASUREMENT AND PAYMENT

5.1 MEASUREMENT

This item provides for the payment of “Surface Incidents and Runway Incursions Prevention Bonus” if construction is completed without any surface incidents or runway incursions, pursuant to Section 01 35 13.13 1.17 SURFACE INCIDENTS AND RUNWAY INCURSIONS PREVENTION BONUS.

5.2 PAYMENT

Payment will be made on a Lump Sum basis as specified above and supported by DFW upon Final Completion of the project. Payment will be made under item 01 35 13.13 SURFACE INCIDENTS AND RUNWAY INCURSIONS PREVENTION BONUS.

- END OF SECTION -
CONTRACTOR’S AOA READINESS CHECKLIST  
(TO BE COMPLETED DAILY BY THE CONTRACTOR)

_______ Limits of Closure have been clearly identified to all Contractor and subcontractor personnel. Sufficient quantities of closure devices (red flashers, cones, barricades, etc.) are on hand to achieve the day’s closure. Contractor has sufficient cones, lights, and appropriate flags to identify the Release/Pick up Point within their work area.

_______ Electrician is standing by for circuit lockouts and appropriate circuits have been identified (if applicable).

_______ All Contractor vehicles entering the AOA have been checked for valid AOA access stickers on driver’s side (left) bumper.

_______ All vehicles are equipped with 360 degree rotating or flashing amber beacons and all beacons are in working order.

_______ All vehicles have company name clearly identified on driver’s side door.

_______ All AOA badged personnel have badges clearly displayed on their person.

_______ All non-AOA badged personnel have a government-issued identification on their person.

_______ All construction equipment and heavy trucks (non-passenger vehicles) have orange and white checkered flags or 360 degree rotating or flashing amber beacons affixed to the highest point.

_______ Superintendent and QC Supervisor have full set of project documents, including drawings, specifications, addenda, construction permit copy, safety plan, SWPPP copy, approved submittals and request for information in their vehicles and available at all times on the job site. Additional supplies for the superintendent shall include, but not be limited to, fire extinguisher, and first aid kit.

_______ All foremen and lead men shall have, at a minimum, all drawing sheets and specifications related to their specific area of work on hand.

_______ Contractor has verified that all small engine equipment and tools (generators, saws, etc.) necessary for the day’s activities are on hand and operable.

_______ Contractor has verified that all necessary manpower, tools, equipment, and materials necessary for the day’s activities are on hand and operable.

The purpose of this checklist is to reduce or eliminate the number of superfluous trips to and from the job site that generally are a result of a lack of initial preparedness. Contractor’s QC representative will initial each item as it is verified and sign at the bottom when verification is complete. The Board’s authorized representative will not call for Operations Escort or circuit lockouts until checklist has been completed each day. This checklist should be attached to the Contractor’s Daily Activity Report and submitted to the Owner’s Authorized Representative.

Contractor’s authorized signature ___________________________ Date: ___________

Owner’s Authorized Representative signature ___________________________ Date: ___________
DFW INTERNATIONAL AIRPORT
CONSTRUCTION SECURITY PROCEDURES
TOOL MANAGEMENT PLAN

Date: ________________________________

Project Name: ______________________________

Permit Number: ______________________________

Terminal: ________________________________

Columns & Lines: ______________________________________________________________

Contact Name & Phone Number: ________________________________

Additional Information: __________________________________________________________

____________________________________________________________________________

Contractor’s Signature & Title: ____________________________________________________

cc: Assistant Chief James L Brandenburg ~ DFW Airport Police
Naresh Shahani ~ Tenant Construction Facilitator – Design, Code, & Construction
1. Purpose: The purpose of this procedure is to provide practical safeguarding of all persons directly or indirectly involved in the installation, operation, construction, or maintenance of the airfield series lighting system at the Airport. This procedure contains the minimum provisions necessary to insure the safety of DFW employees and Construction Contractors.

2. Definitions and Abbreviations

A. AM - abbreviation for "DFW Asset Management".
B. AOA - abbreviation for "Air Operations Area".
C. CCR - Coordination Center Representative (Airfield Operations Officer) - the central point of contact for submittal of all AOA scheduled lockout requests; including DCC projects, in-house construction projects, tenant alteration projects, and Asset Management projects or repairs. The CCR will notify the AOC Duty Officer and the FAA of scheduled lockout requests.
D. FAA - abbreviation for "Federal Aviation Administration".
E. IRMS - abbreviation for "Insulation Resistance Monitoring System".
F. Lockout - a safety procedure to de-activate series lighting circuits required by DFW International Airport authorities to protect the requesting party from the direct or indirect hazards associated with the flow of electrical current through airfield underground cables, connectors, isolation transformers, or other lighting apparatus.
G. OPS - abbreviation for "DFW Airfield Operations."
H. Primary Lockout - A required lockout of series lighting circuits when personnel will be working directly on cable, connectors, isolation transformers, or other airfield electrical components which are energized under normal operating conditions.
I. Safety Lockout - A required precautionary lockout of series lighting circuits when personnel will be involved in construction work activities such as trenching, excavating, or digging in the vicinity of nearby underground airfield lighting circuits.
J. Un-Locking - a procedure involving the removal of keyed pad locks on disconnect switches to restore the electrical power on series circuits only after satisfactory wiring continuity and insulation integrity have been verified.
K. Unsatisfactory Test Results - any electrical test measurement deemed unacceptable by EAM, which could be indicative of incipient cable insulation failure, an open circuit, dirty connectors, etc.
L. AOC – abbreviation for “Airport Operations Center.”

3. General Responsibilities

A. Asset Management shall be responsible for performing and supervising all scheduled circuit lockouts and un-locking. The AM electrical representative (rep)
will perform all the insulation resistance tests required to verify the insulation integrity of the airfield lighting cable prior to locking and unlocking series circuits. In the event of "unsatisfactory" test results, the EAM electrical rep shall place an Airport padlock on the disconnect switch(s) ahead of the circuit(s) in question, and direct the Owner’s Authorized Representative (or Owner’s Authorized Representative’s in the event of multiple lockouts on one circuit) to immediately investigate the problem and perform all necessary repairs until acceptable test results are obtained.

B. Owner’s Authorized Representative’s will be responsible for initiating all lockout requests for Contractors and required notifications. In the event of work discrepancies during multiple lockouts on one circuit, Owner’s Authorized Representative representatives from each involved project shall agree to first investigate the apparent problem and restore the circuit integrity to a satisfactory level before damage assessment responsibility is ascertained. The Owner’s Authorized Representative shall also initiate and schedule all Contractor work requests to provide first time electrical service to new airfield series lighting circuits.

C. The CCR will be responsible for reviewing and providing Airfield Lockout Summary information to the AOC Duty Officer and the FAA (SOC).

D. Airfield Operations will be responsible for determining if defective circuits must be repaired immediately or if they can remain locked out until necessary repairs can be performed.

E. The CCR shall review all lockout requests for operational conflicts prior to final acceptance.

4. Notification Protocol

A. In order to disconnect the source of electrical power feeding an airfield series lighting circuit(s), the Contractor shall contact his/ Owner’s Authorized Representative in sufficient time as to comply with the notification requirements. The Contractor shall also identify his/her respective work area in writing to the Owner’s Authorized Representative.

B. Daily lockout and/or un-lock requests shall be submitted in accordance with the instructions on the AOA Closure/Activity/Circuit Lockout Request.

C. If a lockout and/or un-lock is to be scheduled between the hours of 2200 hrs. on Fridays and 2300 hrs. on Sundays, the Owner’s Authorized Representative shall notify the CCR by 1100 hrs. on the second full working day prior to the weekend (normally that will be Thursday).

D. If a lockout and/or un-lock is to be scheduled on a DFW Airport recognized holiday between the hours of 2200 hrs. on the night preceding the holiday and 2300 hrs. the holiday night, the Owner’s Authorized Representative shall notify CCR by 1100 hrs. on the second full working day prior to holiday.

E. The CCR shall notify the AOC Duty Officer of weekend and holiday lockout/un-lock requests as soon as they become known.

F. The CCR will e-mail or fax the Lockout summary to the AOC Duty Officer and the FAA (MCC) no later than 1500 hrs each workday. These Lockout requests are for that day's "night lockouts", and for the following day's scheduled "day lockouts".
G. The AOC Duty Officer and the FAA shall notify the CCR immediately if any potential conflicts or problems are detected on the submitted lockout request. Otherwise, the proposed work shall proceed as scheduled.

5. Series Circuit Lockout Procedure: The following procedure applies to all series circuit lockouts, primary or safety type:

A. Contractor and the Owner’s Authorized Representative will meet the EAM electrical representative at the vault for the lock out.

Prior to initiating the lockout, the Owner’s Authorized Representative will contact Airfield Operations on OPS "Primary" radio frequency or by calling 3-3121 to verify that the circuit(s) can be locked out as previously scheduled.

The AM Electrical Representative will de-energize the circuit, and the Contractor will install his lock on the scissors clip, with the appropriate safety tag, locking out the regulator primary disconnect switch. The safety tag will show the name of the Contractor, date, the Owner’s Authorized Representative radio call number, and the telephone number at which the Owner’s Authorized Representative can be reached during the lockout period. The AM Electrical Representative will then “megger” the circuit using the IRMS. The readings will then be entered in the Lockout Log sheet and will be initialed by the Contractor, Owner’s Authorized Representative and AM electrical representative. The AM Electrical Representative then will isolate the two field contacts of the S-1 switch and perform a continuity test on each circuit to be locked out. The plastic insulating pieces used to isolate the field contacts shall remain in place until all required circuits are tested for continuity and released for the requested lockout. The Owner’s Authorized Representative will then contact DFW AM Control and Airfield Operations to confirm that the lockout of the requested series airfield lighting circuits has been successfully executed. The Contractor may then proceed with his work as scheduled.

Note: In the event of unacceptable continuity test results (less than 100 K-ohms) prior to locking out any series circuit(s), the AM electrical rep shall immediately place an Airport lock on the disconnect switch of the affected circuit(s) which shall remain in place until the problem has been further investigated and resolved by AM.

B. Whenever operationally acceptable to Airfield Operations, complete circuits shall be locked out. Example: only OET-7A will be affected, but OET-7A, B and C will be locked out.

6. Series Circuit Unlocking Procedure

A. The Contractor will notify the Owner’s Authorized Representative when they are ready to unlock the series lighting circuits. The Owner’s Authorized Representative will then contact the AOC Duty Officer, who will inform the AM Electrical Representative to meet the Contractor and the Owner’s Authorized Representative at the vault. The AM Electrical Representative will perform a continuity test on all affected circuits. If continuity is verified, the AM Electrical Representative will close the applicable S-1 switch(s) and enable the IRMS to obtain updated resistance-to-ground circuit measurements. After
circuit integrity has been verified and approved by the AM Electrical Representative, the readings shall be recorded on the Lockout Log (Attached) and initialed by the Contractor, Owner’s Authorized Representative, and AM. The Owner’s Authorized Representative will then notify the AOC Duty Officer and Airfield Operations that the circuits have been returned to service.

B. At the time of unlocking the circuit(s) and returning them to service, the AM Electrical Representative will compare the most previous resistance of the circuit(s) to the present resistance. It is desirable not to have the present circuit resistance reading less than 50% of the most previous reading, but in no case shall the reading be less than 100 K-ohms. The AM Electrical Representative’s decision is non-disputable.

C. Any reading below 50% of the most previous reading will be reported to the Electric Shop Supervisor for further investigation.

D. All airfield circuits must be unlocked no later than 30 minutes before sunset, unless prior arrangements have been made with OPS.

The Owner’s Authorized Representative will notify the AOC Duty Officer when the circuit is ready to be "re-energized". The AOC Duty Officer will dispatch an electrical rep to witness the required circuit continuity tests by the Contractor and to perform cable insulation resistance-to-ground testing using the IRMS.

7. Unacceptable IRMS Readings During Unlocking

A. When the IRMS indicates unacceptable resistance-to-ground measurements in the course of unlocking series circuits (reading less than 100 K-ohms), the AM Electrical Representative shall record these readings and place an Airport lock on the defective circuit(s) immediately. The Owner’s Authorized Representative shall then coordinate all necessary investigations and repair work with the Contractor to restore circuit integrity and notify Airfield Operations regarding the status of the affected circuit(s). Airfield Operations shall then determine if the circuit(s) must be repaired immediately or if the circuit can remain locked out until necessary repairs can be rendered. The Airport lock shall only be removed after completion of repair work and satisfactory resistance-to-ground readings have been obtained and approved by the AM Electrical Representative.

8. Multiple Contractor Circuit Lockouts in the Same Vault

A. When it is required for different Contractors to share a lockout on the same circuit, the work shall be coordinated through the AM Electrical Representative. Only one primary lockout shall be allowed on each series lighting circuit; however, there may be multiple safety lockouts if approved by the AM Electrical Representative.

B. All circuits with multiple locks shall have an independent lock with a safety tag from each Contractor/Owner’s Authorized Representative installed on the scissors clip provided on the regulator disconnecting means. At no time will these circuits be turned on or tested without the notification and
acknowledgement of all parties involved in circuit lockouts. Prior to any testing or energizing circuits, the AM Electrical Representative will contact each Owner’s Authorized Representative currently logged out with a circuit lockout by OPS "Primary" radio frequency for positive confirmation that all personnel under their direct supervision have been informed of impending circuit testing or energizing. Failure of Owner’s Authorized Representative to acknowledge notification shall result in the immediate refusal by the AM Electrical Representative to test, unlock, or energize circuits.

Note: Confirmation will be accepted only via OPS "Primary" radio. In the instance where multiple Contractor lockouts occur in the same vault but not on the same circuit, the Owner’s Authorized Representative, EAM, and all other parties shall follow the above "Lockout Procedure" (See Paragraph V). However, prior to application of the required test voltage on any circuit(s), the Owner’s Authorized Representative shall, at the direction of the AM Electrical Representative, notify all parties with locked out circuits in that vault and inform them that testing is about to start. This includes other Owner’s Authorized Representative, Contractors, the AOC Duty Officer, and OPS. All contacted parties involved in construction activities shall then acknowledge via OPS primary radio frequency that they have received notice of the upcoming circuit testing and that all personnel working under their supervision are "clear".

When all this has transpired, the required circuit testing and unlocking procedure can then proceed.

9. Energizing and Testing of Circuits for the First Time

A. Prior to the energizing and testing of "pristine" series lighting circuits, the following shall occur:

1. The Contractor shall notify the Owner’s Authorized Representative a minimum of one week in advance of testing or energizing new circuits. The Owner’s Authorized Representative shall then notify the AOC Duty Officer at least three (3) working days prior to performing this activity stating the proposed test date and time, circuit(s) designation(s), name of the load(s) to be tested/energized, and circuit(s) location(s) on the airfield clearly identified.

2. Prior to the actual test/energizing of new series lighting circuits, the Owner’s Authorized Representative shall give proper notification by OPS Primary Radio frequency to all involved parties including other Owner’s Authorized Representative, Contractors, the AOC Duty Officer, and Airfield Operations, that the test/energizing is about to occur.

Note: The Contractor shall be held solely responsible for any damages that occur during the testing/energizing of new series circuits as well as any indirect damages that occur where existing circuit components are interfaced in manholes, hand holes, conduit, and airfield lighting apparatus.

10. AM Lockouts
A. AM shall adhere to the above lockout/un-lock procedures during the course of routine daily maintenance and repair of series airfield lighting circuits. In the event of premature cable failure or unplanned outages, AM will provide immediate emergency repair to affected circuits when notified by Airfield Operations. The emergency repair work performed by AM shall take priority over all previously scheduled Owner’s Authorized Representative lockouts for that day/night. Owner’s Authorized Representative must then re-submit lockout requests for any circuits superseded by the EAM emergency lockout repair work.

11. Utility Lock Out / Tag Out Procedures

A. Procedures have been established outlining the minimum requirements to be followed for the locking, tagging and trying to prevent injuries by the inadvertent operation of power equipment, the inadvertent opening of valves in pipes, or the energizing of electric circuits. NO work is to be done on any operable equipment until its operation is prevented by appropriate lock out / tag out. The procedures are outlined in DFW International Airport Manual “Lock Out / Tag Out & Confined Entry.” Following the appropriate procedures outlined will ensure compliance with the requirements of Federal 29CFR 1910.147, “Control of Hazardous Energies.”
## LOCK OUT LOG

<table>
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<tr>
<th>CIRCUIT NUMBER</th>
<th>DATE</th>
<th>TIME</th>
<th>MEGGER READING</th>
<th>CONTRACTOR'S REPRESENTATIVE</th>
<th>FIRM</th>
<th>24 HOUR CONTACT PHONE</th>
<th>ASSET MGMT</th>
<th>DCC or CM REP.</th>
<th>24 HOUR CONTACT PHONE</th>
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Dallas Fort Worth  
International Airport  
Minimum Standards For Construction And Maintenance On The AOA  
Standard Technical Specification Book  

Publish Date: June 1, 2018
# COORDINATION CENTER

**AIRFIELD CLOSURE / ACTIVITY / CIRCUIT LOCKOUT REQUEST**

E-MAIL TO: coordinationcenter@dfwairport.com

<table>
<thead>
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<th>Submitted By:</th>
<th>Number Of Pages:</th>
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<tbody>
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<td>Date/Time of Request</td>
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<tr>
<td>Project No./Project Name</td>
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<tr>
<td>Contractor:</td>
<td>CM Project Manager:</td>
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<tr>
<td>Contractor Phone/Fax:</td>
<td>CM Rep. Phone/Radio Call Sign:</td>
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## AOA CLOSURE / ACTIVITY REQUEST

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## CIRCUIT LOCKOUT REQUEST

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Scheduled Activities:

Additional Requests/Comments:

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Dallas Fort Worth  
International Airport  
Minimum Standards For Construction And Maintenance On The AOA  
Standard Technical Specification Book

01 35 13.13-35  
Publish Date  
June 1, 2018
INSTRUCTIONS

This form must be submitted by the CM Project Representative to the Coordination Center Representative (CCR) by 1100 hrs. of the morning preceding nighttime AOA activities/closures/circuit lockouts (1900 to 0700 hrs.) and/or the following day’s daytime activities/closures/circuit lockouts (0700 to 1900 hrs.). For activities/closures on a holiday, daytime on the day following a holiday, Saturday, Sunday and daytime on Monday, the requests must arrive at the Coordination Center by 1100 hrs. on the last workday prior to the holiday or weekend. For circuit lockouts/lockins on weekends between the hours of 2200 hrs. on Fridays and 2300 hrs. on Sundays, or on a DFW recognized holiday between the hours of 2200 hrs. of the night preceding the holiday and 2300 hrs. on the holiday night, the Owner’s Authorized Representative shall notify the CCR of the times the lockouts/lockins are being requested by 1100 hrs. on the second full working day prior to a weekend (for weekends that will normally be Thursday).

Either one request covering an entire workday or two requests (on for the nighttime work and one for daytime work) may be submitted. However, no more than one workday's activities will be included on each form.

NOTE: ALL TIMES ON THIS FORM WILL BE LOCAL 24-HOUR CLOCK TIMES.

- **Submitted By:** The responsible Owner’s Authorized Project Representative for the construction activity who has coordinated scheduling and reviewed the request and is emailing this document.
- **Revision No.:** This is to denote revisions made after initial request. Leave blank on initial request.
- **Date/Time of Request:** This is the date and time request is made. Example: Nov. 24/1050
- **Project Name/Contract No.:** Include both the Project Name and Contract Number.
- **Contractor:** Name of the Prime Contractor.
- **Project Manager:** Name of individual responsible for Construction Contract.

**Note:** Any references to the Owner’s Authorized Project Representative may be interpreted to mean the DFW Representative for DFW managed contracts, the staff representative on ADD projects or the FAA Owner’s Authorized Representative for FAA managed projects, etc.

- **Contractor Phone/Fax:** 24-hour telephone and Fax numbers of the contractor.
- **Owner’s Authorized Representative, Phone/Radio Call Sign:** Telephone number and Radio Call Sign of the responsible Owner’s Authorized Representative that will be on site during the actual work activity.
**AOA CLOSURE/ACTIVITY AND CIRCUIT LOCKOUT REQUESTS**

- **From/To:** Enter the date (month and day) and times the activity/closure/circuit(s) lock out is scheduled to occur using a 24-hour clock. Example: 2/23/2245 & 2/24/0645

- **Closure/Activity Area:** Describe the area affected. When no closure is being requested, "No Closure" should be noted along with the description of the area.

- **Circuit(s):** List the individual circuits requested to be locked out. Example: ET-13, OWT-7B, etc.

- **Scheduled Activities:** A brief description of intended activities to be conducted during the period of the request(s) specifically identifying the work requiring closures/lock outs and any excavation/trenching activities. An airfield diagram or other suitable drawing depicting the area of work shall be submitted whenever complex closures are requested.

- **Additional Request/Comments:** This is a general-purpose section where unique requirements can be requested such as requests for weekend and/or holiday circuit lockouts and/or lock-ins, or specific comments of explanation made which would be useful to the addressees.

**NOTE:** The telephone number for the CCR is 972-973-3121. The **Owner's Authorized Project Representative** will retain responsibility for ensuring contract compliance, project scheduling and coordination, communications between the contract and DFW Airport Operations Dept. and DFW Airport Maintenance Dept. The CCR will not resolve contract and technical disputes. All situations relating to problems with electrical circuitry or DFW's operational requirements shall be handled between the affected DFW Airport Depts. and the **Owner's Authorized Representative** or General Contractors responsible.
The “Tool Management Plan” is for all construction projects that take place in the public areas of terminal concourses (sterile area) to include “back of house” areas such as offices and concessions within the Security Identification Display Area/Air Operations Area (SIDA/OA). Mobilization of the “Tool Management Plan” must precede all phases of construction and will be enforced for the duration of the project. The following procedures will be implemented.

- Work hours shall be determined by stakeholders, airport development, and the Contractors.
- The Contractor’s Safety/Security Officer is responsible for the implementation and maintenance of the Tool Management Plan.
- The plan will be reviewed with all construction workers prior to each shift.
- The Contractor’s Safety/Security Officer is responsible for the tool box inventory that must be maintained by each sub-Contractor. Each sub-Contractor must designate a tool box monitor.
- Consult the “Prohibited Items” list at www.TSA.gov.
- The Contractor’s Safety/Security Officer will prepare the tool box inventory form, which must be completed by each sub-Contractor and kept in the tool box at all times.
- Each sub-Contractor tool box monitor must also inventory all hand tools brought to the job site by individual workers prior to each shift. This refers to tools carried in the individual’s tool belt or tool bag. The inventory of these tools must be kept in the sub-Contractor’s tool box.
- Each subcontractor will store its inventoried tools in the locked box kept in the secure areas on the ramp, or concourse.
- Unlocked tool boxes must be monitored at all times by the sub-Contractor’s tool box monitor.
- All hand tools will be checked out on the tool inventory list to an individual worker by the sub-Contractor’s tool box monitor. Each worker is personally responsible for the hand tools he/she checks out.
- Consumables (e.g. razor blades) are included in the tool box inventory, and may be removed from the inventory and disposed of only by the Contractor’s Safety/Security Officer.
- The individual who checked-out a tool must return it to the sub-Contractor’s tool box monitor. The tool will be checked-in by the tool box monitor.
- Tools must be kept within five feet of the worker responsible at all times. Unattended tools will be confiscated and returned to the Contractor’s Safety/Security Officer.
- It will be the responsibility of the sub-Contractor tool box monitor to reconcile the tool inventory at the conclusion of each shift. The Contractor’s Safety/Security Officer must verify the accuracy of the inventory at the end of each shift prior to workers leaving the job site.
- The sub-Contractor’s tool box monitor will submit the daily tool box inventory to the CONTRACTOR’S Safety/Security Officer who will be responsible for maintaining the permanent document files.
• The Contractor’s Safety/Security Officer will submit a summary of the hand tool inventory weekly to the DFW Airport Project Manager.

• If the Contractor’s Safety/Security Officer determines tools are missing at the end of the shift or during a shift, the appropriate authorities will be notified immediately in the following order: DFW Airport DPS Communications at 972-973-3210. DFW Airport Operations Center (AOC) at 972-973-3112.

• ZERO TOLERANCE is being observed for any employee who leaves a tool unattended. The offending employee will be escorted from the work site by the Contractor’s Safety/Security Officer and will be removed permanently from the project.

• DFW Airport and/or the Transportation Security Administration (TSA) representatives may randomly monitor the overall construction area at any time and check the tool box inventories.

• Work zones that will be established for longer than 24 hours will be separated from the public by barriers or a demising wall.

• Existing concourse trash receptacles will not be allowed in the designated construction area. Construction trash receptacles will be provided in the work zone for the disposal of all construction trash. Receptacles must be removed from the work zone at the end of each shift.

• The Contractor’s Safety/Security Officer must conduct a security sweep of the construction area at the end of each shift. DFW Airport representatives may participate in the security sweep at their discretion. It is the responsibility of the CONTRACTOR’S Safety/Security Officer and Night Superintendent to validate if the security sweep is successful.

• Primary access for all employees, tools, equipment, and materials to the construction area will be from the AOA via a DPS manned AOA gate. Employees will be restricted from accessing an employee portal inside the terminals. Employees may access a TSA screening checkpoint; however, NO tools on the TSA prohibited items list are allowed. All Vehicles and persons entering the AOA through the designated construction security gate are subject to search.

• Employees are restricted to the work area designated by the Contractor’s Safety Officer. The Contractor’s Safety Officer or designee will monitor the work zone to ensure employees do not use public restrooms, concessions, or any other facilities in the concourse. Employees who violate these provisions are subject to removal from the project. NO EXCEPTIONS.
SIDA BADGE REQUIREMENTS

SIDA/AOA badge requirements will be enforced for all construction employees using the following process.

- SIDA/AOA access badges will be obtained from the DFW Airport Access Control Office located in Terminal D. Information and badge applications are available at www.dfwairport.com on the Department of Public Safety web page.

- This process includes fingerprinting, background check and interactive video/testing.

- Non-badged employees will be allowed on the AOA under the following rules only. One badged employee may escort a maximum of five non-badged employees to the AOA/SIDA or Sterile work area. Escorts are not permitted through employee portals. The non-badged employee must have a government issued I.D. in his or her possession. The badged employee’s responsibility will be to continuously monitor and remain in physical proximity of the non-badged employees such that they can control or direct the activity of the non-badged employees at all times.

- The AOA Badge must be visibly displayed on the outer garment and above the waist at all times while the employee is in the construction area or on the AOA.

NONPUBLIC AREAS

The following procedures will be used in the nonpublic area of the terminal construction areas.

- Tools used over the long term may be staged within the construction area in locked boxes. One lock box will be permitted for each trade, to reduce the number of trucks entering the AOA on a daily basis.

- Employees are allowed to wear their personal tool belts and hand carry tools into the construction on a daily basis.

- One truck per day will be allowed to deliver tools to the construction area. Vehicles must be permitted by DFW Airport to enter the AOA.

- The CONTRACTOR’S Safety/Security Officer will monitor the construction area on a daily basis.
FOLLOW YOUR ESCORT UNTIL YOU REACH THIS SET OF CONES. THIS IS THE RELEASE AND PICK UP POINT.

1. Follow your DFW Escort closely to the construction Release point.
2. Yield to Aircraft.
3. If lost or separated, **STOP!**, then call Airport Operations at 972-973-3112

**ALWAYS FOLLOW ESCORT!**

*Effective 12-4-07*
Siga a su escolta hasta que llegue a este grupo de conos. Éste es el punto de recoimiento y dispersión.

1. Siga a su escolta de DFW de cerca hasta que llegen al punto de dispersión del área de construcción.
2. De paso a los Aviónes.
3. Si se pierde o separa, ¡PARE!, y llame al Departamento de Operaciones del Aeropuerto, 972-973-3112.

¡SIEMPRE SIGA A SU ESCOLTA! Effective 12-4-07
PART 1 – GENERAL

1.2 SUMMARY

A. Section includes procedural requirements for alterations work.

1.3 DESCRIPTION

A. Coordinate work of alterations and renovations with new construction.

B. Apply the procedures and administrative requirements of this Section to all sections of the Specifications which are involved in alterations to the existing building and equipment.

C. Remove existing surface finishes as needed to install new work and new finishes.

D. Cut, move or remove existing features as required to allow Work to proceed whether or not specifically detailed on the Drawings.

E. Remove all materials or equipment which is not to be incorporated in the Work.

F. Remove unsuitable or extraneous materials not marked for salvage.

G. Patch, repair, refinish or reinstall existing items to remain in finished work, to specified condition for each material, with joints and finishes made similar to adjacent work.

1.4 SCHEDULING, ACCESS AND SECURITY

A. Interruption of Services

1. Do not interruption utilities or services except as specifically permitted in writing by Owner.

2. Identify areas to be affected by interruption when requesting permission. Search out utility lines to determine the effect of each outage upon operations within the building.

3. Make requests at least 5 full days before date of proposed outage.

B. Security

1. Contact Owner’s Authorized Representative for access to locked areas.

2. Contractor may be issued keys to existing areas provided they abide by the Scheduling and Key Protocol Memo.

3. Maintain security of work areas during Construction.

C. Maintenance of Access and Operations

1. Owner will continue to perform normal business activities in existing building during construction. Maintain proper and safe access at all times. Keep access points free of construction debris at all times.

2. Demolition is not to interfere with normal building operation or occupancy.

3. Demolition of fire alarm systems or components or Work adjacent to fire alarm equipment requires a demolition permit issued from the Department of Public Safety prior to beginning Work.

D. Building Access
1. Access building at entrances designated by Owner’s Authorized Representative.

2. Access construction areas within building by constructing passageways and corridors as designated by Owner’s Authorized Representative.

3. Restrict Construction to designated work areas and to access areas specifically designated by Owner’s Authorized Representative.

E. Interruption of Roadway Traffic

1. Interruption of traffic by blocking roadways is prohibited, except as specifically permitted in writing by Owner’s Authorized Representative.

2. Identify areas to be affected by interruption when requesting permission.

3. Make written requests at least seven (7) full days before anticipated date of proposed roadway restriction.

4. Interruption of traffic will only be allowed between the hours of 22:30 and 05:30.

5. Provide steel plates over open trenches and remove scaffolding and barricades between the hours of 05:30 and 22:30.

6. Submit specific traffic control drawings for individual construction packages.

PART 2 – PRODUCTS

2.1 TEMPORARY PROTECTION

Provide and maintain temporary partitions to seal openings to Owner-occupied areas, to provide temporary security and to provide protection to public as shown in Drawings. Submit documentation of proposed temporary partitions for approval.

A. Partitions

1. Construct framing of 2 X 4 lumber treated to be fire-retardant treated in accordance with AWPA C20, and bearing UL Classification Stamp FR-S. Provide continuous top and bottom plates, studs at 24 in on center, and continuous bridging at 4 ft. on center vertically.

2. Cover frame with 1/4” in. thick tempered hardboard or 1/2 in. thick plywood, listed by Underwriters’ Laboratories, Inc., as having a flame spread rating of less than 25 and smoke developed rating of less than 50. Apply to one side and fasten to studs with drywall screws at 12 in on center, countersunk.

3. Paint: Paint partitions with prime coat and 2 finish coats of exterior latex, color to match similar to adjacent surface.

B. Provide single acting doors, opening out, with sturdy closer, closing against gasketed stops on frame. Cover one side of door with same material as used to cover partitions. Provide push bars and bump plates. Provide locking mechanisms for security.

C. Mats: Provide mats at doors to reduce tracking of dust. Replace or clean daily.

PART 3 EXECUTION

3.1 ALTERATIONS, CUTTING AND PROTECTION

A. Perform cutting and removal work removing no more material than is necessary and without damage to adjacent work.

B. Assign patching of finish materials to workers skilled in patching and restoration work.
C. Sleeving
1. Provide sleeves appropriate to existing construction and new penetrating work where new pipes, conduit and ducts penetrate existing walls and floors.
2. Fill voids between sleeves and penetrating pipes, conduit and ducts with approved materials.
3. Where penetrations are through fire-rated walls and floors, fill voids with fire safety insulation or foam penetration sealant to maintain fire rating of assembly being penetrated.

3.2 REPAIRING AND PATCHING
A. Perform patching, extending, relocation and reworking of existing elements as designated on Drawings and as required to make work complete.
B. Patch and extend existing work using skilled workers that are capable of matching existing quality of workmanship. Quality of patched or extended work shall equal new Work.
C. Patching
1. In areas where a portion of an existing finished surface is damaged, lifted, or stained as a result of alterations work, patch or replace damaged portion of surface with similar material.
2. Patch holes in partitions, floors and ceiling resulting from removal of piping or equipment.
3. Provide adequate support or substrate for patching of finishes.
D. Matching
1. Restore existing work that is damaged during construction to a condition equal to surrounding work of a similar nature.
2. Refinish surfaces of the patch Work to provide a uniform color and texture over entire surface.
3. Refinish the entire surface to a visible stopping point or change of plane if surrounding surface cannot be matched in the area of the patch.
4. Patch floors, walls and ceilings with finish materials similar to adjacent finish at locations where partitions are removed.

3.3 CLEANING
A. Clean the work area at the completion of each phase of Work before proceeding with subsequent Work.
B. Clean areas daily.
C. Clean spillage, overspray, collections of dust or debris, and damage to tenant-occupied spaces immediately.
D. Clean up surfaces, remove equipment, salvage and debris, and return in condition suitable for use by tenant as quickly as possible as soon as work in each area of alterations is complete.

- END OF SECTION -
PART 1 – GENERAL

1.1 CODES AND CRITERION

A. All work, construction activities and material pertinent to this contract shall comply with the Airport Construction and Fire Prevention Standards Resolution and Amendments to the Codes repository, which can be located on the DFW Website, http://www.dfwairport.com/development/index.php.

   1. Fire Ratings:

   a. Where material, component, or assembly is required to be fire rated, fire rating shall be determined or listed by one of the following testing agencies or other agencies acceptable to governing authorities having jurisdiction.

   b. Underwriters Laboratories, Inc.

   c. Factory Mutual Laboratories.

   d. National Board of Fire Underwriters.

   e. Warnock Hersey.

B. Where reference is made to only one testing authority, equivalent fire rating as determined or listed by another agency is acceptable if approved by applicable governing authorities having jurisdiction.

1.2 ENVIRONMENTAL PROTECTION, STORMWATER POLLUTION AND EROSION/SEDIMENT CONTROL

A. Refer to Section 01 57 13, Storm Water Pollution Prevention.

1.3 ENVIRONMENTAL PROTECTION, GENERAL

A. Refer to Construction Contract General Provisions, Section 70-18, Environmental Protection, for requirements.

1.4 CONSTRUCTION DEBRIS WASTE DISPOSAL

A. Refer to the DFW “Construction Debris Waste Disposal Guide” for procedures for the transportation and disposal of construction debris, solids, and wastewater that may be generated as a result of construction activities.

B. Refer to Section 01 74 19, Construction Waste.

1.5 AIRSPACE PERMITS, CONSTRUCTION CRANES

A. No construction using equipment over 20’ tall shall commence without the appropriate airspace permits. If possible, the OWNER’S Representative will obtain airspace permits for operation of construction equipment within the work areas of the contract prior to bidding. Otherwise, the Contractor shall obtain airspace permits after contract award.
B. All construction involving cranes, batch plants and construction equipment over 20 feet in height shall be coordinated at least 65 days in advance with Airport Operations through the Owner’s Authorized Representative. The attached "Airspace Review" form or FAA Form 7460-1 shall be completed by the Contractor and transmitted to the Owner’s Authorized Representative for submittal to DFW Code Enforcement at least 65 days prior to start of work to allow adequate time for review and approval. The following information is required: location of work areas, maximum extendable height of proposed equipment, duration of use, and daily hours of operation.

C. The top of each crane boom shall be marked by a 3’ x 3’ orange and white-checkered flag, and shall be lowered at night and during periods of poor visibility as determined by the DFW Department of Public Safety.

1.6 OVERSIZE VEHICLES AND CRANES
A. All oversize vehicles and crane movements on the public roadway system shall be coordinated with the DFW Department of Public Safety seven days in advance.

1.7 OCCUPANCY PERMIT
A. The General Contractor shall be responsible for securing a Certificate of Occupancy permit at completion of the project and shall deliver such permit to Owner. Final Payment shall be retained until the Owner has received permit.

1.8 PERMITTING
A. Contractor shall, without additional expense to Owner, obtain necessary licenses and permits, and be responsible for complying with any federal, state, county, and municipal laws, codes, and regulations applicable to the performance of the work, including, but not limited to, any laws or regulations requiring the use of licensed contractors to perform parts of the work.

1.9 UNDERGROUND STORAGE TANK REGISTRATION
A. A certificate of registration issued by the TEXAS COMMISSION ON ENVIRONMENTAL QUALITY is required for all contractors engaged in the installation, removal or repair of underground storage tank systems, including piping.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

PART 4 – APPENDIX
4.1 The following documents/forms attached following “End of Section” are a part of the Specification.
A. Certification Statement for Storm Water Pollution Prevention Plan (“SWPPP”).
B. Dallas/Fort Worth International Airport Board Airspace Review.
C. Dallas/Fort Worth International Airport Board Airspace Review & Permit Application.

- END OF SECTION -
DALLAS/FORT WORTH INTERNATIONAL AIRPORT
Certification Statement
For
Storm Water Pollution Prevention Plan ("SWPPP")

"I certify under penalty of law that I understand the terms and conditions of the National Pollution Discharge Elimination System (NPDES) general permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification."

DATE: ______________________________________________
AUTHORIZED SIGNATURE: ______________________________________________
PRINT NAME: ______________________________________________
TITLE: ______________________________________________
COMPANY NAME: ______________________________________________
COMPANY ADDRESS: ______________________________________________
COMPANY TELEPHONE: (                ) _____________________________________
DESCRIPTION OF SITE: ______________________________________________
DFW CONSTR. CONTRACT NO.: ______________________________________________
DALLAS/FORT WORTH INTERNATIONAL AIRPORT BOARD

AIRSPACE REVIEW

FAA No. ______________________  DFW No.: ______________________  CA No.: __________

Applicant: _____________________  Contact: _____________________  Phone No.: ______

**Project Description**

Fixed Temporary* _________  Mobile Temporary* _________  Permanent _________

**Construction Schedule**

Start Date: ____________________  End Date: ____________________

**Location**

(Indicate in NAD 1983 (Geodetic, Lat./Long.) coordinates and attach location plan and site plan)

A. Latitude _____________________________  E. Perpendicular Dist*** _______________
B. Longitude ____________________________  F. Runway Elevation AMSL _____________
C. Impacted Runway _____________________  G. Site Elevation AMSL ________________
D. Distance from Runway End** ____________  H. Object Elevation AGL _____________

**Mitigation Conditions**

☐ No Impact  ☐ As Noted  ☐ FAA RO Study Recommended

Reviewed By:

FAA Airways Facilities ______________________________  Date: ____________________
FAA Air Traffic Control ______________________________  Date: ____________________
DFW Operations Dept. ______________________________  Date: ____________________

* The FAA Regional Office must review temporary structures exceeding 753 ft. AMSL.
** Measured parallel to runway from proposed structure to nearest runway threshold.
*** Measured from proposed structure to runway centerline.

DFW Contacts: Manuel Villareal, 972-573-1785 and Steve Tobey, 972-574-8535
### CRANE/EQUIPMENT OPERATION AREAS (________') HEIGHT

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PART 1 – GENERAL

1.1 SUMMARY

A. Addresses requirements for obtaining the appropriate authorization (air permit or permit by rule) for air emissions that are released into the atmosphere during construction.

B. Addresses requirement for special tracking to demonstrate air quality general conformity and greenhouse gas emissions analysis.

1.2 REFERENCES

A. The following is a list of standards which may be referenced in this Section:


2. Texas Administrative Code (TAC):
   a. 30 Chapter 101, General Air Quality Rules
   b. 30 Chapter 106, Permits by Rule
   c. 30 Chapter 116, Control of Air Pollution from Volatile Organic Compounds

1.3 DEFINITIONS

A. EAD: Environmental Affairs Department

B. Emission Events (EE): Any upset event or unscheduled maintenance, startup, or shutdown activity that results in unauthorized emissions from an emissions point.

C. Excess Opacity Events (EOE): An opacity reading(s) equal to or exceeding 15 additional percentage points above the applicable opacity limit, averaged over a six-minute period.

D. Facility: A discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment.

E. TAC: Texas Administrative Code

F. OAR: Owner’s Authorized Representative

G. TCEQ: Texas Commission on Environmental Quality

1.4 SUBMITTALS

A. Submit an air emission memorandum to the OAR prior to obtaining a building permit.
The memorandum shall identify the project's regulated air emission sources, provide an estimate of the emissions, and identify what permit is required (new source review permit (30 TAC 116), standard air permit, or Permit-by-rule (30 TAC 106))

B. Prepare required air permit application(s) and submit to OAR for review prior to submittal to TCEQ. Air permit applications shall be submitted to OAR 15 days prior to submittal to TCEQ.

C. Submit a copy of the approval letter from TCEQ for authorization (air permit or permit by rule) to CM. Regulated activities cannot begin until contractor receives approval from TCEQ.

D. Submit to TCEQ and CM, a completed TCEQ FORM 10360 for any Emissions Events (EE) or Excess Opacity Events (EOE) that occur at the facility or during the project. Submit as-soon-as practicable and no later than 24 hours of discovery.

1.5 PERMITS

A. General:

1. Submit an air emission memorandum to the OAR prior to obtaining a building permit
2. Complete the air permit application and submit to the OAR for review 15 days prior to submission to TCEQ
3. Contractor is responsible for obtaining all necessary air permits, including all permit application fees and public notification requirements.
4. Contractor shall be held liable for payment of any fines assessed by TCEQ or EPA due to Contractor’s failure to adhere to the requirements of the permits and/or permit by rule(s).

B. Standard Air Permit:

1. Use the current applicable PI-1 form, Core Data form, applicable TCEQ checklist form, and notification form. TCEQ forms can be found at the TCEQ website: www.tceq.state.tx.us.
2. Coordinate with TCEQ for any required inspections of the permitted facility or operation.
3. Notify CM within 24 hours of the scheduled inspection, or immediately for non-scheduled TCEQ inspection.

C. Permit by Rule:

1. Use form TCEQ PI-7 and applicable TCEQ specific checklists. TCEQ forms can be found at the TCEQ website.
D. Special Tracking – On request, contractor will provide project tracking and air emissions analysis to demonstrate compliance with general conformity analysis. Contractor is responsible for supplying air quality expert personnel to perform any necessary general conformity tracking/analysis. Additionally, annual project greenhouse gas emissions analysis will be required for all large capital projects (Contract value in excess of $1,000,000.00) upon EAD request, through the OAR.

PART 2 – EXECUTION

2.1 PERMIT COMPLIANCE

A. Comply explicitly with all requirements of the air permit or permit by rule.

B. Document compliance with air permit and permit by rule conditions, including permit by rules that do not require registration with TCEQ.

C. Monitor the air emissions and submit to TCEQ and CM a completed TCEQ form 10360 for any Emissions Events (EE) or Excess Opacity Events (EOE) that occur at the facility. Submit the form as soon as practicable, and no later than 24 hours after discovery.

D. Estimate emissions for permitted sources on a monthly basis (or as specified) for the purpose of demonstrating compliance with permit and/or permit by rule limits.

END OF SECTION
PART 1  GENERAL

1.1 SUMMARY
A. All concrete and hot mix asphalt plants shall adhere to Texas Commission of Environmental Quality (TCEQ) requirements whether listed herein or omitted.
B. The purpose of this specification is to provide permitting guidance for the construction and operation of concrete batch plants and hot mix asphalt plants. There are several permitting requirements for constructing and operating concrete or hot mix asphalt plants. Plants will need to obtain coverage under the applicable air permit and storm water permit

1.2 RELATED SECTIONS
A. Section 01 57 13, Temporary Erosion and Sediment Control.
B. Section 01 74 19, Construction Waste.
C. Section 01 41 26.10 Construction Air Permitting
D. Section 01 57 19.16 Concrete Waste

1.3 SUBMITTALS
A. The contractor must determine which air permit to obtain coverage under (Standard Air Permit, or New Source Review Permit). Submit the permit application and TCEQ letter of authorization to the OAR prior to initiating construction of the concrete batch plant or hot mix asphalt plant.
B. All asphalt plants and concrete batch plants seeking storm water coverage under TXR150000, shall follow the submittal requirements listed in Section 01 57 13 Temporary Erosion and Sediment Control.
C. For concrete batch plants seeking storm water coverage under TXG110000, submit the storm water pollution prevention plan and core data form to EAD, through the OAR, for review prior to submitting to TCEQ.
   a. Submit all monitoring data and sample results to EAD, through the OAR, upon request.
D. For concrete batch plants seeking storm water coverage under a Multi-Sector General Permit, submit the NOI and permit application to EAD, through the OAR, for review.
   a. Submit all monitoring data and sample results to EAD, through the OAR, upon request.

1.4 REFERENCES
A. The following is a list of policies and regulations which may be referenced in this Section:
   1. Texas Administrative Code (TAC): Title 30 Chapter 116, Control of Air Pollution by Permits for New Construction or Modification

1.5 DEFINITIONS
A. Contact Storm Water: Storm water that comes in contact with any raw materials, products, by-products, waste material, or equipment
B. DMR: Discharge Monitoring Report
C. EAD: Environmental Affairs Department
D. Facility Wastewater: Wastewater that is generated at ready-mix concrete plants, concrete products plants, or associated facilities
E. NOI: Notice of Intent
F. OAR: Owner’s Authorized Representative
G. TCEQ: Texas Commission on Environmental Quality

2 PART 2 EXECUTION
2.1 General
A. Concrete Batch Plants and Asphalt Plants will need to obtain coverage under the applicable air permit and storm water permit.

2.2 Air Permitting Options
A. Concrete Batch Plants and hot mix asphalt plants shall be registered and comply with TCEQ rules found in 30 TAC Chapter 116. The contractor may use any of the air permit options provided to fulfill these requirements.

B. For the purpose of air permitting, leaseholders at DFW International Airport are considered off-site receptors according to TCEQ and must be represented in the permit application and associated plot-plan. DFW Airport Board operated facilities are not considered receptors.

C. The contractor shall locate the concrete batch plant at least 550 feet from any crushing plant or asphalt plant. (If located within the distance limit, TCEQ prohibits simultaneous operation of these facilities)

D. The contractor shall provide copies of TCEQ permit applications and approval letters to EAD, through the OAR, prior to start of construction.
   1. Temporary Concrete Batch Plants
      a. Temporary concrete batch plants located adjacent or contiguous to a public works right-of-way project are exempt from TCEQ Public Notice requirements found in thirty (30) TAC §39.604. Concrete batch plants which meet the following requirements fulfill the TCEQ definition for “temporary”.
         i. Occupy a designated site for less than 180 consecutive days;
         ii. Supply concrete for a single project under one contract; or
         iii. Supply concrete for the same contractor for related project segments
      b. Temporary concrete batch plants requires to conduct public notice shall comply with TCEQ requirements in 30 TAC Chapter 39. Contractors shall notify EAD and coordinate sign locations prior to issuing public notice.
      c. TCEQ written approval is required prior to start-of construction of the plant (including stockpiles). Contractors with facilities which are previously authorized under a TCEQ Standard Permit for Temporary Concrete Batch Plants and are relocating the facility to DFW Airport may submit the original TCEQ approval letter
for the facility along with the 30-day relocation notice to the TCEQ Region 4 office (in this case, the Contractor will subsequently be allowed to begin construction 30 days from the date of the relocation letter to TCEQ Region 4). NOTE: Concrete Batch Plant equipment may be brought onto the site as long as there are no connections made to utilities which make the unit operable.

2. Permanent Concrete Batch Plants
   a. Requirements can be found on TCEQ’s Air Quality Standard Permit for Concrete Batch Plants.

3. Temporary Asphalt Batch Plants
   a. Requirements can be found on TCEQ’s Standard Permit for Hot Mix Asphalt Plants.

4. Engines
   a. Requirements for temporary or portable engines can be found in TCEQ Standard Permit, Section 6. Contractors are required to submit TCEQ Table 29 certifying that no engine (or combination of engines) exceeds 1000 total horsepower.

2.3 Storm Water Permitting Options
A. The contractor may obtain storm water coverage under TXR150000, TXG110000, Multi-Sector General Permit, or an Individual Permit.
   1. TPDES Construction General Permit (CGP)(TXR150000):
      a. Applies to a plant that is in close proximity to and directly supports the permitted construction activity. If not associated with construction, use of this permit is not allowed.
      b. Plant is authorized by TCEQ to discharge only storm water runoff. Storm water discharges must be monitored prior to initial discharge and then annually as stated in the permit.
      c. Project seeking coverage under TXR150000 shall adhere to the requirements in Section 01 57 13, Temporary Erosion and Sediment Control
   2. TPDES General Permit for Discharges from Concrete Production Facilities (TXG110000).
      a. Plants that supply concrete to multiple projects or that discharge process water may obtain coverage under TXG 110000.
      b. Authorizes discharge of wastewater and contact storm water from the plant and associated facilities with the following Standard Industrial Classification (SIC) Codes.
         i. 3271 Concrete Block and Brick
         ii. 3272 Concrete Product Except Block and Brick
         iii. 3273 Ready-mixed Concrete
      c. Requires a separate SWPPP be prepared for the plant
         i. Refer to General Permit (TXG110000) for the SWPPP requirements

Publish Date
June 1, 2018
ii. Submit NOI at least 30 days before beginning the discharge.
   a) Submit NOI and Core Data form to EAD for review prior to submitting to TCEQ. The Core Data form may be found on the TCEQ website
   b) DFW Airport does not meet the definition of discharger under the TXG110000 permit and is therefore not required to submit an NOI along with Contractor
   c) The Contractor, being operator of plant, is the permitted discharger.
   d) Within 6 weeks to 8 weeks following processing of the NOI, a DMR form (EPA Form 3320-1) will be mailed to operator of discharge.

d. Sampling:
   i. Requirements include monthly sampling and analysis for flow, oil and grease, total suspended solids (TSS), and pH. At a minimum, once a year analysis is required for heavy metals and whole effluent toxicity. Refer to the General Permit (TXG110000) for sampling requirements.
   ii. Submit original DMR with results of sampling activities to TCEQ on a quarterly basis.

3. TPDES Multi-Sector General Permit (TXR050000):
   a. Applies to plants supplying concrete to multiple projects or customers, and discharging only storm water runoff
   b. If concrete batch plant is chosen to be covered under this permit, notify EAD Construction Application Review staff, through the OAR, before proceeding further.
   c. Regulated facilities are required to notify operators of systems that discharge to permitted MS4s. DFW Airport is a permitted MS4
   d. Refer to the list of SIC codes requiring permit coverage associated with Sector D (Asphalt Paving and Roofing Materials and Lubricants) or Sector E (Glass, Clay, Cement, Concrete, and Gypsum products). If the facility’s industrial activities are not listed, no permit is needed.
   e. Notice of Intent (NOI) (TCEQ-10382):
      i. Application and instructions for authorization under the Multi-Sector General Permit
      ii. For help completing NOI, read NOI instructions and use Customer Checklist
      iii. Sign the hard copy and submit to TCEQ using the addresses provided in the instructions
   f. Additional Notification:
      i. Applicants of the MSGP, who discharge to a MS4, shall submit a signed copy of their Notice of Intent (NOI) or No Exposure Certification (NEC) to the operator of the system.
      ii. Permittees shall also provide a copy of any Notice of Change (NOC) or Notice of Termination (NOT) to operator of the system.
   g. Notification of Termination:
      i. To voluntarily terminate coverage under the Multi-Sector General Permit, complete and submit the Notice of Termination (NOT) (TCEQ-10443).
h. Discharge Monitoring Report (DMR):
i. Follow the permitting requirements for collecting analytical data and reporting to TCEQ.
ii. Submit monitoring data and sample results to EAD, through the OAR, upon request.

4. Individual Storm Water Permit
   a. Suitable for plants supplying to multiple projects or customers.
   b. Notify EAD, through the OAR, before proceeding with this option.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY

A. This Section defines common phrases and acronyms that are used in relationship with construction within the Dallas/Fort Worth International Airport’s Parking Revenue Area (PRA) and/or Air Operations Area (AOA).


2. Access Permit (AOA) – A permit issued to a motor vehicle required to enter the AOA.

3. Administrator – The Vice President of Airport Operations for the Dallas-Fort Worth International Airport, or authorized agent.

4. Air Operations Area (AOA) – A portion of the Airport which encompasses the landing, takeoff, taxiing and parking areas for aircraft. A six-foot chain link fence and positive controlled gates protect all such areas. No unguarded openings are allowed.

5. Air Operations Area (AOA) ACCESS PERMIT – A permit issued to a motor vehicle required to enter the AOA.

6. Airfield Operations – A section of the Operations Department responsible for the day-to-day safe and efficient operation of the airfield.

7. Aircraft Movement Area (AMA) – Area surrounding all taxiways and runways within which aircraft and vehicles operate at the direction of the Federal Aviation Administration (FAA) Air Traffic Control Tower, and all other areas within the AOA but outside the ramp/apron areas.

8. Aircraft Rescue And Fire Fighting (ARFF) ROAD – A designated road on the Airport that is under the operational control of Department of Public Safety (DPS) and Airport Operations and is used for emergency purposes.

9. Airfield Construction – All work performed within the AOA.

10. Airport – Airport the land and improvements located thereon, within the confines of the Dallas/Fort Worth International Airport (DFW).

11. Airport Identification/Access Badge, A Picture Identification badge issued by the airport operator granting unescorted access to specific areas of the Airport for the purpose of conducting business in accordance with the Rules and Regulations, Federal, state, and local laws and regulations, and Policies and Procedures of the Airport.

12. Approval Authority – The approval authority for ingress/egress issuance is the Vice President of Airport Operations or Vice President of Airport Development & Engineering (for construction related Parking Revenue Area (PRA) devices).

13. Apron (RAMP) – A paved surface usually around terminal buildings, cargo/air freight buildings, and Hangars from which aircraft operate or are parked.
14. Apron Entrance Point (AEP) – A taxilane between certain terminal apron areas and adjacent taxiways. It is identified by surface painted markings consisting of yellow circles and black identification numbers. May be referenced as “SPOTS”

15. Architect/Engineer (A/E) – The individual, partnership, firm or corporation duly authorized by the Owner to be responsible for professional services associated with architecture, engineering or management for the project.

16. Board – The Dallas/Fort Worth International Airport Board, a public body, established under the laws of the State of Texas and hereunto duly authorized by contract between the City of Dallas, a municipal corporation of Dallas County, Texas, and the City of Fort Worth, a municipal corporation of Tarrant County, Texas, or its Authorized Representatives


19. Commissioning (Cx) – The systematic process of ensuring that all construction efforts that meet a certain criteria are completed in accordance with Owner specifications.

20. Commissioning Agent (CxA) – The person or entity that oversees the development and execution of the commissioning plan.

21. Construction Manager at Risk (CMAR/Contractor) – The person or entity designated by the Owner to provide construction or construction management services during design and construction of the work.

22. Control Plaza – The entrance and exit gates at the north and south ends of the Airport that provides a stop barrier on northbound and southbound International Parkway.

23. Cutting And Patching – It is hereby defined to include but is not necessarily limited to the cutting and patching of existing work, in order to accommodate the coordination of work, or the installation of new work. Patching is also defined as the repair or filling of surfaces where existing items are removed.

24. Design, Code and Construction (DC) – DFW Airport Department responsible for, among other functions, the development of the Airport’s various components. The Contractor is required to coordinate with DCC and obtain permits from DCC through use of certain forms as described in various Division 1 Sections.

25. Drawings – Refers to plans, elevations, sections, details and schedules that are prepared for construction of the Work and are part of the Contract Documents containing instructions and details for construction of the Project.

26. Driver – An individual who drives or operates a commercial, governmental, institutional, and other type vehicle.
27. Emergency Grid – An airport wide grid system used to determine locations within the Dallas/Fort Worth Airport site by the Department of Public Safety (DPS). The grid has 1000’ by 1000’ grid units that are further broken down to 16 equal parts. The work area designation as noted is to be used in reporting any incident occurring during construction. For reference purposes the grid is located in the Construction Drawings of each package.

28. Escort – The taking of a non-SIDA badged person and/or vehicle though the TSA passenger screening checkpoint, DPS manned AOA gate or DFW AOA access gate. The person conducting the escort must maintain both physical and visual proximity to the person and/or vehicle being escorted at all times and is responsible for all actions of the party being escorted. No more than five (5) non-SIDA badged persons or vehicles may be escorted by one SIDA badged employee. When transferring an escort the new escort must acknowledge responsibility for the escort. When escorting a vehicle the driver of the vehicle being escorted must be certified to drive on the AOA. For escorts in the terminal area, the escort must check in at a DPS manned AOA gate and register all persons/vehicles being escorted. This requirement is also outlined in the on-line SIDA training course administered by the DFW Access Control Office.

29. Federal Aviation Administration (FAA) – The Federal Aviation Administration of the U.S. Department of Transportation.

30. Haul Route – A specified roadway within the AOA serving authorized construction-related traffic.

31. Holder – A person, or his agent, who is granted operating authority to conduct Parking Revenue Area (PRA) boundary crossings as specifically authorized in the Code of Rules and Regulations.

32. Ingress/Egress Device – A device that allows entry into the PRA by specified, unescorted vehicles.

33. Inspector – An authorized representative of the Owner assigned to make all necessary inspections and/or tests of the Work being performed or of the materials furnished or being furnished by the Contractor.

34. Legal Resident – A citizen of the United States or a person residing in the United States in accordance with Federal Immigration Laws.

35. Managing Architect/Engineer – The entity responsible for overall management of the architectural or engineering work for the program as opposed to the Architect/Engineer who is responsible for the execution of the architectural and engineering work.

36. Navigational Aid (NAVAID) - Apparatus, generally located within the AOA, which serves as a guide to landing aircraft.

37. NAVAID Critical Area (NCA) - Three-dimensional areas surrounding NAVAIDs that, if penetrated by equipment or stockpiles, could cause interference with navigational equipment.
38. Non-Movement Area – Aprons and other portions of the AOA in which control and direction by the FAA Tower is not required.

39. Object Free Area (OFA) – An area on the ground centered on a runway, taxiway or taxilane within which no object may be located unless it is frangible and aeronautically required due to its function.

40. Obstacle Free Zone (OFZ) – The airspace below 150 feet above the established airport elevation and along a runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function.

41. Operate – To drive or to be in control of a vehicle.

42. Operating Authority – Permission granted by the Administrator for a vehicle to enter the PRA in accordance with these Rules and Regulations.

43. Operations Department (DFW Airport Operation Department) - The airport department responsible for, among other functions, the Airfield Operations Section

44. Operator – The driver of a motor vehicle, the Owner of a vehicle, or the holder of vehicle operating authority.

45. Owner – The Dallas-Fort Worth International Airport Board, a public body, established under the laws of the State of Texas and hereunto duly authorized by Agreement between the City of Dallas, a municipal corporation of Dallas County, Texas, and the City of Fort Worth, a municipal corporation of Tarrant County, Texas, or its Authorized Representatives.

46. Owner’s Authorized Representative (OAR) – The Owner’s Authorized Representative shall be designated in writing with specific limits of authority, and may be an employee of the Owner or employees of firms under Contract with the Owner to provide specific services. The OAR is the first line of coordination with any DFW entities.

47. Parking Business Unit (PBU) - The Airport department responsible for, among other functions, revenue control and operations of the Parking Revenue Area. Issues and monitors use of Parking Privileges and Vehicle Access Tags (VATs.)

48. Parking Revenue Area (PRA) – The area bounded by fences, gate control equipment and arms, from which the Owner produces revenue from parking spaces.

49. PCA Unit – Pre-conditioned Air Unit, provides cooling to the jet bridge and the aircraft while the aircraft is parked at the gate.

50. Person – An individual, a corporation, a government or governmental subdivision, or an agency, trust, partnership, or two or more persons having a joint or common economic interest.

51. Project – The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.
52. Project Manager – The Owner’s Authorized Representative who is responsible for overseeing the Work on the Owner’s behalf.

53. Project Manual – Defined as the package containing all of the Specifications, Special and General Provisions, and all attachments (soil, environmental, safety, etc.)

54. Skire Unifier – Skire Unifier is web-based project management and documentation control software. It is used for report generation, data collection, documentation control, and project detailing and organization of some DFW construction projects


56. Ramp – (See APRON).

57. Runway – A designated area for landing or takeoff of aircraft.

58. Safety Area – A specific area surrounding runways and taxiways, which requires special authorization to enter.

59. Schedule Of Charges – The rates and fees charged by and as approved by the Owner.

60. Security Identification Display Area (SIDA) – All areas of an airport identified in the airport security program as requiring each person to continuously display on their outermost garment above the waist and below the neck, an airport-approved identification medium unless under airport-approved escort. For purposes of construction and maintenance, this also includes the entire area of the AOA.

61. Skire – Database Software System used by ADE. All project submittals, meeting minutes, correspondence, etc. should be completed through this system.

62. Skylink System – Guide way, stations and vehicles to provide timely inter-terminal connections in the Central Terminal Area (CTA).

63. Specifications – Defines the qualitative requirements for material, and workmanship required for the Work. The Specifications consist of various sections in Division 01 through Division 50. The Specifications are part of the Contract Documents.

64. Stockpiles – Quantities of materials, debris or spoils, which remain on the work site after work has finished for the day, etc.

65. Taxilane – A portion of an aircraft parking area used for access between taxiways and aircraft parking positions

66. Taxiway – A defined path established for the taxiing of aircraft from one part of an airport to another.

67. Vehicle – Private, commercial, governmental, institutional and any other type vehicles that operate in a way that requires crossing of the PRA boundary and have been licensed by proper authority.
68. Vehicle Owner – The person to whom state or other appropriate license plates for a vehicle were issued.

69. Work – The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

B. Promptly resolve any conflicts in the way the phrases in Paragraph 1.1 A are interpreted with the Owner’s Authorized Representative.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

-END OF SECTION-
PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED
A. This Section includes the abbreviations and acronyms that are included in Contract Documents to identify reference standards.

1.2 QUALITY ASSURANCE
A. Application: When a standard is specified by reference, comply with requirements and recommendations stated in that standard, except when requirements are modified by the Contract Documents or applicable codes establish more strict standards.
B. Publication Date: The publication in effect on the bid date, except when a specific publication date is specified.

1.3 DEFINITIONS
A. “Directed”, “Designated”, “Selected”, “Requested”, “Authorized”, “Permitted”, or words of similar import: Direction, designation, selection, or similar action of Architect/Engineer is intended.
B. “Require” and words of similar import: As required to complete Work and as required by Architect/Engineer.
C. “Perform”: Contractor shall perform operations necessary to complete Work, including furnishing of necessary labor, tools and equipment and further including and installing of materials indicated, specified or required to complete performance within the Contract Price.
D. “Provide”: Contractor shall furnish and install Work.
E. “Other acceptable manufacturer”, "equal", "acceptable equal", "equivalent", or words of similar import: Refer to products or work proven to the satisfaction of the Architect / Engineer to be in compliance with the intent of the Contract Documents.
F. "Acceptance", "acceptable", or words of similar import: Acceptance, acceptable or similar words shall be as approved by Architect/Engineer.
G. "At no extra cost to Owner", "With no extra compensation to Contractor", "At Contractor's own expense", or words of similar import: Terms shall be understood to mean that Contractor shall perform or provide specified operation of Work at no increase to Contract Sum stated in executed Contract.
H. "NIC": Work of this Project, which is not being performed or provided as part of Contract; term shall mean "Not in This Contract" or "Not Part of Work to be performed or provided by Contractor". "NIC" work is indicated as aid to Contractor in scheduling amount of time and materials necessary for completion of Contract.
I. "Indicated" refers to graphic representations, notes or schedules on Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where term "shown", "noted", "scheduled", and "specified" are used, it is to help locate reference; no limitation on location is intended except as specifically noted.

J. "Accepted", where used in conjunction with Architect's action on Contractor's submittals, and requests, is limited to responsibilities and duties of Architect/Engineer stated in General and Supplementary Conditions. Approval does not release Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in Contract Documents.

K. "Regulation" includes laws, statutes, ordinances, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within construction industry that control performance of Work, whether they are lawfully imposed by authorities having jurisdiction or not.

L. "Furnish" means supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, and placing into operation in accordance with the Contract Documents.

M. "Install" means unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, and finishing, curing, protecting, cleaning and similar operations.

N. "Installer" is entity engaged by Contractor, either as employee, subcontractor or sub-subcontractor for performance of particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in operations they are engaged to perform. Term "experienced", when used with term "installer", means having minimum five years previous projects similar in size and scope to this Project, and familiar with precautions required, and has complied with requirements of authority having jurisdiction.

O. "Project Site" is space available to Contractor for performance of Work, either exclusively or in conjunction with others performing construction as part of Project. Extent of Project Site is shown on Contract Drawings, and may or may not be identical with description of land upon which Project is to be built.

P. "Testing Laboratory" is independent entity engaged to perform specific inspections or tests, either at Project Site or elsewhere, and to report on, and if required, to interpret results of those inspections or tests.

1.4 SPECIFICATION SENTENCE STRUCTURE

A. Specifications are written in modified brief style. In general, words "the", "a", "an", "shall", "shall be", and "all" are not used. Requirements indicated and specified apply to all work of same kind, class, and type even though word "all" is not stated.

B. Simple imperative mood of sentence structure is used in Specifications which places verb as first word in sentence. Where "perform", "provide", "install", "erect", "furnish", "connect", "test", or words of similar import are used, it shall be understood that words include meanings of phrase "Contractor shall..." before words.

C. Standard paragraph titles and other identifications of subject matter in Specifications are intended as aid in locating and recognizing various
requirements in Specifications. Titles do not define, limit or otherwise restrict Specifications text. Capitalizing of words in text does not signify or mean that words convey special or unique meanings having precedence over other parts of Contract Documents. Specification text shall govern over titling and shall be understood to be interpreted as a whole.

1.5 DOCUMENT ORGANIZATION

A. Organization of Project Manual and Contract Drawings are not intended to control or to lessen responsibility of Contractor in dividing Work among its subcontractors, or in establishing extent of Work to be performed by any trade.

1.6 SYMBOLS

A. Graphic symbols used in Contract Documents are those symbols recognized in construction industry for indicated purposes. Where not otherwise noted, symbols are those defined in "Architectural Graphics Standards", published by John Wiley & Sons, Inc., Current Edition.

B. Graphic symbols used on mechanical and electrical drawings are generally aligned with symbols recommended by American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE). Where appropriate, mechanical and electrical symbols are supplemented by more specific symbols recommended by the technical associations including: American Society of Mechanical Engineers (ASME), American Society of Plumbing Engineers (ASPE), Institute of Electrical and Electronics Engineers (IEEE), and similar organizations. Request clarification from the Architect/Engineer if the symbols are unfamiliar.

1.7 REFERENCE STANDARDS

A. Reference Standard-Abbreviations:
   1. Reference standards are referred to in Specification Sections by basic designation only.

   2. Where acronyms or abbreviations are used in Contract Documents, they shall mean recognized name of trade association, standards generating organization, authority having jurisdiction, or other organization applicable to context of requirement.

   3. Refer to "Encyclopedia of Associations", published by Gale Research Company, available in most public libraries, to reference unfamiliar organization acronyms or abbreviations.

B. Publications of organizations and societies listed in individual Specification Sections shall be considered integral part of Contract Documents to extent referenced. Work shall be executed in accordance with Reference Standard requirements and Contract Document requirements.

C. When conflict exists between requirements of reference standards and Contract Documents, you need to request clarification from the Architect/Engineer before proceeding.

D. Publications are referred to in text by basic designation only with organizations and societies referenced by abbreviations indicated.
E. When standard is referred to in individual Specification Section but is not listed by title and date, it shall be considered to be latest edition with supplements or amendments at date of Project Manual issue.

F. Make available at Project site copies of reference standards as required, or as the Architect/Engineer or Owner may request and then maintain those copies at project site throughout construction period.

1.8 ABBREVIATIONS AND NAMES OF ORGANIZATIONS

A. Obtain copies of referenced standards direct from publication source Airport codes may be obtained from Airport Building Codes Department. Keep on file at job site for reference by the different trades to ensure proper performance of work.

AA    Aluminum Association
AABC  Associated Air Balance Council
AAMA  American Architectural Manufacturers Association
AAES  American Association of Engineering Societies
AAN   American Association of Nurserymen
AASHTO  American Association of State Highway Transportation Officials
ACEI  Air Conditioning Engineers, Inc.
ACI   American Concrete Institute
AGA   American Gas Association
AGC   Associated General Contractors of America
AHA   American Hardboard Association
AI    Asphalt Institute
AIA   American Institute of Architects
AISC  American Institute of Steel Construction
AISI  American Iron and Steel Institute
ALSC  American Lumber Standards Committee
AMCA  Air Movement and Control Association
ANSI  American National Standards Institute
APA   American Plywood Association
APFA  American Pipe Fittings Association
ARI   Air-Conditioning and Refrigeration Institute
ASA   American Subcontractors Association
ASCA  American Spray Coaters Association
ASCE  American Society of Civil Engineers
ASHRAE  American Society of Heating, Refrigerating and Air Conditioning Engineers
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Name</th>
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<tbody>
<tr>
<td>ASLA</td>
<td>American Society of Landscape Architects</td>
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<tr>
<td>ASME</td>
<td>American Society of Mechanical Engineers</td>
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<tr>
<td>ASPE</td>
<td>American Society of Plumbing Engineers</td>
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<tr>
<td>ASSE</td>
<td>American Society of Sanitary Engineering</td>
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<tr>
<td>ASTM</td>
<td>American Society for Testing and Materials</td>
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<td>AWWA</td>
<td>American Water Works Association</td>
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<td>AWI</td>
<td>Architectural Woodwork Institute</td>
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<td>AWPA</td>
<td>American Wood-Preservers' Association</td>
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<td>AWS</td>
<td>American Welding Society</td>
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<td>BIA</td>
<td>Brick Institute of America</td>
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<td>BHMA</td>
<td>Builders Hardware Manufacturers Association</td>
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<td>BOCA</td>
<td>Building Officials and Code Administrators</td>
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<td>CBM</td>
<td>Certified Ballast Manufacturers</td>
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<tr>
<td>CDA</td>
<td>Copper Development Association</td>
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<td>CISCA</td>
<td>Ceiling &amp; Interior Systems Construction Association</td>
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<tr>
<td>CISPI</td>
<td>Cast Iron Soil Pipe Institute</td>
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<tr>
<td>CLFMI</td>
<td>Chain Link Fence Manufacturers Institute</td>
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<td>CPSC</td>
<td>Consumer Product Safety Commission</td>
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<td>CRSI</td>
<td>Concrete Reinforcing Steel Institute</td>
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<td>CS</td>
<td>Commercial Standard</td>
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<td>CSI</td>
<td>Construction Specifications Institute</td>
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<td>CTI</td>
<td>Ceramic Tile Institute</td>
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<td>DHI</td>
<td>Door &amp; Hardware Institute</td>
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<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>FM</td>
<td>Factory Mutual System</td>
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<td>FAA</td>
<td>Federal Aviation Administration</td>
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<td>FARs</td>
<td>Federal Aviation Regulations</td>
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<tr>
<td>FGMA</td>
<td>Flat Glass Marketing Association</td>
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<td>FS</td>
<td>Federal Specification</td>
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<td>FSCSI</td>
<td>Food Service Consultants Society International</td>
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<td>HPMA</td>
<td>Hardwood Plywood Manufacturers Association</td>
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<tr>
<td>IAPMO</td>
<td>International Institute of Plumbing and Mechanical Officials</td>
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<tr>
<td>ICBO</td>
<td>International Conference of Building Officials</td>
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<tr>
<td>IEEE</td>
<td>Institute of Electrical and Electronics Engineers</td>
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<tr>
<td>Acronym</td>
<td>Organization/Association</td>
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<td>IES</td>
<td>Illuminating Engineering Society</td>
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<td>IETA</td>
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<td>IILP</td>
<td>International Institute for Lath &amp; Plaster</td>
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<td>ILI</td>
<td>Indiana Limestone Institute of America</td>
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<td>IPCEA</td>
<td>Industrial Power Cable Engineers Association</td>
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<td>Manufacturer’s Standardization Society of the Valve &amp; Fitting Industry</td>
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<td>NAAMM</td>
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<td>National Association of Fan Manufacturers</td>
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<td>National Asphalt Pavement Association</td>
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<td>Porcelain Enamel Institute</td>
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<td>Product Standard</td>
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SBCCI  Southern Building Code Congress International
SDI    Steel Deck Institute
SDI    Steel Door Institute
SIGMA  Sealed Insulating Glass Manufacturing Association
SJI    Steel Joist Institute
SMACNA Sheet Metal and Air Conditioning Contractors' National Association
SPIB   Southern Pine Inspection Bureau
SPRI   Single Ply Roofing Institute
SSPC   Steel Structures Painting Council
TAS    Technical Air Series
TCA    Tile Council of America, Inc.
TCEQ   Texas Commission on Environmental Quality
TXDOT  Texas Department of Transportation
UBC    Uniform Building Code
UL     Underwriters Laboratories, Inc.
UPC    Uniform Plumbing Code
USDA   United States Department of Agriculture
USDC   United States Department of Commerce
USPS   United States Postal Service
WRI    Wire Reinforcement Institute
WWPA   Woven Wire Products Association

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Implement a Quality Control Program to ensure that all work is performed in accordance with the Contract Documents and that substantiating documentation is provided.

1.2 SUBMITTALS
A. Submit Quality Control Program Manual in accordance with PART 3 of this Section.
B. Submit detailed Project Quality Control Plan for each Construction Contract.
C. Submit the Contractor’s Quality Control Program Manual and Quality Control Project Plans to the Owner’s Authorized Representative in Microsoft Word.

1.3 QUALITY ASSURANCE
A. The Owner’s Authorized Representative will perform periodic reviews and observations of the implementation of the Contractor’s Quality Control Program. The Owner’s testing and inspection efforts are conducted for the sole purpose of facilitating the Owner’s acceptance of the constructed Work. Contractor retains total responsibility for Work.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION

3.1 GENERAL
A. Implement a Quality Control Program including review and approval of shop and/or working drawings, inspection of materials and workmanship, and coordinating testing by the Owner’s Materials Testing Agency.

3.2 OWNER’S AUTHORIZED REPRESENTATIVE’S ROLE
A. The Owner’s Authorized Representative will approve the Contractor’s Quality Control Program and monitor the activities of the Contractor to ensure its effectiveness and compliance with the stipulations within this Section. The Owner’s Authorized Representative review does not relieve the Contractor of responsibility for development and implementation of a Quality Control Program or for full compliance with the provisions of the Contract Documents.

3.3 QUALITY CONTROL SYSTEM
A. Submittal:
   1. Submit the Quality Control Program to the Owner’s Authorized Representative for review and approval within 10 calendar days before beginning any Work.

B. Organization:
   1. Designate one individual as the Quality Program Manager. The Quality Program Manager will have responsibility for the implementation of the Quality Control Program for the Contractor on all construction contracts.
The Quality Program Manager shall have full authority to represent the company with respect to quality of the work and the Quality Control Program and shall have no duties assigned other than quality control activities. Quality Program Manager shall be a full-time employee and be totally dedicated to quality control.

2. Provide a Quality Control Supervisor (aka Program Administrator – GP 100-3) with a minimum of five (5) years of extensive experience in administrating Quality Control Programs on projects of a similar size and nature. Experience and qualifications will be evaluated on a case-by-case basis to determine acceptability of individuals. The Quality Control supervisor is responsible for the implementation of the Quality Control Program for a specific Project or construction contract.

3. Provide sufficient personnel to inspect the work and perform other Quality Control Program duties as necessary to oversee all Work, including shifts, quantity and location. Provide Quality Control Program personnel with applicable qualifications and experience. Submit the qualifications and work experience of all QC personnel to the Owner’s Authorized Representative for review and approval. Similar documented experience in Quality Control for a contractor and for similar projects constitutes applicable experience. Refer to Construction Contract General Provisions, Section 100-3, Quality Control Organization for further details on qualifications of the Contractor’s Quality Control Program personnel.

C. Approval:

1. The Owner’s Authorized Representative will review the submission and respond within seven calendar days of receipt. Approval will be based upon qualifications, structure, understanding and experience. If approval is conditional, the Contractor will comply with the direction of the Owner’s Authorized Representative.

2. Once approved, the Quality Control Program personnel may not be replaced nor any changes made without prior written consent from the Owner’s Authorized Representative.

D. Activities:

1. Provide personnel to perform the following duties:

   a. Field Activities:

      1. Inspect all field work in progress for compliance with the Contract Documents. Inform the Contractor and the Owner’s Authorized Representative of any work that is in non-compliance as promptly as possible.

      2. Document all work activities by completing a Daily Construction Report for every contract day, in a format to be provided by the Owner’s Authorized Representative. Provide written reference to the Work that was in non-compliance.

      3. Arrange for all necessary testing and retesting of work with the Owner’s Materials Testing Agency or the Contractor’s Dallas Fort Worth International Airport Standard Technical Specification Book.
testing laboratory. Witness and review the tests and reports for conformance with the Contract Documents.

4. Formulate work lists for items requiring completion for any interim or substantial completion.

5. Approve all concrete placements using approved concrete placement cards.

6. Note any deficiency discovered, maintain records of all deficiencies and corrective action on an electronic format approved by the Owner’s Authorized Representative. Provide prompt notification of any deficiency to the Owner’s Authorized Representative and provide an updated file of the log at the weekly construction update meeting. Enter all deficiency information into the Owner approved Program Management software application.

7. Participate in all final inspections when construction has been completed and formulate and maintain work lists.

8. Participate in all meetings with the Owner’s Authorized Representative as required for implementing an effective Quality Control Program.

b. Office Activities:

1. Review all submittals for compliance with the Contract Documents. Maintain record of all submittals using the Owner approved Program Management software application.

2. Review as-built conditions on the Contract Documents as per requirements of Section 01 78 39, Project Record Documents.

3. Provide all documentation of the Quality Control Program activities to the Owner’s Authorized Representative.

4. Review Contractor's pay requests and maintain appropriate documentation for quality and acceptance of work being claimed.

3.5 QUALITY CONTROL PROGRAM MANUAL

A. Prepare a Quality Control Program Manual for the Program. The manual shall be neatly organized, typed, and shall include but not be limited to the following:

1. The Contractor’s Quality Control Program objectives and stated policy.

2. Organization and delegation of Quality Control authority to various Contractors' representatives.

3. Documentation and records required for implementing the Quality Control Program.

4. Reports and forms to be submitted.
5. Inspections requirements, arrangements, coordination, control and reporting.
6. Testing requirements by the Contractor and required coordination with the Owner’s Materials Testing Agency.
7. Internal audits to ensure the personnel of the Contractor and subcontractors are completing tasks per Quality Control Program.
8. Procedures for indoctrination and training of employees.
9. Procedures for receiving and storage of permanent materials for the Quality Control Program.

B. Submit Project Quality Control Plan for each construction Project. The Project Quality Control Plan is to describe:

1. Identify the Quality Control Supervisor to be assigned to the project
2. Identify the Quality Control Technicians to be assigned to the project.
3. Organization and delegation of Quality Control authority to various Contractors' representatives.
4. Tabulation of all tests and inspections anticipated for the Project, and the anticipated schedule for these tests.
5. Specific documentation and records that are required for implementing the Quality Control Plan for the Project.

3.6 FAILURE TO PROVIDE QUALITY MANAGEMENT SERVICES

A. Repeated failures to comply with the requirements herein may result in the Owner’s Authorized Representative implementing their own Quality Control Program. Such action will be at the sole discretion of the Owner’s Authorized Representative. Cost for implementing the Quality Control Program will be deducted from the Contract Price.

-END OF SECTION-
PART 1 – GENERAL

1.1 SUMMARY

A. Where Quality Assurance (QA) tests of materials are required by the Contract Documents, the tests will be made by an Independent Testing Agency. Such tests will be performed by and at the expense of the Owner unless such Contract Documents specifically require the Contractor to bear the expense thereof.

B. The Owner reserves the right to perform or require additional tests to be performed as may be deemed necessary or prudent to ensure that the Work is performed according to the requirements of the Contract Documents.

C. The Contractor’s Quality Control testing will also comply with the same specifications and all ASTM requirements.

1.2 REFERENCES


B. ANSI/ASTM E329 – “Standard Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.”

1.3 SELECTION AND PAYMENT

A. Owner will employ and pay for services of an independent materials testing agency to perform specified quality assurance inspection and testing.

B. Employment of materials testing agency shall in no way relieve Contractor of obligation to perform quality control testing at his expense, and perform work in accordance with requirements of Contract Documents.

C. The failure of the Owner to make any tests of materials shall in no way relieve the Contractor of its responsibility of furnishing materials conforming to the Contract Documents.

D. The Contractor has the ultimate responsibility to conform to the technical Specifications and conduct his own Quality Control Testing without relying on the Owner’s Quality Assurance Testing.

E. The Owner’s Quality Assurance testing is only for acceptance of the furnished material and complete Work.

F. The Contractor is responsible for Quality Control testing.
1.4 MATERIALS TESTING REPORTS

A. After each quality assurance inspection and test, the Owner’s Authorized Representative will promptly receive and transmit a copy of the materials test report to the Contractor. Materials test reports shall include: Date issued, the Project title and number, name of inspector, date and time of sampling or inspection, identification of product and all applicable specification paragraph(s), location in the Project, type of inspection or test, date of test, results of tests, and indication of conformance or non-conformance with Contract Documents.

B. After each quality control test, the Contractor will promptly transmit a copy of the test results to the Owner’s Authorized Representative. The test reports shall include the data as specified above.

1.5 TESTING AGENCY DUTIES

A. Test samples of mixes submitted by Contractor.
B. Provide qualified personnel at site. Submit credentials of proposed testing personnel to Owner’s Authorized Representative for approval, indicating specific activities to which they will be assigned. Cooperate with Owner and Contractor in performance of services.
C. Perform specified sampling and testing of products in accordance with specified standards.
D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
E. Promptly notify Owner and Contractor of observed irregularities or non-conformance of Work or products.
F. Perform additional tests and inspections required by Owner.
G. Attend pre-construction meetings and progress meetings.
H. Submit reports of all tests/inspections specified to Owner’s Authorized Representative. Submit copies of all reports to the Contractor, Managing Architect and the Architect/Engineer and in the case of civil, structural, electrical and mechanical work, to the consulting Engineer as well.

1.6 LIMITS ON MATERIALS TESTING AGENCY AUTHORITY

A. Agency may not approve or accept any portion of the Work.
B. Agency may not assume any duties of Contractor.
C. Agency has no authority to stop Work.
D. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
1.7 CONTRACTOR RESPONSIBILITIES

A. Provide performance and Quality Control testing and inspection for all materials and workmanship. Performance and Quality Control testing is all testing over and above the acceptance testing performed by the Owner which is identified and described in the technical Specifications. The Contractor’s testing agency will meet all of the requirements as specified in this section.

B. Deliver to Independent Testing Agency at designated location adequate samples of materials proposed to be used, which require testing, together with proposed mix designs.

C. Cooperate with Materials Testing Agency personnel, and provide access to Work and to material supplier's or manufacturer's facilities.

D. Provide incidental labor and facilities to provide access to work to be tested by the Owner’s Material Testing Agency (QA) to obtain and handle samples at the Site or at source of products to be tested, to facilitate tests and inspections, and for storage and curing of test samples.

E. Notify the Owner's Authorized Representative at least twenty-four (24) hours prior to expected time of work operations requiring inspection and testing services.

F. The Contractor shall provide such facilities as the Owner may require for collecting and forwarding samples and shall not use the materials represented by the samples until tests have been made.

G. The Contractor shall not use any material before testing is complete, results are delivered to the Owner's Authorized Representative and the Owner gives approval in writing.

H. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Price.

1.8 SOURCE OF MATERIALS

A. The Owner will be notified of the supply of major materials required before delivery is started.

B. Representative samples shall be submitted for inspection or tests.

C. The results obtained from testing such samples will be used for preliminary approval but will not be used as a final acceptance of the materials.

D. The Owner may test all materials proposed to be used at any time during their preparation and use.
E. Furnish approved material from another source if it is found that sources of supply, which have been approved, do not furnish a product of uniform quality, or if the product from any source proves unacceptable at any time. Pay additional cost for changing sources. Replace materials source to complete Project by the completion date.

1.9 IDENTIFICATION

A. Label all required samples submitted by the Contractor for identification as agreed in coordination with the Owner’s Authorized Representative.

B. Store materials and/or equipment that have been inspected and/or tested in a controlled area with suitable identification referencing tests and certifications.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
GENERAL

1.1 SECTION INCLUDES

A. Temporary utilities:
   1. Temporary electrical service, lighting, heating, cooling, and ventilating, telephone, water, and sanitary facilities
   2. Use of existing and permanent system
   3. Operation and maintenance
   4. Removal of temporary systems

B. The installation and removal of temporary construction barricades per Section 01 56 23 – Temporary Barricades.

C. Temporary Controls:
   1. Dust control
   2. Temporary erosion program
   3. Pollution control

1.2 TEMPORARY UTILITY SERVICE REQUIREMENTS

A. Electrical: Power Source: Current Owner approved Electrical Service provider, Oncor Electric Delivery.

B. Provide temporary lighting for field offices, storage facilities, shops, Work areas, circulation areas for personnel and other construction areas.

C. Provide heating, ventilation and Cooling:
   1. Maintain temperature, humidity, and ventilation in enclosed areas to provide ambient conditions for storage, preparation, and Work; to cure installed materials, to prevent condensation, and to prevent accumulations of dust, fumes and gases.
   2. During non-working hours, maintain temperature in enclosed areas at a minimum of 50 degrees F or higher as specified in individual Specifications.

D. Arrange with local telephone service companies to provide direct line service to field offices.

E. Provide water acceptable for use in its intended purpose.
   1. Potable water may be obtained from the Owner's existing service water facilities. Obtain water at locations approved by Owner's Authorized Representative. Provide meters to record water used.
   2. Submit the "Request for Water Service" form included at end of this section.

F. Provide facilities at time of mobilization.

1.3 TEMPORARY UTILITY DISTRIBUTION

A. Provide weatherproof distribution boxes with required outlets, fused switches and equipment grounds.
B. Provide wiring, connections, and protection for temporary lighting.

C. Provide wiring, connections, and protection for temporary and permanent equipment for environmental control, for temporary use of electrically operated equipment, and for testing.

D. Provide valve controlled outlets located so that water is available under adequate pressure by means of hoses.

1.4 USE OF EXISTING SYSTEMS

A. Existing mechanical and electrical systems may be used temporarily. Coordinate use with Owner’s Authorized Representative for terms and conditions for use of systems in Owner occupied areas.

B. Monitor usage to prevent interference with Owner’s normal requirements. Notify Owner of any abnormal usage (volume, pressure, or duration).

1.5 USE OF PERMANENT SYSTEMS

A. Obtain written agreement with Owner establishing start of warranty and conditions of use for:
   1. Completed systems with all utility connections and safety devices installed and operational.
   2. Completed systems that operate using automatic controls per the requirements of the Contract Documents.
   3. Filters and other protective devices for the equipment are in place and operational.

B. Submit an Indoor Air Quality Plan Use of permanent systems will require to ensure air and water system cleanliness during construction.

C. Use of Fire Hydrants:
   1. No person shall open, turn off, interfere with, attach any pipe or hose to or connect anything with any fire hydrant, stop valve, or stop cock, or tap any water main belonging to the Owner, unless authorized to do so by the Central Utilities Plant coordinated through the Owner’s Authorized Representative and have an approved Request for Water service form on file.

1.6 COST OF TEMPORARY FACILITIES

A. Obtain and pay for permits and inspections unless otherwise provided for in Contract.

B. Pay all costs of installation of temporary utilities, materials, operation, maintenance and removal.

C. Pay costs of energy consumed until beneficial occupancy unless provided for in Contract.

D. Pay cost of water used. Water will be billed to Contractor at the prevailing rate per 1,000 gallons used.

E. Owner will pay costs of fuel consumed in use of existing systems. Contractor will pay costs of fuel consumed by portable units.
F. Pay cost of any temporary easements required across property other than that of the Owner.

1.7 VENDING MACHINES

A. The Owner has exclusive vending Contracts in place within the Airport for food, snacks and beverages that pay a substantial sum of money to the Airport on an annual basis. Contractor’s desiring to place vending machines on their sites at the Airport, shall coordinate all requests for placement of vending machines with the Concessions Department through the Owner’s Authorized Representative. Prior to submitting an application to bring on any other vending sources, the Contractor must first receive a turndown in writing from the primary vending source(s). After turndown, the Contractor may ask for approval to place other vendor’s equipment on the Airport. No vending equipment may be brought on to the Airport before receiving written approval from the Concessions Department.

PART 2 – PRODUCTS

2.1 MATERIALS FOR TEMPORARY FACILITIES

A. Provide new or used, adequate to the purpose.
B. All Devices and equipment shall be standard devices, meeting Underwriter's Laboratory (UL) requirements.
C. Telephone Equipment: Products of the local service company or specialty devices compatible with service company requirements.
D. Provide Drinking Water Dispensers Supply a water meter as shown on the Drawings. Provide meters to which remote reading indicators can be added as a standard option and be equal to those manufactured by Hersey Products, Inc. Only those meters designed to be installed on fire hydrants will be approved for such use.
E. Provide a backflow preventer on all temporary construction water services with a line sized backflow preventer equal to Beeco Model 6-C as shown on the Drawings. Install a test valve for facilitating a backflow prevention test.
F. Provide enclosed portable toilet facilities, self-contained units, secluded from public view. Meet the requirements of state and local health regulations and ordinances.

PART 3 – EXECUTION

3.1 TEMPORARY FACILITIES INSTALLATION

A. Install initial services and facilities at time of site mobilization.
B. Modify and extend systems as work progresses.
C. Size piping to supply construction needs.
D. Disinfect piping used for drinking water.
E. Test backflow preventer assembly in conformance with DFW Airport Construction and Fire Prevention Standards Resolution (Section 312.9 of the Plumbing Code).

3.2 OPERATION AND MAINTENANCE

A. Maintain systems to provide continuous service. Promptly replace worn or defective parts.
B. Permanent heating, ventilation and cooling:
   1. Operate and maintain existing equipment being used; clean or replace filters and install filters in duct extensions as necessary to maintain work areas and finished areas in specified condition.
   2. Prior to operation of permanent equipment, verify that controls and safety devices are complete, equipment has been tested, and inspection made by authorities and approved for operation.
   3. Place zones of permanent HVAC system in operation sequentially as work progresses.
   4. Install temporary filters in air handling units and ducts, replace as necessary to prevent dust in equipment and ducts, to avoid contaminates in work of finished areas as set forth in the approved Indoor Air Quality Plan.

C. Clean sanitary facilities twice per week, maintain in sanitary condition. Provide toilet paper, paper towels, and soap in suitable dispensers.

D. Dispose of water or sewage in a satisfactory manner so that no nuisance is created and so that the Work under construction will be adequately protected.

3.3 TRAFFIC CONTROL PLAN
A. Not Used

3.4 DUST CONTROL
A. Provide positive methods and apply dust control materials to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from dispersing into atmosphere.
B. Maintain dust control measures, and upon the direction of the Owner’s Authorized Representative, take necessary actions to abate any nuisance related to excessive dust caused or brought about by Contractor’s work.
C. Wet down materials and rubbish to prevent blowing dust.

3.5 EROSION CONTROL
A. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
B. Hold areas of bare soil exposed at one time to minimum. Provide temporary control measures such as berms, dikes, and drains.
C. Construct fills and waste areas by selective placement to eliminate surface silts or clays, which will erode.
D. Periodically examine earthwork to detect any evidence of start of erosion, apply corrective measures as required by pollution control.
E. Refer to Section 01 57 13 – Storm Water Pollution Prevention.
3.6 POLLUTION CONTROL

A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious substances from construction operations.

B. Perform emergency measures required to contain any spillage and to remove contaminated soil or liquids. Excavate and dispose of contaminated earth offsite and replace with suitable compacted fill and topsoil.

C. Prevent harmful substances from entering public waters. Prevent disposal of wastes, effluence, chemicals or other substances adjacent to streams or in sanitary or storm sewers.

D. Provide systems for control of atmospheric pollutants. Prevent toxic concentrations of chemicals. Prevent harmful dispersal of pollutants into atmosphere.

E. Comply with Owner’s Storm Water Pollution Prevention Plan (SWPPP) as shown on Contract Drawings.

3.7 WASTE DISPOSAL

A. Refer to Section 01 74 19 – Construction Waste.

3.8 REMOVAL OF TEMPORARY FACILITIES AND CONTROLS

A. Remove temporary materials and equipment at completion of project.

B. Restore existing and permanent equipment when used for temporary service to original condition.

C. Remove underground installations to a depth of two (2) feet. Grade site as indicated.

D. Replace temporary filters with new, clean, reusable filters after substantial completion.

E. Remove meter and leave valve in place when temporary service has been supplied through a water main. Install coat valve and piping remaining with coal tar coating system in accordance with NAPCA (National Association of Pipe Coating Applicators) TF-2, TF-3, TG-2 or TG-3 specifications.

F. Remove portable toilets when no longer needed.

PART 4 – APPENDIX

4.1 Forms

A. Request for Water Service

- END OF SECTION -
REQUEST FOR WATER SERVICE

PART I -- TO BE COMPLETED BY THE APPLICANT:

Contract No.  Building Permit No.
Contract Title
Applicant's Name
Billing Address
Telephone Number ( )  Fax Number ( )
Authorized Signature of Applicant's Representative:
Date
Meter Location
Size Meter
Service Starting Date  Water Line No.
Station No.  Fire Hydrant No.
Equipment or Parts Needed

PART II -- TO BE COMPLETED BY THE OWNER:

Date Service: Initiated  Terminated
Water Mfg.  Serial No.
Register Capacity , ,  Gallons ( ) Cu. Ft. ( )
Extra Equipment

PART III -- INSTRUCTIONS TO APPLICANT

A. Part I of this request should be completed by any party desiring water service from the Owner's water distribution system or who is entitled to the use of the same by contract. Request forms may be obtained by calling Airport utility personnel at (972) 574-6715. Copies of Applicant Instructions and Obligations relative to such services are available upon request at the Central Utilities Plant, Water Services Section.

B. This request shall be returned, with a cashier's check for the amount of $500 (Five Hundred Dollars), to the Central Utilities Plant, Water Services Section between the hours of 7:00 a.m. - 3:30 p.m.; the check shall be made out to the D/FW International Airport Board. The check shall be held until such time as the applicant has completed the use of the Dallas-Fort Worth Airport Utilities Section facilities and turned over to the Utilities Section all equipment used in good condition. At such time the applicant's check shall be returned to the applicant by the Owner. If any equipment belonging to the D-FW Utilities Section is found to have been damaged while on loan to the applicant, the amount of damages shall be deducted from the check.
PART 1  GENERAL

1.1  REQUIREMENTS INCLUDED
   A.  Owner’s Authorized Representative (OAR) Office
   B.  Maintenance and Janitorial Services and Cleaning
   C.  Removal

1.2  RELATED REQUIREMENTS
   A.  Section 01 50 00, Temporary Facilities and Controls
   B.  Section 01 52 00, Contractor’s Construction Area
   C.  Section 01 57 13, Temporary Erosion and Sediment Control
   D.  Section 01 57 19.13, Spill Response Plan
   E.  Section 01 74 19, Construction Waste

PART 2  PRODUCTS

Temporary construction trailers used for the Owner’s Authorized Representative (OAR) personnel with more than one desk for support staff of designers, auditors, purchasing agents, computer operators etc. shall comply with the Accessibility Code for buildings and with associated local permitting and inspection regulations. Evidence that the building itself has been approved by the DFW Code Officials is required.

PART 3  EXECUTION

3.1  OAR’s OFFICE
   A.  Separate space for sole use of the OAR with separate entrance door with new lock and five (5) keys.
   B.  Area:  Minimum [_____] sq.ft. with minimum dimension [_____] ft. and separate office of [_____] sq.ft.  Provide a separate room approximately [    ] s.f. for project meetings, furnished with a conference table, folding chairs and a tackboard.
   C.  Windows:  Minimum [____], minimum total area of ten percent (10%) of floor area, with operable sash and insect screens.  Locate to provide views of construction area.
   D.  Electrical Distribution Panel:  [___] circuits minimum, [_____] volt, [_____] hz service.
   E.  Minimum [_____] [_____] volt duplex convenience outlets, spaced at 12' intervals, with a minimum of one per wall in each room.
   F.  Switch controlled fluorescent light fixtures, capable of maintaining minimum illumination of 20 foot-candles at desk height.
   G.  Telephone:  A minimum of [    ] touch-tone, with one line dedicated to the FAX machine.
H. Internet Connectivity: Provide internet connectivity to the DFW Wi-Fi network.

H. Sanitary Facilities, cold water fountain and private lavatory-toilet facilities with mirror, toilet and towel paper dispensers, soap and waste receptacle.

I. Furnishings:

1. [___] standard size desk with six drawers and a swivel arm desk chair.

2. [___] plan table: [___] x [___] x [___] inches, sloping [___] inches two equipment drawers and shelves below, and [___] 30 inch high drafting stools.

3. [___] conference table to seat [___] people, [___] folding chairs.

4. [___] plan rack(s) to hold a minimum of [___] sticks of project drawings.

5. [___] standard four-drawer legal-size metal filing cabinets with file separators and locks provided with not less than 2 keys.

6. [___] hours fire proof, four-drawers legal size filing cabinet with lock and not less than 2 keys.

7. [___] Lin. Ft. of 12" bookshelves in main space and eight Lin. Ft. of 2-tier shelving in office.

8. [___] straight chairs.

9. One waste basket per desk and table.

10. One tackboard, [___] in. x [___] in.

11. One color copy machine, with at least the following features:

   a. Capable of normal use of [___] copies per month.

   b. Plain paper, dry toner type.

   c. Capable of printing 11”x17”.

12. One FAX machine, with at least the following features:

   a. Dedicated telephone line.

   b. Compatible to all fax machines.

   b. All paper and required accessories for the length of the project.
3.2 PARKING FACILITIES

A. Provide well drained, graded paved or at least well compacted gravel surface for use by the OAR and Owner's staff. Provide not less than [ ] parking spaces.

3.3 MAINTENANCE AND CLEANING

A. Daily janitorial service for offices: periodic cleaning and maintenance for storage areas.

B. Maintain approach walks free of mud and water.

C. The CONTRACTOR assumes full responsibility for all costs associated with equipment and services provided for the OAR's office (including costs for equipment and/or services which are provided by the CONTRACTOR, but which are not specifically required by this Article).

3.4 REMOVAL

A. At final completion of work or earlier if agreed by OAR, remove buildings, foundations, utility services and debris. Restore area.

B. [list items to remain property of the owner]

PART 4 MEASUREMENT AND PAYMENT

4.1 The work performed, materials furnished, utilities and utility service (including phone if required), appurtenances (including office equipment and Internet service), testing equipment, labor, tools, and incidentals will not be measured or paid for directly but will be subsidiary to pertinent Items.
PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes requirements for Contractor use of construction and storage areas, and includes the permit used to allow Contractor to use the Dallas/Fort Worth International Airport (DFW Airport) property.

B. Indemnification of Owner for construction activities on Owner’s property.

1.2 AGREEMENT

A. It is understood and agreed that the Contractor, for itself, its agents, servants, successors, heirs, executors, administrators and assign, shall indemnify and hold harmless the DFW Airport BOARD, its agents, servants, successors, heirs, executors, administrators and assign, and all other persons, firms, corporations, association, or partnerships, from and against any and all claims, suits, demands, fines, penalties or causes of action, past, present or future, arising from or in any way connected with its operations, including but not limited to violation of the following:

1. Resource Conservation Recovery Act (RCRA), as amended;
2. The “Comprehensive Environmental Response, Compensation and Liability Act of 1980”, as amended by the Super Fund Amendments and Reauthorization Act (CERCLA);
3. Any other state, federal or local environmental statute, regulation or ordinance

OR

4. Release of any hazardous substance or solid waste onto, into or from the areas used by the Contractor or construction areas, regardless of whether the act, omission, event or circumstance constituted a violation of applicable law at the time of existence or occurrence.

PART 2 – PRODUCTS

2.1 PERMIT

A. The attached "Authorization Letter" is to be filed with Airport Development & Engineering Department.

PART 3 – EXECUTION

Not Used.

PART 4 – APPENDIX

4.1 The following documents/forms attached following “End of Section” are a part of the Specification.

A. Temporary Use of Land - Authorization Letter

- END OF SECTION -
Re: Temporary Use of Land Located on Dallas/Fort Worth International Airport (the “Airport”) Pursuant to Board Contract No. __________________ (the “Contract”) By and Between Dallas/Fort Worth International Airport Board (the “Board”) and ____________________________ (the “Contractor”)

Dear ________________________:

Notwithstanding anything to the contrary in the Contract, this letter will serve as Contractor’s authorization to utilize on a temporary basis land on Airport located at ____________________________ for a contractor staging area to support construction activities directly related to the Contract and for no other purposes. The attached Exhibit "A" denotes the approximate location of the land. This authorization covers the period from _______________ to ___________________ as required to meet the terms and conditions of the Contract awarded by the Board.

This authorization and Contractor’s occupancy of subject land shall be under same terms and conditions of the Contract, including without limitation those terms and conditions relating to indemnification and insurance.

Your authorization to temporarily utilize this land must at all times remain in compliance with the provisions of the Contract. Authorization does not constitute a lease of the area utilized nor does it create or imply a leasehold interest in any land located on Airport.

Should you violate any provision(s) of the Contract, the authorization granted by this letter will immediately terminate.

Should you have any questions, please do not hesitate to contact this office.

Sincerely,

ADE Complex Administrator
Airport Development & Engineering Department.
PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Requirements for signage on the construction site.
   2. Submission procedures.

1.2 REQUIREMENTS

1. Signage draft must be reviewed and approved by the AOR prior to installation.
2. Size will be 96” x 48” on a 5/8” thick MDO Board and mounted to 4” x 4” treated lumber posts. The sign will be painted white and mounted 30” – 36” above grade.
3. If the site covers a corner, then one sign will be posted on each street of the site. Placement of signs shall be out of the site-visibility triangle. Sign shall not block or cover any existing sign in same area.
4. Line location shall be required and approved before digging.
5. Contractor will use this provided template, also see example Figure 1 below.
6. See Figure 2 for sign location requirements.
7. Signage within the clear zone is critical and the posts will need to be breakaway.
8. Placement of the sign(s) shall meet the intersection sight distances (within the sight triangle) requirements as specified in the 2011 AASHTO - A Policy on Geometric Design of Highways and Streets. Sight distance is a critical component in the design of intersections including roadway/driveway intersections. Intersections can contain potential vehicle conflicts. AASHTO provides information on stopping sight distances and roadway approach sight distances. Sight distance allows drivers of stopped vehicles sufficient line of sight to decide when to enter the roadway and when to proceed for a safe operation and navigation. AASHTO provides information related to intersection stopping sight distances and roadway approach/departure sight distances and recommends distances necessary for the safe navigation of motorists through an intersection. If inadequate sight distance exists at these intersections due to monuments, signage and landscaping mitigation will be necessary to eliminate any safety hazards. Any potential hazards within the sight triangles will be removed. Intersection sight triangles will need to be illustrated. Therefore, be cognizant that any potential hazards within the sight triangles will need to be removed.
9. The 2011 AASHTO Roadside Design Guide and the 2011 AASHTO - A Policy on Geometric Design of Highways and Streets shall be referenced for general "clear zone" information and requirements that affect roadside safety. The 2011 Roadside Design Guide covers items such as landscaping, fire hydrants, guardrails, utility poles, drainage features, signage, and "clear zone" requirements for non-breakaway barriers. Existing landscaping and proposed landscaping can lower safety standards with respect to maturity or seasonal growth with respect to line of sight and stopping sight distances. Safety concerns shall override any request for landscaping and monuments that will create unsafe conditions and line of sight issues.
PART 1 – GENERAL
1.1 SUMMARY
   A. This work consists of the exclusive control of dust resulting from construction operations and is not intended for use in the compaction of earth embankments.

PART 2 – PRODUCTS
2.1 GENERAL
   A. Water for the Project is to be obtained in accordance with the applicable requirements.

PART 3 – EXECUTION
3.1 GENERAL
   A. Prior to the start of construction, the Contractor must submit a plan and methods to alleviate and prevent dust nuisance originating from construction operations including but not limited to demolition, earthwork, crushing, hauling and stockpiling operations within the Project limits inclusive of the Staging Yard. Work will not commence until dust control plan has been accepted and approved by the OAR.
   B. The Contractor will investigate the availability of an adequate supply of suitable water, make all arrangements (including permit if required) for the purchase of the water and provide necessary facilities to furnish water for use during construction, solely at the Contractor's expense. Water may be obtained from the fire hydrants on Airport property. The availability and quality of the water obtained from these sources is not guaranteed.
   C. Dust Control complaints received from tenants, airport users, and Operations shall warrant the contractor to cease dust creating tasks until such time that the dust control measures have been implemented and the issue resolved.

PART 4 – MEASUREMENT AND PAYMENT
4.1 MEASUREMENT
   A. Dust Control will not be measured separately for payment, but will be considered as included in the overall Contract price.

4.2 PAYMENT
   A. All costs associated with meeting these requirements will not be paid for separately but will be considered included in the overall Contract price.

– END OF SECTION –
PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, the Construction, Safety and Phasing Plan, and Division 01 Specification Sections, apply to this Section.

1.2 DESCRIPTION
B. Perform all work required to complete the project as indicated by the Contract Documents, and furnish all supplementary items necessary for the completion of all work specified in the Section.
C. The work included in this Section, while not all inclusive but listed as a guide, shall include furnishing all labor, tools, materials and incidentals required to complete the work: installation of temporary all weather haul road by the contractor; maintenance of temporary all weather haul road by the contractor; and, removal of temporary all weather haul road and restoration of the road area by the contractor.
D. The Temporary, All-weather Haul Road shall be constructed as shown on the contract drawings. The road shall include construction entrances at egresses to public access roads and the Air Operation Area (AOA), curb cuts at egresses onto public access roads, ditches, and erosion control measures along the haul road. When the haul road is removed the curb cuts will need to be reconstructed.
E. Prior to the start of work the contractor shall take photo or video documentation of existing Haul Routes. The existing routes shall be maintenance at the end of the project to the level as documented or better. This work shall be performed prior to the completion of work.

1.3 SUBMITTALS
A. Proposed plans and specifications for the road and SWPPP plans for review and acceptance by the OAR.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT
B. Installation, Maintenance, and Removal of Temporary, All-Weather Haul Roads will be incidental to the work included in Traffic Control Per Lump Sum.Install,

4.2 PAYMENT
C. Payment will be made under Section 01 55 26 Traffic Control.

– END OF SECTION –
PART 1 – GENERAL

1.1 STATEMENT OF POLICY

A. It is the policy of the Owner to promote adequate and efficient vehicle services and operations at the Airport. To this end, Rules and Regulations for Parking Revenue Area (PRA) use are developed to protect the public health and safety, and promote public convenience and necessity, while minimizing adverse effect on public parking capacity and protection of revenues. Specifically, it is the policy of the Owner that all vehicles, including private vehicles, unless otherwise noted herein, shall enter and exit the PRA via the North and South Control Plazas.

1.2 FORMS

A. The following permit application links and/or forms have been included with this Section for contractor’s use, as applicable:

   a. The VAT application is an online application that requires a “DFW Connected” account be successfully accomplished. Once the account is set up, the application for a VAT can be submitted online. There are no paper applications for the VAT. The application process for the VAT does not guarantee approval or unit issuance.


3. DFW Airport Identification/Access Badge Application. (http://www.dfwairport.com/badge/), then link to the Identification/Access badge option.

1.3 AUTHORITY FOR ENFORCEMENT

A. The Vice President Airport Operations is designated as the administrator of the Airport Vehicle Rules and Regulations to control PRA use. The Owner, may, by written order, establish procedures consistent with the Rules and Regulations which he determines necessary. The Airport Department of Public Safety shall be responsible for the enforcement of the Rules and Regulations.

1.4 OPERATING AUTHORITY

A. Operating Authority Required

1. A person shall not operate at the Airport utilizing an ingress/egress device described herein without Operating Authority granted under the Code of Rules and Regulations unless the person driving the vehicle, or another who employees or contracts with the driver, has been granted Operating Authority under the Code of Rules and Regulations.

2. Operating Authority shall not be transferred to another person or vehicle.
B. Application for Operating Authority

1. To obtain Operating Authority a person shall make application in the manner prescribed by this Section. The applicant must be the person who will own, control, or operate the proposed vehicle. An applicant shall file the appropriate form with the approval authority (attached to this Section), along with the fee, if required.

2. A separate application shall be submitted for each vehicle for which Operating Authority is being requested.

3. The justification section of each application shall include why the device is needed and the purpose(s) for which it will be used.

C. Renewal of Operating Authority

1. A holder shall apply for a renewal of his Operating Authority at least thirty (30) calendar days before the expiration of the Operating Authority.

2. Within a reasonable time from the date of application, the approval authority shall approve or deny the application for renewal.

3. The Approval Authority shall renew the Operating Authority if he/she determines that the holder has performed satisfactorily under the terms of the operating authority; and, is in compliance with all requirements of the Code of Rules and Regulations.

4. Operating Authority shall be renewed annually.

D. Denial of Application for Issuance or Renewal: Issuance or renewal of Operating Authority shall be denied if the applicant has:

1. Failed to comply with the requirements set forth in the Code of Rules and Regulations; specifically, the information required in the justification section of the application. Need should be stated in terms of function of transportation as well as contract, agreement, permit, or lease provisions to satisfy requirements.

2. Been found in violation twice for failure to comply with the Code of Rules and Regulations within the previous year.

3. Made a false statement as to a material matter in the Application for Operating Authority.

E. Suspension and Revocation of Operating Authority

1. Suspension or revocation of Operating Authority shall occur if the holder has:

   a. Made a false statement as to a material matter in the Application for Operating Authority.

   b. Failed to comply with provisions of the Code Rules and Regulations or orders established under the Code of Rules and Regulations;

   c. Failed to comply with conditions set forth in the Operating Authority.
2. A holder’s Operating Authority shall be revoked by confiscation of the device based on unauthorized use. After fourteen (14) days the holder may reapply for Operating Authority; however, the fee shall be escalated to 100% in excess of the original fee paid for the device, or 100% in excess of the replacement fee, whichever is greater.

3. A holder who’s Operating Authority has been revoked twice for unauthorized use shall not be eligible for reinstatement for a period of twenty-four (24) months from the date of the second revocation.

F. Appeals
1. If an application for issuance or renewal of Operating Authority is denied, suspended or revoked, the action is final unless within ten (10) days from the date of receiving notice of the action, the applicant or holder files a written appeal with the Owner’s Administrator.

2. The Administrator or his designated representative shall act as the appeal-hearing officer in an appeal hearing under this Section. The hearing officer shall give the appealing party an opportunity to present evidence and make argument in his behalf.

3. The hearing officer may affirm, modify, or reverse all or part of the action of the approval authority being appealed.

G. Fees
1. Contractors may be granted access to the PRA via either 24 hour free parking status or by issuance of a VAT tag as described in paragraph 1.5 of this section. Current holders of NTTA Toll tags may utilize those tags in conjunction with 24 hours free parking or in lieu of a VAT device.

2. PRA parking privileges must be applied for or renewed annually upon the beginning of the calendar year.

3. Unless exempted by separate agreement, issuance of VAT tags requires a $100.00 deposit refundable upon device return to the Parking Business Unit (PBU.) This deposit applies only to VAT’s issued by the PBU. Approved applicants who currently hold a NTTA Toll Tag may avoid this deposit by notifying the PBU of the device and utilizing that device rather than a VAT to access the PRA.

1.5 PRA PRIVILEGES AND DEVICE ISSUANCE

A. PRA parking privileges (24 hours free or VAT tags) shall be granted and/or issued based upon business need, as evidenced in the justification presented in the Application for Operating Authority.

B. Vehicle Access Tag (VAT) A VAT is an electronic device assigned to a specific vehicle of authorized holders that allows passage through Toll Tag lanes at the entry and exit plazas or at crossover gates along International Parkway of the PRA as indicated in Paragraph 1.7 of this section. Exit from any other gate requires fees to be assessed in accordance with the Owner’s Schedule of Charges, as amended.
1.6 ENFORCEMENT

A. Violations

1. If the Administrator determines that a holder violates terms of its Operating Authority or the Code of Rules and Regulations, the Administrator may notify the holder, in writing, of the violation and by written order may direct the holder to correct the violation within a reasonable time. In setting the time for correction, the Administrator shall consider the nature of the violation. If the violation involves equipment that is unsafe or functioning improperly, the Administrator shall order the holder to immediately cease use of the equipment.

2. If the Administrator determines that a violation is an imminent and serious threat to the public health or safety, public parking capacity or revenue loss exists, the Administrator shall order the holder to correct the violation immediately. If the holder fails to comply, the Administrator shall promptly take, or cause to be taken, any action he considers necessary to the immediate enforcement of the order.

3. The Administrator shall include in a notice issued under this Section:
   a. An identification of the violation;
   b. The date of issuance of the notice;
   c. The time period within which the violation must be corrected;
   d. A warning that failure to comply with the order may result in suspension or revocation of Operating Authority; and
   e. A statement indicating that the order may be appealed to the Administrator.

4. The Administrator may confiscate the ingress/egress devices on the basis of unauthorized use.

B. Service of Notice

1. A holder shall designate and maintain a representative to:
   a. Receive service of notice required under the Code of Rules and Regulations to be given a holder; and
   b. Serve notice required under the Code of Rules and Regulations to be given a driver employed by or contracting with a holder.

2. Notice by the Administrator required under the Code of Rules and Regulations to be given:
   a. A holder may be personally served or a notice sent by certified mail, five-day return receipt requested, to the holder or the holder's designated representatives.
   b. A driver may be personally served or a notice sent by certified United States mail, five-day return receipt requested, to the address last known by the Owner of the person to be notified, or to the designated representative for the drivers.
3. Service executed in accordance with the section constitutes notice to the person to whom the notice is addressed. The date of service for a notice that is mailed is the date of receipt.

C. Appeal

1. A holder may appeal a correction order issued under paragraph 1.6.A. above or any other action of the Administrator if an appeal is requested in writing not more than fourteen (14) calendar days after notice of the order or action is received.

2. The Administrator or his designated representative shall act as the appeal-hearing officer in an appeal hearing under this Section. The hearing officer shall give the appealing party an opportunity to present evidence and make argument in his behalf.

3. The hearing officer may affirm, modify, or reverse all or part of the order of the Approval Authority.

1.7 VEHICLE ACCESS TAG INSTRUCTIONS

A. VAT should be mounted in the center of the vehicle windshield behind the rearview mirror.

B. Replacing of a VAT requires a new application along with a copy of the Police Department theft report, if stolen.

C. VAT-equipped vehicles shall not enter or exit any lanes marked as public only. They may enter or exit any lane marked Public/Toll Tag only.

D. Violation or abuse of VAT or PRA parking privileges shall be subject to confiscation of VAT and/or suspension or revocation of the device or PRA parking privileges in accordance with Article 1.4 of this Section.

1.8 FEE SCHEDULE

A. Fee shall be as determined by the Owner as per Paragraph 1.4G of this Section.

B. The charge for a VAT or PRA parking privileges is established in the DFW Airport Board Schedule of Charges.

C. Replacement Fees: The replacement fees have been set to encourage extraordinary care and to deter loss for any reason; however, requests for waiver of replacement fees for lost, stolen or destroyed ingress/egress devices will be considered based on information surrounding the loss furnished to the Administrator in writing.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.
PART 4 – APPENDIX

4.1 The following documents/forms attached following “End of Section” are a part of the Specification.

A. Air Operations Area Access Permit Instructions
B. Air Operations Area Access Permit Application
C. Temporary Air Operations Area Access Permit Application

- END OF SECTION -
AOA Vehicle Permits

Air Operations Area (AOA) access permits, commonly called “AOA Permits,” are the means by which motor vehicles are authorized to enter and be on the AOA and the SIDA. To obtain an AOA permit, download and complete all requested information on the AOA permit application, attach a copy of your company’s Acord Certificate of Liability Insurance as proof of insurance, then take the completed application to an authorized badge sponsor for signature before bringing the application to the ACO.

The following will help you determine which AOA permit application you need to complete:

1. Select the Air Operations Area Access Permit application when the following conditions apply:
   a. Your company is an airline tenant, government agency, Airport concessionaire or the Airport Board; or
   b. Your company is a contractor or vendor for an airline tenant, government agency, Airport concessionaire or the Airport Board whose contract/agreement expires on the last day of the calendar year (ex. Contract term begins on 05/15/2007 and expires on 12/31/07).

2. Select the Temporary Air Operations Area Access Permit application when the following condition apply:
   a. Your company is a contractor or vendor for an airline tenant, government agency, Airport concessionaire or the Airport Board whose contract/agreement expires prior to the end of the last day of the calendar year (ex. Contract term begins on 01/01/2007 and expires on 09/30/2007)

Please make sure you allow two (2) to three (3) business days for application processing and permit issuance. The ACO will contact you via email or telephone when the permits are ready to be picked up.

AOA Vehicle Permit Insurance Requirements
All policies must be written through a licensed company authorized by the Texas State Board of Insurance to transact that class of insurance business in the State of Texas, with a minimum rating of ‘A-’ ‘VII’ by A. M. Best Company. If the rating of any insurer should fall below this standard, you shall cause the policy to be replaced promptly by an acceptable insurer.

Commercial General Liability (CGL) Limit Any One Occurrence ......................... $1,000,000
CGL must be written on an “Occurrence Form.”

Business Automobile Liability Combined Single Limit for Each Accident ............... $500,000
Coverage must apply to all vehicles (owned, non-owned, or hired) operating on our site/location, or transporting our people or property off our site.

Excess / Umbrella Liability Air Operations Area (within air operations area).....$10,000,000
Coverage must apply in excess of all required primary Liability insurance, and must be at least as broad as the underlying Liability insurance.

This coverage limit may be satisfied by adding the amounts of CGL and Excess/Umbrella Liability to arrive at a total of $10,000,000. The same would be applicable for Business Auto Liability and Excess/Umbrella Liability to arrive at a total of $10,000,000.
# AIR OPERATIONS AREA ACCESS PERMIT APPLICATION

Department of Public Safety Access Control Office  
Terminal D, Room D22L352, 2333 International Parkway, DFW Airport, Texas 75261-0687  
Phone: 972 973 5100  Fax: 972 973 5113

<table>
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<tr>
<td>Authorized Company Representative</td>
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<td>Phone Number</td>
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<tr>
<td>Company Representative Email Address</td>
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<td>License Plate Number</td>
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<td>Vehicle Make  Vehicle Model</td>
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<td>Personal Vehicle</td>
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<td>Board/Signatory Airline/Government Agency</td>
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<td>Contractor</td>
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<td>Delivery Vendor</td>
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<tr>
<td>Length of Contract/Agreement:</td>
<td>From <em><strong>/</strong></em>/___ To <em><strong>/</strong></em>/___</td>
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<tr>
<td>Justification for AOA Access:</td>
<td></td>
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<tr>
<td>Authorized Badge Sponsor Signature</td>
<td>Signature Code</td>
</tr>
<tr>
<td>Printed Name of Authorized Badge Sponsor</td>
<td></td>
</tr>
<tr>
<td>Proof of insurance attached</td>
<td>☐</td>
</tr>
<tr>
<td>Note:</td>
<td>Temporary AOA Access Permits must be displayed so that the expiration date is clearly visible through the front windshield of the vehicle. Violation of the Dallas Fort Worth International Airport Board Code of Rules and Regulations governing AOA access is grounds for revocation of the AOA Access Permit. AOA Access Permits will not be issued to vehicles that are not owned and registered to a company.</td>
</tr>
<tr>
<td>ACO Authorized Signature</td>
<td>Date</td>
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For Access Control Office Use Only

<table>
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<tr>
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<td>Date issued  Issued by</td>
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ACO-10 [TEMP] (10/07)
TEMPORARY AIR OPERATIONS AREA ACCESS PERMIT APPLICATION

Department of Public Safety Access Control Office
Terminal D, Room D22L352, 2333 International Parkway, DFW Airport, Texas 75261-0687
Phone: 972 973 5100 Fax: 972 973 5113

Company Name

Authorized Company Representative Phone Number

Company Representative Email Address Fax Number

Mailing Address: Street/PO Box City State Zip Code

Vehicle Information:

License Plate Number State of License Vehicle Unit Number

Vehicle Model Year Vehicle Make Vehicle Model

Registered Owner of Vehicle: Last Name First Name

Owner Mailing Address: Street/PO Box City State Zip Code

☐ Company Vehicle ☐ Personal Vehicle

☐ Board/Signatory Airline/Government Agency ☐ Concessionaire

☐ Contractor ☐ Delivery Vendor Length of Contract/Agreement: From ___/___/___ To ___/___/___

Justification for AOA Access:

_____________________________________________________________________________________

Authorized Badge Sponsor Signature Signature Code

Printed Name of Authorized Badge Sponsor

☐ Proof of insurance attached

Note: Temporary AOA Access Permits must be displayed so that the expiration date is clearly visible through the front windshield of the vehicle. Violation of the Dallas Fort Worth International Airport Board Code of Rules and Regulations governing AOA access is grounds for revocation of the AOA Access Permit. AOA Access Permits will not be issued to vehicles that are not owned and registered to a company.

ACO Authorized Signature Date

For Access Control Office Use Only

Permit number: ______________ Permit expiration date: ______________

Date received: ______________ Date issued: ______________ Issued by: ______________
PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDE:

A. Public Safety
B. Temporary Traffic Control Plan
C. Temporary Traffic Control Devices
D. Traffic Signage and Pavement Markings
E. Traffic Control Signals
F. Flagger Control
G. Haul Routes
H. Removal
I. Vehicle Relocation Procedures
J. Requesting Off-Duty Officers for Traffic Control

PART 2 – PRODUCTS

2.1 TRAFFIC CONTROL DEVICES

A. Provide traffic control devices for street and highway construction, maintenance, utility, or incident management operations that conform to the current edition of the Texas Manual on Uniform Traffic Control Devices (Texas MUTCD) and AASHTO’s Roadside Design Guide. The Texas MUTCD serves as the principal standard governing the application, design, and placement of traffic control devices.

B. Provide a traffic control plan which describes temporary traffic control measures to be used for facilitating roadway users through work zones or incident areas in a safe and orderly manner.

C. Provide signs, channelizing devices, portable changeable message signs, traffic barriers, cones, drums, and temporary pavement markings that comply to the Texas MUTCD.

D. Provide an engineering study to determine whether the installation of a traffic control signal is justified at a particular location. The study will include the analysis of the applicable factors contained in the traffic signal warrants listed in the Texas MUTCD.

PART 3 – EXECUTION

3.1 PUBLIC SAFETY

A. Submit a traffic control plan to the Airport’s Traffic Engineer for approval. Plan must be approved before any temporary traffic control devices are put in place. The Work is located on a major and operational airport. The Owner considers the safety, the orderly movement, and unrestricted flow of the traveling public and other users of the Airport, to be of the utmost importance, and, therefore, to be an essential part of the Contract. Public safety and convenience and provisions therefore, made necessary by the Work, shall be the direct responsibility of the Contractor and shall be performed at its own expense.
B. Do not close any bridge, drainage facility, or any portion of the roadway to traffic except as designated in the approved traffic control plan or Drawings. Sidewalks and other areas involving pedestrian movement shall remain open and accessible to pedestrians unless designated otherwise in the traffic control plan or Drawings.

C. The Contractor shall coordinate with Owner’s Authorized Representative for designated parking areas for each construction project.

3.2 TRAFFIC CONTROL PLAN

A. The development and application of a well-designed temporary traffic control plan can ensure safe mobility for all road users and safeguard for workers in a work zone.

B. Provide a sealed and signed traffic control plan for all work that displaces the traffic stream during construction, maintenance, and utility activities. Describe lane closures, shoulder closures, mobile closures, and any activities within the “clear zone”, as defined by AASHTO’s *Roadside Design Guide*. Specify traffic control devices and procedures necessary to protect workers and motorists, and to route motorists safely and efficiently through lane closures and work zones. Place traffic control signage within the road user’s view so that maximum visual acuity is provided. Position signage with respect to location, orientation, height, and lateral clearance, as specified in the current edition of the Texas MUTCD.

C. Address pavement drop-offs in work zones in the traffic control plan as specified by TxDOT’s *Roadway Design Manual – Appendix B*. Appendix B addresses the proper treatment for different pavement drop-offs in work zones with respect to lateral clearance and condition of vertical drop.

D. DPS Fire and Emergency response vehicles must have an adequate lane width for movements through a work zone. The absolute minimum lane width is 11 feet. Provide additional width along a road horizontal curve to provide to accommodate the path sweep and off-tracking of oversized vehicles.

3.3 TEMPORARY TRAFFIC CONTROL DEVICES

A. Traffic control devices are all signs, signals, markings, and other devices used to regulate, warn, or guide traffic, placed on, over, or adjacent to a street, highway, and pedestrian facility.

B. Do not erect temporary traffic control devices prior to the placement of advance-warning signs.

C. Maintain channelizing devices, and advance warning signs. Keep them clean, visible, in good condition, and properly positioned at all times. Replace damaged devices. Provide enough traffic control devices to replace any damaged devices during construction.

D. Monitor traffic control component parts or the areas of a temporary traffic control work zone to ensure that traffic control measures are operating effectively and that all devices are clearly visible, clean, and in good condition.

E. Coordinate all traffic control work zones within the airport roadway network with the Airport’s Traffic Engineer 72 hours prior to implementing a temporary traffic control. Airport’s Traffic Engineer will coordinate with DPS, AOC, and the airport community.
3.4 TRAFFIC SIGNAGE AND PAVEMENT MARKINGS
A. Provide traffic signs that comply with Part 2, Signs, and Part 6 of the Texas MUTCD
B. Provide traffic markings that comply with Part 3, Markings, of the Texas MUTCD

3.5 FLAGGER CONTROL
A. Provide Flagger’s that meet the requirements of Chapter 6E of the Texas MUTCD Temporary Traffic Control.
B. Provide trained and equipped flaggers to regulate traffic when construction operations encroach on public traffic lanes or as specified in the temporary traffic control plan.
C. For daytime and nighttime activity, flaggers shall wear safety apparel meeting the requirements expressed in the Texas MUTCD.
D. Flaggers should be able to demonstrate the following abilities:
   1. Receive and communicate traffic related instructions.
   2. Control signaling devices to provide clear and positive guidance to drivers.
   3. Understand and apply safe traffic control practices.

3.6 HAUL ROUTES
A. Use only established roadways or use temporary roadways constructed by the Contractor when and as authorized by the Owner. Do not load vehicles beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by and federal, state, or local law or regulation when materials are transported in prosecuting the Work. Protect curbs and sidewalks from damage. Repair any damaged curbs, sidewalks, or roads.
B. Notify the Owner in writing at least forty-eight hours prior to the movement of heavy equipment or wide or slow-moving vehicles to or from the Site. Adhere to vehicular routes established by the Owner.

3.7 REMOVAL
A. Remove all traffic control devices and equipment immediately when no longer required. Repair any damage caused by the installation of traffic control devices. Remove post setting to a depth of two feet.
B. Remove, cover or turn away traffic control devices from approaching traffic so the devices are not visible to drivers when work is suspended for short periods or that are no longer appropriate for the conditions.

3.8 VEHICLE RELOCATION PROCEDURES
The following procedures are established in order to relocate legally parked vehicles in public parking facilities operated by the Airport Board due to construction.
A. Post a “30 Day Closure Notice” sign at the entrance to the parking facility. Sign specifications are available from the DFW Sign Shop.
B. If the closure involves only a section of the parking facility, the signs should be posted in the affected area to delineate closure of the specific section. Cones, barrels, tape, barricades or any combination thereof may be used to secure vacant spaces.

C. If vehicles have not been removed after 30 days, the DFW Project Manager will ensure that the Contractor:

1. Contact the Board’s contract wrecker service 48 hours in advance to ensure the company has adequate staffing.
2. Barricade the entrance to prevent additional vehicles from parking if the entire lot is involved.
3. Ensure that before and after photographs are taken of vehicles that will be relocated.
4. Create a vehicle log that includes the color, make, model, license plate number and document any existing damage.
5. Note the location where the vehicle was parked and to where it has been relocated. Relocation should be as close as practical to the original location.
6. If relocating vehicles at Remote Parking, notify Guest Services at (972) 973-4840.
7. If relocating vehicles parked at Express Parking, notify Parking Contract Bussing at (972) 574-0370 and AMPCO at (972) 574-7414.
8. If relocating vehicles parking at the Employee Parking Lots, notify Parking Contract Bussing at (972) 822-7704.
9. Fax a copy of the vehicle log to DPS Communications at (972) 973-3194, DPS Project Planning & Management Division at (972) 973-3597, DFW Customer Service at (972) 574-0342, Parking Guest Relations at (972) 973-3816, South Parking Control Plaza at (972) 973-3816, North Parking Control Plaza at (972) 973-3806 and the Airport Operations Center (AOC) at (972) 973-3188.

3.9 REQUESTING OFF-DUTY OFFICERS FOR TRAFFIC CONTROL

A. This section contains information and instructions on the proper procedures used to request Off-Duty Police Officers for traffic control purposes.

B. Procedures:

1. Conduct work in accordance with a Traffic Control Plan submitted and approved by the DFW Airport Traffic Engineer. Robert Rodriguez, P.E. can be contacted at (972) 973-1783 to assist with this process.
2. Attend the weekly Traffic Control Coordination Meeting to discuss the project scope and the need for Off-Duty Police Officers. Traffic related project must be included in the weekly Traffic Advisory that is maintained and distributed to the Airport Community by DFW DPS.
3. Submit a formal request for off-duty police officers to the Project Planning & Management Division Commander at DPS Station 1. Pay for off-duty police officers.
4. The Project Planning & Management Division Commander or designee will review the request and may consult the DFW Traffic Engineer to insure that the Traffic Control Plan complies with all applicable laws/ordinances.

5. The Project Planning & Management Division Commander retains the right to approve or reject the utilization of Off-Duty Police Officers. The determination is based on public safety and proper implementation of the Traffic Control Plan per legal/industry standards – Texas MUTCD.

6. Once authorization has been granted, the Project Planning & Management Division Commander will notify the Off-Duty Coordinator to process the request and initiate the off-duty job notification.

7. If there are any questions concerning these procedures, changes or cancellations for Off-Duty Police Officers, please contact the DPS Desk Sargent at (972) 973-3533.

C. Additional information and responsibilities for Contractors:

1. Attend the weekly Traffic Control Coordination Meeting is held in Conference Room 120 of the Airport Development and Engineering Department Building located at 3003 S. Service Road., DFW Airport. The DFW Traffic Engineer facilitates this meeting every Monday at 10:00 a.m.

- END OF SECTION -
PART 1 – GENERAL
1.1 SUMMARY
A. Provide a temporary staging yard.
B. Provide an Erosion Control Plan (ECP) or a Storm Water Pollution Prevention Plan (SWPPP) the Contractor staging yard if the yard is not already included in a project ECP or SWPPP.
C. It must be stated in the prime contractor’s Airport Board contract that a staging yard, on Airport Board property, will be provided to them, if needed, to support construction activities directly related to that contract. Airport staging yards shall not be used for the storage of chemicals, materials, and equipment related to offsite work.
D. Comply with the EAD Administrative Policy Staging Yard Authorization and Utilization procedures. All staging yards will be assigned by the Environmental Affairs Department (EAD.)
E. Comply with the 2009 International Building Code (IBC), 2009 International Fire Code (IFC) and Local Amendments.

1.2 RELATED REQUIREMENTS
A. Section 01 52 00, Contractors Construction Area
B. Section 01 57 13, Temporary Erosion and Sediment Control
C. Section 01 57 19, Spill Prevention Control and Countermeasure
D. Section 01 57 19.13, Spill Response Plan
E. Section 01 74 19, Construction Waste

1.3 DEFINITIONS
A. OAR: Owner’s Authorized Representative
B. Final Stabilization: A construction site status where all soil disturbing activities at the site have been completed and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as crushed stone, riprap, gabions, or geotextiles) have been employed.
C. Temporary Structure: A portable building, conex, or shade structure that will be onsite less than ninety-one (91) days from the date of the letter of authorization.
D. AHJ : Authority Having Jurisdiction shall include all relevant DFW Airport Departments

1.4 SUBMITTALS
A. Site Plan: After coordinating with EAD submit to the PM a proposed site plan. The site plan shall be reviewed by the AHJ. Note: There is a 10 day review process. The site plan shall show at a minimum the following.
   1. Proposed location(s) and dimensions of any area to be fenced and used by Contractor for staging.
2. Location and dimensions of each temporary and permanent structures.
3. Avenues of ingress and egress.
4. Details of the fence and gate installation. Comply with IFC 2009 Chapter 506 which requires a Knox Lock at all gates to grant access to Emergency Personnel.
5. Methods or devices use at exits to prevent the tracking of mud.
6. Location of material storage areas.
7. Location of equipment storage, and vehicle parking.
8. Location of areas for fuel storage, fueling operations
9. Locations for vehicle or equipment maintenance, including areas for washing of equipment.
10. Location of storm drains and drainage channels that could receive runoff from the staging area.
11. Subcontractors or others that will share the yard.
12. Location and methods of containment for any flammables, chemicals or hazmat materials that will be stored on site. Include MSDS for all of these materials.

B. Obtain approval of OAR for subcontractors or others that will share the yard.

C. Provide a fire alarm system monitored by an outside agency for buildings over 1,000 square feet Obtain a determination from the Fire Marshal and Code Officials if a fire alarm or other measures must be taken to insure life safety for Structures less than 1,000 square feet.

1.5 ATTACHMENTS

A EAD Construction Staging Yard Checklist

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 STAGING YARD

A. Provide signs at the entrance to the staging yard which include:
   1. The name of the Prime Contractor and all Subcontractors.
   2. Address (assigned by Code Compliance)
   3. The Prime Contractor’s 24 hour emergency contact number.

B. Project(s) Identifiers: Permit Number, Project Name, Contract Number, SWPPP and NOI notices.

C. A copy of the contractor Material and Chemicals list and the Construction Staging Yard Application (which includes a list of material and chemicals to be stored) shall always be available at the staging yard.
D. Implement erosion control measures in accordance with Section 01 57 13, Temporary Erosion and Sediment Control.

E. Arrange for a Life Safety Inspection by Code Compliance after setup, after tear down and annually while the staging yard is in operation.

F. Enclose area with a security fence.

G. Establish an all weather access road to ensure emergency equipment access to structures, and material and equipment storage areas in accordance with Chapter 5 of the 2009 IFC. Obtain approval of roads from Building Officials and the Fire Marshal and DFW Building Code.

H. Install construction exits in areas of ingress/egress, equipment service areas, and in parking areas to prevent rutting and the tracking of mud. Comply with Section 01 57 13 Storm Water Pollution Prevention.

I. Obtain approval of separate and distinct storage areas, including employee parking from the OAR and EAD.

J. Design and construct temporary and permanent structures in accordance with the 2009 International Building Code (IBC), 2009 International Fire Code (IFC), and Local Amendments.

K. Obtain General Work Permits per 2009 IFC Chapter 105 from the Fire Marshal.

L. Stockpile all materials inside the Contractor staging area.

M. Provide each entrance to the primary staging area or all separate or distinct storage areas with an appropriate Knox Box in a location approved by the Fire Marshal in accordance with IFC 2009 Chapter 506. Provide a key to each structure inside the Staging Yard in the Knox. Order boxes through the Fire Marshal's office.

N. Park all mobile construction equipment within the Staging Yard at the end of each day.

O. Store salvageable materials resulting from demolition activities within the staging yard or at a supplemental storage area approved by EAD in accordance with the ECP/SWPPP.

P. Stack stored materials and products off the ground within the staging area. Maintain stored materials and products in a neat and orderly method that allows ready access to materials and products.

Q. Follow IFC 2009 guidelines when using or storing Hazardous Flammable or Combustible Materials. Specifically reference Chapter 34 which requires the NFPA 704 Placard and proper labeling of all products. Store drums and containers off the ground and on pallets. Properly seal containers and label. Provide secondary containment as appropriate.

3.2 MAINTENANCE OF STAGING AREA

A. Maintain fence in good repair and proper alignment.

B. Comply with IFC 2009 Chapter 3 which includes the following general precautions against fire: maintain vegetation, establish designated Smoking Areas, post No Smoking signs, provide orderly storage, and remove construction
debris, waste, and packing materials from the staging area before it becomes a nuisance / fire hazard.

C. Check staging area daily for spills, standing water, and other sources of contamination. Immediately implement reporting and removal procedures when found. Comply with Section 01 57 19.13 Spill Response Plan.

D. Properly clean dirt or mud that becomes tracked out of staging yard onto paved or surfaced roadways A.S.A.P.(within the same work day) and eliminate the source.

E. Maintain all weather roads to ensure emergency equipment access to structures, and equipment and material storage areas. Repair potholes and ruts as they occur.

3.3 RESTORATION OF STAGING AREA

A. Return the site to acceptable condition as determined by the AHJ at Substantial Completion.
   1. Remove all structures, materials and equipment from within the staging area.
   2. Remove all fencing and fence posts, as directed by the AHJ.
   3. Fill all holes and depressions.
   4. Remove all gravel, and apply top soil and seeding as needed to restore the site to a stabilized condition, unless otherwise directed by the AHJ.

3.4 CLOSURE

A. A Final Stabilization inspection from the AHJ is required before being approved for Construction Permit Closure.

B. A Fire and Life Safety Final Inspection will be conducted by the Building Official and Fire Marshal to determine if the site meets all relevant codes.

C. The Owner may, at their discretion not required staging area to be demobilized and restored if the staging yard is to be utilized to support in-progress Airport projects.

D. New Contractor will be required to fulfill all of the guidelines to insure the staging area is maintained and updated if the Prime Contractor for the staging yard changes.

E. The Contractor may transfer the construction staging yard responsibilities into the most current project storm water plan when Contractor is working on more than one prime contract on the Airport which necessitates a construction staging yard

F. The AHJ will make all interpretations of codes and guidelines, and will make the final determination. The Construction Permit Closure shall not be granted until all AHJ requirements have been satisfied.

- END OF SECTION -
PART 1 GENERAL

1.1 SUMMARY

A. This specification describes procedures and practices to minimize or eliminate discharge of concrete waste to storm drain systems or watercourses.

1.2 RELATED SECTIONS

A. Section 01 57 13, Temporary Erosion Control
B. Section 01 74 19, Construction Waste

1.3 SUBMITTALS

A. Contractors will be required to submit
   a. Detail for contractor-constructed concrete slurry containment
   b. Detail for contractor-constructed concrete washout

1.4 REFERENCES

A. The following is a list of policies and regulations which may be referenced in this Section:


1.5 CONCRETE SLURRY

A. General
   a. All concrete slurry shall be properly contained to prevent discharge into a storm drain or surface water.
   b. Concrete slurry shall be continuously vacuumed during sawcutting. Slurry and cuttings shall not be allowed to remain on the pavement to dry.
   c. Remove slurry residue by abrasion (scraping or bristle broom) until no further residue may be loosened and only a stain remains.
   d. If sawcutting near a storm drain, place sand bags or a similar BMP to block the drain during sawcutting activities. Remove the BMP immediately upon completion.
B. Slurry Container
   a. Place vacuumed slurry into a water-tight slurry waste container.
   b. Place a sign on the waste container stating “Concrete Slurry Waste Only” in English and Spanish.
   c. Allow slurry to dry prior to disposal.
   d. Dispose of hardened slurry waste in accordance with 01 74 19 Construction Waste.

C. Slurry Containment
   a. If a large amount of concrete slurry waste is anticipated, the contractor may build an on-site slurry containment.
   b. Contractor shall submit a construction detail or design plan to EAD for approval prior to construction.
   c. The onsite containment may be an excavation or a berm. The containment shall be lined with plastic a minimum of 10 millimeters thick.
   d. The containment shall be located a minimum of 50 feet away from inlets, swales, drainage ways, channels, and other waters.
   e. Place a sign adjacent to the containment stating “Concrete Slurry Waste Only” in English and Spanish.
   f. Remove concrete slurry when containment is half full, and always maintain a minimum of 1 foot freeboard.
   g. Allow slurry to dry before disposal.
      i. If it is not feasible to wait for slurry water to evaporate prior to disposal, the contractor may coordinate with EAD for additional options.
      ii. Water discharged from the containment shall not exceed a pH of 8.0.
   h. Remove all materials used to construct the concrete slurry containment from the work site. Dispose of waste in accordance with Section 01 74 19 Construction Waste.

1.6 CONCRETE TRUCK WASHOUT

A. General
   a. All concrete truck washout shall be properly contained to prevent discharge to a storm drain or surface water.
   b. Concrete truck washout containers shall provide sufficient volume to completely contain all liquid and concrete waste generated during washout procedures. A minimum 1 foot freeboard must be maintained at all times. Use a vacuum truck to remove excess water and prevent overflowing.
   c. Concrete truck washouts must be located a minimum of 50 feet away from inlets, swales, drainage ways, channels, and other waters.
d. Contractor must obtain written approval from Airport Operations, prior to placing a concrete truck washout on the AOA.

B. Board-Supplied Concrete Washout Bin

a. The Board may supply a concrete truck washout bin to the project under separate contract. EAD will determine if a project meets the requirements to receive a concrete washout bin. This is determined based on the size of the project, amount of concrete to be poured, and location of the project.

b. All requests for service shall be coordinated with EAD, through the Owner’s Authorized Representative (OAR), a minimum of 48 hours (two working days) in advance. EAD will coordinate bin delivery, the removal of excess water, relocating a bin, replacing a bin, and removing a bin.

c. The only materials allowed to be placed in the bin are concrete waste and water from concrete mixer trucks, pump trucks, mixers, chutes, tools, and wheelbarrows. Concrete slurry waste from sawcutting, grinding, and grooving is not allowed to be placed in the bin.

d. Do not move or shift the bin in any way as this may cause damage. Damage caused to the washout bin shall be paid by the contractor to the owner of the bin directly. Damages not paid shall be deducted from the contractor’s contract with the Airport Board.

C. Contractor-Supplied Concrete Washout

a. If it is determined that a Board will not supply a concrete washout bin, or that the bin provided is not suitable, the contractor may construct a concrete washout facility.

b. Contractor shall submit a construction detail or design plan to EAD, through the OAR, for approval prior to construction.

c. The onsite containment may be an excavation or a berm. The containment shall be lined with plastic a minimum of 10 millimeters thick. The containment shall be designed to provide 6 cubic feet of storage for every 10 cubic yards of concrete poured.

d. Allow concrete washout to harden prior to disposal.
   i. If it is not feasible to wait for concrete waste water to evaporate prior to disposal, the contractor may coordinate with EAD for additional options.
   ii. Water discharged from the containment shall not exceed a pH of 8.0.

e. Concrete shall be broken up, and disposed of in accordance with Section 01 74 19, Construction Waste.

f. Grade the containment closed within 1 week of completing concrete pours, or a soon as concrete has hardened to avoid collecting stormwater.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades required by governing authorities for public rights-of-way and for public access to adjacent building.

C. Provide protection for plant life designated to remain. Replace damaged plant life.

D. Protect non-owned vehicular traffic, site and structures from damage.

1.2 DESCRIPTION

A. Furnish, install and maintain suitable barriers as required to prevent public entry, and to protect the work, existing facilities, trees and plants from construction operations; remove when no longer needed, or at completion of Work.

1.3 QUALITY ASSURANCE

A. Barriers and Construction Signs shall comply with federal, state and local codes and all regulations pertaining to traffic control devices and construction sign regulations.

B. Provide barriers and construction signing as required or deemed necessary to protect the work area and traveling public, as indicated on the Drawings, or as directed by the Owner’s Authorized Representative for work in the ramp areas to protect tug traffic, aircraft, airline personnel and other assets in the active airfield during construction of this project. Plan, execute and maintain barriers, traffic control devices, etc.

PART 2 – PRODUCTS

2.1 MATERIALS, GENERAL

A. Provide fixed signs as shown on the Traffic Control Plan Drawings and conforming to the latest edition of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install barriers and controls to a uniform appearance, structurally sound and adequate for the purpose intended.

B. Maintain barriers during entire construction period as required for each area.

C. Relocate barriers as required by progress of construction.
D. Install concrete traffic barriers (CTB) in accordance with the Traffic Control Plan Drawings and as directed by the Owner’s Authorized Representative.

E. Cover trenches and holes when not in use. Erect barriers at sharp changes in plane compliance with OSHA Regulations.

3.2 REMOVAL

A. Completely remove barricades when construction has progressed to the point that they are no longer needed, and when approved by Architect/Engineer.

B. Clean and repair damage caused by installation if any, fill and grade the areas of the site to required elevations and slopes, and clean the area.

- END OF SECTION -
PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Chain-Link Fences: Used for temporary storage, security, job site access, etc.
   2. Gates: Lockable and manually operated.

B. Related Sections include the following:
   1. Section 03 30 00, Cast-in-Place Concrete.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide chain-link fences and gates capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

   1. Minimum Post Size and Maximum Spacing for Wind Velocity Pressure: Determine based on mesh size and pattern specified, and on the following minimum design wind pressures and according to CLFMI WLG 2445:
      a. Wind Speed: 80 mph.
      b. Fence Height: As required per the project requirements.
      d. Wind Exposure Category: B

   2. Determine minimum post size, group, and section according to ASTM F 1043 for framework up to 12 feet high, and post spacing not to exceed 10 feet.

B. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates, if stated in the project requirements.

   1. Fence and gate posts, rails, and fittings.
   2. Chain-link fabric, reinforcements, and attachments.
   3. Gates and hardware.
   5. Accessories: Refer to plans.
B. Product Certificates: For each type of chain-link fence and gate, signed by product manufacturer.
   1. Strength test results for framing according to ASTM F 1043.

C. Qualification Data: For Installer.

D. Field quality-control test reports.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work.

2.2 FITTINGS

A. General: Comply with ASTM F 626.

B. Post and Line Caps: Provide for each post.
   1. Line post caps with loop to receive tension wire or top rail.

C. Rail and Brace Ends: Attach rails securely to each gate, corner, pull, and end post.

D. Finish:
   1. Galvanized steel.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for conditions affecting performance.

3.2 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

   1. Install fencing on established boundary lines inside the project boundary and/or designated area.

3.3 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

B. Post Setting: Set posts to provide a stable and safe upright position.

   1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
   2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

      a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
      b. Concealed Concrete: Set posts below grade as indicated on Drawings to allow covering with surface material.
      c. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

   3. Mechanically Driven Posts: Drive into soil to depth of 30 inches. Protect post top to prevent distortion.

C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment as indicated on the drawings.

D. Line Posts: Space line posts uniformly at 8 feet o.c.
E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts.

1. Locate horizontal braces at midheight of fabric 6 feet or higher, on fences with top rail and at 2/3 fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.

1. Top Tension Wire: Install tension wire through post cap loops.
2. Bottom Tension Wire: Install tension wire within 6 inches (150 mm) of bottom of fabric and tie to each post with not less than same diameter and type of wire.

G. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

H. Bottom Rails: Install, spanning between posts.

I. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave 1 inch between finish grade or surface and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

J. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

K. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at 1 end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

L. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.

M. Privacy Slats: Install slats in direction indicated, securely locked in place.

N. Barbed Wire: Install barbed wire uniformly spaced as indicated on Drawings. Pull wire taut and install securely to extension arms and secure to end post or terminal arms.
3.4 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.5 GATE OPERATOR INSTALLATION

A. General: Install gate operators according to manufacturer's written instructions, aligned and true to fence line and grade.

END OF SECTION
PART 1 – GENERAL

1.1 SUMMARY

A. Adhere to DFW Airport Board policy, state, federal, and local environmental regulations pertaining to the prevention of storm water pollutants, including the TPDES General Permit TXR150000 and all applicable DFW Airport storm water requirements.

B. Any project that disturbs soil, removes a protective surface layer to expose soil, or stores a significant amount of potential storm water pollutants shall prepare a Storm Water Pollution Prevention Plan (SWPPP) or an airport specific Erosion Control Plan (ECP). Storm Water Pollution Prevention Plans and Erosion Control Plans are intended to minimize pollutants from entering the storm water runoff from the construction site and associated project areas.

1.2 RELATED REQUIREMENTS

A. Section 32 92 19, Seeding and Sodding
B. Section 01565, 01 74 19, Construction Waste
C. Section 01 57 19.16, Concrete Waste

1.3 REFERENCES

A. Texas Water Code, Chapter 26
B. Clean Water Act, Section 402
C. National Pollutant Discharge Elimination System
D. Texas Pollutant Discharge Elimination System
E. 30 TAC 305.44 Signatories to Applications (to TCEQ)
F. 30 TAC 305.128 Delegation of Signatories to Reports (to TCEQ)
G. North Central Texas Council of Governments iSWM Program

1.4 DEFINITIONS

B. CSN: Construction Site Notice.
C. EAD: DFW Airport Environmental Affairs Department.
D. ECP: Erosion Control Plan
E. iSWM: Integrated Storm Water Management. A program of BMP manuals and technical manuals published by the NCTCOG for control of quality of storm water runoff from construction activities.
F. Final Stabilization: A construction site status where all soil disturbing activities are completed and a uniform perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent permanent stabilization measures such as gravel, riprap, and landscaping features that reduce erosion.
G. Minimize Pollutant: To reduce or eliminate a pollutant to the extent achievable using storm water controls that are technologically available and economically practicable and achievable in light of best industry practices.

H. NCTCOG: North Central Texas Council of Governments

I. NOI: Notice of Intent

J. NOT: Notice of Termination

K. OAR: Owner’s Authorized Representative

L. SWPPP: Storm Water Pollution Prevention Plan as required by the U.S. EPA or the TCEQ

M. TAC: Texas Administrative Code

N. TCEQ: Texas Commission on Environmental Quality.

O. TPDES: Texas Pollutant Discharge Elimination System.

1.5 SUBMITTALS

A. Attend an Environmental Review Meeting prior to obtaining a DFW Airport Construction Permit. EAD will discuss the environmental submittals required for the project.

B. All documents that require mailing to the TCEQ shall be submitted to EAD to perform the mailing.

C. Projects subject to NPDES or TPDES Construction General Permit must prepare a site-specific Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP, the original Construction Site Notice, Delegation of Authority Letter, and NOI must be submitted to EAD, through the OAR, prior to obtaining construction permit approval and prior to beginning construction activities.

D. Projects disturbing less than one acre and are not part of a SWPPP must submit a site-specific Erosion Control Plan (ECP) to EAD, through the OAR.

E. Submit copies of ECP and SWPPP Inspection Reports within 48 hours after completing the inspection. Reports are to be signed and certified by the Contractor’s site superintendent, or the delegated inspector, and submitted to the OAR.

F. Submit the following close-out documentation to EAD, through the OAR, prior to demobilizing or when final stabilization is achieved whichever comes first.

1. For projects with an ECP, copies of all inspection reports.

2. For projects with a SWPPP, one copy of the final SWPPP that includes all inspection reports, maintenance records, date tracking records, amendments, and any additional recordkeeping required by the construction general permit.

3. For sites where a NOI was required, a completed, signed Notice of Termination (NOT) of coverage.

PART 2 PLANS
2.1 EROSION CONTROL PLANS

A. Projects that disturb less than one acre of soil and that are not covered under a SWPPP must submit a project specific Erosion Control Plan (ECP).

B. An ECP template has been prepared by DFW Airport and is available at https://www.dfwairport.com/sustainability/index.php. Complete the ECP template and submit for EAD, through the OAR, approval prior to obtaining a DFW Airport Construction Permit.

C. The ECP addresses the following topics:
   1. Detailed site description
   2. List of contractors and subcontractors
   3. Sequence of construction activities
   4. Detailed project maps
   5. Erosion and sediment controls
   6. Good housekeeping controls
   7. Potential pollutants
   8. Non-storm water discharges
   9. BMP maintenance
   10. Inspections
   11. Certifications

D. Designate the onsite contact person responsible for implementing the ECP. This person must have the authority to direct resources towards the maintenance or repair of the storm water management controls, and should be readily accessible onsite during work hours.

E. Inspection procedures:
   1. Provide and record inspections of the construction site and all associated areas such as staging yards performed by qualified Contractor-personnel a minimum of once every 14 calendar days and within 24 hours after any storm event of greater than 0.5 inches or an alternate schedule of once every seven days on the same day each week.

2. Inspection reports shall include a summary of the scope of the inspection, name(s) of personnel conducting the inspection, the date of the inspection, a record of failed or damaged BMPs, evidence of pollutants escaping the site, and actions taken.

F. Maintain a copy of the Erosion Control Plan on site and make it available for review by federal, state or local inspectors and project management within 24 hours of a request to review it.

2.2 STORM WATER POLLUTION PREVENTION PLAN
A. Apply for and meet the requirements and provisions of the TPDES Construction General Permit (CGP), Permit No. TXR150000, under the permitting authority of the TCEQ. A copy of the General Permit and other information can be found at the TCEQ website https://www.tceq.texas.gov/permitting/stormwater/construction

1. The SWPPP must adhere to the requirements in TXR150000, and must include the following statements as required by the local authority having jurisdiction, DFW Airport. These statements are considered Best Management Practices (BMPs) that the contractor is responsible for implementing.

   1. All trucks carrying erodible materials such as soil, sand, gravel, crushed or broken up concrete, shall use a cover, in functional condition, over the bed of the truck while on the public roads of the airport.

   2. Water from any source accumulating in an excavation that has visual or olfactory evidence of contamination such as a sheen or odor or is at a site within the Voluntary Cleanup Program (VCP) area shall not be released from the project site or allowed to mix with uncontaminated water and shall be contained, stored and properly disposed of in accordance with the project’s Soil Management Plan and Waste Management Plan.

   3. If high pH is observed by the airport at an outfall sampling point downstream of the project, the project will be asked to pH test standing water (rainwater or groundwater) at the site prior to pumping or draining off. If the standing water is found to be higher than pH 9.0, it shall not be pumped or drained off as routine storm water discharge as “dewatering” and will be considered a waste water to be recorded on the project Waste Management Plan for disposal. Water between pH 9.0 to 11.0 may be disposed through a sanitary sewer line with prior approval from EAD, through the OAR. Water above pH 11.0 shall be disposed of off airport through a reputable company as waste water.

   4. The following segments are listed as impaired waters on either the CWA 303(d) list or the Texas Integrated Report of Surface Water Quality for CWA sections 305(b) and 303(d): Segment 0822A (Cottonwood Branch Creek), 0822B (Grapevine Creek) and segment 0841 (Estelle Creek). All segments are impaired waters for Bacteria. Caution shall be taken with sources of bacteria, such as portable toilets and exposure of sanitary sewer lines, during construction in order to not contribute bacteria to these water segments. Potential bacteria sources on the construction project shall be identified and BMPs incorporated into the SWPPP. All portable toilets shall be located at least 50ft away from any storm drain inlet and at least 100ft away from the edge of a surface water.

   5. List subcontractors in the SWPPP and have a responsible representative sign an acknowledgement certifying they are aware of the SWPPP regulations and shall abide by them for this project.
B. Implement the SWPPP in its entirety, including but not limited to: posting and maintaining of notices, performing required inspections, BMP installation and maintenance, updating and amending the SWPPP documentation as the project proceeds, and advise the Airport Board project management when the plans or funds are insufficient to meet or maintain the standards of the Construction General Permit.

C. Designate the onsite contact person responsible for implementing the SWPPP. This person must have the authority to direct resources towards the maintenance or repair of the storm water management controls, and should be readily accessible onsite during work hours.

D. Inspections:
   1. A qualified inspector must provide and record inspections of the construction site and all associated areas including staging yards a minimum of once every 14 calendar days and within 24 hours after any storm event of greater than 0.5 inches, or an alternate schedule of once every seven days on the same day each week.
   2. Inspection reports shall include, at a minimum, a summary of the scope of the inspection, name(s) of personnel conducting the inspection, the date of the inspection, a record of failed or damaged BMPs, evidence of pollutants escaping the site, and actions taken.
   3. A qualified inspector must meet the requirements of TXR150000. Proof of formal training is preferred, but not mandatory. EAD and the OAR reserve the right to reject an inspector as unqualified and may either require proof of formal training or require the inspector to submit to a written exam to prove such knowledge and skills or require appointment of a different inspector.

E. Maintain a copy of the SWPPP on site and make it available for review by federal, state or local inspectors and project management within 24 hours of a request to review it.

PART 3 PRODUCTS

3.1 MATERIALS
   A. All Erosion and Sediment Control shall adhere to the North Central Texas Council of Government’s iSWM program, or equivalent. Other published material guidelines may be accepted upon submittal for review and approval to EAD, through the OAR.
   B. Do not use silt fence or silt fabric as an erosion and sediment control BMP within the Airport Operations Area (AOA) without prior approval from Airport Operations
   C. Do not use hay bales as an erosion and sediment control BMP
   D. Do not use straw waddles or other flow blocking devices at active street curb inlets.
   E. Install and maintain erosion and sediment control products according to manufacturer’s recommendations and instructions, or North Central Texas Council of Government’s iSWM program. Replace or change controls as needed to restore effectiveness.
PART 4 EXECUTION

4.1 GENERAL

A. Prevent water pollution associated with the construction activity from entering any surface water, drainage device, or adjacent property.
   1. Ensure all applicable water quality standards are met. Additional storm water controls may be required to meet water quality standards.
   2. Immediately remove any sediment that escapes from the project site. The contractor is responsible for documenting any pre-existing accumulated sediment or debris.

B. Install and maintain all BMPs and structural controls in accordance with the North Central Texas Council of Government’s iSWM program. Additional, manuals may be utilized upon EAD approval, through the OAR.

C. Immediately correct ineffective control measures. Implement new or additional controls as directed.

D. Plan and conduct all land disturbing activities to minimize the area to be exposed at any one time, and to minimize the time of exposure.

E. Protect materials from rain exposure
   1. Provide protected storage areas for paints, chemicals, solvents, fertilizers, and other potential pollutants.
   2. Store containers on a raised surface and prevent contact with rain.
   3. Cover erodible materials with a tarp or plastic

F. Upon discovery, immediately contain and remove all spills or leaks.

G. Properly contain and dispose of wastewater, such as concrete truck washout, wash water for cleaning paint tools, and curing compounds.

H. Cover all trucks or trailers hauling an erodible material such as soil, gravel, small rock or sand with a tarp while on the public roads of the airport.

I. Tracking
   1. Prevent off-site tracking by installing and maintaining a construction exit
   2. Keep paved areas free from tracking. Sediment tracked off-site shall be cleaned with a Vacuum Truck or sweeping by hand. Sweeper trucks are not allowed.

J. Dust Control:
   1. Maintain dust control in all areas impacted by construction via water application or additional methods as approved by the OAR.
   2. Do not apply water to the point that causes flooding, erosion or pollution.
4.2 SEQUENCING AND SCHEDULING

A. Prior to ground disturbing activities the following must occur:
   1. EAD, through the OAR, approves the ECP or SWPPP
   2. Submit NOI to TCEQ (if applicable). Coordinate submission of the NOI and payment of filing fees with EAD, through the OAR.
   3. Post CSN at the job site (if applicable)
   4. A hardcopy of the ECP or SWPPP is available on the job site
   5. Storm water management controls must be installed and inspected by a qualified storm water inspector.

B. Divide larger sites into distinct portions. Begin permanent stabilization when work is complete on a portion of the site. At minimum, detention basins, drainage swales, creek banks, channel banks, and culverts will be considered distinct portions; and stabilization will be initiated independent of ongoing activities in other areas of the site.

4.3 MAINTENANCE

A. General
   1. Maintain all erosion, sediment, and pollutant control measures in effective operating condition
   2. EAD will inspect the project for environmental compliance. Any deficiencies, including installation and maintenance of storm water controls, shall be corrected in the time indicated. If Contractor fails to make the corrections to the satisfaction of EAD, the OAR may separately contract a crew to perform the necessary maintenance and the cost will be deducted from Contractor’s contract

B. Construction Exit
   1. Maintain construction entrance/exit points in a condition which will prevent the tracking of sediment onto any paved surface. For stone exits, periodically re-grade and top with additional stone to maintain efficiency.

C. Perimeter Control
   1. Inspect regularly and remove sediment before it reaches half the height of the control.
   2. Ensure perimeter control is properly embedded or toed-in. Repair any erosion under-cutting the control.

D. Check Dam
   1. The top of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the dam shall be embedded a minimum of 18 inches into the side of the drainage ditch, swale, or channel to minimize the potential for flows to erode around the side of the dam.
2. Inspect regularly, and remove sediment when it reaches approximately 1/3 the height of the dam or 12 inches, whichever is less.

E. Inlet Protection

1. Inspect regularly for damage. Remove any blockage from inlet after every storm event. Clean and/or replace when clogged with sediment, to ensure effectiveness.

2. Remove sediment before it reaches half the design height or volume of the inlet protection.

4.4 CLOSE OUT

A. Prior to close-out of the building permit, EAD, through the OAR, must approve final stabilization, or the transfer of responsibility for the SWPPP or ECP.

1. Request an inspection to determine if final stabilization meeting the General Permit definition has been accomplished.

2. If EAD determines final stabilization is met, the Contractor shall submit, through the OAR, the following

   a. NOT (if applicable) Do not submit the NOT to TCEQ without prior approval from EAD.

   b. Inspection reports

   c. Amendments made to the SWPPP or ECP during construction

   d. Additional recordkeeping as required by the general permit. (if applicable)

B. Must have all materials, wastes and temporary BMPs removed

C. Must have corrected any accumulated sediment issues identified by the OAR.

D. Must have fully resolved any issue of non-compliance or violation brought by a federal or state agency as a result of the construction activities

E. Must have all submittals for closeout turned in and approved

END OF SECTION
PART 1  GENERAL

1.1 SUMMARY
A. This specification requires a Contractor to provide design and construction information for all oil products temporarily or permanently stored on DFW International Airport property. It identifies when a spill prevention control and countermeasure (SPCC) plan is needed, and what information is required to update the existing DFW Airport Spill Prevention Control and Countermeasure (SPCC) plan.

1.2 SUBMITTALS
A. Contractors will be required to submit
   a. Construction site specific Spill Prevention Control and Countermeasure plan
   b. Inventory of permanent oil containers installed or removed

1.3 REFERENCES
A. The following is a list of policies and regulations which may be referenced in this Section:

1.4 DEFINITIONS
A. EAD: DFW Airport Environmental Affairs Department.
B. OAR: Owner’s Authorized Representative
C. Oil: Oil in any kind or in any form, including but not limited to: fats, oils; greases of animal, fish or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits or kernels; and other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil. Typical petroleum fuels are gasoline, diesel, and jet fuel.
D. Container: Any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

1.5 TEMPORARY OIL STORAGE
A. If during construction oil products will be temporarily brought on-site, the following requirements must be considered:
   a. If oil or oil products will be stored in above ground storage containers of 55 gallon size or more with a total onsite storage capacity of 1320 gallons or
more during the construction project, the contractor must prepare a SPCC plan.

b. Prior to permit approval, submit to EAD, through the OAR, construction site specific Spill Prevention Control and Countermeasures (SPCC) plan. The site specific plan shall meet the requirements of 40 CFR 112, and include at a minimum:
   i. An inventory of all oil storage containers
   ii. The total capacity of each storage container
   iii. Type of material stored
   iv. Design information on secondary containment or diversionary methods utilized in order to prevent release of the material.

c. Monitor increases or decreases in total oil container capacity throughout the project
   i. If total onsite oil container volumes change, or the type of materials change, amend the site specific SPCC plan.
   ii. If the total capacity of onsite oil containers should drop below 1320 gallons before project closeout, the site specific SPCC plan may be discontinued. Notify EAD, through the OAR, of the changes and obtain written approval from EAD, through the OAR, to discontinue the SPCC plan.

d. At completion of the project, remove all stored materials and correct any spotting or evidence of spills created by the stored materials. Spill removal shall comply with the requirements in 01 57 19 14 Spill Response Plan, and 01 33 29.06.01 Contaminated Media Management Plan.

1.6 PERMANENT OIL CONTAINERS
A. If during construction permanent oil containers are installed or removed the following requirements must be considered:

B. Submit to EAD, through the OAR, an inventory of permanent oil containers installed or removed. The inventory shall include:
   a. The capacity of each storage container added or removed
   b. The type of materials to be stored in each container
   c. Description of the secondary containment or diversionary methods utilized by storage container.

C. The inventory shall be submitted with the environmental close-out checklist at the end of the project.
PART 1 - GENERAL

1.1 SUMMARY

A. This specification provides the minimum procedures to prevent, prepare for, notify, and respond to any spills during construction projects that involve fuels, oils, paints, chemicals, regulated substances, or other hazardous materials.

1.2 RELATED SECTIONS

A. Section 01 57 19.13 Spill Response.
B. Section 01 57 19 Site Spill Prevention Control and Countermeasures
C. Section 01 74 19 Construction Waste

1.3 REFERENCES

A. The following is a list of standards which may be referenced in this Section:
   1. United States Environmental Protection Agency (USEPA), U.S. Code (USC), Title 42, Chapter 103, Comprehensive Environmental Response, Compensation, and Liability (CERCLA).
   4. The Spill Response Plan template can be found at:

1.4 DEFINITIONS

A. OAR: Owner’s Authorized Representative
B. EAD: DFW Airport Environmental Affairs Division.
C. Oil or Oil Products: Oil in any kind or in any form, including but not limited to: fats, oils; greases of animal, fish or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits or kernels; and other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.
D. Oil Spills: Quantities that may be harmful to public health. These include the following types of discharges:
   1. Violate applicable water quality standards.
2. Cause film or “sheen” upon, or discoloration of the surface of the water or adjoining shorelines.

3. Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

E. Spill: Any release or discharge from designated/designated containers. Includes, but is not limited to, spilling, leaking, pumping, pouring, emitting, emptying, or dumping of fuels, oils, hazardous materials, air pollutants and/or hazardous waste unless the emission is covered by an applicable permit.

F. SRP: Spill Response Plan

G. TCEQ: Texas Commission on Environmental Quality.

1.5 SUBMITTALS

A. Submit a Spill Response Plan to EAD, through the OAR, in order to obtain a building permit.

B. For spills exceeding the reportable quantity for the material, submit a report with the information identified in 2.1(C) within 48 hours of the event.

C. For spills exceeding the reportable quantity for the material, submit a written report with the information identified in 2.2(B) within 25 days of the event.

1.6 SPILL RESPONSE PLAN (SRP)

A. A SRP is required for projects that will use or store fuels, oils, paints, chemicals, and any other material in quantities that may pose a threat to human health or the environment.

B. Prepare by completing all requested information shown on the attached Spill Response Plan template.

C. The spill response plan shall include the following information:
   1. Project Description
   2. List of spillable materials on site
   3. Fueling
   4. Preparedness

D. Review the SRP on a regular basis, and update when the following occurs:
   1. Applicable regulations are revised.
   2. Plan fails in an emergency.
   3. Site changes in design, construction, operation, maintenance or other circumstances that materially increase potential for fires, explosions, release of hazardous waste or hazardous waste constituents, or changes response necessary in an emergency.
4. Change in list of emergency coordinators.
5. Change in list of emergency equipment.

PART 2 – EXECUTION

2.1 SPILL EVENTS

A. Report all spills immediately by phone to DFW International Airport Operations Center (AOC) at 972-973-3112.
B. Activate the SRP immediately upon discovery of a spill event
C. For spills that exceed the reportable quantity for that material, EAD will notify the Texas Commission on Environmental Quality and/or National Response Center within 24 hours of the event. Provide EAD, through the OAR, the following information as soon as possible:
   1. The name, address, and telephone number of the person reporting and the responsible person
   2. The date, time and location of the spill or discharge
   3. A specific description of the material discharged or spilled
   4. An estimate of the quantity discharged or spilled
   5. The duration of the incident
   6. The name of the surface water or a description of the waters of the state affected or threatened by the discharge or spill
   7. The source of the discharge or spill
   8. A description of the extent of actual or potential water pollution or harmful impacts to the environment and an identification of any environmentally sensitive areas or natural resources at risk
   9. Any known or anticipated health risks
   10. The identity of any governmental representative responding to the discharge or spill
   11. Any other information that may be significant to the response action
D. For spills that exceed the reportable quantity for that material, provide a written report of the information requested in 2.1 (C) to EAD, through the OAR, within 48-hours of the spill.
E. Manage all waste in accordance with Section 01 74 19, Construction Waste.
F. All Contractor caused spills shall be cleaned by the Contractor at Contractor's expense.
2.2 POST-SPILL ACTIVITIES

A. EAD will determine adequacy of Contractor’s cleanup activities. If Contractor fails to cleanup spill to the satisfaction of EAD, OAR will separately contract a response crew to clean up the spill and the cost will be deducted from Contractor’s contract.

B. For spills that exceed the reportable quantity for that material, provide a written report within 25 days of the event. The written report shall include the following:

1. A statement that the discharge or spill response action has been completed
2. A description of how the response action was conducted.
3. The statement shall include the information detailed in 2.1 (C).
4. Additional information as requested

– END OF SECTION –
Below is the general procedure to follow in the event of a spill or loss of product that results in an impact or potential impact to soil, surface water, groundwater or sanitary sewer system.

 Notifications:

- 911 (if immediate danger to life or health)
- DFW Airport Operations Center (AOC) at (972) 973-3112 for all spills no matter what the quantity.
- Environmental Emergency Response Contractor (if necessary).
- For Tenant spills that exceed the reportable quantity contact the Texas Commission on Environmental Quality (TCEQ) at 800-832-8224 and the National Response Center (NRC) at 800-424-8802.
- For Board project spills that exceed the reportable quantity contact EAD. EAD will notify the TCEQ and NRC.
- DFW Board project or construction manager or tenant coordinator.

Cleanup:

- Impacted media shall be picked up and stored in a waterproof and leak proof container or placed on plastic sheeting and securely covered with plastic sheeting until disposal is arranged.
- The Site Superintendent or Emergency Response Coordinator will work with DFW Airport Environmental Affairs Department (EAD) to determine the appropriate sampling and disposal protocols for handling impacted media.

Follow-up:

- Within 48 hours of a reportable spill, send a written report to EAD describing the cause of the release, the total quantity of material discharged, description of corrective action taken or still in progress to be completed, notifications made, and plans for preventing recurrence.
- Complete any follow-up reports required by the TCEQ or National Response Center within the allowable time frames. Provide copies of all reports to EAD.
List of Spillable Materials on site: (this includes fluids from heavy equipment, applied materials such as paint, stored chemicals, adhesives, granular materials, admixes...)

<table>
<thead>
<tr>
<th>Material (i.e. diesel fuel, paint, hydraulic fluid)</th>
<th>Estimated quantity</th>
<th>Storage location (Where is it kept? i.e. excavator, drum, 5-gallon bucket)</th>
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</table>

Fueling:

Will fueling of vehicles or equipment be done on site? If yes, describe method

Preparedness:

What spill response equipment and supplies will be maintained on site?

Prepared by:

Printed Name

Signature

Company

Date
PART 1 – GENERAL

1.1 SUMMARY

A. This specification outlines the appropriate documentation required for handling and use of all refrigerants (e.g. chlorofluorocarbons and hydrochlorofluorocarbons) during the installation, maintenance, repair or removal of HVAC equipment.

1.2 REFERENCES

A. The following is a list of standards which may be referenced in this Section:


2. United States Environmental Protection Agency (USEPA):
   b. Clean Air Act (CAA), Section 608 and 609.

1.3 DEFINITIONS

A. Chlorofluorocarbon (CFC): a compound consisting of chlorine, fluorine, and carbon; Includes, but is not limited to the following chemicals:

1. Trichlorofluoromethane (CFC-11).
2. Dichlorodifluorimethane (CFC-12).
3. 1, 1, 2-Trichlorotrifluoroethane (CFC-113).
4. Dichlorotetrafluoroethane (CFC-114).
5. Monochloropentafluoroethane (CFC-115).

B. EAD: DFW Environmental Affairs Department.

C. EUST: Energy and Utility Service Technician.

D. Hydrochlorofluorocarbon (HCFC): compound consisting of hydrogen, chlorine, fluorine, and carbon.

E. Hydrofluorocarbon (HFC): compound consisting of hydrogen, fluorine, and carbon.

F. HVAC: Heating, Ventilation, and Air Conditioning.

G. OAR: Owner’s Authorized Representative.

H. USEPA: United States Environmental Protection Agency.

1.4 SUBMITTALS

A. Contractor employee USEPA-approved training certificates.

B. Repairs or services of any motor vehicle air conditioners, training records and proper certification shall be available and submitted to OAR.

C. Certifications for air-conditioning and refrigeration appliance equipment.

D. Certifications for recycling and recovery equipment.
E. Completed copies of USEPA Refrigerant Recovery or Recycling Device Acquisition Certification Form; submit to OAR.

F. Documentation demonstrating proper disposal of demolished or removed refrigerant appliances; submit to OAR.

1.5 QUALITY ASSURANCE

A. If Contractor repairs or services any motor vehicle air conditioners, personnel performing such Work shall be trained and certified by an USEPA-approved organization (USEPA Clean Air Act, 40 CFR Subpart 82).

B. Motorized Vehicle Air Conditioning Certification Requirements: If repairs or servicing is performed by a service shop, such service shop shall certify to USEPA it has acquired and is properly using approved refrigerant recovery equipment, and that each person using the equipment has been properly trained and certified. Certification statement shall include the name and address of the service establishment, the name of the equipment manufacturer, equipment model and serial number, and equipment date of manufacture (certified in accordance with 40 CFR 82.36(a)).

C. Energy and Utility Service Technician (EUST):

1. Contractor shall utilize only trained, USEPA-certified employees to perform maintenance, service, repair, or disposal that could be reasonably expected to release refrigerants into the atmosphere.

2. Contractor shall appoint qualified personnel to act as the energy and utility service technician, and to perform weekly refrigerant leak checks.

3. The EUST shall have knowledge of the following refrigerant modes:
   a. One Ton Cylinder to Storage Tank.
   b. One Ton Cylinder to Chiller Evaporator.
   c. Storage Tank to Chiller Evaporator.
   d. Storage Tank to Chiller (Vapor).
   e. Chiller Vessel to Storage Tank (Vapor).
   f. Chiller Vessel to Storage Tank (Liquid).
   g. Storage Tank to Storage Tank (Liquid).
   h. Potential for leaks, or releases from these sources, and the procedures to follow in case of leaks, or releases.
   i. Knowledge of, and maintenance of required records and reports of leaks or releases including releases from chiller pressure relief valves.

4. The EUST shall exhibit the ability to calculate the amount of refrigerant in the chiller module as follows:
   a. Knowledge/use of procedures for all equipment with greater than 50-pound charge.
   b. Knowledge/use of procedures for maintaining leak rate calculations/records in accordance with 40 CFR 82.156(i)(1).
c. Obtain and maintain Level 2, High Pressure Refrigerant Certification as defined by the USEPA Section 608.

d. Obtain and maintain Level 3, Low Pressure Refrigerant Certification as defined by the USEPA Section 608.

1.6 EQUIPMENT CERTIFICATION

A. Test refrigerant recovery and recycling equipment using a USEPA-approved testing organization.

B. Test equipment intended for use with air-conditioning and refrigeration appliances under USEPA requirements based upon the ARI 740 test protocol (i.e., USEPA Appendices B and B1 to 40 CFR 82 subpart F).

C. Test recycling and recovery equipment intended for use with small appliances under USEPA Appendix C to 40 CFR 82 subpart F or alternatively under requirements based upon the ARI 740 test protocol (i.e., Appendices B and B1 to 40 CFR 82 subpart F).

1.7 REPORTING REQUIREMENTS

A. Servicing appliances containing 50 pounds or more of refrigerant:
   1. Provide OAR a report that indicates the amount of refrigerant added to the appliance including an annual percent leak rate calculation.
   2. Maintain a record of the type/quantity of refrigerant added.
   3. Provide certifications for equipment showing the appliance has been tested and certified by ARI 740 test protocol.

B. Provide OAR with servicing records documenting date and type of service and quantity of refrigerant added to DFW-owned equipment.

C. Reclamation Facility: If refrigerant is recovered and sent to a reclamation facility, maintain on file:
   1. Name and address of reclamation facility.
   2. Service Technician Certification using USEPA Form “The United States Environmental Protection Agency (USEPA) Refrigerant Recovery or Recycling Device Acquisition Certification Form (OMB#2060-0256)”.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 SERVICE PRACTICE REQUIREMENTS

A. Contractor shall not knowingly vent any refrigerant to the atmosphere. (CAA, Section 608) during maintenance, service, repair, and disposal of air-conditioning and refrigeration equipment.

B. Only four types of releases are permitted under the prohibition:
   1. “De minimis” quantities of refrigerant released in the course of making good faith attempts to recapture and recycle or safely dispose of refrigerant.
2. Refrigerants emitted in the course of normal operation of air-conditioning and refrigeration equipment (as opposed to during maintenance, servicing, repair, or disposal of this equipment) such as from mechanical purging and leaks. However, USEPA requires the repair of leaks above a certain size in large equipment.

3. Releases of CFCs or HCFCs that are not used as refrigerants: For instance, mixture of nitrogen and HCFC-22 that are used as holding charges or as leak test gases may be released, because in these cases, the ozone-depleting compound is not used as a refrigerant. However, a technician may not avoid recovering refrigerant by adding nitrogen to a charged system; before nitrogen is added, the system must be evacuated to the appropriate level. Otherwise, the CFC or HCFC vented along with the nitrogen will be considered a refrigerant. Similarly, pure CFCs or HCFCs released from appliances will be presumed to be refrigerants, and their release will be considered a violation of the prohibition on venting.

4. Small releases of refrigerant that result from purging hoses or from connecting or disconnecting hoses to charge or service appliances will not be considered violations of the prohibition on venting. However, recovery and recycling equipment manufactured after November 15, 1993, shall be equipped with low-loss fittings.

C. Follow proper evacuation procedures when opening refrigeration equipment.

D. In order to ensure recovery of the correct percentage of refrigerant, technicians shall use the recovery equipment according to manufacturer’s instructions. Technicians may also satisfy recovery requirements by evacuating the small appliance to four inches of mercury vacuum.

3.2 MOTORIZED VEHICLE AIR CONDITIONERS

A. Obtain and maintain Refrigerant Certification as defined by USEPA 40 CFR Subpart 82.

B. Use self-sealing or manual valves within 12-inches of the recovery or test hoses to reduce refrigerant loss.

C. Recover refrigerant from mobile unit; ensure it remains at 0 psi or in a vacuum for 5 minutes.

D. Record the amount of recovered refrigerant on work order.

E. Repair and vacuum the unit.

F. Verify unit stays in deep vacuum for 5 minutes and then recharge unit.

G. Record the amount and type of refrigerant required to fill the unit on the work order.

H. Sign and date the work order.
3.3 LEAK REPAIR

A. Repair leaks within 30 days on equipment with charges of greater than 50 pounds when those combined leaks would result in the following loss rates:

1. Commercial and Industrial Process Refrigeration Units: Thirty-five percent or more of the charge over a year.

2. All Other Units (Including Comfort Cooling): Fifteen percent or more of the charge over a year.

B. Report immediately any equipment which triggers the annual leak rate limits to EAD at 972-973-5560.

3.4 DISPOSAL

A. Follow proper disposal procedures for dismantling refrigerant-containing equipment. Recover refrigerant in accordance with USEPA’s requirements for servicing.

B. Report immediately any accidental discharge of a refrigerant greater than 1000-pounds or more to EAD at 972-973-5560. EAD will notify the USEPA and Texas Commission on Environmental Quality of the occurrence.

- END OF SECTION -
PART 1 - GENERAL

1.1 SUMMARY

A. This Section provides guidelines for adherence to state, federal, DFW Airport, and local environmental regulations pertaining to storm water quality of the post construction facility.

B. All new or renovated facilities must be designed so as to eliminate contamination of storm water, or at a minimum, reduce contamination of storm water runoff below the federal discharge benchmarks defined by federal law (65 FR 64767) and any subsequent applicable federal regulation, as well as those in the TPDES storm water permit and any subsequent applicable state regulation. The Operator of the facility will be responsible for meeting the discharge limitations over the lifetime of the facility.

C. All new or renovated facilities must be designed in a manner to ensure that non-allowable, non-storm water discharges do not discharge or connect with the storm water collection system.

1.2 RELATED REQUIREMENTS

A. DFW International Airport Board’s (Board) Design Criteria Manual

1.3 REFERENCES

A. 65 FR 64767
B. 40 CFR 112
C. Texas Water Code, Chapter 26 Water Quality Control
D. 30 TAC 319, Subchapter A : Monitoring and Reporting System, Parts11 – 12

1.4 DEFINITIONS

<table>
<thead>
<tr>
<th>Term/Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM</td>
<td>DFW Airport Construction Manager</td>
</tr>
<tr>
<td>EAD</td>
<td>DFW Airport Environmental Affairs Department</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>OAR</td>
<td>Owner’s Authorized Representative</td>
</tr>
<tr>
<td>Operator</td>
<td>The company, agency, or entity that will have operational control of daily activities at the facility following the issuance of a Certificate of Occupancy/Use</td>
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</tbody>
</table>
### 1.5 SUBMITTALS

#### A. Preliminary Actions: The Operator shall submit to the CM/PM the following documents along with any application for a construction permit to construct or renovate a facility from which there will be storm water discharge.

1. Documents describing the type and nature of all activities to occur at the facility that could potentially impact storm water quality. This should include a map that displays sources of storm water pollutants (e.g., material/equipment storage areas, vehicle parking areas, or loading areas). This map should also identify storm water drainage patterns and the location(s) for storm sampling.
   
   - **i.** Documents detailing the structural controls to be constructed at the facility to impel storm water discharges to meet EPA benchmark standards, by reducing the discharge of both point and non-point source pollutants (e.g., oil & grease, metals, sediment, and trash).
   
   - **ii.** The use of storm water filtration devices, oil/water separators, infiltration swales, vegetated channels, and rain gardens are also encouraged to reduce storm water runoff and improve the quality of runoff. (This is contractual document holding the contractor to accomplish something or not get paid. “Encourage” to build these comes at design phase not at here's the plans, hire the contractor, now build it phase. Need to rethink the use of paragraph b & c as to the intended viewer of contract spec documents.)
   
   - **iii.** The use of parking pavers is encouraged in porous pavement/asphalt to reduce storm water runoff volumes in vehicle parking areas and waiting areas.

2. A certification, sealed by a Texas licensed professional engineer, stating that “Based upon the above representations made by the Operator, the proposed structural controls will impel storm water discharged from the facility to meet EPA benchmark standards.”

3. A certification, signed by the owner/operator of the facility, stating all structural controls supporting the facility will be maintained in manner to ensure effective operation and minimize the discharge of pollutants; and operators will develop and implement a Pollution...
Prevention Plan (P3) upon occupancy of the facility to identify all activities with the potential to impact the quality of storm water discharges (or general environmental compliance) and the best management practices to be implemented.

4. Documents, prepared by the Operator, detailing the design criteria utilized to ensure effluent from fire suppression systems can either be released into sanitary sewer systems or easily collected and not discharged into the storm water collection system during required maintenance and flushing activities. In addition, Fire Suppression Systems are to have effluent testing ports and be plumbed in such a manner as to allow the capture of the effluent if deemed necessary.

5. Spill Prevention Control and Countermeasures Plan (SPCC): The design of any new or renovated facility must include a submittal by the Operator with a formal determination as to whether SPCC is required; and if so, the design must incorporate the measures specified in the Facility SPCC. (new)

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 GENERAL

A. The submittal of the requested documents, according to Paragraph 1.5, is required prior to the issuance of a Construction or Sign Permit by DFW Building Standards.

3.2 POST-CONSTRUCTION PROCEDURES

A. Following construction of the facility, the DFW Building Official will issue a Temporary Certificate of Occupancy/Use when the facility meets the remaining requirements of DFW Building Standards.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Section includes:
   1. Project identification signs.
   2. Temporary informational signs.

1.2 SYSTEM DESCRIPTION
A. Performance requirements:
   1. Design sign and structure to withstand 70-miles/hr. wind velocities.
   2. Provide finishes/painting adequate to withstand weathering, fading and chipping for duration of Project.

1.3 SUBMITTALS
A. Submit shop drawings of proposed project signs to Owner’s Authorized Representative within 15 days of written Notice to Proceed showing content, layout, lettering, color, foundation details, structural materials, sizes and grades of members.

1.4 QUALITY ASSURANCE
A. Provide signs painted by a professional sign painter with a minimum of three years experience in painting specified types of signs.

1.5 MAINTENANCE
A. Maintain signs and supports in a neat, clean condition. Repair damages to structure framing or finish of sign.

PART 2 – PRODUCTS

2.1 SIGN MATERIALS
A. Provide signs with new wood or metal framing in sound condition and structurally adequate to withstand specified loads.

B. Provide 3/4 inch thick exterior grade A/D plywood with face veneers with medium density overlay suitable for specified finishes. Use standard large sizes sheets to minimize joints.

C. Provide galvanized hardware.

D. Paint:
   1. Paint sign background with two coats of exterior grade paint. Paint may be one coat of primer and one finish coat or two coats of self priming paint.
   2. Paint lettering on sign using one coat of exterior grade paint.
   3. Use colors selected by the Owner’s Authorized Representative.

2.2 SIGNAGE
A. Informational Signs:
1. Size of signs and lettering to be as required by regulatory agencies or as appropriate to usage.
2. Colors to be as required by applicable regulatory agencies or otherwise of uniform colors throughout job as selected by Owner’s Authorized Representative.
3. Erect informational signs at locations necessary to provide required information.
4. Graphics in styles and sizes as selected by Owner’s Authorized Representative.
5. Install at height for optimum visibility, on ground-mounted poles or as attached to temporary structural surfaces.

B. Project Identification Sign:
   1. Painted sign of size, lettering and construction shown on Drawings.
   2. Location and number on site as indicated by Owner’s Authorized Representative.
   3. Paint graphics in styles and sizes as selected by Owner’s Authorized Representative.

PART 3 – EXECUTION

3.1 PREPARATION
   A. Provide an adequate number of information signs at locations as required to direct traffic and control access to the Project site, or provide other information to control the Work.
   B. Construct and erect project identification signs at locations shown on the Drawings or as approved by the Owner’s Authorized Representative.

3.2 INSTALLATION
   A. Install signs within 30 days of written Notice to Proceed.
   B. Relocate informational signs as required by progress of work.

3.3 RELOCATION/REMOVAL
   A. Remove signs, framing, supports and foundations at completion of Project.
   B. Fill all holes left by removal of foundations by filling with sand or other properly compacted material as approved by the Owner’s Authorized Representative.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Section includes administrative and procedural requirements governing the selection of products for use in the project.

1.2 RELATED SECTIONS
A. None

1.3 QUALITY ASSURANCE
A. Within a period of 15 days after award of Contract, submit to Owner’s Authorized Representative five (5) copies of complete list of major Products, which are proposed for installation.
   1. Tabulate products by Specification Section number, title, and Article number.
   2. For products specified only by reference standards, list for each such product:
      a. Name and address of manufacturer.
      b. Trade name.
      c. Model or catalogue designation.
      d. Manufacturer's data including reference standards and performance test data.

B. Owner’s Authorized Representative will reply promptly in writing stating whether there is a reasonable objection to listed items. Failure to object to a listed item shall not constitute waiver of requirements of Contract Documents.

C. Materials specified are to define a standard of quality or performance and to establish basis for evaluation of proposals and substitutions.

D. Where materials or equipment are specified by trade or brand name, it is not intended to omit equivalent products of another manufacturer, except where specifically noted.

E. Comply with individual Specification Sections and referenced standards as minimum requirements.

F. Compatibility: When given the option of selecting between two or more products, product selected shall be compatible with products previously selected, even if previously selected products were also options.

G. Components required to be supplied in quantity within Specification Section shall be of same manufacturer and shall be interchangeable.
H. Nameplates and Labels: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trade marks on surfaces of products which will be exposed to view in occupied spaces (including elevators) or on the exterior:

1. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface approved by Architect and governing authorities.

2. Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface, which is inconspicuous in occupied spaces.

I. Cord and Plug: Provide minimum 6-foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

1.4 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1. Submit within thirty (30) days after date of Notice to Proceed.

2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer’s standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

E. Additional requirements for submittals are described in Section 01 33 23, Shop Drawings, Product Data and Samples.

1.5 MANUFACTURER’S INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in installation, including two copies each to Architect/Engineer and Owner’s Authorized Representative.

1. Maintain one set of complete instructions at job site during installation and until completion.
B. Handle, install, connect, clean, condition and adjust products in accordance with such instructions and conformity with specified requirements.

1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Owner's Authorized Representative for further instructions.

2. Do not proceed with work without clear instructions.

C. Perform work in accordance with manufacturer's instructions. Do not omit preparatory steps or installation procedures unless specifically modified or exempted by Contract documents.

1.6 TRANSPORTATION AND HANDLING

A. When products are specified by only one manufacturer's model or performance criteria with reference to other acceptable manufacturers, other manufacturer's products must meet minimum performance criteria specified or meet quality of model specified. Products submitted by other acceptable manufacturers must conform to dimensional requirements of listed products and systems, or Contractor shall provide modifications to construction.

B. For products specified by naming one product or indicating option of selecting equivalent products by stating "or equal", "or other approved manufacturer", or other similar language, submit request as required for substitutions for any product of any manufacturer not specifically named.

C. For products specified by naming only one product followed by statement "no substitutions", or other similar language, there is no option.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work conditions at site.

1. Deliver products in undamaged condition, in manufacturer's original containers or packaging with identifying labels intact and legible.

2. Immediately on delivery, inspect shipments to ensure compliance with requirements of Contract documents and approved submittals, and that products are properly protected and undamaged.

F. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.
PART 2 – PRODUCTS

2.1 MANUFACTURE DATE/AGE OF EQUIPMENT

A. All materials incorporating rubber or plastic components shall be manufactured not more than 18 months prior to their installation date.

B. All materials and equipment shall have a “date of manufacture” attached or affixed to the units.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
   A. Section Includes:
      1. Requests for substitutions of products.

1.2 RELATED REQUIREMENTS
   A. Section 01 61 16 – Materials and Equipment

1.3 DEFINITIONS
   A. Substitutions: Request for changes in products, materials, equipment and methods of construction required by Contract Documents after award of the Contract are considered request for "substitutions". The following are not considered substitutions:
      1. Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents, and are not subject to requirements specified in this Section.
      2. Specified options of products and construction methods included in the Contract Documents.
      3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 CONTRACTOR'S REPRESENTATION
   A. Request for substitution is a representation that Contractor:
      1. as investigated proposed product and has determined that it is equal to or superior in all respects to that specified.
      2. Will provide same warranties or bonds for substitution as for product specified.
      3. Will coordinate installation of accepted substitution into Work, and will make such changes as may be required for Work to be complete in all respects.
      4. Waives claims for additional costs caused by substitution, which may subsequently become apparent.
      5. Has provide complete Cost data which includes related costs under this Contract, but not costs under separate contracts.

1.5 OWNER'S DUTIES
   A. Owner will determine acceptability of proposed substitutions.
   B. Owner will review Contractor's requests for substitutions with reasonable promptness.
   C. Owner will notify Contractor, in writing, of decision to accept or reject requested substitution.
   D. Owner or design professionals review, acceptance or failure to take exceptions to substitutions or other review documents, shall not relieve Contractor of responsibility for item meeting performance or other requirements of Contract Documents.
2.1 SUBSTITUTIONS

A. Contractor’s Options

1. For products specified only by reference or performance standards, select any approved product and manufacturer meeting that standard.

2. For products specified by naming several products or manufacturers, select any approved product and named manufacturer which complies with Specifications.

3. For products specified by naming one or more products and manufacturers, there is no option, unless a substitution is approved.

B. Architect will consider requests from Contractor for substitution of products in place of those specified only on the attached form.

C. Within period of 30 days after award of the respective subcontract, Owner’s Authorized Representative will consider formal requests from Contractor for substitution of Products in place of those specified. After end of that period, requests will be considered only if product is no longer manufactured.

D. Substitutions will only be considered when the Contractor can demonstrate to the satisfaction of the Owner’s Authorized Representative that there is reasonable cause for requesting the substitution.

E. Submit separate request for each substitution, supported with complete data, drawings and appropriate samples substantiating compliance of proposed substitution with Contract Documents, including:

   1. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
      a. Product identification, including manufacturer's name and address.
      b. Manufacturer's Literature: Identify with product description, reference standards, and performance and test data.
      c. Drawings, samples, as applicable.
      d. Name and address of similar projects on which product has been used, and date of each installation.

   2. Itemized comparison of proposed substitution including its quantities with product specified and list significant variations.

   3. Data relating to changes in construction schedule. Indicate the effect of proposed substitution on overall Contract Time.

   4. Adjustment in Contract Price or Guaranteed Maximum Price for each substitution.

   5. Changes required in other elements of Work and to construction performed by Owner or separate Contractors, if any, to accommodate proposed substitution.

   6. Availability of maintenance service and source of replacement parts and materials, as applicable.
7. Provide test data from independent testing laboratory to show compliance with performance characteristics specified.

8. Designation of required license fees or royalties.

F. Properties including, but not limited to following, will be considered as applicable:

1. Physical dimension requirements to satisfy space limitations.
2. Static and dynamic weight limitations, structural properties.
3. Audible noise levels.
5. Interchangeability of parts or components.
6. Accessibility for maintenance, possible removal or replacement.
7. Colors, textures and compatibility with other materials, products, assemblies and components.
8. Equipment capacities and performance characteristics.

G. Substitutions will not be considered for acceptance when:

1. Indicated or implied on shop drawings or product data submittals without formal request from Contractor for a modification to the Contract Documents.
2. Requested directly by subcontractor or supplier.
3. Acceptance will require substantial revision of Contract Documents or Contract time.
4. Additional cost to Owner is involved.

H. Do not order or install substitute products without written acceptance of Owner’s Authorized Representative.

I. Assume full responsibility for justifying each substitution. Owner’s decision of acceptance or rejection of proposed substitution will be final.

J. If proposed substitution is not accepted, provide specified product or materials.

K. Pay for any expenses incurred by Owner or his design professionals for changes to Contract Documents required by accepted Contractor requested substitutions.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1  GENERAL

1.1  SUMMARY

A.  Section Includes:
   1.  The storage and protection of construction materials.
   2.  The maintenance of the storage.

PART 2  PRODUCTS

Not Used.

PART 3  EXECUTION

3.1  STORAGE, GENERAL

A.  Store products, immediately upon delivery at a location approved by the Owner's Authorized Representative, in accordance with manufacturer's instructions, with seals and labels intact. Protect until installed. Do not store material in the ramp/operational terminal areas except in areas approved by the Owner's Authorized Representative.

B.  Deliver products and materials to the Site in time to prevent delays in construction.

C.  Deliver products that are too large to fit through openings to the Site in advance of the time enclosing walls and roofs are erected. Set in place, raised above floor on cribs.

D.  Arrange storage in a manner to provide access for maintenance of stored items and for inspection.

E.  Inspect stored products frequently to ensure that the products are maintained in acceptable conditions.

F.  Replace any damaged products. Time extension will not be given for re-ordering of the damaged products.

G.  Provide access to the Owner's Authorized Representative for progress payment verification and approval purposes.

H.  Arrange for ordering and storing approved long lead items.

I.  Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

3.2  ENCLOSED STORAGE

A.  Store products, subject to damage by the elements, in substantial weather-tight enclosures.

B.  Maintain temperature and humidity within ranges stated in manufacturer's instructions.

C.  Provide humidity control and ventilation for products as required by manufacturer's instructions.

D.  Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
### 3.3 EXTERIOR STORAGE

A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from rusting, disfigurement, soiling, staining and damage.

B. Cover products subject to deterioration from exposure to the elements with impervious sheet materials. Provide ventilation to avoid condensation.

C. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.

D. Provide positive surface drainage to prevent erosion and ponding of water.

E. Prevent mixing of refuse or chemically injurious materials or liquids.

F. Do not stockpile materials higher than 30 feet unless shown otherwise in plans.

### 3.4 MAINTENANCE OF STORAGE

A. Inspect stored products on a scheduled basis.

B. Verify that storage facilities comply with manufacturer's product storage requirements.

C. Verify that manufacturer required environmental conditions are maintained throughout the storage life.

D. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents.

### 3.5 MAINTENANCE OF EQUIPMENT STORAGE

Protect and maintain mechanical and electrical equipment in storage.

1. Provide Supplier's service instructions on the exterior of the package.

2. Service equipment on a regular basis as recommended by the Supplier. Maintain a log of maintenance services. Submit the log as Record Data at the completion of the Project.

3. Provide power to and energize space heaters for all equipment for which these devices are provided.

4. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.

- END OF SECTION -
PART 1  GENERAL
1.1  SUMMARY
A.  Section Includes:
   1. Mobilization of equipment, personnel, material, supplies, tools, and all
      other resources necessary prior to beginning the work.
   2. Establishment of temporary facilities and all other Facilities necessary
      prior to beginning the work.
   3. When staging yard and or trailer lot is required by contract, contractor
      shall abide by the Land Use Application provided in Section 01 71 14,
      Land Use Requirements.
B.  Final Cleanup
   1. Complete clean up and submit all required final documentation prior to
      move-out.
C.  Measurement Procedures
   1. Measurement of the item "Mobilization" as specified herein will be by the
      "Lump Sum," as the work progresses as specified in the Contract.
D.  PAYMENT PROCEDURES
   1. When 1% of the adjusted contract amount is earned, 50% of the
      mobilization lump sum bid or 5% of the total contract amount, whichever
      is less, will be paid. Previous payments under this item will be deducted
      from this amount.
   2. When 5% of the adjusted contract amount is earned, 75% of the
      mobilization lump sum bid, or 10% of the total contract amount, whichever
      is less, will be paid. Previous payments under this item will be deducted
      from this amount.
   3. When 10% of the adjusted contract amount is earned, 90% of the
      mobilization lump sum bid or 15% of the total contract amount, whichever
      is less, will be paid. Previous payments under this item will be deducted
      from this amount.
   4. Upon completion of all work under this contract, payment for remainder of
      the lump sum price for mobilization will be made.

PART 2  PRODUCTS
Not Used.

PART 3  EXECUTION
3.1  PROJECT INITIATION
A.  Mobilization fee shall not exceed 8% of total bid.
B.  Complete all required coordination and forms, submit permits and insurance
    certificates prior to beginning any construction activity at the Airport.
C. The Contractor may complete all required temporary facilities as outlined in Division 01 Sections prior to other construction activities and complete the move-in process after Land Use Application has been completed and approved.

D. Establish project submittals procedures, construction schedule and payment procedures.
PART 1 – GENERAL

1.1 SUMMARY

A. Provide a temporary staging yard for contractors performing work for DFW Airport Board.
B. Provide an Erosion Control Plan (ECP) or a Storm Water Pollution Prevention Plan (SWPPP) for the temporary staging yard if the yard is not already included in a project ECP or SWPPP.
C. All staging yards will be assigned by the DFW Land Use Committee.
D. Comply with the 2009 International Building Code (IBC), 2009 International Fire Code (IFC) and Local Amendments.
E. DFW assigned Owner's Authorized Representative shall confirm project requires a staging yard or trailer lot and is stated in the project contract.
F. Owner's Authorized Representative shall be responsible for enforcement of any compliance issues that may occur on the site of staging yard and trailer lot.

1.2 RELATED REQUIREMENTS

A. Section 01 50 00, Temporary Facilities and Controls
B. Section 01 52 00, Contractor’s Construction Area
C. Section 01 57 13, Temporary Erosion and Sediment Control
D. Section 01 57 19.13, Spill Response Plan
E. Section 01 74 19, Construction Waste

1.3 DEFINITIONS

A. OAR: Owner's Authorized Representative
B. EAD: Environmental Affairs Division
C. Final Stabilization: A construction site status where all soil disturbing activities at the site have been completed and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as crushed stone, riprap, gabions, or geotextiles) have been employed.
D. Temporary Structure: A portable building, conex box, or shade structure that will be onsite less than ninety-one (91) days from the date of the letter of authorization.
E. LUC : Land Use Committee shall include all relevant DFW Airport Departments

1.4 SUBMITTALS
A. The Contractor shall submit a Land Use Application to the LUC within 7 calendar days of the Notice to Proceed. The Land Use, Staging Yard, and Trailer Application Procedures are provided in Appendix A to this Section 01 71 14.

B. Site Plan: If the staging area(s) are not designated in the Contract Documents the Contractor shall coordinate with EAD, through the OAR, and submit to the OAR a proposed site plan. The site plan shall be reviewed by the LUC. There is a mandatory 10 calendar day review process by the LUC. The site plan shall show at a minimum the following:

1. Proposed location(s) and dimensions of any area to be fenced and used by Contractor for staging.
2. Location and dimensions of each temporary and permanent structure(s).
3. Avenues of ingress and egress.
4. Details of the fence and gate installation. Comply with IFC 2009 Chapter 506 which requires a Knox Lock at all gates to grant access to Emergency Personnel.
5. Methods or devices to be used at exits to prevent the tracking of mud.
6. Location of material storage areas.
7. Location of equipment storage and vehicle parking.
8. Location of areas for fuel storage and fueling operations
9. Locations for vehicle or equipment maintenance, including areas for washing of equipment.
10. Location of storm drains and drainage channels that could receive runoff from the staging area.
11. Subcontractors or others that will share the yard.
12. Location and methods of containment for any flammables, chemicals or hazmat materials that will be stored on site. Include MSDS forms for all of these materials.

C. Obtain written approval of OAR for subcontractors or others that will share the yard.

D. Provide a fire alarm system monitored by an outside agency for structures over 1,000 square feet. Obtain a determination from the Fire Marshal and Code Officials if a fire alarm or other life safety measures must be taken to insure life safety for structures less than 1,000 square feet.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 STAGING YARD
A. Provide signage at the entrance to the staging yard which include:
   - The name of the Prime Contractor and all Subcontractors.
     a) Example of Staging Yard Sign

B. Implement erosion control measures in accordance with Section 01 57 13, Temporary Erosion and Sediment Control.

C. Arrange for a Life Safety Inspection by Code Compliance after setup, after tear down and at least bi-annually (per Fire Marshal’s determination) while the staging yard is in operation.

D. Enclose area with a security fence and screening where required.

E. Establish an all-weather access road to ensure emergency equipment access to structures and material and equipment storage areas in accordance with Chapter 5 of the 2009 IFC. Obtain written approval of roads from Code Officials and the Fire Marshal. Install construction exits in areas of ingress/egress, equipment service areas, and in parking areas to prevent rutting and the tracking of mud. Comply with Section 01 57 13, Temporary Erosion and Sediment Control.

F. Obtain written approval of separate and distinct storage areas, including employee parking, from the OAR and EAD if areas are not designated in the Contract Documents.
G. Design and construct temporary and permanent structures in accordance with the 2009 International Building Code (IBC), 2009 International Fire Code (IFC), and Local Amendments.

H. Obtain General Work Permits per 2009 IFC Chapter 105 from the Fire Marshal.

I. Stockpile all materials inside the temporary staging area.

J. Provide each entrance to the primary staging area or all separate or distinct storage areas with an appropriate Knox Box in a location approved in writing by the Fire Marshal in accordance with IFC 2009 Chapter 506. Provide a key to each locked structure inside the temporary staging yard in the Knox Box. Order boxes through the Fire Marshal’s office.
   - https://www.knoxbox.com/
   - Click Buy
   - Select Department - Dallas Ft Worth Intl Airport - Dallas, Texas 75261-0687
   - Purchase Item

K. Park all mobile construction equipment within the temporary staging yard at the end of each day.

L. Store salvageable materials resulting from demolition activities within the temporary staging yard or at a supplemental storage area approved by EAD in accordance with the ECP/SWPPP.

M. Stack stored materials and products off the ground within the staging area. Maintain stored materials and products in a neat and orderly method that allows ready access to materials and products.

N. Follow IFC 2009 guidelines when using or storing Hazardous Flammable or Combustible Materials. Specifically reference Chapter 34 which requires the NFPA 704 Placard and proper labeling of all products. Store drums and containers off the ground and on pallets. Properly seal containers and label. Provide secondary containment as appropriate.

3.2 MAINTENANCE OF STAGING AREA

A. Maintain fence and screening (if required) in good repair and proper alignment.

B. Comply with IFC 2009 Chapter 3 which includes the following general precautions against fire: maintain vegetation, establish designated Smoking Areas, post No Smoking signs, provide orderly storage and remove construction debris, waste, and packing materials from the staging area before it becomes a nuisance/fire hazard.

C. Check staging area daily for spills, standing water and other sources of contamination. Immediately implement reporting and removal procedures when found. Comply with Section 01 57 19.13, Spill Response Plan.
D. Properly clean dirt or mud that becomes tracked out of staging yard onto paved or surfaced roadways within the same work day and eliminate the source.

E. Maintain all weather roads to ensure emergency equipment access to structures, and equipment and material storage areas. Repair potholes and ruts as they occur.

3.3 RESTORATION OF STAGING AREA

A. Return the site to acceptable condition as determined by the LUC at Substantial Completion.

1. Remove all structures, materials and equipment from within the staging area.
2. Remove all fencing and fence posts, as directed by the LUC.
3. Fill all holes and depressions.
4. Remove all gravel, and apply top soil and seeding as needed to restore the site to a stabilized condition, unless otherwise directed by the LUC.

3.4 CLOSURE

A. A Final Stabilization inspection from the LUC and EAD is required before being approved for Construction Permit Closure.

B. A Fire and Life Safety Final Inspection will be conducted by the Code Official and Fire Marshal to determine if the site meets all relevant codes.

C. The Owner may, at their discretion, not require the temporary staging yard to be demobilized and restored if the staging yard is to be utilized to support other in-progress Airport projects.

D. Any New Contractor will be required to fulfill all of the guidelines herein to insure the temporary staging area is maintained and updated if the Prime Contractor for the temporary staging yard changes.

E. The Contractor may transfer the construction staging yard responsibilities into the most current project storm water plan when Contractor is working on more than one prime contract on the Airport which necessitates a construction staging yard

F. The LUC will make all interpretations of codes and guidelines, and will make the final determination. The Construction Permit Closure shall not be granted until all LUC requirements have been satisfied.
All Land Use Applications require a DFW Airport permit number

- Permits can be acquired at dfwsubmittals@dfwairport.com
- Permit questions contact: Helen Estrada, Permit Coordinator hestrada@dfwairport.com 972-973-1781

DFW Airport In-House Board Projects:

For all DFW Airport projects, the below procedures are required for all Land Use Application submittals.

- Contact Richard Gurley, Land Use Manager rrgurley@dfwairport.com for application.
- DFW Project Manager to verify if 7460-1 FAA Airspace Study is required for this staging yard operation.
- When a 7460-1 is required a FAA review is 45 to 60 day for determination letter is sent.
- Contract must state that DFW Airport will provide a staging yard area and or a trailer lot area.
- DFW Project Manager must verify and signs your application.
- Complete application for either staging yard or trailer lot.
- Provide exhibit of location wanted for staging yard. (PDF Google Earth)
- Provide exhibit of location of your project. (PDF Google Earth)
- Applications will be reviewed for approval by Land Use Committee.
- AOA gate access and preferred vehicle route to and from staging yard will be stated in an authorization letter.
- Review of application may take up to 10 days.
- When approved, an authorization letter will be sent to you.
- Land Use Application are good for up to 12 months at a time only
Staging Yard Application Procedure

Document Title: Contractor Land Use Application for Staging Yards
Version Date: November 2017
Permit No:

A. To be completed by Contractor:

1. DFW Airport Contract Number and Construction Application Number.
   
   Contract# Click here to enter text. CA# Click here to enter text.
   (9500xxx) (Also known as permit number)

2. Contractor's company name and contact information (include subcontractors if applicable).
   
   Provide all company names, mailing addresses, phone numbers, and e-mail addresses.
   Click here to enter text.

3. Location and description of staging yard.
   
   Include address of project site, summary of scope of work and add a pdf from Google Earth of staging yard location.
   Click here to enter text.

4. List all materials to be stored in the staging yard area.
   
   Examples: rigid metal conduit, rebar, lumber, etc.
   Only materials and products related to the specific contract may be stored inside the area.
   Click here to enter text.

5. Vehicles and type of equipment to be stored at the staging yard.
   
   Examples: light trucks, back-hoes, air compressors, concrete hoppers, etc.
   Click here to enter text.

6. Chemicals/fuel to be stored and quantities.
   
   Examples: curing compounds, paint, paint thinner, chemical toilets, etc.
   Note whether chemicals are to be stored indoors or outdoors.
   Click here to enter text.

7. List of any work or maintenance to be performed in the staging yard.
   
   Examples: equipment servicing, vehicular maintenance, fueling, etc.
   Note that only maintenance identified in this application may be performed in the yard.
8. Dimensions and location of area requested.
   *Include address of requested location, approximate calculated area, and distance from project location.*
   *(Field may be completed for you in advance.)*
   *Ex: East Airfield Drive - LOT 43; Image attached*  
   Click here to enter text.

9. Land Use Application Supplemental for Staging Yards.
   *Representative has read and understands supplement and agrees to abide by the document.*
   *(State that you understand and agree.)*  
   Click here to enter text.

10. Contract start and expiration dates. (Maximum of up to 12 months period only)
    *Start Date: Click here to enter a date.  Expiration Date: Click here to enter a date.*  
    *Notice To Proceed Date  Final Completion Date*  
    *Contractor Representative:*
    *Signature:  Date:*  
    *Representative should be an officer in the company with direct oversight of the work.*

B. To be completed by your DFW Owner's Authorized Representative:

1. Occupancy term.
   *Start Date: Click here to enter a date.  End Date: Click here to enter a date.*
   *First date land use is required  Last date land use is required*

2. Contract requirements regarding area set up.
   *Cite the specified requirements included in the contract regarding land use.*
   *Ex: Perimeter fencing, site stabilization, erosion control measures, construction entrance, wheel wash stations, etc.*
   Click here to enter text.

3. Contract requirements regarding area condition for Contract Close-Out
   *Cite the specified requirements in the contract for the final condition of the area at Final Completion of the work.*
   *Ex: Removal of perimeter fences, removal of structural erosion control measures,*
removal of construction entrance, establishment of perennial grass coverage, etc.

Condition of Area:
Click here to enter text.

DFW Owner's Authorized Representative:

Signature: _______________ Date: _______________

Print Name: ________________________________

Directions for submission of application:

A. Complete the following applications:
   1) General Application
      Contact Mr. Richard Gurley with questions; 972-973-1771;
      rgurley@dfwairport.com.
   2) Erosion Control Plan
      Contact Mrs. Deena Henry with questions; 972.973.5569;
      deehenry@dfwairport.com.
   3) Spill Response Plan
      Contact Mrs. Deena Henry with questions; 972.973.5569;
      deehenry@dfwairport.com.

B. Submit all 3 applications to Mr. Richard Gurley rgurley@dfwairport.com.

C. Allow 2-3 weeks for Letter of Authorization to be issued.
Trailer Application Procedure

Document Title: Contractor Land Use Application for Trailer Lot
Version Date: November 2017
Permit No:

A. To be completed by Contractor:

1. DFW Airport Contract Number and Construction Application Number.
   
   Contract # Click here to enter text.   CA# Click here to enter text.
   
   (9500xxx)   (Also known as permit number)

2. Contractor's company name and contact information (include subcontractors if applicable).
   
   Provide all company names, mailing addresses, phone numbers, and e-mail addresses.
   
   Click here to enter text.

3. Location and description of trailer lot.
   
   Include address of project site, summary of scope of work and add a pdf from Google Earth of trailer location.
   
   Click here to enter text.

4. List all materials to be stored in the trailer lot area.
   
   Examples: rigid metal conduit, rebar, lumber, etc.
   
   Only materials and products related to the specific contract may be stored inside the area.
   
   Click here to enter text.

5. Vehicles and type of equipment to be stored at the trailer lot.
   
   Examples: light trucks, back-hoes, air compressors, concrete hoppers, etc.
   
   Click here to enter text.

6. Chemicals/fuel to be stored and quantities.
   
   Examples: curing compounds, paint, paint thinner, chemical toilets, etc.
   
   Note whether chemicals are to be stored indoors or outdoors.
   
   Click here to enter text.

7. List of any work or maintenance to be performed in the trailer lot.
   
   Examples: equipment servicing, vehicular maintenance, fueling, etc.
   
   Note that only maintenance identified in this application may be performed in the yard.
   
   Click here to enter text.
8. Dimensions and location of area requested.

Include address of requested location, approximate calculated area, and distance from project location.

*Field may be completed for you in advance.*

*Ex: East Airfield Drive - LOT 43;*

*Image attached*

Click here to enter text.

9. Land Use Application Supplemental and Trailer Requirements.

Representative has read and understands supplement and agrees to abide by the document.

*(State that you understand and agree.)*

Click here to enter text.

10. Contract start and expiration dates. (Maximum of up to 12 months period only)

Start Date: Click here to enter a date. Expiration Date: Click here to enter a date.

Notice To Proceed Date

Completion Date

Final

Contractor Representative:

Signature: Date:

Representative should be an officer in the company with direct oversight of the work.

Print Name:

B. To be completed by your DFW Owner’s Authorized Representative:

1. Occupancy term.

Start Date: Click here to enter a date. End Date: Click here to enter a date.

*First date land use is required*  *Last date land use is required*

2. Contract requirements regarding area set up.

*Cite the specified requirements included in the contract regarding land use.*

*Ex: Perimeter fencing, site stabilization, erosion control measures, construction entrance, wheel wash stations, etc.*

Click here to enter text.

3. Contract requirements regarding area condition for Contract Close-Out

*Cite the specified requirements in the contract for the final condition of the area at Final Completion of the work.*

*Ex: Removal of perimeter fences, removal of structural erosion control measures, removal of construction entrance, establishment of perennial grass coverage, etc.*
Condition of Area:
Click here to enter text.

DFW Owner's Authorized Representative:

Signature: __________________________ Date: ____________

Print Name: __________________________

Directions for submission of application:

A. Complete the following applications:
   1) General Application
      Contact Mr. Richard Gurley with questions; 972-973-1771; rgurley@dfwairport.com.
   2) Erosion Control Plan
      Contact Mrs. Deena Henry with questions; 972.973.5569; deehenry@dfwairport.com.
   3) Spill Response Plan
      Contact Mrs. Deena Henry with questions; 972.973.5569; deehenry@dfwairport.com.

B. Submit all 3 applications to Mr. Richard Gurley rgurley@dfwairport.com.

C. Allow 2-3 weeks for Letter of Authorization to be issued.
PART 1 – GENERAL

1.1 SUMMARY
A. Direct-buried fuel, gas and water pipes, and electric, fiber-optic, navigational aid, security and telephone cables are located both inside and outside the Air Operations Area (AOA). These critical utilities must not be damaged during trenching and earthmoving operations. Any cut NAVAID cable could have disastrous consequences. This Section governs the process for field location of all underground utilities in areas to be improved.

1.2 CONSTRUCTION METHODS
A. Protect utilities, utility appurtenances and cables encountered during construction. Do not use mechanical equipment of any kind to verify utility locations. Immediately repair damaged utilities.

B. Contact all companies maintaining utilities at the Airport through the Owner’s Authorized Representative two weeks prior to any excavation to obtain all available as-built information or written clearance from each utility to dig in the construction area. Obtain approval from DFW to excavate in the construction area. Provide the Owner’s Authorized Representative with written documentation of how utility locations were verified using the attached DFW Airport Utility Location Sign-Off Sheet.

C. Maintain utilities for facilities and/or systems, which are or may be affected by work associated with the project. Prepare and maintain a contingency plan, approved by the Owner’s Authorized Representative, to restore to service all utilities and/or control/signal cables which may be placed out of service or damaged during performance of the work. Provide immediate notification to DFW Airfield Operations and DFW Airport Maintenance through the Owner’s Authorized Representative on all damage to underground utilities, and follow up with written reports using the attached Underground Utility Damage Report. Locate all underground utilities within project areas to be excavated, trenched or drilled. Hand dig to locate utilities and once located, mark with highly visible and durable markers along all such utility routes at intervals of not greater than 25 feet. Use markers that identify the utility located and the utility owner. Obtain Owner’s Authorized Representative approval of proposed marking devices. Maintain these markers throughout the Project. Providing a field survey of the marker locations. Incorporate this survey information in Record documents. Replacing any disturbed markers.

D. Additional Contractor Responsibilities:
1. Develop an overall utility and cable map showing the location and depth of all underground utilities in the area of construction. Add the location and depth of all subsurface utilities uncovered in the construction area exposed during construction. Include the field survey information and other utility information provided by the Federal Aviation Administration, DFW and utility companies. Maintain a current copy of the map in the Contractor’s office. Provide this map to the Owner at the completion of the project.
2. At the beginning of each work period check the utility and cable map for cables and utilities in the areas of work.

3. Expose the utility hand digging after the Contractor performs a circuit lock out in accordance with Section 01 35 13.13, Special Project Procedures for Airport Facilities in the case of AOA circuits. The utility must be visibly exposed. Explore area five (5) feet on each side of the exposed utility for other utilities.

4. Stop excavation and notify OAR immediately if sand or other bedding material is observed in trenches or excavations. Instruct equipment operators to stop work immediately and notify their supervisor if bedding or any other material differing from native material is observed.

E. Repair damaged NAVAID Cables. Install either a pull box or manhole or completely replace the cable depending on the type and or size of the NAVAID Cable. The FAA will determine whether a pull box, manhole or complete cable replacement is required.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION
Not Used.

PART 4 – APPENDIX

4.1 The following documents/forms attached are a part of the Specification.
   A. DFW Airport Utility Location Sign-Off Sheet
   B. Underground Utilities Damage Report

-END OF SECTION-
DFW AIRPORT UTILITY LOCATION SIGN-OFF SHEET

EXCAVATION SHALL NOT PROCEED IN THE AREA DESCRIBED BELOW UNTIL THIS FORM IS PROPERLY COMPLETED.

DATE: ______________
LOCATION OF UTILITY: _________________________________
DFW MAPSCO#: _________________________________
TYPE OF UTILITY: _________________________________

UTILITY FIELD LOCATION CONFIRMATION#: ______________ DATE: ______________
DATE FIELD LOCATION OCCURRED: ______________ N/A: ______________
DATE UTILITY UNCOVERED FOR OBSERVATION: ______________ N/A: ______________

LOCATION UTILITY WILL IMPACT PROPOSED WORK: YES □ NO □

COMMENTS:
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

DATE AS-BUILT INFORMATION FOR UNCOVERED UTILITY OBTAINED: ______________

The Contractor verifies, by signature below, that a thorough examination of all available as-built information has been made and that a field investigation to locate any utilities in the work area, where the proposed excavation will occur, has been made.

Contractor’s Representative: __________________________ Date: ______________

Concurrence by

Owner’s Authorized Representative: __________________________ Date: ______________

CC: A.D.E. Utility Coordinator, A.D.E. Project Manager
A.D.E. – Quality Assurance Representative
Airport Operations
Dallas / Fort Worth International Airport
OPERATIONS DEPARTMENT
UNDERGROUND UTILITIES DAMAGE REPORT

DATE: _______________  TIME: _______________  CONTRACT No.: _______________

PROJECT: ____________________  CONTRACTOR: ____________________

UTILITY: ____________________

LOCATION (Attach sketch, including location, depth, etc.): ____________________

TIME/DATA RETURNED TO SERVICE: _______________  WAS UTILITY MARKED? _______________

WAS EXCAVATION EQUIPMENT USED?  WHAT KIND? ____________________

DESCRIBE HOW DAMAGE OCCURRED: ____________________

WHAT PRECAUTIONS WERE TAKEN? ____________________

COMMENTS/RECOMMENDATIONS: ____________________

ATTACHMENTS: ____________________

SIGNED ____________________

cc: Airfield Operations Projects and Standards Administrator
PART 1 – GENERAL

1.1 SUMMARY
A. Section includes requirements and limitations of cutting and patching of work.

1.2 DESCRIPTION OF REQUIREMENTS
A. Coordinate the patching of surfaces and finishes in areas where existing items are removed. Drilling the work to install fasteners and similar operations are excluded from the definition of cutting-and-patching.
B. Adhere to all safety precautions as outlined in Section 01 11 00, Summary of Work.
C. Refer to other sections of these specifications for specific cutting-and-patching requirements and limitations applicable to individual units of work.

1.3 SUBMITTALS
A. Submit written request to Owner’s Authorized Representative (OAR) in advance of executing cutting or alteration, other than required by Contract Documents, which affects:
   1. Work of Owner or any separate contractor.
   2. Structural value or integrity of any element of Project.
   3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
   4. Efficiency, operational life, maintenance or safety of operational elements.
   5. Visual qualities of sight-exposed elements.
B. Request shall include:
   1. Identification of Project.
   2. Location and description of affected work.
   3. Necessity for cutting, alteration or excavation.
   4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
   5. Description of proposed work:
      a. Scope of cutting, patching, alteration, or excavation.
      b. Trades who will execute work.
      c. Products proposed to be used.
      d. Extent of refinishing to be done.
      e. Cost proposal when applicable.
   6. Alternatives to cutting and patching.
   7. Written confirmation from manufacturer or installer of existing affected work that cutting and patching work will not void warranty.
C. Submit request for substitution as specified in Section 01 61 16, Materials and Equipment should conditions of Work or schedule indicate change of products from original installation.

D. Submit written notice to Owner’s Authorized Representative designating date and time the work will be uncovered or altered.

1.4 COORDINATION

A. Coordinate cutting and patching work with manufacturer and installer of warranted materials, products or systems to avoid voiding warranty where warranties are in force for the existing work.

1.5 QUALITY ASSURANCE

A. Requirements for Structural Work: Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Provide materials for cutting-and-patching which will result in equal-or-better work than the work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable. Comply with the Specification requirements, and use materials comparable with the original materials and where recognized that satisfactory results can be produced thereby.

B. Submit request for further direction should conditions of work or schedule indicates change of products that are not comparable with the original installation.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine existing conditions of Work, including elements subject to damage or to movement during cutting, patching, excavating, and backfilling.

B. Examine conditions affecting installation of Products, or performance of work.

C. Report unsatisfactory or questionable conditions to Owners Authorized Representative. Do not proceed with work until notified by OAR to do so.

3.2 INSTALLATION

A. Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio. Provide adequate temporary support for work to be cut, to prevent failure. Do not endanger other work.

B. Provide adequate protection of other work during cutting-and-patching, to prevent damage; and provide protection of the work from adverse weather exposure.

C. Maintain excavations free of water.

D. Conform to requirements for temporary barriers, enclosures, and controls described in Section 01 50 00, Temporary Facilities and Controls.
3.3 DUST CONTROL
   A. Provide positive methods of dust control and apply dust control materials to minimize raising dust from cutting and patching operations.

3.4 PERFORMANCE
   A. Patch with seams which are durable. Complete with specified tolerances for the work.
   B. Employ skilled tradesmen to perform cutting-and-patching.
   C. Cut work by methods least likely to damage work to be retained and work adjoining.
      1. Flame cutting of the reinforcing bars is discouraged but permitted if in compliance with the requirements of the American Welding Society’s AWS D.1.1 and D.1.4 by an experienced welder and as per directions by the Owner’s Authorized Representative (OAR). Flame cutting in the AOA is not permitted.
      2. Where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through the concrete.
   D. Fit work to pipes, sleeves, ducts, conduit and other penetrations through surfaces as called for elsewhere in these Specifications. Allowing for movement where movement is required. Fill space around pipe or insert with material with physical characteristics equivalent to fire-resistant requirement of penetrated surfaces where fire-rated separations are penetrated.
   E. Restore exposed finishes of patched areas; and, where necessary, extend finish restoration onto retained work adjoining, in a manner, which will minimize evidence of patching.
   F. Refinish entire affected surface as necessary to provide even finish similar to adjacent finishes.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Clean area and dispose of waste materials, debris, and rubbish during construction.

PART 2 – PRODUCTS

2.1 EQUIPMENT
A. Provide covered containers for waste materials, debris, and rubbish.

PART 3 – EXECUTION

3.1 CLEANING
A. Remove waste materials, debris, and rubbish at least daily. Maintain site in a clean and orderly condition.
B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, culverts, and other closed or remote spaces prior to closing the space.
C. Clean interior areas prior to application of finishes, and maintain in a clean condition to eliminate dust.
D. Avoid causing flying debris in the ramp areas or near the airfield.
E. Keep the AOA and all haul routes free of any debris that may be generated from a construction activity.

3.2 DISPOSAL
A. Collect and remove waste materials, debris, and rubbish from site per Section 01 74 19 Construction Waste.

3.3 OWNER’S RIGHT TO CLEAN UP
A. Owner may provide progress cleaning if Contractor fails to comply with this Section. Owner will deduct the cost of this cleanup effort from the Contract Price from the next Application for Payment.

- END OF SECTION -
PART 1 GENERAL

1.1 SUMMARY

A. The contractor shall be responsible for waste handling, transport, and disposal activities. All waste handling activities including, but not limited to, packaging, labeling, marking, storage, and disposal will be conducted in accordance with applicable regulations and EAD procedures.

B. DFW Airport and its contractors are expected to minimize the generation of construction waste, regulated waste and encourage recycling/reuse/salvaging whenever feasible.

C. Utilize the minimum screening and testing criteria described by this section for constituents of concern where contaminants are known, anticipated or encountered.

D. Report weights of materials recycled and materials not recycled or reused throughout the project.

E. Remove all Contractor-generated Waste from Airport property and dispose of properly.

F. Costs associated with performing analytical sampling, screening, containerizing, storing, transportation and disposal of impacted soil, solid waste, hazardous wastes, special wastes, regulated wastes, universal wastes, in solid or liquid form, and materials that are recyclable, reusable, or salvageable is the responsibility of the Contractor, unless otherwise stated in the contract.

1.2 RELATED REQUIREMENTS

A. Section 01 57 19.13, Spill Response Plan

B. Section 01 57 19.16, Concrete Waste

C. Section 01 33 26.06.01, Contaminated Media Management Plan

1.3 DEFINITIONS

A. Class 1 Waste: Any nonhazardous industrial solid waste or mixture of industrial solid wastes that, because of its concentration, or physical or chemical characteristics, is toxic, corrosive, flammable, a strong sensitizer or irritant; a generator of sudden pressure by decomposition, heat, or other means; or may pose a substantial present or potential danger to human health or the environment when improperly managed, processed, stored, transported, or disposed of or otherwise managed, as further defined in Chapter 30 of Texas Administrative Code (TAC) §335.505.

B. Class 2 Waste: Any individual industrial solid waste or combination of industrial solid wastes that cannot be described as Hazardous, Class 1, or Class 3 as defined in Chapter 30 TAC §335.506.

C. Class 3 Waste: Inert and essentially insoluble industrial solid waste, usually including but not limited to materials such as rock, brick, glass, dirt, and certain...
plastics and rubber that is not readily decomposable, as further defined in Chapter 30 TAC §335.507.

D. Generator: Entity that produces the waste.
   1. Existing DFW site/facility – the waste generated is to be managed as DFW Airport generated wastes.
   2. All waste resulting from materials brought on-site by Contractor or waste resulting from Work (that is not DFW Airport waste) is to be managed as Contractor generated waste.

E. Industrial Solid Waste: A solid waste resulting from or incidental to any process of industry or manufacturing, which may include a hazardous waste.

F. Regulated Waste: Any solid waste that requires special handling and disposal because of its quantity, concentration, physical or chemical characteristics.

G. Reuse: Making use of a material without altering its form. Materials can be reused on-site or reused on other projects off-site, as approved by DFW.

H. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the material in the manufacture of a new product.

I. Representative Sample: A portion of a substance being tested that can be expected to exhibit the average properties of the whole. More guidance on sampling is available in the TCEQ document, “Industrial and Hazardous Waste Sampling and Shipping Procedures.”

J. Salvage: Recovery of materials for on-site reuse.

K. Solid Waste: Any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility, and other discarded material including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations.

1.4 ABBREVIATIONS


B. CESQG: Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5.


D. EAD: DFW Airport Environmental Affairs Department.

E. EPA: Environmental Protection Agency.

F. NELAC: National Environmental Laboratory Accreditation Conference.

G. NVLAP: National Voluntary Laboratory Accreditation Program.

H. OAR: Owner’s Authorized Representative.

I. SMP: Soil Management Plan

J. TAC: Texas Administrative Code.

K. TCEQ: Texas Commission on Environmental Quality.

L. WMP: Waste Management Plan
1.5 REFERENCES

A. The following is a list of standards which may be referenced in this Section:

1. U.S. Code of Federal Regulations:
   a. Title 29 Part 1910, Occupational Safety and Health Standards
   b. Title 40 Part 260, Hazardous Waste Management System: General
   c. Title 40 Part 261, Identification and Listing of Hazardous Waste
   d. Title 40 Part 262, Standards Applicable to Generators of Hazardous Waste
   e. Title 40 Part 263, Standards Applicable to Transporters of Hazardous Waste
   f. Title 40 Part 266, Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
   g. Title 40 Part 268, Land Disposal Restrictions
   h. Title 40 Part 273, Standards for Universal Waste Management
   i. Title 40 Part 279, Standards for The Management of Used Oil
   k. Title 49 Part 173, Shippers – General Requirements for Shipments and Packaging
   l. Title 49 Part 177, Carriage by Public Highway
   m. Title 49 Part 178, Specifications for Packaging

2. Texas Administrative Code:
   a. TAC Title 30 Chapter 335, Industrial Solid Waste and Municipal Hazardous Waste

3. Environmental Protection Agency Guidance:
   i. Characterization of Building-Related Construction and Demolition in the United States.
   ii. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846

4. Texas Commission on Environmental Quality Guidance:
   a. RG-022, Guidelines for the Classification and Coding of Industrial and Hazardous Wastes
   b. RG-086, Transporting Waste in Texas – A Guide to Regulations
   c. RG-234, Industrial & Hazardous Waste: Rules and Regulations for Small Quantity Generators
   d. RG-366/TRRP-13, Review and Reporting of Chemicals of Concern (COC) Concentration Data
e. Industrial and Hazardous Waste Sampling and Shipping Procedures

5. DFW Airport Publications:
   a. Green Building Standards
   b. Contaminated Media Management Plan
   c. Integrated Waste Management & Pollution Prevention Plan

1.6 SUBMITTALS

A. A Waste Management Plan shall be submitted to the OAR prior to receiving permit approval from EAD.

B. A Waste Management Report will be submitted on the first of each month, and upon request by the OAR.

C. Waste profile documentation (process knowledge, waste profile form, applicable Safety Data Sheets, and/or any analytical results) shall be submitted to EAD, through the OAR, prior to submission to the landfill, for each hazardous or industrial waste stream.

D. Submit copies of manifests for all airport-generated regulated waste to EAD, through the OAR, upon request and during project close-out.

E. Submit copies of all Construction Demolition and Landscaping waste or recycling documentation to EAD, through the OAR, upon request.

PART 2 EXECUTION

2.1 REGULATED WASTE MANAGEMENT - GENERAL

A. This section covers materials that are classified as regulated waste and may not be disposed of as construction, demolition, or land clearing waste.

B. The contractor is responsible for the profiling, transportation, and disposal of all waste generated within the contract boundaries or generated by the contractor.

C. Each regulated waste stream generated will have its own waste profile.

   1. The contractor shall conduct testing and analysis of potentially regulated waste streams as soon as possible.
   2. Laboratory analysis shall be conducted by NELAC or NVLAP (Asbestos Only) accredited lab. Ensure that individuals collecting samples have the appropriate training and regulatory credentials.
   3. Containers shall be sampled separately, unless the waste is completely uniform. Waste is considered uniform if the waste is from one area.

D. The contractor shall arrange for the transportation of waste to an approved disposal facility. The contractor will only use disposal or recycling facilities listed on the Pre-Approved Disposal/Landfill Facilities list. The list can be located at: https://www.dfwairport.com/sustainability/index.php
1. Landfills or Recycling facilities not listed, will need to be audited by EAD before they will be added as an approved disposal location.

E. The contractor shall ensure all waste leaves airport property with the proper shipping paperwork. When waste is ready for disposal it must be transported by a licensed DOT transporter.

F. The contractor shall dispose of all waste in a timely manner and prior to project closeout. Universal wastes must be disposed of within one year from the date of generation. Hazardous wastes must be disposed of within 6 months of the date of generation.

G. The following are a list of commonly encountered regulated wastes:
   3. Asbestos;
   4. Grease-trap waste;
   5. Grit-trap waste;
   6. Mercury containing equipment;
   7. Non-reusable soil;
   8. Paint and paint related waste;
   9. Rechargeable Batteries
   10. Water removed from fire suppression systems;
   11. Fluorescent lamp ballasts that are not labeled as “No-PCB’s”;
   12. Electronic lamp ballasts that contain batteries;
   13. Used Lamps
   14. Used Oil Filters

H. Unknown waste stream(s) (i.e unknown liquid and solid materials) not associated with the construction project will be communicated immediately to the EAD representative, through the OAR. EAD will assist in the proper characterization/profiling and disposal of unknown wastes. The OAR will determine whether the identified material is addressed in the contract. Upon discovery the contractor shall properly contain the unknown waste in a safe manner. The contractor shall not dispose or mix unknown wastes with other waste streams.

2.2 WASTE MANAGEMENT PLAN

A. Prior to obtaining a building permit, provide a waste management plan (WMP) which includes the type of waste, the storage method, handling and transportation procedures, and the disposal location; and how the wastes will be managed in accordance with applicable federal, state and local rules and regulations.
   i. A template for the waste management plan can be located at: https://www.dfwairport.com/sustainability/index.php

B. Include in the WMP a description of how the plan will be conveyed to each new subcontractor that comes onto the site and how containers will be identified.
C. Revise and resubmit when additional waste streams are identified, to make corrections, changes in disposal locations or as required by the OAR.

D. Approval of the Waste Management Plan does not relieve the Contractor of responsibility for compliance with applicable environmental regulations.

2.3 REGULATED WASTE MANAGEMENT OF DFW AIRPORT GENERATED WASTES

A. DFW Airport Board shall be considered the generator of all existing waste. Any waste resulting from materials brought on-site by a Contractor or waste resulting from work from an entity that is not DFW Airport, is to be managed as contractor generated wastes. DFW Airport’s waste shall not be mixed with any other generator’s waste.

B. EAD, through the OAR, will provide the contractor with a regulated waste determination. The contractor shall provide process knowledge form, Safety Data Sheets, and/or lab results for the potentially regulated waste streams to EAD, through the OAR.

1. The process knowledge form can be located at: [https://www.dfwairport.com/sustainability/index.php](https://www.dfwairport.com/sustainability/index.php)

C. When sampling soil, the EAD Contaminated Media Management Plan shall be followed.

D. The contractor shall prepare the waste profile documents required by the landfill. This includes, at a minimum, the process knowledge, the waste profile form, applicable Safety Data Sheets, and/or any analytical results. All waste profiles, and supporting documentation, must be reviewed and signed by EAD staff prior to being submitted to the waste disposal facility for approval.

E. The contractor shall ensure that shipping documents for DFW Airport Generated wastes are reviewed, and signed by a DFW Airport Board Employee, or a representative designated by the Vice President, Environmental Affairs. Notification to EAD, through the OAR, must be made in advance, so that manifest signing arrangements can be coordinated. All shipping documents must be provided to EAD, through the OAR.

F. Collect and prepare copies of all documentation including waste profiles, test results, manifests, and waste receipts that may be required for project close-out.

2.4 REGULATED WASTE MANAGEMENT OF CONTRACTOR GENERATED WASTE

A. Any waste resulting from materials brought on-site by a Contractor or waste resulting from work from an entity that is not DFW Airport, is to be managed as contractor generator wastes. Contractor generated wastes shall not be mixed with DFW Airport generated waste.
B. Waste disposal facilities may require the contractor to complete a waste profile document that identifies the generator (contractor), customer (contractor), method of payment, characteristics of the waste (either from lab analysis or generator knowledge), and quantity of the waste. All waste profiles, and supporting documentation, must be made available to staff, through the OAR, upon request.

C. Testing and analysis of potentially regulated waste streams shall be provided to EAD, through the OAR. EAD can assist with sampling parameters upon request.

D. All documentation including waste profiles, test results, manifests, and waste receipts shall be made available to EAD, through the OAR, upon request.

2.5 CONSTRUCTION, DEMOLITION, LAND CLEARING WASTE (CDL) & RECYCLING, REUSE SALVAGE MANAGEMENT

A. The contractor shall submit a Waste Management Report to EAD, through the OAR, on the first of each month and upon request. The waste management report can be located at: https://www.dfwairport.com/sustainability/index.php

1. The waste management report includes the following information:
   a) List of disposed, recycled, salvaged, or reused materials
   b) The quantity of the materials
   c) Copy of disposal or recycling receipts
   d) Salvage documentation
   e) Credit Receipts

B. Materials that are not characterized as regulated waste are considered CDL and may be disposed of as construction/municipal waste or recycled. The contractor shall provide all necessary resources and labor to properly remove, contain, transport, and dispose of such waste or recyclable/reusable/salvageable material.

C. The contractor shall utilize a qualified waste handling firm(s) to dispose of all construction waste on the project. This firm(s) shall transport non-recyclable, and/or recyclable materials to a DFW approved landfill or recycling location.

D. The contractor shall be responsible for reporting weight, classification, any reimbursement rate of materials delivered and the supporting documentation to the OAR in the Waste Management Report.

E. The contractor shall remove and properly dispose of CDL waste from the project site on a regular basis. Do not allow the CDL waste to accumulate on-site.

F. Recyclable, Reusable, Salvageable materials include, but are not limited to the following:
   1. Ferrous Metals (Steel)
   2. Non-Ferrous Metals (Copper and Stainless Steel)
   3. Tin
   4. Aluminum
5. Asphalt
6. Concrete
7. Carpet
8. Wood

2.6 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Provide copies of the Waste Management Plan to the job site foremen, and each Subcontractor.

B. Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse and return methods to be used by all parties at the appropriate stages of the Project.

C. Conduct waste management meetings during the weekly meeting to share and discuss waste management goals.

D. Labeling and Containers:
   1. Label all containers in accordance with 30 TAC 335 Subchapter C and 40 CFR 262 & 264
   2. Package and label wastes to comply with Department of Transportation. DOT labeling requirements as specified in 49 CFR Parts 172, 173, 174, 177, 178, and 179 if transporting.
   3. Provide containers for CDL waste.
   4. Bins shall be protected during non-working hours from off-site contamination.

E. Storage:
   1. Store wastes by classification and type, following 30 TAC 335. See “Guidelines for the Classification and Coding of Industrial and Hazardous Wastes” for more information.
   2. Place waste only in containers specifically marked and labeled for that waste.
   3. Provide containers compatible with the applicable waste stream.
   4. Waste containers shall be maintained in good condition and sealed closed when waste is not being added or removed.
   5. Do not store incompatible wastes near one another.
   6. Space containers sufficiently apart to allow access in case of emergency.
   7. Do not comingle regulated materials.
8. Ensure all hazardous, universal, or other regulated waste materials are segregated from CDL waste and recycled material.

9. Ensure recycled materials are clearly labeled with a list of acceptable materials. The list of acceptable materials must be the same as the materials recycled at the recycling processor facility.

10. Ensure recyclable materials contain no more than 10% non-recyclable material, by volume.

11. Retain DFW Airport generated wastes on DFW Airport property in a secure location until waste characterization is complete and waste is ready for disposal.

F. Inspections:

1. The contractor shall inspect waste storage areas weekly to ensure proper handling of wastes.

2. At a minimum, inspections shall look for:
   a. Presence of spilled material
   b. Integrity of secondary containment structure
   c. Maintenance of emergency pathways
   d. Integrity of containers (evidence of leaking, bulging, or corroding)
   e. Closed and secured container lids or covers
   f. Accurate and complete container labels
   g. Segregation of containers by hazard class
   h. Storage capacity of accumulation area
   i. Segregation of regulated waste, CDL waste and recycled materials.

- END OF SECTION -
PART 1 – GENERAL
1.1 SUMMARY
A. Section includes final cleaning of project.

1.2 PROJECT CONDITIONS
A. Conduct cleaning and waste disposal operations in full compliance with federal and local environmental and antipollution regulations, ordinances and laws.
   1. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm water or sanitary waste disposal systems.
   2. Do not burn or bury debris, rubbish or other waste material on the premises.
   3. Restore damaged areas to the conditions that existed prior to the start of construction as documented by the Contractor in a photographic record.

PART 2 – PRODUCTS
2.1 CLEANING MATERIALS
A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 – EXECUTION
3.1 FINAL CLEANING
A. General:
   1. Clean each surface or unit of Work to the condition expected from a commercial building cleaning and maintenance program using experienced workers or professional cleaners and complying with manufacturer's cleaning instructions.
   2. Complete cleaning operations and conduct an examination of all Work areas with Owner and Architect before requesting inspection for Certification of Substantial Completion.
B. Remove grease, petroleum or chemical spills, mastic, adhesives, dust, dirt, stains, fingerprints, labels, lubricants and other foreign materials from visible interior and exterior surfaces.
D. Remove temporary protection and labels.
E. Clean and polish transparent, reflective and glossy surfaces to a clear shine.
F. Vacuum clean carpet.
G. Clean resilient and hard-surface floors.
H. Clean sealed joints.
I. Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction. Clean ducts, blowers, and coils if units have been operated without filters during construction.
J. Clean light fixtures, lamps, globes, and reflectors. Replace burned out lamps and defective starters.

K. Maintain clean condition until date of Beneficial Occupancy.

N. Remove waste, foreign matter and debris from roofs, gutters, areaways and drainage systems. Flush roof drainage system with water until clear.

O. Remove waste, debris and surplus materials from Site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

- END OF SECTION -
PART 1 – GENERAL

1.1 SCOPE OF WORK

A. Testing, adjusting and balancing (TAB) of air conditioning systems and related ancillary equipment performed by impartial technical TAB firm selected and employed by Contractor, acceptable to Owner.

B. Make changes in sheaves, belts and dampers required for correct balance as required by TAB firm.

C. Provide and coordinate services of qualified, responsible personnel as required to correct, repair or replace deficient items or conditions found during testing, adjusting and balancing phase.

D. Operate said systems for the length of time necessary to properly verify completion and readiness for TAB.

E. Provide sufficient time to permit completion of TAB services and remedial work if required prior to Owner occupancy.

F. Drawings and Specifications indicate valves, dampers, and miscellaneous adjustment devices for obtaining optimum operating conditions. Valves, dampers and adjustment devices are to be installed so they are accessible and readily adjustable. Provide access as requested by TAB firm should device not be readily accessible. Correct malfunctions encountered by TAB personnel and reported to Contractor immediately so balancing work can proceed.

G. Refer to Division 23 for specific HVAC requirements.

(Note: MEP Engineer shall review and modify Section to agree with MEP design system.)

1.2 MATERIALS AND WORKMANSHIP

A. Have building and air-conditioning systems in complete operational readiness for preliminary TAB work to begin prior to Contractor notice of Substantial Completion.

B. Promptly correct deficiencies of materials and workmanship.

C. Pay added costs to Owner for failure to have building and air conditioning system ready or failure to correct deficiencies promptly.

D. Complete operational readiness of building requires that construction status of building permit closing of doors and windows, installation of ceilings, and operation of other building components to obtain projected operating conditions.

E. Complete operational readiness of air-conditioning systems requires that following be accomplished:

   1. Air Distribution Systems:
      a. Installation verified for conformity to design.
      b. Supply, return and exhaust ducts terminated and pressure tested for leakage as required by specifications.
      c. Volume and fire dampers properly located and functional.
d. Dampers serving requirements of minimum and maximum outside air provide tight closure and full opening, smooth and free operation.

e. Supply, return and exhaust grilles, registers, diffusers, and VAV by-pass terminal units installed.

f. Air handling systems, units and associated apparatus, such as heating and cooling coils, filter sections, and access doors, blanked or sealed to eliminate excessive by-pass or leakage of air.

g. Fans (supply, return and exhaust) operating and verified for heater elements in motor starters of proper size and rating; motor amperage and voltage recorded on each phase at start-up and running, and verified they do not exceed nameplate ratings.

2. Water Circulating Systems:

a. Check and verify pump alignment and rotation.

b. Open valves to full open position, close by-pass through systems components; remove and clean strainers.

c. Repeat operation until circulating water is clean.

d. Record pump motor amperage on each phase and voltage after reaching rated speed. Record readings for each pump motor.

e. Verify readings do not exceed nameplate rating.

f. Verify electrical heater elements are of proper size and rating.

g. Verify water circulating systems are full and free of air; expansion tanks are set for proper water level; air vents are installed at high points of systems and are operating freely.

h. Check and set operating temperatures of heat exchangers to desired requirements.

3. Automatic Controls:

a. Verify that control components are installed in accordance with project requirements and functional, including electrical interlocks, damper sequences, air and water resets, fire and freeze stats.

b. Controlling instruments calibrated and set for designed operating conditions.

c. Motor amperages and voltages of each piece of electrically driven air conditioning equipment in system are recorded including exhaust fans showing “factual” and “nameplate” voltage and amperage.

4. Notification of System Readiness:

a. Notify Owner in writing after completion of work described above, Certify work has been accomplished and building and air conditioning systems are in readiness for preliminary testing, adjusting and balancing. Include a copy of tabulated data.
b. Notify TAB firm of readiness for balancing and include copies of Contractor’s certification and tabulated voltages and currents upon approval by Owner, but not longer than five working days from Owner’s receipt of Contractor’s certification.

c. Request inspection be made by representative of Owner, Architect/Engineer, TAB firm, and Contractor when systems are found to be ready.

d. Inspection shall establish whether or not systems meet basic requirements for TAB services.

1.3 QUALITY ASSURANCE

A. Requirements of TAB Firm

1. Firm organized to provide professional TAB services with at least one professional engineer with current Texas license to perform services. Architect/Engineer shall develop project data for test procedures in Specifications.

2. Firm shall have operated minimum of two years under current firm name. Submit credentials, certifications, name and experience record to Owner for acceptance prior to commencing TAB work.

3. Firm shall be capable of performing service specified at location of facility described within time specified, preparing and submitting detailed report of actual field work performed and following up basic work as may be required.

4. Personnel used on project site shall be either professional engineers or engineering technicians, who shall have been permanent, full-time employees of firm for minimum of six months prior to start of work for specific project.

1.4 SUBMITTALS

A. Furnish the following to the TAB firm:

1. One complete set of Drawings and all modifications made by Change Order or other documentation.

2. Accepted submittal data on equipment installed and related changes as required accomplishing test procedures.

1.5 RESPONSIBILITIES OF TAB FIRM

A. TAB personnel shall check, adjust and balance components of air conditioning system as required achieving optimum noise, temperature, and airflow conditions in conditioned spaces of buildings while equipment of system is operating economically. Accomplish checking, adjusting, and balancing after system components are installed and operating in accordance with Contract Documents.

B. TAB Personnel Liaison and Early Inspection:

1. Act as liaison between Owner and Contractor.

2. Inspect installation of mechanical piping systems, sheet metal work, temperature controls, and other component parts of heating, air conditioning, and ventilating systems during construction stage and prior
to Substantial Completion of building for purpose of reviewing part of work related to proper arrangement and adequate provisions for testing and balancing.

3. Issue preliminary evaluation in memorandum form to Owner, and Contractor indicating if systems are functional and Substantially Complete.

4. Provide summary of preliminary evaluation in chart form listing deficiencies and specifically noting comparisons of design and actual performance.

5. Indicate room name, room number and Drawing sheet number in the preliminary evaluation memorandum for reference.

6. After completing review during construction stage and prior to Substantial Completion, provide Contractor and Owner with list of sequential steps in performing balance operation.


8. As balancing progresses, TAB firm may find it necessary to deviate from order in which steps are listed; TAB firm will follow published schedule.

9. Advise Contractor in writing of conditions corrected during balancing process, as TAB personnel discover abnormalities and malfunctions of equipment or components.

10. Written document shall be understandable and legible.

11. TAB report is not to include data from malfunctioning equipment.

12. TAB firm shall not instruct or direct Contractor in work, but will make such reports as necessary to Owner’s Authorized Representative and Contractor.

C. TAB Report:

1. Culminate activities described in report in triplicate to Owner’s Authorized Representative.

2. Final report is to provide reference of actual operation conditions for Owner’s operating personnel.

3. Measurements and recorded readings (of air, water, electricity) appearing in reports shall be done on-site by technicians or engineers of TAB firm.

4. Include work sheets in final TAB report as supplement.

5. Provide report with certification by TAB firm’s professional engineer.

6. Prepare report on standard forms approved by Owner’s Authorized Representative.

7. Include following in TAB report as minimum:
b. Pitot Tube Traverse
   1) Provide records of air velocity and volume in exhaust ducts, main supply ducts, and return ducts as measured by traverse method for use in future troubleshooting by maintenance personnel.
   2) Identify locations of traverse test stations in data.

c. Temperature Tabulation:
   1) Record the temperature of conditioned space for each room.
   2) Take three successive readings for each room on each of three successive days.
   3) Record outside ambient temperature at 2-hour intervals.

d. Air Volumes and Velocities:
   1) Record air volumes and velocities measured at each supply grille, return air grille, and exhaust air grille or air handling device.
   2) In fan systems, air quantities indicated in Contract Documents may be varied as required to secure maximum temperature variation of two degrees within each separately controlled space, but total air quantity indicated for each zone must be obtained.
   3) It shall be obligation of Contractor to furnish or revise fan drive or motors if necessary to attain air volumes, without additional cost to Owner.

e. Static Pressure Drops:
   1) Record static pressure drops measured across each supply fan, cooling coil, heating coil, air-handling unit filter, and exhaust fan.
   2) Relate readings to particular fan curve in terms of Cubic Feet per Minute (CFM) handled.

f. Water Temperatures:
   1) Record temperatures of water entering and leaving coils and heat exchanger under maximum load conditions.

g. Water Pressure:
   1) Record water pressure at gage connections, coils and pumps. Record related coil and pump curves points in terms of Gallons per Minute (GPM) handled. Confirm by flow through flow measuring devices at each air handler.
   2) Adjust flow of water through coils by manipulating valves until rated pressure drop across each coil is obtained and total water flow is verified by flow meter readings.
3) Adjust first rated pressure drop through coils in each of several systems on coils with three-way valves, and record the temperature differential between inlet and outlet. Compare required rating.

4) Adjust by-pass valves on each coil until equal pressure drop between supply and return connections as obtained with three-way valves set to by-pass coils in each of several systems.

h. Electrical Current and Voltage: Take measurements at drive motor on each piece of equipment.

i. Fan Speeds: Measure in RPM (Revolutions per Minute).

j. Instrumentation List: List instruments by type and make used in gathering

D. Drawings:

1. Use zone ducts and supply air openings designations from Drawings on report data sheets so data in report can be correlated with each specific supply air opening in building.

2. Use actual building room numbers if they differ from those on Drawings. Mark correct building room numbers on Drawings.

3. Provide one marked-up set of Drawings with three copies of TAB report.

E. Verification Testing:

1. Owner may require verification of TAB report data in presence of Owner’s Authorized Representatives at random checkpoints before final acceptance of TAB report. TAB firm shall provide testing for data verification.

2. Owner shall notify Contractor of acceptance of report after clarification of questions on data recorded.

3. TAB firm shall inspect, adjust, balance, and log data on performance of fans, dampers in duct system, air distribution devices, flows of steam or water through coils and power consumption of data on design and proper application of systemic components and furnish labor and material required to eliminate deficiency.

4. During TAB work, adjust temperature regulation for proper relationship between controlling instruments.

5. Advise Contractor of instruments out of calibration; recalibrate controls using data supplied by balancing firm.

6. After recalibration, take room temperatures as described in Temperature Tabulation in this Section.

7. Make total of three inspections within 90 days after occupancy of building to ensure satisfactory conditions are being maintained throughout and to satisfy unusual conditions.
8. Make additional inspection in building during season opposite in which initial adjustments were made.

9. Make necessary modifications to initial adjustment required to produce optimum operation of systemic components to produce optimum operation of conditions in each conditioned space.

10. At time of opposite season checkout, give Owner and Contractor timely notification before readings or adjustments are made so they may participate in checkout.

PART 2 – PRODUCTS
   Not Used.

PART 3 – EXECUTION
   Not Used.

- END OF SECTION -
PART 1 – GENERAL
Not Used.

PART 2 – PRODUCTS
Not Used.

PART 3 – EXECUTION

3.1 PROTECTION OF NEWLY INSTALLED WORK
A. Protect all installed work until Completion of project using appropriate and effective means.
B. Restrict construction workers and traffic from completed and protected areas.
C. Prohibit all unnecessary traffic and storage from surfaces covered by roofing or waterproofing. Provide adequate resilient protection and durable work platforms over all surfaces covered by roofing or waterproofing. Provide clean, smooth plywood or finished wood boards under all ladders, staging, or scaffolding placed on roofing and waterproofing.
D. Protect all finished surfaces including, but not limited to, door frames, doors, glass, floors, walls, ceilings, soffits, corners, fixtures, furnishings, equipment, and other finished surfaces and work.
   1. Provide at least sheet paper or plastic protection. In all locations of frequent traffic and all locations subject to moving objects whether wheeled or not, provide temporary plywood or fiber board walkways. Use only non-marking rubber tired carts, dollies, and wagons. Provide temporary plywood or boards under all materials stored over finished floors.
   2. In addition to other acceptance criteria required by the Contract Documents, all finished surface shall be in acceptable condition at time of acceptance by the Owner. Repair or replace all damaged work as needed to achieve this requirement at no additional cost to the Owner.
D. Effectively protect porous materials including, without limitation, gypsum board, insulation, ceiling tiles and panels, and other fibrous and water-susceptible materials from becoming wet or moisture damaged.
   1. Remove and replace work which is water or moisture damaged.
   2. Remove and replace work which shows evidence of biological growth, mold, and mildew.

-END OF SECTION-
PART 1 – GENERAL

1.1 SECTION INCLUDES
A. Substantial Completion
B. Final Inspection
C. Closeout Submittals
D. Evidence of payments and release of liens
E. Final Adjustment of Accounts
F. Final Application for Payment
G. Additional Adjustment
H. Post-Construction Examination

1.2 SUBSTANTIAL COMPLETION
A. When Contractor considers work substantially complete, submit to Owner's Authorized Representative:
   1. Written certification that work and/or designated portion thereof, is substantially complete.
   2. List of items (punch list) to be completed or corrected, value of incomplete construction and reasons the work is not complete.

B. Within seven (7) calendar days after receipt of such certificate, Owner's Authorized Representative will make examination to determine status of completion.

C. If Owner's Authorized Representative determine that work is not substantially complete:
   1. Owner's Authorized Representative will promptly notify Contractor in writing, giving reasons.
   2. Contractor shall remedy deficiencies in work, and send second written notice of substantial completion to Owner's Authorized Representative.
   3. Owner's Authorized Representative will re-examine work.

D. Upon concurrence that work is substantially complete, the Owner's Authorized Representative will:
   1. Prepare Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by Owner's Authorized Representative.
   2. Submit certificate to Contractor for written acceptance of responsibilities assigned to them in certificate.

E. After work is substantially complete, Contractor shall:
   1. Allow Owner occupancy of project under provisions stated in Certificate of Substantial Completion.
2. Obtain and submits Certificate of Occupancy, operating certificates and similar releases enabling the Owner unrestricted use of the work.
3. Complete work listed for completion or correction within designated form.
4. Advise the Owner's Authorized Representative of pending insurance changeover requirements.
5. Perform final cleaning in accordance with Section 01 74 23 Final Cleaning.

1.3 FINAL INSPECTION

A. When Contractor considers work is complete, submit written certification that:
1. Contract Documents have been reviewed.
2. Work has been examined for compliance and completed in accordance with Contract Documents.
3. Equipment and systems have been tested in presence of Owner's Authorized Representative and are operational.
4. Work is completed and ready for final examination.

B. Owner's Authorized Representative will make examination to verify status of completion within seven calendar days after receipt of such certification.

C. If Owner's Authorized Representative consider that work is incomplete or defective:
1. Owner's Authorized Representative will promptly notify Contractor in writing, listing incomplete or defective work.
2. Contractor shall take immediate steps to remedy stated deficiencies, and send second written certification to Owner's Authorized Representative that work is complete.
3. Owner's Authorized Representative will re-examine work.

D. When Owner’s Authorized Representative finds that work is acceptable under Contract Documents, the Contractor will be requested to make closeout submittals.

1.4 CLOSEOUT SUBMITTALS

A. Evidence of compliance with requirements of governing authorities:
2. Certificates of Inspection: Mechanical and Electrical systems as required by respective sections.

B. Project Record Documents: Comply with Section 01 78 39 Project Record Documents.
C. Operations and Maintenance Data: Comply with Section 01 78 23 Operation & Maintenance Data.

D. Spare Parts and Maintenance Materials:
   1. Provide products, spare parts, and maintenance materials in quantities specified in each specification section in addition to that required for completion of work.
   2. Coordinate with Owner, deliver to Project site, store properly, and obtain receipt prior to final payment.

1.5 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS
   A. Contractor’s Affidavit of Payment of Debts and Claims
   B. Contractor’s Affidavit of Release of Liens
   C. Attachment to Contractor’s Affidavit of Release of Liens:
      1. Consent of Surety to Final Payment
      2. Contractor’s Release or Waiver of Liens
      3. Separate releases of waivers of liens from subcontractors, suppliers and others with lien rights against property of Owner, together with list of those parties.
   D. Submittals shall be duly executed before delivery to Owner’s Authorized Representative.

1.6 FINAL ADJUSTMENT OF ACCOUNTS
   A. Submit final statement of accounting to Owner’s Authorized Representative.
   B. Statement shall reflect adjustments to Contract Sum:
      1. Original Contract Sum
      2. Additions and deductions resulting from:
         a. Previous Change Orders
         b. Allowances
         c. Unit Prices
         d. Deductions for uncorrected Work
         e. Penalties and Bonuses
         f. Deductions for liquidated damages
         g. Other adjustments
      3. Total Contract Sum, as adjusted
      4. Previous payments
      5. Sum remaining due
C. Owner’s Authorized Representative will prepare final change order, reflecting approved adjustments to Contract Sum, which were not previously made by change orders.

### 1.7 FINAL APPLICATION FOR PAYMENT

A. Contractor shall submit final Application for Payment in accordance with procedures and requirements stated in Conditions of the Contract.

### 1.8 ADDITIONAL ADJUSTMENT

A. No adjustments to contract requested by Contractor will be allowed if asserted after execution of Final Payment of Contract.

### 1.9 POST-CONSTRUCTION EXAMINATION

A. Prior to expiration of one year from Date of Substantial Completion, Owner’s Authorized Representative will make visual examination of project in company of Contractor to determine whether further correction of work is required in accordance with provisions of contract.

B. Owner’s Authorized Representative will promptly notify Contractor, in writing, of any observed deficiencies.

C. Contractor will contact Owner’s Authorized Representative to arrange time and establish schedule for correction of deficiencies.

### PART 2 – PRODUCTS

Not used.

### PART 3 - EXECUTION

Not used.

– END OF SECTION –
PART 1 – GENERAL

1.1 SUMMARY
A. Provide operation and maintenance manuals for all new operating equipment and systems furnished by the Contractor, and all materials and finishes as noted in specific specification sections.

1.2 O&M, COMMISSIONING, TRAINING and WARRANTY SUBMITTALS
A. Delivery Method

1. Hardbound, submit two (2) copies of preliminary draft of the complete manual; or,

2. Electronically, notify the OAR, through the appropriate methodology (Unifier), that an electronic submittal has been uploaded and is ready for review and comment.

3. If any content will not upload into the Unifier system, deliver electronic material to the OAR in the form of a DVD in digital PDF format, for review and comment.

4. The Owner’s Authorized Representative will review the draft and return one (1) hardbound copy, or electronically through the Unifier system, with submittal comments.

5. Upon successful completion of all O&M or Warranty manual edits, the OAR will advise and the final accepted version will be uploaded into the Unifier database, in the proper destination folder. An approved O&M hardbound copy will be published in its complete form and delivered with a transmittal to the OAR.

6. Delivery Quantity- All contractors will upload all approved Project Record documents into the appropriate folder in the Unifier system. This includes, but is not limited to, O&M, Warranty, Project Record Drawings, and Training DVD’s. In addition, one (1) hardbound copy and three (3) DVD copies of all finalized and approved O&M, Warranty, Project Record Drawings and two (2) Training DVDs are required to be delivered to the OAR.

B. Provide final O&M manuals for all equipment that is to be placed into service and operated by the Owner prior to final acceptance.

C. Utilizing the Owner provided data collection spreadsheet(s), complete the New Equipment/Asset Inventory Form, the New Equipment/Asset Preventive Maintenance Task and Schedule Form, the Equipment Warranty Information Form, and/or the Equipment De-commissioning Checklist as determined by Owner representatives. https://www.dfwairport.com/development/index.php - ETAM Equipment Asset Information EAM Forms.

D. Produce and deliver a professional quality video DVD recording for each training/instruction session. DVD will be shot and produced by experienced videographers. DVD’s of inadequate quality will be remade at Contractor’s
expense. OAR approved DVD’s will be uploaded into the Unifier database in the appropriate location folder by the contractor. If the upload is not successful, see 1.2, A, 3.

E. FORMAT of ELECTRONIC SUBMITTAL – O&M AND WARRANTY

1. Upload all O&M or WARRANTY data in digital PDF format in the Unifier System in the correct location. If the upload is not successful, see 1.2, A, 3. The Table Of Contents directory will be Hyper-linked to the corresponding O&M, shop drawing, and warranty chapters for expedited access. All digital PDF material is to be formatted for Optical Character Recognition (OCR).

F. FORMAT of HARDBOUND SUBMITTAL – O&M AND WARRANTY

1. Prepare hard-copy data in the form of an instructional manual

2. Binders: Commercial quality, 8-1/2 x 11 inch, 3 (3”) inch ring binders with hardback, cleanable, plastic covers. Binder assembly will not exceed 75% of Binder capacity. If multiple binders are required for a complete series, correlate O&M data into related consistent groupings.

3. Binder and DVD cover preparation: Identify each binder with typed or printed title “Operation And Maintenance Instructions”; or “Warranty” list title and location of Project; DFW Airport Contract and Permit numbers, identify subject matter of contents. Identify each Volume ‘X’ of ‘Y’ where it is the Xth volume of Y total volumes in each O&M set for the project; Identify each volume as being in ‘Set A of B’ where the volume is part of the Ath set of B total final O&M Manual sets provided for the project. Spine: Insert filler Tab that contains the Contract Name, “Operation and Maintenance Instructions”, or “Warranty” title line, and the Contract and Permit Number. DVD Labels are to be the adhesive type, professionally printed and contain same project information relative to the project.

4. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

5. Provide tabbed flyleaf for each separate product and system, with typed description of product and major component parts of equipment.

6. Text: Manufacturer’s original printed data. No second generation print will be accepted.

7. Shop Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.3 QUALITY ASSURANCE

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.4 NEWLY PREPARED DRAWINGS

A. Newly Prepared Record Drawings: Prepare new drawings instead of following procedures specified for preparation of Record Drawings where new drawings are required by a Change Order issued as a result of acceptance of an alternate, substitution, or other modification and the Architect/Engineer determines that
neither the original Contract Drawings nor the shop Drawings are suitable to show the actual installation.

1. Consult the Architect/Engineer for the proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction.

2. When completing newly prepared Drawings, utilize the procedures specified for organizing, copying, binding and submittal of Record Drawings. All drawings will include the required DFW “project record” stamp and professional seals, contract and permit numbers, and printed name and signature of the authorized contracted individual.

3. All final Project record Drawings will be built from the finalized project CAD files, and assembled in a digital PDF format. No handwritten comments will be accepted on finalized Record Drawings in PDF format. All comments, lines, shapes, etc., will be incorporated into the CAD set prior to the assembly of the final PDF Record Drawings. Both CAD and PDF files are to be copied to a DVD and delivered to the OAR, with appropriate project information on label.

1.6 MANUAL FOR MATERIALS AND FINISHES

A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designation. Provide information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Include manufacturer’s recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.


D. Additional Requirements: As specified in individual Specifications sections.

E. Provide a listing in Table of Contents for design data, with tabbed flysheet and space for insertion of data.

1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Each item of Equipment and Each System: Include description of unit or system, and component parts. Give function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

B. Panel board Circuit Directories: Provide electrical service characteristics, controls, and communications.

C. Include as-installed color-coded wiring diagrams.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and any special operating instructions.
E. Maintenance Requirements: Include routine procedures and guide for troubleshooting; disassembly, repair, re-assembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include sequence of operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Provide “as-installed” control diagrams by controls manufacturer.

K. Provide Contractor's coordination drawings, with “as-installed” color-coded piping diagrams.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, and recommended quantities to be maintained in storage for a 12-month period for OAR review and approval. Spare parts list shall contain the following information:
   1. Parts Descriptions.
   2. Manufacturer's Part Number.
   3. Shelf Life.
   4. Recommended Quantity.
   5. Unit Price.
   6. Name and address of the part manufacturer.
   7. Name and address of a local supplier for the part.

N. As applicable, include test and balancing reports, manufacturer factory test reports and certifications, system commissioning and operation testing reports, system start-up reports, and system maintenance reports prior to turn over.

O. Additional Requirements: As specified in individual Specification sections.

P. Provide a listing in Table of Contents for design data, with tabbed flysheet and space for insertion of data.

PART 2 – Products

2.1 CONTENTS, EACH VOLUME

A. Table of Contents: Provide title of Project; names, addresses and telephone numbers of Owner’s Authorized Representative and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

B. For Each Product or System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.

D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

F. Warranties: Bind/Insert copy at the end of each applicable section.

PART 3 – EXECUTION

Not Used.
PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes: General administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

1. Compile specified warranties and bonds.
2. Compile specified service and maintenance contracts.
3. Co-execute submittals when so specified.
4. Review submittals to verify compliance with Contract Documents.
5. Submit to Owner's Authorized Representative for review.

1.2 DEFINITIONS

A. Standard Product Warranties: Reprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special Warranties: Written warranties required by the Contract Documents, either to extend time limits provided by standard product warranties or to provide greater rights for the Owner.

C. Emergency Repairs: Owner reserves right to make emergency repairs as required to keep equipment or materials in operation or to prevent damage to persons or property without voiding Contractor's warranty or bond, or relieving Contractor of its responsibilities during contract, warranty or bond periods.

1.3 WARRANTY REQUIREMENTS

A. Related damages and losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of warranty: When Work covered by a warranty by written endorsement.

1. Reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation but not less than 50% of the original warranty period of time.

C. Replacement cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents.

Cost of replacing or rebuilding defective Work during the warranty period, regardless of whether the Owner has benefited from use of the Work, is the Contractor's responsibility.

D. Upon contact from Owner requesting repair work covered by warranty, provide on-site response by repair team no later than twenty-four (24) hours from time of initial contact.

1.4 SUBMITTAL REQUIREMENTS
A. Assemble warranties, bonds, service contracts and maintenance contracts, executed by each of respective manufacturers, suppliers, and subcontractors.

B. Place all documents for each product in a separate tabbed section in the binder. Provide a table of contents listing each section in the binder.

C. Provide complete information for each item at the front of each section summarizing the following detail for each warranty section:
   1. Product or work item name.
   2. Firm responsible for the warranty, with name of principal, address and telephone number.
   3. Scope of the warranty.
   4. Date of beginning of each warranty, bond or service and maintenance contract will be established by the date of Final Acceptance as defined by OAR.
   5. Duration of warranty, bond or service maintenance contract.
   6. Provide proper procedure to follow in the event of a warranty failure and include descriptions of conditions of operation or maintenance which might affect validity of warranty or bond.
   7. Contractor, name of responsible principal, address and telephone number.

D. Provide two original signed copies of each warranty requiring a signature or other authentication.


1.5 FORM OF SUBMITTALS

A. Format:
   1. Size 8½" x 11", punch sheets for standard 3-ring binder.
   2. Fold larger sheets to fit into binders.
   3. Cover: Identify each packet with typed or printed title "Bonds and Warranties".
   4. List:
      a. Title of Project.
      b. Name of Contractor.

B. Binders: Commercial quality, 3-ring and no larger than three (3") inch, with durable and cleanable plastic covers.

1.6 TIME OF SUBMITTALS

A. Submit draft warranties along with Shop Drawings. Provide signed warranties or a letter of intent indicating that the draft warranty provided with the shop drawing will be provided with final warranty document provide at Final Completion.
B. Submit warranties to Owner’s Authorized Representative due at Final Completion.

1. When a designated portion of the Work is completed and occupied or used by the Owner, submit properly executed warranties to Owner’s Authorized Representative within fifteen days of completion of that designated portion of the Work.

2. For items of work, where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

1.7 SUBMITTALS REQUIRED

A. Submit warranties, bonds, service contracts and maintenance contracts as specified in each respective Specification Section.

B. Refer to each individual Section of Project Manual for specific warranty and bond submittal requirements.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1 – GENERAL
1.1 CLOSEOUT SUBMITTALS
   A. At Contract closeout, The Contractor shall deliver Record Documents to the
      Owner’s Authorized Representative. These records will be combined with the files
      from the Program Management Computer System and Central Document Files to
      make a complete history of the design and construction of the individual Project.
   B. Record Document Finish Manual: This is required for items requiring submittal for
      color, texture or finish selection. Finish manual shall be of “book” style with pages
      suited for mounting material samples.
   C. Accompany submittal with transmittal letter in duplicate, containing:
      1. Date.
      2. Project title and number.
      3. Contractor’s name and address.
      4. Title and number of each record document.
      5. Signature of Contractor or his authorized representative.

PART 2 – PRODUCTS
2.1 MARKING DEVICES
   A. Provide felt-tip marking pens for recording information in the color code designated
      by Owner’s Authorized Representative at the Pre-Construction Meeting.

2.2 DRAFTING SERVICES
   A. Retain competent drafting services, as necessary, for transfer of "mark up
      notations" from information recorded during construction.

PART 3 – EXECUTION
3.1 RECORD DOCUMENTS
   A. The Contractor shall maintain at the site one marked-up record copy of:
      1. Drawings.
      2. Specifications.
      3. Addenda.
      4. Change Orders and Other Modifications to the Contract.
      5. Owner’s Authorized Representative Written Instructions.
      6. Approved Shop Drawings, Product Data and Samples.
      7. Field Test Records, to include Commissioning Plan and Test Results and
         Final Report.
      8. Construction Photographs.

3.2 MAINTENANCE OF DOCUMENTS AND SAMPLES
   A. Store documents in Contractor’s field office apart from documents used for
      construction.
      1. Provide files and racks for storage of documents.
      2. Provide secure storage space for storage of samples.
B. File documents and samples in accordance with the Owner’s file plan.

C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by Owner’s Authorized Representative.

E. Incomplete or out of order documents and samples will be grounds for not approving application for payment.

3.3 MARKING DEVICES
A. Provide felt-tip marking pens for recording information in the color code designated by Owner’s Authorized Representative at the Pre-Construction Meeting.

3.4 RECORDING
A. Label each document "PROJECT RECORD", in neat large printed letters.

B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.

C. Drawings: Legibly mark to record actual construction:
   1. Depths of various elements of foundation in relation to finish first floor datum.
   2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
   4. Field changes of dimension and detail.
   5. Changes made by Field Order or by Change Order.
   6. Details not on original contract Drawings.
   7. Revisions to details shown on Drawings.
   8. Revisions to electrical circuitry.
   9. Actual equipment locations.
   10. Duct size and routing.
   11. References to related shop drawings and modifications.
   12. Note construction change directive numbers, alternate numbers, Change Order numbers and similar identification.

D. Retain competent drafting services, as necessary, for transfer of “mark-up notations” from information recorded during construction.

E. Permanent Record Drawings (As-Built Drawings).
   1. Contractor shall provide one (1) complete draft record set for review. After draft approval, the contractor shall submit a final record set of as-built drawings in electronic format as prescribed by the DFW CADD standards in AutoCAD. See Special Provisions 12.0. Additionally, a CD of .pdf as-built drawings will be submitted to the DFW Project Manager.
2. Converted As-built drawings require the appropriate certifications, endorsements, professional seals and signatures.

3. Size must be at least ½ size sheets – (equivalent to 17” x 22”)

4. Drawings can be bond copy affixed with appropriate certifications, endorsements, professional seals and signatures.

5. The As-built set shall be arranged according to the Contract Drawing and Specification numbering system used in the Contract Documents, including supplemental agreement and delivery order numbers. The Contractor shall provide an index and cross-referenced listing of each drawing sheet in the As-built set.

F. Specifications and addenda: Legibly mark each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by Field Order or by Change Order or RFI.

3.5 BURDEN OF ACCURACY

A. Reference General Provisions for requirements.

3.6 RECORDING

A. Post changes and modifications to the Documents as they occur. Owner will periodically review record documents to assure compliance.

B. Contractor will bring the current set of as-builts to the first weekly meeting of the month for Owner review.

– END OF SECTION –
PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements for stocking of extra material.

1.2 PRODUCTS REQUIRED

A. Provide quantities of extra materials specified in individual specification sections to Owner, in addition to quantities required for completion of Work.

B. Provide products to be identical to those installed in Work. Include quantities in original purchase from supplier or manufacturer to avoid variations in manufacture.

C. Provide a complete list, including specification or drawing references, of all extra materials to be provided under this contract within 90 days of Notice of Proceed. Submit list to Owner’s Authorized representative in both hardcopy and electronic file in Microsoft Excel.

1.3 STORAGE AND MAINTENANCE

A. Temporarily store extra materials with products to be installed in Work, under provision of Section 01 66 00, Product Storage and Handling Requirements, or in other location acceptable to Owner’s Authorized Representative.

B. When adequate, secure storage facilities are available at Site, capable of maintaining conditions required for storage and not required for Contract Work or storage; extra materials may be stored in available space.

C. Maintain extra materials in manufacturer's unopened original containers with labels intact and legible, until delivery to Owner’s Authorized Representative.

1.4 DELIVERY

A. Coordinate final delivery of extra materials with Owner’s Authorized Representative prior to Substantial Completion.

B. Deliver, unload, store, and account for specified quantities of extra materials in presence of Owner's Authorized Representative.

C. Owner will indicate final placement in building of extra materials.

D. Obtain written acceptance from Owner's Authorized Representative of receipt of specified quantities of extra materials.

E. For portions of Work accepted and occupied by Owner prior to Substantial Completion, deliver proportional quantity of spare parts and maintenance materials if requested by Owner’s Authorized Representative. Record quantities delivered with Owner's Authorized Representative.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

- END OF SECTION -
PART 1 – GENERAL

1.1 SUMMARY
A. Instruction and demonstration of operation of each system to Owner’s Authorized Representatives.
B. Amount of time to be devoted to instructional sessions shall be reasonable and consistent with size and complexity of equipment.

1.2 RELATED REQUIREMENTS
A. Section 01 78 23 – Operation and Maintenance Data

1.3 SUBMITTALS
A. A minimum of ten (10) days before scheduled date of instruction, submit proposed outline for each instruction session to Owner’s Authorized Representative for approval. Indicate list of topics to be covered and identify training and visual aids, which will be used.
B. Produce a professional quality video recording on DVD for each instruction session. Recordings will be produced by experienced videographers. One original copy of the video will be submitted to the Owner’s Authorized Representative for approval. Recordings of unacceptable quality will be remade at Contractor’s expense.
C. Submit complete record of instructions as part of Operations and Maintenance Data given to Owner. For each instructional period, supply following data:
   1. Date.
   2. System or equipment involved.
   3. Names of persons giving instructions.
   4. Other persons present.

1.4 QUALITY ASSURANCE
A. Arrange for services of qualified manufacturer’s representatives who are knowledgeable about the Project to instruct Owner’s personnel on proper maintenance, operation and calibration of equipment.

PART 2 – PRODUCTS

1.2 INSTRUCTION PROGRAM
A. Operating and maintenance manual shall constitute basis of instruction. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance including but not limited to start-up, daily operation, control adjustment, trouble-shooting, servicing, and maintenance and shut-down of each item of equipment.
   1. Prepare and insert additional data in Operation and Maintenance Manual when it becomes apparent during instruction that it is needed.
PART 3 – EXECUTION

1.3 INSTRUCTION OF OWNER’S PERSONNEL

A. Prior to date of final inspection or acceptance, instruct Owner’s designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment, and systems at agreed upon times. For equipment requiring seasonal operation, perform instructions for other seasons within six (6) months.

B. For equipment or systems requiring seasonal operation, return at first change of season for changeover from air conditioning to heating, or from heating to air-conditioning.

- END OF SECTION -
PART – 1 GENERAL

1.1 SUMMARY

A. This Section includes general requirements and procedures for compliance with DFW Green Building Standards (GBS) prerequisites and credits needed for the Project to comply with DFW TDP Sustainability Report.

1. Other GBS prerequisites and credits needed to obtain GBS certification are dependent on material selections and may not be specifically identified as GBS requirements. Compliance with requirements needed to obtain GBS prerequisites and credits may be used as one criterion to evaluate substitution requests.

2. Additional GBS prerequisites and credits needed to obtain the indicated GBS certification are dependent on the Architect's design and other aspects of the Project that are not part of the Work of the Contract.

3. A copy of the GBS Project checklist is attached at the end of this Section for information only.

1.2 REFERENCES

A. DFW Green Building Standards (GBS) (02.01.10)
B. DFW Terminal Development Program Sustainability Report

1.3 DEFINITIONS

A. Rapidly Renewable Materials: Materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.

B. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.

C. Regionally Extracted, Harvested, or Recovered Materials: Materials that are extracted, harvested, or recovered and manufactured within a radius of 500 miles from the Project site.

D. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer.)

1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.

2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.
1.4 SUBMITTALS

A. General: Submit additional GBS submittal requirements included in other sections of the Specifications.

B. GBS submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated GBS and DFW Sustainability Report requirements.

C. Sustainability Action Plans: Provide preliminary submittals within 14 days of date established for the Notice to Proceed indicating how the following requirements will be met.

2. Credit MR 1.4: Building Reuse - Maintain 50% of Interior Non-Structural Partitions
3. Credit MR 2.1 and 2.2: Waste management plan complying with Section 01 74 19, Construction Waste.
4. Credit MR 4.1 and 4.2: List of proposed materials with recycled content.
   a. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
5. Credit MR 5.1 and 5.2: List of proposed regionally manufactured materials and regionally extracted, harvested, or recovered materials.
   a. Identify each regionally manufactured material, its source, and cost.
   b. Identify each regionally extracted, harvested or recovered material, its source, and cost.
6. Credit EQ 3.1 and EQ 3.2: Construction indoor air quality management plan.

D. Sustainable Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with Sustainability action plans for the following:

2. Credit MR 1.4: Building Reuse - Maintain 50% of Interior Non-Structural Partitions
3. Credit MR 2.1 and 2.2: Waste reduction progress reports complying with Section 01 74 19, Construction Waste.
4. Credit MR 4.1 and 4.2: Recycled content.
5. Credit MR 5.1 and 5.2: Regionally manufactured materials and regionally extracted, harvested, or recovered materials.

E. Sustainability Documentation Submittals:
1. Credit SS 8.0: Product Data for interior and exterior lighting fixtures that stop direct-beam illumination from leaving the building site.

2. Credit WE 3.1 and 3.2: Product Data for plumbing fixtures indicating water consumption.

3. Prerequisite EA 3.0: Product Data for new HVAC equipment indicating absence of CFC refrigerants.

4. Credit EA 4.0: Product Data for new HVAC equipment indicating absence of HCFC refrigerants, and for clean-agent fire-extinguishing systems indicating absence of HCFC and Halon.

5. Credit MR 2.1 and 2.2: Comply with Section 01 74 19, Construction Waste and DFW Sustainability Report.

6. Credit MR 4.1 and 4.2: Product Data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.

7. Credit MR 5.1 and 5.2: Product Data indicating location of material manufacturer for regionally manufactured materials.
   a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.
   b. Include statement indicating cost and distance from point of extraction, harvest, or recovery to Project for each raw material used in regionally manufactured materials.

8. Credit EQ 1.0: Product Data and Shop Drawings for carbon dioxide monitoring system.

9. Credit EQ 3.1:
   a. Construction indoor air quality management plan.
   b. Product Data for temporary filtration media.
   c. Product Data for filtration media used during occupancy.
   d. Construction Documentation: Six photographs at three different occasions during construction along with a brief description of the SMACNA approach employed, documenting implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.

10. Credit EQ 3.2:
    a. Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
    b. Product Data for filtration media used during flush-out and during occupancy.
c. Report from testing and inspecting agency indicating results of IAQ testing and documentation showing conformance with IAQ testing procedures and requirements.

11. Credit EQ 4.1: Product Data for adhesives and sealants used on the interior of the building indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).

12. Credit EQ 4.2: Product Data for paints and coatings used on the interior of the building indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).

13. Credit EQ 4.3: Product Data for carpet products indicating VOC content of each product used.

14. Credit EQ 7: Product Data and Shop Drawings for sensors and control system used to monitor and control room temperature and humidity.

PART – 2 PRODUCTS

2.1 RECYCLED CONTENT OF MATERIALS

A. Credit MR 4.1: Provide building materials with recycled content such that post-consumer recycled content constitutes a minimum of five percent of the cost of materials used for the Project or such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10 percent of the cost of materials used for the Project.

Note to Specifier: Delete paragraph above or below.

B. Credits MR 4.1 and MR 4.2: Provide building materials with recycled content such that post-consumer recycled content constitutes a minimum of 10 percent of the cost of materials used for the Project or such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 20 percent of the cost of materials used for the Project.

1. The cost of post-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.

2. The cost of post consumer recycled content plus one-half of pre-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content plus one-half of pre-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.

3. Do not include mechanical and electrical components in the calculation.


2.2 REGIONAL MATERIALS

A. Credit MR 5.1: Provide minimum 20 percent of building materials (by cost) that are regionally manufactured materials.
2.3 LOW-EMITTING MATERIALS

A. Credit EQ 4.1: For interior applications use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):

1. Wood Glues: 30 g/L.
2. Metal to Metal Adhesives: 30 g/L.
3. Adhesives for Porous Materials (Except Wood): 50 g/L.
4. Subfloor Adhesives: 50 g/L.
5. Plastic Foam Adhesives: 50 g/L.
6. Carpet Adhesives: 50 g/L.
7. Carpet Pad Adhesives: 50 g/L.
8. VCT and Asphalt Tile Adhesives: 50 g/L.
9. Cove Base Adhesives: 50 g/L.
10. Gypsum Board and Panel Adhesives: 50 g/L.
11. Rubber Floor Adhesives: 60 g/L.
12. Ceramic Tile Adhesives: 65 g/L.
13. Multipurpose Construction Adhesives: 70 g/L.
14. Fiberglass Adhesives: 80 g/L.
15. Structural Glazing Adhesives: 100 g/L.
16. Wood Flooring Adhesive: 100 g/L.
17. Contact Adhesive: 250 g/L.
18. Plastic Cement Welding Compounds: 350 g/L.
19. ABS Welding Compounds: 400 g/L.
20. CPVC Welding Compounds: 490 g/L.
21. PVC Welding Compounds: 510 g/L.
22. Adhesive Primer for Plastic: 650 g/L.
23. Sealants: 250 g/L.
24. Sealant Primers for Nonporous Substrates: 250 g/L.
25. Sealant Primers for Porous Substrates: 775 g/L.

B. Credit EQ 4.2: For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:

1. Flat Paints and Coatings: VOC not more than 50 g/L.
2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
4. Varnishes and Sanding Sealers: VOC not more than 350 g/L.
5. Stains: VOC not more than 250 g/L.
6. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
7. Restricted Components: Paints and coatings shall not contain any of the following:
   a. Acrolein.
   b. Acrylonitrile.
   c. Antimony.
   d. Benzene.
   e. Butyl benzyl phthalate.
   f. Cadmium.
   g. Di (2-ethylhexyl) phthalate.
   h. Di-n-butyl phthalate.
   i. Di-n-octyl phthalate.
   j. 1,2-dichlorobenzene.
   k. Diethyl phthalate.
   l. Dimethyl phthalate.
   m. Ethylbenzene.
   n. Formaldehyde.
   o. Hexavalent chromium.
   p. Isophorone.
   q. Lead.
   r. Mercury.
   s. Methyl ethyl ketone.
   t. Methyl isobutyl ketone.
   u. Methylene chloride.
   v. Naphthalene.
   w. Toluene (methylbenzene).
   x. 1,1,1-trichloroethane.
   y. Vinyl chloride.
PART – 3 EXECUTION

3.1 CONSTRUCTION WASTE MANAGEMENT
   A. Credit MR 2.1 and 2.2: Comply with Section 01 74 19, Construction Waste.

3.2 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT
   A. Credit EQ 3.1: Comply with SMACNA IAQ Guideline for Occupied Buildings under Construction.

Coordinate subparagraph below with Division 1 Section "Temporary Facilities and Controls." Identify air handlers and associated return-air inlets authorized by Owner for use during construction period.

   1. If Owner authorizes the use of permanent heating, cooling, and ventilating systems during construction period as specified in Section 01 50 00, Temporary Facilities and Controls, install filter media having a MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.

   Retain first option in subparagraph below if building air flush-out is not required.

   2. Replace all air filters immediately prior to occupancy. Replacement air filters shall have a MERV 13 according to ASHRAE 52.2.

B. Credit EQ 3.2:

Many air-handling units are not capable of 100-percent outdoor air. Only "make-up-air units" and "replacement-air units" and those units specified with economizer cycles have duct connections to allow for 100-percent outdoor air. Units with economizer cycles may not have capacity to do building air flush-out during other than moderate outdoor-air temperature and humidity conditions. This may limit the time when building air flush-out can be performed and, because of limitations in duct connections, it may not be possible to perform a building air flush-out in some or all of the building. Temporary provisions must be required to relieve or exhaust outdoor air introduced during building air flush-out. Verify that equipment receiving MERV 13 air filters can support associated static pressures before retaining paragraph below. MERV 13 air filters may have higher static pressures than originally designed for air handlers.

   1. Engage an independent testing and inspecting agency to conduct a baseline indoor air quality testing program according to EPA Protocol for Environmental Requirements, Baseline IAQ and Materials.

- END OF SECTION -
PART 1 – GENERAL

1.1. SUMMARY

A. Section includes the following:

1. Start up and testing of equipment and systems.
2. Identification and documentation of equipment and system deficiencies and failures.
3. Corrective actions and acceptance of corrected equipment and systems.
4. Operation and Maintenance (O&M) manuals and Owner Training.
5. Coordination of Subcontractors / Installer requirements.

B. Related Division 1 Sections:

1. Section 01 33 23 - Shop Drawings, Product Data, and Samples
2. Section 01 45 16.13 - Contractor Quality Control
3. Section 01 78 23 - Operation and Maintenance Data
4. Section 01 78 33 - Bonds and Warranties
5. Section 01 78 39 - Project Record Documents
6. Section 01 79 00 - Demonstration and Training

1.2 DESCRIPTION

A. Equipment/systems to be commissioned will be listed in detail in the Specifications listed below, when applicable with the Project’s Scope of Work:

1. Division 25 – Integrated Automation
2. Division 26 – Electrical
3. Division 32 – Exterior Improvements
4. Division 33 – Utilities
5. Division 27 – Communications

1.3 DEFINITIONS

A. **Commissioning:** Commissioning is a systematic process of ensuring that all building systems perform interactively according to the design intent and the Owner’s operational needs. Commissioning during the construction phase is intended to achieve the following specific objectives according to the Contract Documents.

1. Verify that applicable equipment and systems are installed according to the contract requirements, manufacturer’s recommendations and to industry accepted minimum standards and that they receive adequate operational checkout by installing contractors.
2. Verify and document proper performance of equipment and systems.
3. Verify that O&M documentation is complete.
4. Verify that the Owner’s operating personnel are adequately trained.

B. **Commissioning Agent (CxAg):** The Commissioning Agent chairs the Commissioning Team and coordinates and oversees the development and execution of the Commissioning Plan. The Commissioning Agent shall be selected and employed by the Owner. The Commissioning Agent firm shall employ a licensed professional engineer in the state of Texas and shall be experienced in the commissioning of mechanical and electrical systems of the type and complexity installed in this project. The Commissioning Agent shall have experience in construction process, direct digital control systems, and test adjust and balance (TAB). The Commissioning Agent shall not be associated with or employed by the Contractor or any of its subcontractors or equipment/systems suppliers connected with the project.

C. **Commissioning Coordinators:** Authorized representatives of the Owner, Contractor, Installing Contractors or other members of the Commissioning Team who are designated in writing to the Commissioning Agent, who attend commissioning meetings and who act as the responsible central point of contact between their companies and the Commissioning Agent.

D. **Commissioning Plan:** The Commissioning Plan, written and prepared by the Commissioning Agent, provides guidance and outlines the execution of the Commissioning process, verifying that the systems perform at or above the expected level as specified in the Contract Documents. The Commissioning Plan is a detailed account of the Commissioning activities as they relate to the project. The plan includes a listing of Commissioning Team members, phases of the particular project, each team member’s Commissioning related responsibilities during each phase and the expected deliverables from each team member. Communication protocols between the members of the team and their respective companies are defined in the Commissioning Plan. As a living document, the plan will be continuously updated to reflect the evolving process as developed by the Commissioning Team.

E. **Commissioning Team:** The Commissioning Team can consist of all or part of the following members as dictated by the complexity and length of a project:

1. Commissioning Agent (CxA)
2. Architect/Engineer (Designer)
3. General Contractor
4. Controls Contractor (CC)
5. Electrical Contractor (EC)
6. Mechanical Contractor (MC)
7. Fire Protection Contractor
8. Owner’s Authorized Representative (OAR)
9. Owner’s Building or Plant Operator/Engineer
10. Other Installing Subcontractors or suppliers of equipment.
11. Asset Management Representative
12. Testing, Adjusting and Balancing Contractor
13. Other Installing Contractors or suppliers of equipment.

F. Contractor: The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the Work contracted and for the payment of all legal debts pertaining to the Work who acts directly or through lawful agents or employees to complete the contract Work.

G. Contractors Test Report: Contractors’ tests are defined as any form of start-up, adjustment or calibration performed on individual pieces of equipment as specified within the technical sections of the construction documents. The Commissioning Agent will provide a Test Report Form to be used by the Installing Contractor as a cover sheet to the actual test results, for the documentation of each specified contractors test.

H. Deficiency: An observation that prohibits the successful passing of any step on the verification test procedure for any equipment/system that is specified in the commissioning scope of the project.

I. Installing Contractor: Contractor/Supplier responsible for the actual installation of the equipment/system.

J. Pre-Functional / System Readiness Checklist (SRCs): Checklists created by the Commissioning Agent designed to demonstrate that the system is completely installed and ready for operational testing. At the end of installation, the Installing Contractor completes the checklist to certify that the work is complete and the system is ready for independent verification testing.

K. Verification / Functional Test Procedure (FPT): A procedure that confirms each system will perform as specified functionally. The Installing Contractor will perform the verification testing. The Commissioning Agent will coordinate, witness, and document the final verification testing. Installing Contractor will sequence the system as outlined in the approved verification test procedure and provide the required test equipment.

1.4 COMMISSIONING PLAN

A. Commissioning Plan. The Commissioning Plan provides guidance in the execution of the Commissioning process. The Commissioning Plan is included at the end of this section for reference only. The Commissioning Plan is included as Section 01 91 00.13 – Commissioning Plan.

B. Commissioning Process. The following provides a brief overview of typical commissioning tasks during construction and the general order in which they occur.

1. Commissioning during construction begins with a scoping meeting conducted by the Commissioning Agent where the Commissioning process is reviewed with the Commissioning Team members.

2. Additional meetings may be required throughout construction to plan, scope, coordinate, schedule future activities and resolve problems.

3. Equipment documentation is submitted to the Commissioning Agent through normal submittals, including detailed start-up procedures.

4. The Commissioning Agent works with the Commissioning Team in developing start-up documentation formats, including pre-functional checklists to be completed, during the start-up process.
5. The checkout and performance verification proceeds from simple to complex, from component level to equipment to systems and intersystem levels with pre-functional checklists being completed before functional testing.

6. The Installing Contractors, under their own direction, execute and document the pre-functional checklists and perform start-up and initial checkout. The Contractor documents that the checklists and start-up were completed according to the approved plans. Installing Contractor(s) will provide a minimum 72 hour notice, 3 normal business days, notification to the Commissioning Agent, Owner’s Authorized Representative, and Owner’s personnel of the date and time scheduled for performing start-up and initial checkout processes prior to the start up, so that they may witness start-up and the initial checkout.

7. The Contractor, in cooperation with the Installing Contractors, develops specific equipment and system functional performance test procedures.

8. The procedures are executed by the Installing Contractors, under the direction of, and documented by the Contractor with representation from the Commissioning Agent.

9. Items of non-compliance in material, installation or setup are corrected at the Installing Contractor’s expense and the system retested until deficiencies are corrected.

10. The Contractor reviews the O&M documentation for completeness and schedules and coordinates Owner training. All O&M documentation must be submitted per Section 01 78 23, Operation and Maintenance Data and approved before the start of training.

11. Commissioning shall be completed and documented before Substantial Completion inspection is scheduled.

12. The Contractor reviews, pre-approves and coordinates the training provided by the Installing Contractors and verifies that it was completed.

13. Deferred testing is conducted, as specified or required.

1.5 RESPONSIBILITIES

A. The Contractor shall:

1. Develop and provide a complete list of equipment and systems to be commissioned and of equipment and systems requiring Owner training for inclusion into the Commissioning Plan.

2. Facilitate the coordination of the Commissioning work and ensure that Commissioning activities are being scheduled and input into the master schedule.

3. Include the cost of Commissioning in the contract price.

4. Furnish a copy of all construction documents, addenda, requests for information, change orders, and approved submittals and shop drawings related to commissioned equipment to the Commissioning Agent.
5. Ensure each purchase order or subcontract written, includes requirements for submittal data, O&M data, commissioning tasks and training.

6. Develop and document Commissioning test procedures for all equipment with Installing Contractors.

7. Ensure that all Installing Contractors execute their Commissioning responsibilities according to the Commissioning Plan, Contract Documents and schedule.

8. Designate a Commissioning Coordinator who shall attend commissioning scoping meeting and other necessary meetings scheduled by the Commissioning Agent to facilitate the Commissioning process.


B. The Contractor shall ensure that all Installing Contractors:

1. Include the cost of commissioning as a line item in the sub-contract price.

2. Provide submittal data, O&M data, commissioning tasks and training according to Contract Documents in each purchase order or subcontract written.

3. Designate a Commissioning Coordinator who shall attend Commissioning scoping meeting and other meetings scheduled and required by the Commissioning Agent to facilitate the Commissioning process.

4. Provide normal cut sheets and shop drawing submittals of approved equipment as part of the submittals.

5. Provide documentation prior to normal O&M manual submittals to the Contractor and Commissioning Agent for development of start-up and functional testing procedures.
   a. Provide the following:
      1. Detailed manufacturer installation and start-up instruction.
      2. Operating, troubleshooting and maintenance procedures.
      3. Full details of any Owner-contracted tests.
      4. Full factory test reports.
      5. Full warranty information which clearly identifies all responsibilities of the Owner to keep the warranty in force.
      6. Installation, start-up and checkout materials that are shipped with the equipment.
      7. Field checkout sheet forms to be used by the, factory or field.
   b. Provide a preliminary O&M Manual to the Commissioning Agent for review and comment. The manual will follow the guidelines as set forth in Section 01 78 23 - Operation and Maintenance Data.
   c. Provide additional documentation, deemed necessary by the Commissioning Agent, for the Commissioning process.
6. Prepare and provide a copy of the O&M manuals and submittals of commissioned equipment according to the Contract Documents, including clarifying and updating the original sequences of operation to as-built conditions through normal channels through the Contractor to the Commissioning Agent for review and comment.

7. Assist in clarifying the operation and control of commissioned equipment in areas where the specifications, control drawings or equipment documentation are not sufficient for writing detailed testing procedures. Coordinate efforts with Engineer as required.

8. Provide the specific functional performance test procedures to ensure feasibility, safety and equipment protection and provide necessary written alarm limits to be used during the tests to the Commissioning Agent through the Contractor.

9. Develop a full start-up and initial checkout plan using manufacturer’s start-up procedures and the pre-functional checklists for all commissioned equipment. Submit through the Contractor to Commissioning Agent for review and comment prior to start-up.

10. Execute the Pre-functional System Readiness Checklists for all commissioned equipment during the start-up and initial checkout process.

11. Perform and clearly document all completed start-up and system operational checkout procedures, providing a copy to the Contractor and Commissioning Agent.

12. Address and resolve current punch list items before functional testing.

13. Provide skilled technicians to execute starting of equipment and to execute the functional performance tests. Ensure that technicians are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments, and problem solving.

14. Perform functional performance testing for specified equipment. Assist the Commissioning Agent in interpreting the data, as necessary.

15. Correct differences between specified and observed performance as interpreted by the Contractor and/or Commissioning Agent and Engineer and retest the equipment.

16. Prepare O&M manuals according to the Contract Documents, including clarifying and updating the original sequences of operation to as-built conditions.

17. Prepare redline and CAD as-built drawings for all drawings and final as-builds for Contractor-generated coordination drawings.

18. Provide training of the Owner’s operating personnel as required in the Commissioning Plan.

19. Coordinate with equipment manufacturers to determine specific requirements to maintain the validity of the warranty. Develop, execute and document contractor maintenance plans for equipment put into service prior to beneficial occupancy. Provide records and reports of all pre-turnover maintenance.
20. Provide equipment for testing per specification requirements.

C. The Contractor shall ensure that Equipment Suppliers:

1. Provide all requested submittal data, including detailed start-up procedures and specific responsibilities of the Owner to keep warranties in force.

2. Include all special tools, including software and instruments only available from vendor and specific to a piece of equipment required for testing equipment according to these Contract Documents in the base bid price to the Contractor. This does not include stand-alone data logging equipment that may be used by the Commissioning Agent.

3. Provide information requested by the Commissioning Agent regarding equipment sequence of operation and testing procedures.

4. Review test procedures for equipment installed by factory representatives.

D. Engineer (Designer).

1. As required, designate a Commissioning Coordinator who shall attend commissioning scoping meeting and other necessary meetings scheduled by the Commissioning Agent to facilitate the commissioning process.

2. Provide Basis of Design (BOD) documentation to the Commissioning Agent.

3. Prepare System Readiness Checklists for each equipment/system to be commissioned.

4. Assist in clarifying the operation and control of commissioned equipment in areas where specifications, control drawings or equipment documentation are not sufficient for writing detailed testing procedures.

5. Review O&M manuals according to Contract Documents.

6. Provide technical assistance for resolution of non-conformances or deficiencies.

E. Commissioning Agent. The primary role of the Commissioning Agent is to prepare and execute the Commissioning Plan, and to observe and document performance. In this role the Commissioning Agent is to identify which systems are functioning in accordance with the Contract Documents and those that need corrective action. The Commissioning Agent is not responsible for design concept, design criteria, compliance with codes, design or general construction scheduling, cost estimating, or construction management. The Commissioning Agent may assist with problem solving non-conformances or deficiencies, but ultimate responsibility for correcting Deficiencies resides with the Contractor, Installing Contractor, Manufacturer and/or Engineer as appropriate.

1. Coordinates the development of and maintains the Commissioning Plan.

2. Coordinate Commissioning activities.

3. Coordinate the commissioning work and coordinate with the Commissioning Team to ensure that Commissioning activities are being incorporated into the master schedule.
4. Assist with the revisions to the Commissioning Plan during the construction phase of the Project.

5. Plan and conduct a Commissioning scope meeting.

6. Request and review information required to perform Commissioning tasks, including O&M materials, Contractor start-up and checkout procedures.

7. Before start-up, gather and review the current control sequences and interlocks and work with Installing Contractor and Design Engineers until sufficient clarity has been obtained, in writing, to be able to assure detailed testing procedures are written.

8. Review Contractor and Installing Contractors submittals applicable to systems being commissioned for compliance with commissioning needs, along with Contractor design reviews.


10. Review and approve the start-up and initial systems checkout plan as developed by the Installing Contractors.

11. Perform site visits, to observe component and system installations. Attend selected planning and job-site meetings to obtain information on construction progress. Review construction-meeting minutes for revisions/substitutions relating to the commissioning process. Assist in resolving discrepancies.

12. Approve pre-functional tests and checklist completion by reviewing pre-functional checklist reports and by selected site observation and spot-checking.

13. Approve systems startup by reviewing start-up reports and by selected site observation.


15. Coordinate, witness and approve manual functional performance tests performed by Installing Contractors. Coordinate re-testing as necessary until satisfactory performance is achieved.

16. Review equipment warranties to ensure that the Owner’s responsibilities are clearly defined.

17. Oversee and coordinate the training of the Owner’s operating personnel.

18. Compile and maintain a Commissioning issues record log, to include observations as required.

19. Review and approve the O&M manuals.

20. Provide a final Commissioning report. Make suggestions for improvements and revisions in the O&M manuals. Identify additional areas that should be included in the warranty information provided or in other areas under the Contract Documents. Assist airport staff in
developing reports, documents and requests for services to remedy outstanding problems.

1.6 SCHEDULING
A. The Commissioning Agent will work with the Contractor to schedule the Commissioning activities. The Contractor will integrate all commissioning activities into the master schedule. All parties will address scheduling problems and make necessary notifications in a timely manner in order to expedite the commissioning process.

1.7 QUALITY ASSURANCE
A. The Contractor will assign a Commissioning Coordinator with at least five years' experience with coordination of construction disciplines and verification testing of complete systems. This position is not a full time position unless the complexity of the job requires such a full time position. Contractor Commissioning Coordinator’s responsibilities include:
   1. Coordination meetings.
   2. Planning.
   3. Scheduling.
   4. Documentation.
   5. Maintain communication and coordination with Commissioning Agent.
   6. Development of testing procedures in coordination with the Installing Contractor.
   8. System readiness checklists submittal.
   9. Perform system verification tests.
   10. Corrective actions rectification and documentation.
   11. Specified training planning and coordination.

1.8 QUALITY CONTROL
A. Ensure that the Contractor and all contractually responsible Installing Contractors follow the established Contractor’s Quality Control Program and Procedures.
B. Ensure that the Contractor and contractually responsible Installing Contractors correct all deficiencies and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

1.9 SUBMITTALS
A. The Commissioning Agent will provide the Contractor with a specific request for the type of submittal documentation required to facilitate the commissioning work. These requests include the submission of electronic versions of all submittals, documents, manuals, etc. and will be integrated into the normal submittal process and protocol of the Construction Team and added to the Contractor’s submittal register. At minimum, the request will include:
   1. Manufacturer and model number.
2. Manufacturer’s printed installation and detailed start-up procedures.
3. Full sequences of operation.
4. O&M data.
5. Performance data.
6. Any performance test procedures.
7. Control drawings.
8. Details of Owner contracted tests.
9. List of installation materials that are shipped with the equipment.
10. Field checkout sheet forms to be used by the factory or field technicians.
11. Factory test results.

B. All documentation requested by the Commissioning Agent will be included in the Installing Contractors O&M manual contributions.

C. The Commissioning Agent will review and approve submittals related to the commissioned equipment for conformance to the Contract Documents as it relates to the commissioning process, to the functional performance of the equipment and to adequacy for developing test procedures. This review is intended primarily to aid in the development of functional testing procedures and only secondarily to verify compliance with equipment specifications.

D. Contractor to ensure that Installing Contractors designate Commissioning Coordinators and provide information facilitating the incorporation and coding identification of commissioning activities in the Contractors’ master construction schedule within four (4) weeks of contract award.

E. Contractor submit detailed verification testing schedule to Commissioning Agent at least four (4) weeks prior to start of testing.

F. Contractor to ensure that Installing Contractors submit Test Reports through the Contractor to Commissioning Agent upon successful completion of each test.

G. Contractor to ensure that Installing Contractors submit Operation and Maintenance manuals (Format, Content, and Organization) through the Contractor to Designer and the Commissioning Agent for review within at least ninety (90) days prior to the start of scheduled verification testing.

H. Contractor and Installing Contractors submit Operations and Maintenance manuals and the individual technical sections requiring operations and maintenance manuals. The requirements of these Sections will govern.

I. The vendor and equipment installer/sub-contractor will certify that installed and operating equipment and systems have been completed (with all deficiencies corrected) and that they are performing to contract specifications per tests and other requirements stipulated.

1.10 TRAINING

A. Contractor shall coordinate operation and maintenance training activities through the Commissioning Plan.
1. Contractor shall provide training plans for equipment software systems and major components as specified in individual Technical Specifications ninety (90) days prior to beginning Verification testing.

B. The Training Plan should include:

1. Equipment or system involved in training session.
2. Trainer's name, company and experience.
3. Course outline / syllabus and list of training materials.
4. Time required for the training session(s).

C. Suggested Training Topics:

1. Preventive maintenance procedures and frequencies.
3. Normal range of gauge and meter readings.
4. Use of special tools.
5. Source of operating supplies, lubricants, cleaning materials, etc.
6. Manufacturer contact names and telephone numbers.
7. Warranty periods and enforcement procedures.
8. Design and normal functional operating parameters (capacities, flows, temperatures, speeds, energy consumption, etc.
9. Breakdown or malfunction conditions and troubleshooting.
10. Routine testing procedures.

D. Contractor shall document performance of training session by completing the Operation and Maintenance Training Form. Indicate on the form:

1. Date of training.
2. List of attendees and their affiliation.
3. Planned Duration of training (hours and/or minutes).
4. Topics agenda, instructor names & company affiliation, instructor contact information.
5. Detailed List of planned handouts.

E. Contractor shall obtain written acceptance of training session from the Commissioning Agent on Operation and Maintenance Training Form.

F. Contractor shall videotape all training sessions. Record in each .wmv format session on a dedicated digital video disk (DVD) standard play mode. Submit four (4) DVDs to the Commissioning Agent with fully executed Operation and Maintenance Training Form.

PART 2 – PRODUCTS

2.1 TEST EQUIPMENT

A. Provide all standard testing equipment required to perform startup and initial checkout and required functional performance.
B. Provide special equipment, software, tools, and instruments that are only available from vendor and specific to a piece of equipment (test tools) required for testing equipment. These test tools are to become the property of Owner when testing is completed. Repair any damage to these test tools and calibrate so they are fully functional when given to the Owner. Provide full documentation on the use, maintenance and calibration with these test tools.

C. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications.

D. Calibration records for all testing equipment shall be provided to the Commissioning Agent through the Contractor.

PART 3 – EXECUTION

3.1 MEETINGS

A. **Scoping Meeting:** Approximately 30-60 days prior to construction NTP and/or installation (of the equipment/systems to be commissioned), the Commissioning Agent will schedule, plan and conduct a commissioning scoping meeting with the entire commissioning team in attendance. The Contractor will prepare and distribute meeting minutes to all parties. Information gathered from this meeting will allow the Commissioning Agent to revise the Commissioning Plan to its “final” version, which will also be distributed to all parties.

B. **Miscellaneous Meetings:** Other meetings may be planned and conducted by the Commissioning Agent as construction progresses. These meetings will cover such items as coordination, deficiency resolution and planning issues with particular Installing Contractors.

3.2 REPORTING

A. The Commissioning Agent will provide regular updates and reports.

B. The Commissioning Agent will regularly communicate with the OAR, keeping them apprised of Commissioning progress and scheduling changes through memos, progress reports, etc.

C. The Commissioning Agent will prepare non-conformance and deficiency reports with the review and testing as described in later sections.

D. A final summary report by the Commissioning Agent will be provided focusing on evaluating commissioning process issues and identifying areas where the process could be improved. All acquired documentation, logs, minutes, reports, deficiency lists, communications, findings, unresolved issues, etc., will be compiled in appendices and provided with the summary report. Pre-functional checklists, functional tests and monitoring reports will be part of the final report.

3.3 CONTRACTOR TESTS

A. The Contractor shall ensure that the Installing Contractor/Suppliers provide a list and schedule of specified contractor tests to the Commissioning Agent.

B. Unless specified otherwise, the Contractor shall provide a minimum two (2) weeks notice to the Commissioning Agent before execution of specified Contractor’s tests.

C. The Contractor shall submit test reports to the Commissioning Agent and Engineer (Designer) within one week of completion of each test.
3.4 SUBSTANTIATING SYSTEM READINESS (CONTRACTOR)

A. Construct or install systems and confirm readiness for testing prior to start of verification test procedures.

B. Inform the Commissioning Agent in writing of system readiness for verification testing at least two-weeks prior to the scheduled start of testing. Complete System Readiness Checklists and submit to Commissioning Agent.

C. Perform and document instrumentation and digital controller calibration or provide documentation verifying manufacturer’s performance of calibration prior to verification testing. The Commissioning Agent may observe calibration procedures.

D. System verification testing will not commence until system is documented ready for testing via submittal of System Readiness Checklist to the Commissioning Agent.

3.5 START-UP, PRE-FUNCTIONAL / SYSTEM READINESS CHECKLISTS AND INITIAL CHECKOUT

A. The following procedures apply to all equipment and systems to be commissioned.

B. The Installing Contractor responsible for startup of any equipment/system will develop detailed start-up plans for all equipment. Each piece of equipment will receive a full pre-functional checkout. The Commissioning Agent will assist in the development of detailed start-up plan to ensure that each of the manufacturer-recommended procedures has been completed. Parties responsible for pre-functional checklists and startup are identified in the commissioning scoping meeting and in the checklist forms. Parties responsible for executing functional performance tests are identified in the testing requirements.

1. The Commissioning Agent will assist in the development of checklists that indicate required procedures to be executed as part of startup and initial checkout of the systems and the party responsible for their execution.

2. The Contractor determines which trade is responsible for executing and documenting each of the line item tasks and notes that trade on the form. Each form may have more than one trade responsible for its execution.

3. The Contractor will ensure that the Installing Contractor responsible for the purchase of the equipment develops the full start-up plan by combining (or adding to) the Engineer checklists with the manufacturer's detailed start-up and checkout procedures from the O&M manual and the field checkout sheets. The Commissioning Plan will include checklists and procedures with specific boxes or lines for recording and documenting the checking and inspections of each procedure and a summary statement with a signature block at the end of the plan. The full start-up plan could consist of:

   a. Pre-functional checklists.

   b. Manufacturer’s standard written start-up procedures copied from the installation manuals with check boxes by each procedure and a signature block added by hand at the end.
c. The manufacturer’s field checkout sheets.

4. The Contractor will submit the full start-up plan to the Commissioning Agent for review and approval.

5. The Commissioning Agent will review and approve the procedures and the format for documenting them, noting any procedures that need to be added.

6. The full start-up procedures and the approval form may be provided to the Contractor for review and approval, depending upon the management protocol.

C. Execution of Pre-functional Checklists and Start-up.

1. Two (2) weeks prior to start-up, the Contractor and its’ Installing Contractors and vendors will schedule start-up and checkout with the Commissioning Agent. The performance of the pre-functional checklists, startup and checkout are directed and executed by the Installing Contractor or vendor with oversight by the Contractor. When checking off pre-functional checklists, signatures may be required of other Installing Contractors for verification of completion of work.

2. The Commissioning Agent shall observe the procedures for each piece of primary equipment At the Commissioning Agents discretion, a statistical sampling strategy may be used for multiple units of the same equipment.

3. The Commissioning Agent shall observe a sampling of the pre-functional and start-up procedures for lower-level components of equipment.

4. The Contractor in conjunction with Installing Contractors shall execute start-up and provide the Commissioning Agent with a signed and dated copy of the completed start-up and pre-functional tests and checklists.

5. Only individuals that have direct knowledge and witnessed that a line item task on the pre-functional checklist was actually performed shall initial or check that item off.

D. Deficiencies, Non-conformance and Approval in Checklists and Start-up.

1. The Contractor shall ensure that the Installing Contractors clearly list any outstanding items of the initial start-up and pre-functional procedures that were not completed successfully, at the bottom of the procedures form or on an attached sheet. The procedures form and any outstanding Deficiencies are provided to the Contractor and Commissioning Agent within two (2) days of test completion.

2. The Contractor and Commissioning Agent review the report and submit either a non-compliance report or an approval to the Installing Contractor. The Contractor and Commissioning Agent shall work with the Installing Contractors to correct test Deficiencies or uncompleted items. The Contractor shall have its’ Installing Contractor correct all areas that are Deficient or incomplete in the checklists and test in a timely manner, and shall notify the Commissioning Agent as soon as outstanding items have been corrected and resubmit an updated start-up report and a statement of correction on the original Non-Compliance Report. When satisfactorily completed, the Commissioning Agent recommends approval of the
execution of the checklists and start-up of each system using a standard form.

3.6 VERIFICATION/ FUNCTIONAL TESTS

A. Objective. The objective of functional testing and verification tests is to demonstrate that each system is operating according to the documented design intent and Contract Documents. Functional testing facilitates bringing the systems from a state of substantial completion to full dynamic operation. Each system should be operated through all modes of operation where there is a specified system response. Verifying each sequence in the sequences of operation is required.

B. Functional testing and verification may be achieved by manual testing (persons manipulate the equipment and observe performance) or by monitoring the performance and analyzing the results. The Commissioning Agent will determine which method is most appropriate for tests that do not have a method specified. Simulating conditions shall be allowed, though timing the testing to experience actual conditions is encouraged wherever practical. Each function and test shall be performed under conditions that simulate actual conditions as close as is practically possible. The Contractor and its’ Installing Contractor executing the test shall provide all necessary materials, system modifications, etc. to produce the necessary flows, pressures, temperatures, etc. necessary to execute the test according to the specified conditions. At completion of the test, the Contractor and its’ Installing Contractor shall return all affected building equipment and systems, due to these temporary modifications, to their pre-test condition.

C. The Contractor and its’ Installing Contractors perform verification test procedures as outlined in the approved verification test plan.

D. The Installing Contractors will provide input into the Contractors master scheduling process with regards to timing and duration of verification test procedures.

E. The Commissioning Agent will review and provide comment on final detailed verification test procedures. The Contractor and its’ Installing Contractors shall develop the verification test procedures from information incorporated in system shop drawings and submittals. Provide feedback on the efficiency of the procedures and possible alternate approaches to achieving the same results.

F. The Contractor and its’ Installing Contractors will provide personnel and equipment, to perform the verification test procedures.

3.7 CORRECTIVE ACTIONS

A. The Contractor shall perform corrective actions for resolution of deficiencies found during:
   1. QA/QC reviews/inspections and listed in the Outstanding Punch List Log.
   2. Contractor testing.
   3. Test and balance.
   5. System Readiness Checklist performances.
   6. Verification testing.
B. The Contractor will document deficiencies discovered during the Commissioning process on Corrective Action Report (CAR) Form within one (1) working day of discovery.

1. Deficiency Identification Process:
   a. Document date of identification.
   b. Describe nature of Deficiency.
   c. Enter Deficiency into Outstanding Punch List Log.
   d. Distribute original CAR to the Installing Contractor’s Commissioning Coordinator.
   e. Distribute copies to:
      1) Commissioning Agent.
      2) Owner’s Authorized Representative.
      3) Engineer.
      4) Other contractors impacted by deficiency.

2. The Contractor shall have the Installing Contractor:
   b. Obtain original form.
   c. Record date of deficiency.
   d. Provide description of corrective action required.
   e. Name of person issuing the deficiency.
   f. Estimated date to complete the corrective action.
   g. Distribute original form Commissioning Agent.
   h. Distribute copies to:
      1) Owners Authorized Representative.
      2) Engineer (A/E).
      3) Contractor.
      4) Installing Contractor’s Commissioning Coordinator.
      5) Other contractors impacted by deficiency.

3. The Contractor shall require its’ Installing Contractor/Supplier to take the following actions when Corrective Actions are completed (by Installing Contractor/Supplier and/or Contractor):
   a. Obtain the original form.
   b. Record date of correction.
   c. Provide description of final equipment status or corrective action performed.
   d. Name of Installing Contractor performing work.
   e. Submit original form through channels to Commissioning Agent.
   f. Distribute copies to:
1) Owners Authorized Representative.
2) Engineer (A/E).
3) Contractor.
4) Installing Contractor’s Commissioning Coordinator.
5) Other contractors impacted by deficiency.

4. The Commissioning Agent will perform Verification of Corrective Action Completion:
   a. Date of retest.
   b. Determine status - resolved or corrective action required.
   c. Name of person performing verification.
   d. Enter resolution into Corrective Action Report (CAR) log.
   e. Distribute copies to:
      1) Owners Authorized Representative.
      2) Engineer.
      3) Installing Contractor’s Commissioning Coordinator.
      4) Contractor.
      5) Other contractors impacted by deficiency.

C. Cost of Retesting. The cost for the Contractor or its Installing Contractor to retest a pre-functional or functional test, if they are responsible for the deficiency, shall be theirs. If they are not responsible, any cost recovery for retesting costs shall be negotiated with the Contractor in accordance with the Contract Documents.

D. Failure Due to Manufacturer Defect. If ten (10) percent, or three (3) each, whichever is greater, of identical pieces (size alone does not constitute a difference) of equipment fail to perform to the Contract Documents (mechanically or substantively) due to manufacturing defect, not allowing it to meet its submitted performance spec, all identical units may be considered unacceptable. The Contractor shall provide the Owner with the following:

1. Within one (1) week of notification, the Installing Contractor shall examine all other similar units making a record of the findings. The findings shall be provided within two (2) weeks of the original notice.

2. Within two (2) weeks of the original notification, the Installing Contractor or manufacturer shall provide a signed and dated, written explanation of the problem, cause of failures, etc. and all proposed solutions, which shall include full equipment submittals of the original installation.

3. The Owner will determine whether a replacement of all similar units or a repair is acceptable.

4. Upon acceptance, the Contractor, Installing Contractor and/or manufacturer shall replace or repair all identical items, at their expense and extend the warranty accordingly, if the original equipment warranty had begun. The replacement/repair work shall proceed with reasonable speed beginning within one (1) week from when parts can be obtained.
E. Approval. The Commissioning Agent notes each satisfactorily demonstrated function on the test form. The Commissioning Agent recommends acceptance of each test using a standard form. The Owner's Authorized Representative gives final approval on each test using the same form, providing a signed copy to the Commissioning Agent and the Contractor.

3.8 OPERATION AND MAINTENANCE MANUALS
A. The following O&M manual requirements do not replace O&M manual documentation requirements elsewhere in these specifications.
B. The Engineer shall compile and prepare design documentation for all equipment and systems specified and deliver this documentation to the Contractor for inclusion in the O&M manuals.
C. The Commissioning Agent shall receive a copy of the O&M manuals for review.
D. Field checkout sheets and logs should be provided to the Commissioning Agent for inclusion in the Commissioning Record Book section of the O&M Manuals.
E. Review of the Commissioning related sections of the O&M manuals shall be made by the Commissioning Agent.

3.9 TRAINING OF OWNER PERSONNEL
A. The Contractor shall be responsible for training coordination, scheduling and ultimately to ensure that training is completed.
B. The Commissioning Agent shall be responsible for overseeing and approving the content and adequacy of the training of Owner personnel for commissioned equipment.

3.10 WRITTEN WORK PRODUCTS
A. The Contractors’ written work products will consist of the start-up and initial checkout plan described and the filled out start-up, initial checkout and pre-functional checklists, manufacturer’s factory and field testing and inspection forms, Contractor inspection forms, and Operation and Maintenance Manuals both in electronic and hard copy. These work products will be supplied to the Commissioning Agent to be included in the final Commissioning report as required.

– END OF SECTION –
Table of Contents / Project Overview

<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 – Cx Process</td>
<td></td>
</tr>
<tr>
<td>1.1 Cx Procedures</td>
<td></td>
</tr>
<tr>
<td>1.2 Cx Scope</td>
<td></td>
</tr>
<tr>
<td>1.3 Definitions</td>
<td></td>
</tr>
<tr>
<td>1.4 Cx Team Responsibilities</td>
<td></td>
</tr>
<tr>
<td>1.5 Cx Team</td>
<td></td>
</tr>
<tr>
<td>2.0 – Pre-Functional Checklists (PFCs) / Performance Verification Tests (PVTs)</td>
<td>Mechanical</td>
</tr>
<tr>
<td>3.0 – Pre-Functional Checklists (PFCs) / Performance Verification Tests (PVTs)</td>
<td>Electrical</td>
</tr>
<tr>
<td>4.0 – Pre-Functional Checklists (PFCs) / Performance Verification Tests (PVTs)</td>
<td>Plumbing</td>
</tr>
<tr>
<td>5.0 – Pre-Functional Checklists (PFCs) / Performance Verification Tests (PVTs)</td>
<td>Conveyance</td>
</tr>
<tr>
<td>6.0 – Project Deliverables</td>
<td></td>
</tr>
<tr>
<td>6.1 Commissioning Plan</td>
<td></td>
</tr>
<tr>
<td>6.2 Final Commissioning Report</td>
<td></td>
</tr>
<tr>
<td>6.3 System(s) Manual – following ASHRAE 0-2013 guidelines</td>
<td></td>
</tr>
</tbody>
</table>
1.1 Commissioning Procedures

- The Commissioning Agent (CxAg) shall review the design documents to verify that the design meets the Design Intent Document (DID) and/or Owner Project Requirements (OPR), and the Owner's operational and functional needs. Likewise, the CxAg shall review equipment and system submittals for quality, discipline specifics, and coordination and to verify that they meet the Design Intent Document and/or Owner Project Requirements, and the Owner's operational and functional needs.

- The CxAg shall use Pre-Functional Checklists (PFCs) and Performance Verification Tests (PVTs) as required to determine that the installed equipment meets the operational requirements of the project's design documents. CxAg shall record and report deficiencies or changes from the original design observed during commissioning using an Issues Log.

- The CxAg shall provide periodic and/or weekly status updates to the Owner, including current Issues Logs, which will contain all information pertinent to the project CxAg activity. Upon completion of commissioning activities and acceptable corrective action to deficiencies, the CxAg shall submit, for approval by the Owner, a commissioning report including the PFCs, PVTs, Issues Logs, training verifications, benefits matrixes and all other correspondences used on this project.

- The CxAg shall coordinate with site contractors for the purpose of specified project component training that is to be performed by the contractors for Owner (ETAM) maintenance and Contractor personnel. The CxAg will verify this training.

1.2 Commissioning Scope

- The commissioning scope includes Pre-Functional Checklists (PFCs) and pre-functional observations for the following systems as outlined in the component matrix, by discipline.

- The CxAg will verify Performance Verification Tests (PVT’s) for applicable systems as part of the commissioning process. Per the project commissioning specification and coordination with the Owner, the following systems outlined in the component matrix, by discipline are included in the commissioning scope:

1.2.1 Project Specific CxAg Activities

- The CxAg shall review the Owner's approved Commissioning Plan.
- The CxAg shall review the DFW CxAuD required components and/or systems
- The CxAg shall create the following from approved Designer of Record (DOR) RFI’s for each required component:
  1. Pre-Functional Checklists (PFC’s)
  2. Performance Verification Tests (PVT’s)
- The CxAg shall create the following to support the Cx efforts
  1. Cx Corrective Action Report (CAR)
  2. Field Observation Report (FOR)
  3. Training Log- In verification documents.
- The CxAg shall observe that the project can be operated and maintained as designed by reviewing and commenting on applicable project specifications and on design and submittal documents.
The CxAg shall verify the sequence of operations as approved by the DOR.
If required by Owner, the CxAg shall observe operator and/or maintenance personnel training for one session per system/component.
If the CxAg identifies any additional tests, supporting documentation shall be sent to the Owner for review and comment.
The CxAg shall verify acceptance requirements as determined by the DOR.
The CxAg shall attend all Owner required project meeting(s) that are deemed necessary for the successful completion of the project.

1.2.2 CxAg Design Phase

- **Meetings:** One meeting may be held to confirm the commissioning procedures and to develop an understanding of the project requirements with the project team.

- **Project Evaluation:** The designated DFW DCC project management team will forward copies of all plans, specifications, sequence of operations, and addendums for review by the CxAg for possible conflicts, deficiencies, ability to commission, and coordination between disciplines.

- **Addendum to approved plan:** The CxAg shall develop and include approved PFCs and PVTs from DOR approved submittals.

1.2.3 CxAg Construction Phase Activities

- **Commissioning Plan Revision:** The CxAg shall incorporate Owner comments and/or clarifications on addendums into the commissioning plan and review with the Owner at a scheduled meeting.

- **Pre-Functional Checklists (PFCs):** Start-up and PFC’s (forms are originated and distributed by the CxAg) shall be performed and documented by the Contractor and with completion verification by the CxAg.

- **Performance Verification Tests (PVTs):** The PVT forms will be originated and completed by the CxAg.

- **Schedules:** The Owner Authorized Representative will assist the CxAg in developing the commissioning schedule. Upon notification that the systems are ready for testing, CxAg will begin commissioning services in accordance with the current approved/agreed schedule.

- **O&M Manual Review:** Project Cx scope will determine review requirements.

- **Issues Log:** The Issues Log shall be forwarded by the CxAg to the OAR on a predetermined schedule. CxAg will be responsible for editing issues log. Completed log will be included in the final Cx report.

  a. The CxAg has no means and methods authority to direct or instruct the contractor or entity responsible on the appropriate corrective action.
b. Issues Log Item Recheck
   • If the systems reported as ready for commissioning are found not to have proper start-up or installation completed, the responsible contractor will be given the opportunity to correct the deficiency within a 30 minute period and commissioning shall continue.
   • A re-check of the deficient items requiring lead time outside the 30 minute recheck period shall be scheduled and coordinated during the outstanding issue items meeting.
   • Upon written notification that all of the deficient items noted on the Issues Log have been corrected, the CxAg will recheck the items indicated on the Issues Log.
   • The CxAg shall not retest deficient items noted as being corrected on the Issues Log if they are found to be uncorrected.
   • When all of the deficient items from the Issues Log are corrected, and the CxAg has rechecked the items and observed them to be corrected, the Issues Log shall be edited to indicate the responsible contractor or entity, date, and corrective action taken. The line item shall then be stricken through and the cell grayed out to indicate a completed item.

   • Project Status and Update Reports: CxAg shall provide scheduled status reports of commissioned items.

   • Cost Benefits Analysis Matrix: The CxAg shall objectively record, in the form of a benefit matrix, items commissioned, original and anticipated future repair costs. The matrix shall be updated as the project progresses and be included in the final commissioning report.

   • Commissioning Report: The final Cx report will include:
     o All commissioning communications
     o Completed PFCs, PVTs, CARs, Cost Benefit Matrix
     o Copy of the approved Cx plan
     o Training participation sign in
     o Any other applicable commissioning documentation per project scope

   • Close-out / Commissioning Report Meeting: As required and specified by project scope and Owner’s discretion.

   • Contractor Training: The CxAg shall verify and document the specified contractor performed ETAM systems training by attending the first hour of one scheduled training session, per discipline. A copy of the sign-in sheet for each training will be included in the final Cx report.

   • Warranty Review: As specified, the CxAg shall review the equipment warranty data to ensure accurate information is provided to DFW.

   • Systems Manual: As specified, the CxAg shall compile the Systems Manual which is a system-focused composite document that includes operation manual, maintenance manual, and additional information of use to the Owner during Occupancy/Operation Phase.
1.3 Commissioning Definitions / Acronyms

- **Basis of Design (BOD):** Basis of design is a document that details the design team’s (A/E) plan to achieve the OPR. This document includes assumptions, existing conditions, and performance boundaries.

- **Issue Logs:** A list used by the commissioning authority (CxAuD) to document observations that may or may not require action before being closed out.

- **Commissioning (Cx):** The process of ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained to perform in conformity with the design intent and the owner’s project requirements.

- **Commissioning Consultant:** Retained by the owner, the commissioning consultant, acts as the owner’s advocate, and leads, plans, schedules, and coordinates the commissioning team to implement the commissioning process.

- **Commissioning Plan:** A document that outlines the organization, schedule, allocation of requirements of the commissioning process.

- **Commissioning Team:** Team is responsible for working together to implement the commissioning process. This typically includes the commissioning consultant, Owner, designers, general contractor, mechanical contractor and electrical contractor, and other entities as required.

- **Condition Assessment:** The process of collecting baseline building information that addresses pre-determined facility components. The information collected informs the Owner of existing building deficiencies with recommended actions and their cost.

- **Performance Verification Test (PVT):** A process developed by the commissioning consultant and approved by the commissioning team with the purpose of proving that an installed building system or component is functionally operational. A corresponding PVT form is used to document the process.

- **Owners Project Requirements (OPR):** Also referred to as Design Intent Document (DID) is a written document that details the functional requirements of a project and the expectations of how it will be used and operated. This document may include project and design goals, measurable performance criteria, budgets, schedules, success criteria, and supporting information. This document may evolve as the project progresses.

- **Pre-Functional Checklist (PFC):** A document used upon completion of the building equipment installation to verify the systems were installed per the requirements of the design documents and in alignment with the design intent. This is a pre-functional testing activity. This document may be referred to as a Systems Readiness Checklist (SRC).

- **Re-Commissioning:** Applies to the commissioning of a project that has been previously delivered using the commissioning process.
- De-Commissioning: Pre-construction phase de-commissioning in accordance with DFW existing de-commissioning checklist that will be reviewed and modified (if required) to suit the project defined scope of service.

- Retro-Commissioning (R-Cx): The process of commissioning existing systems. Emphasis is placed on the existing condition and the cost relationship between repairing the existing systems or replacing them.

- Retro-Commissioning Conditional Assessment Rating System: Rating system prescribed by the owner.
  a. Critical Condition Rating (1): The equipment’s condition is beyond repair and outside of the best practice service life. Replacement of the equipment is the only viable option.
  b. Poor Condition Rating (2): The equipment’s condition is repairable; however, the cost to repair the equipment would exceed the replacement cost of the equipment. Replacement or repair of the equipment are two options.
  c. Fair Condition Rating (3): The equipment’s condition is mostly in disrepair; however, the cost to repair the equipment does not exceed the replacement cost of the equipment. Repair of the equipment is the option to recommend.
  d. Good Condition Rating (4): The equipment’s condition is mostly operational with few items to repair. The cost to repair the equipment is minor in relation to the cost of replacement. Repair of the equipment is the option to recommend.
  e. Excellent Condition Rating (5): The equipment’s condition is fully operational with no repairs required. Preventive maintenance items may be observed, and recommendations to remedy those items should be made. The equipment should be left in service.

- Request for Information (RFI): Process and form used to document a question about the commissioning process that requires an answer from an entity other than the commissioning consultant.

- Witnessing Protocol Commissioning: Witnessing Protocol Commissioning is performed by others such as code officials, vendors of specialized systems, or other third party firms.

### 1.4 Cx Team Responsibilities

#### 1.4.1 Owner (DFW):
- Has sole authority to negotiate contracts, order changes to the construction contract, and make final contract related decisions such as the acceptance of equipment, systems, and operational and functional test results.
- Determines the scope of commissioning for the project.
- Provides commissioning direction to all commissioning team members.
- Serves as the final authority for all commissioning related disputes, communications and resolutions.

#### 1.4.2 End User/Stakeholder:
- Is the Commissioning Team’s authority on the facility’s operation and maintenance needs.
- Provides communication and operational needs of the facility’s staff.
- Attends periodic commissioning meetings.
Attends training for facilities’ operations coordinated by the commissioning team.

Functions as an Observation Authority if designated by the Commissioning Agent (CxAg) and Owner.

Incorporates the commissioned facility into the facility’s maintenance program.

1.4.3 Designer of Record:

Is the Commissioning Team's authority on the overall facility’s design intent.

Provides communication and operational assistance with commissioning issues, conflicts and design questions with the design staff.

Attends periodic commissioning meetings, as required.

Attends training, as required, for facilities’ operations coordinated by the commissioning team.

Provides training and training assistance concerning the design intent and the basis of design.

1.4.4 Mechanical Engineer:

Is the Commissioning Team's authority on the facility’s mechanical design intent.

Provides communication and operational assistance with commissioning issues, conflicts and design questions with the design staff.

Attends periodic commissioning meetings.

Reviews the mechanical contractor’s submittal in cooperation with the Commissioning Agent (CxAg) for design intent conformance.

Provides training and training assistance concerning the design intent and the basis of design.

1.4.5 Electrical Engineer:

Is the Commissioning Team's authority on the facility’s electrical design intent.

Provides communication and operational assistance with commissioning issues, conflicts and design questions with the design staff.

Attends periodic commissioning meetings.

Reviews the electrical contractor’s submittal in cooperation with the Commissioning Agent (CxAg) for conformance to the design intent.

Provides training and training assistance concerning the design intent and the basis of design.

1.4.6 Construction Manager / General Contractor (CM/GC):

The main communication contact for all commissioning work.

Provides communication between the Owner, Commissioning Agent (CxAg), design professionals and applicable subcontractors.

Schedules and holds commissioning and coordination meetings, as required.

Coordinates all commissioning schedules from the Commissioning Agent (CxAg) to the contractors doing the startup and commissioning tasks.

Coordinates and tracks all corrective work required to complete the commissioning work.

1.4.7 Mechanical Subcontractor:
Is the Commissioning Team’s primary authority on the materials and methods used to implement the mechanical project scope of work.

Attends commissioning meetings and provides commissioning coordination for all mechanical systems commissioning activities.

Provide applicable required submittal information required for the design of commissioning tests by the commissioning consultant.

Assists the CM/GC in reviewing and modifying commissioning checklists for mechanical systems for consistency with the materials and methods used in the construction of the mechanical systems.

Provides technicians, tools and instrumentation for mechanical commissioning activities and tests.

Assists CxAg in developing commissioning schedules for all mechanical commissioning activities and completes all mechanical commissioning activities to those schedules.

Completes all corrective actions on a timely basis as required to complete all mechanical commissioning activities.

Prepares applicable operating and maintenance manuals and applicable required Project Record documents in accordance with the specifications prior to owner training activities as dictated by the commissioning schedule.

Provides owner training in accordance with the owner training agenda and schedule provided by the CxAg.

**1.4.8 Electrical Subcontractor:**

- The Commissioning Team’s primary authority on the materials and methods used to implement the electrical project scope of work.
- Attends commissioning meetings and provides commissioning coordination for all electrical systems commissioning activities.
- Provides all required submittal information required for the design of commissioning tests by the commissioning consultant.
- Assists the CxAg in reviewing and modifying commissioning checklists for electrical systems for consistency with the materials and methods used in the construction of the electrical systems.
- Provides technicians, tools and instrumentation for electrical commissioning activities and tests.
- Assists CM/GC in developing commissioning schedules for all electrical commissioning activities and complete all electrical commissioning activities to those schedules.
- Completes all corrective actions on a timely basis as required to complete all electrical commissioning activities.
- Prepares applicable operating and maintenance manuals and applicable required Project Record/record documents in accordance with the specifications prior to owner training activities as dictated by the commissioning schedule.
- Provides owner training in accordance with the owner training agenda and schedule provided by the CxAg.

**1.4.9 Controls Contractor:**

- Is the Commissioning Team’s primary authority on the materials and methods used to implement the controls project scope of work.
Attends commissioning meetings and provides commissioning coordination for all controls systems commissioning activities.

Provides all required submittal information required for the design of commissioning tests by the CxAg and assists the CxAg in reviewing and modifying commissioning checklists for controls systems for consistency with the materials and methods used in the construction of the controls systems.

Provides technicians, tools and instrumentation for controls commissioning activities and tests.

Assists CM/GC in developing commissioning schedules for all controls commissioning activities and complete all controls commissioning activities to those schedules.

Completes all corrective actions on a timely basis as required to complete all controls commissioning activities.

Prepares applicable operating and maintenance manuals and applicable required as-built/record documents in accordance with the specifications prior to owner training activities as dictated by the commissioning schedule.

Provides owner training in accordance with the owner training agenda and schedule provided by the CxAg.

**1.4.10 Test and Balance (TAB) Contractor:**

- The CxAg team’s primary authority on the materials and methods used to implement the TAB scope of work.
- Attends commissioning meetings and provides commissioning coordination for all TAB systems commissioning activities.
- Provides all required submittal information required for the design of commissioning tests by the Commissioning Consultant.
- Assists the CxAg in reviewing and modifying commissioning checklists for TAB for consistency with the materials and methods used in the construction of the TAB systems.
- Provides technicians, tools and instrumentation for TAB commissioning activities and tests. Assist CM/GC in developing commissioning schedules for all TAB commissioning activities and completes all TAB commissioning activities to those schedules.
- Completes all corrective action, on a timely basis as required to complete all TAB commissioning activities.
- Prepares applicable TAB reports and applicable required as-built documents in accordance with the specifications prior to owner training activities as dictated by the commissioning schedule.

**1.4.11 Commissioning Agent (CxAg):**

- Is the leader of the Commissioning Team. The CxAg advises the Designer of Record and the Owner on issues involving the commissioning process and its intended results. The CxAg shall direct the commissioning process in accordance with the project commissioning specification to provide long-term performance and maintainability of the systems included in the scope of work.
- The CxAg is authorized and obligated to advise the Designer of Record and the Owner of issues involving the construction materials, construction methods, system startup, testing, adjusting, and balancing, and other activities that are required to maximize system performance and maintainability.
The CxA is authorized and obligated to make recommendations to the Owner regarding the acceptance, modification, rejection of materials, construction procedures, schedules, tests, reports, or other items pertaining to the systems within the commissioning scope of work.

The CxA is not authorized to change existing contract documents, schedules, costs, or scope of work for any parties contracted on the project. The CxA is not empowered to direct any contractor, subcontractor or person on the project as to required changes in the work, materials used or construction methods utilized in completing their scope of work. All directives for corrective action will come through the contract chain of command as dictated by the contract documents.

The CxA is responsible for the following construction phase activities:

a. Attends the CM/GC project kick-off meeting to introduce the commissioning process.

b. Provides specification and submittal review for possible conflicts, deficiencies, ability to be tested and balanced, ability to be commissioned and coordination between disciplines.

c. Provides construction and installation verification Pre-Functional Checklist (PFC) or System Readiness Checklists (SRC) for all systems included in the project scope. Any concerns or deficiencies will be submitted through a corrective action report (CAR) form.

d. Attends on-site commissioning meetings as required to complete and coordinate the commissioning process. Verifies that the CM/GC has input commissioning activities in the project construction schedule.

e. Develops applicable start-up or observational performance tests to be performed by the contractor in the start-up of all equipment and systems included in the scope of work.

f. Develops applicable Performance Verification Tests (PVT) to be performed by the contractor and verified by the CxA in the performance of the functional tests for all systems included in the scope of work.

g. Makes recommendations to the Designer of Record and Owner regarding the acceptance of applicable equipment and system tests.

h. As required, reviews applicable final operation and maintenance manuals and applicable "Project Record" documents for use in the Owner training sessions.

i. Verifies and documents Owner personnel training, performed by the contractors as specified in the project documents, by attending a specific time period of each scheduled training session and providing a sign-in sheet for inclusion in the final Cx report.

j. Provides the final Cx report to the Owner Representative and coordinates and schedules any off season commissioning tests required by the Owner Representative.

1.4.12 CxA or CxAuD:

- Shall review and approve Commissioning Plans and Commissioning Reports.
- Shall attend Commissioning activity meetings as needed.
### 1.5 Commissioning Team

The commissioning process is a team effort and its results are accomplished by the work and cooperation of the commissioning team members. The commissioning team consists of the following members:

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Representative(s)</td>
<td>Dallas / Fort-Worth International Airport (DFW)</td>
</tr>
<tr>
<td>Stakeholder(s)</td>
<td>DFW ETAM, DFW AOC</td>
</tr>
<tr>
<td>DFW DCC Sr. Project Mgr.</td>
<td>Mohammad Rehman</td>
</tr>
<tr>
<td>DFW DCC Project Manager</td>
<td>Zak Elhassouni</td>
</tr>
<tr>
<td>DFW DCC Construction Manager</td>
<td>TBD</td>
</tr>
<tr>
<td>DFW DCC Contract Administrator</td>
<td>TBD</td>
</tr>
<tr>
<td>Designer of Record</td>
<td>CH2M</td>
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<tr>
<td>Mechanical Engineer</td>
<td>TBD</td>
</tr>
<tr>
<td>Electrical Engineer</td>
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</tr>
<tr>
<td>Conveyance Consultant</td>
<td>TBD</td>
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<tr>
<td>General Contractor</td>
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<tr>
<td>Mechanical Contractor</td>
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<td>Electrical Contractor</td>
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<td>TAB Contractor</td>
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<tr>
<td>Conveyance Contractor</td>
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</tr>
<tr>
<td>Commissioning Agent (CxAg)</td>
<td>TBD</td>
</tr>
<tr>
<td>DFW DCC Cx Manager</td>
<td>Jack Church 972.973.6106 / C 817.229.3438</td>
</tr>
<tr>
<td>DFW CxAu Designee</td>
<td>Eddie Tovar 972.973.6114 / C 817.564.2527</td>
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### 2.0 Pre-functional Checklist(s)/Performance Verification Tests - Mechanical

<table>
<thead>
<tr>
<th>Mechanical Systems N/A</th>
<th>PFC</th>
<th>PVT</th>
<th>% Sample Included in PVT</th>
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<tr>
<td>HVAC Systems</td>
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### 3.0 Pre-functional Checklist(s)/Performance Verification Tests - Electrical

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<thead>
<tr>
<th>Electrical Systems</th>
<th>PCF</th>
<th>PVT</th>
<th>% Sample Included in PVT</th>
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</thead>
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<tr>
<td>Lighting system – lighting quality / intensity measurements</td>
<td>X</td>
<td>X</td>
<td>See attached chart on page 14</td>
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### 4.0 Pre-functional Checklist(s)/Performance Verification Tests - Plumbing

<table>
<thead>
<tr>
<th>Plumbing Systems – N/A</th>
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<th>PVT</th>
<th>% Sample Included in PVT</th>
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</thead>
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<tr>
<td>Electric Water Cooler</td>
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<td></td>
<td></td>
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<tr>
<td>Electric Water Heater</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Steam Room, Spas, and Swimming pool</td>
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<td></td>
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<tr>
<td>Instantaneous Water Heater</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Elevator Sump Pumps</td>
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### 5.0 Pre-functional Checklist(s)/Performance Verification Tests - Conveyance

<table>
<thead>
<tr>
<th>Conveyance – N/A</th>
<th>PFC</th>
<th>PVT</th>
<th>% Sample Included in PVT</th>
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<tr>
<td>Vertical Transportion Systems</td>
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### 6.0 Project Deliverables

<table>
<thead>
<tr>
<th>Deliverable</th>
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<th>Comment</th>
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<tbody>
<tr>
<td><strong>6.1 Final Owner Approved Commissioning Plan</strong></td>
<td>X</td>
<td>Review and approval by CxAuD</td>
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<tr>
<td>including commissioning schedule</td>
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</tr>
<tr>
<td><strong>6.2 Final Owner Approved Commissioning Report</strong></td>
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<td>Review and approval by CxAuD</td>
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<tr>
<td>including the following:</td>
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</tr>
<tr>
<td>• Owner Approved Final Commissioning Plan</td>
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<td></td>
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<tr>
<td>• Design Document Review</td>
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<tr>
<td>• Submittal Review</td>
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<tr>
<td>• Issues Log</td>
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<td>• Corrective Action Report (CAR)</td>
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<tr>
<td>• PFCs and FPTs</td>
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<tr>
<td>• Training Documentation</td>
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</tr>
<tr>
<td>• Close Out Document Review (O&amp;M, warranties, training…etc)</td>
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<td></td>
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<tr>
<td>• Cost-Benefit Analysis Matrix</td>
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<tr>
<td><strong>6.3 Systems Manual including the following:</strong></td>
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</tr>
<tr>
<td>• Approved O&amp;M Manual(s)</td>
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<tr>
<td>• Approved Equipment Submittals</td>
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<tr>
<td>• Itemized listing of installed equipment from project submittals per DFW</td>
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<td>standard format</td>
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<td>• Approved Warranties</td>
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<tr>
<td>• Shop Drawings (if applicable)</td>
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<tr>
<td>• Approved Final Commissioning Report</td>
<td></td>
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</tbody>
</table>
Lighting and Lighting controls, specific to the area – verify operation 100%

7.00   EA   JUNCTION CAN PLAZA, 6 CANS
72.00  EA   867 LIGHT BASE CAN IN SHOULDER
30.00  EA   868 LIGHT BASE CAN IN FULL STRENGTH PAVEMENT
15.00  EA   867 LIGHT BASE CAN WITH COVERPLATE IN SHOULDER
111.00 EA   868 LIGHT BASE CAN WITH COVERPLATE IN FULL STRENGTH PAVEMENT
14.00  EA   L-852D (L) LED TAXIWAY CENTERLINE LIGHT BI-DIRECTIONAL, GREEN/GREEN
16.00  EA   L-852K (L) LED TAXIWAY CENTERLINE LIGHT BI-DIRECTIONAL, GREEN/GREEN
3.00   EA   L-852T (L) LED FLUSH TAXIWAY EDGE LIGHT BLUE
70.00  EA   L-861(L) LED ELEVATED TAXIWAY EDGE LIGHT BLUE
12.00  EA   L-853 TAXIWAY RETROREFLECTIVE EDGE MARKER BLUE, SURFACE MOUNT
14.00  EA   852D (L) BI-DIRECTIONAL TAXIWAY CENTERLINE LIGHT ON L-868 LIGHT BASE
16.00  EA   852K (L) BI-DIRECTIONAL TAXIWAY CENTERLINE LIGHT ON L-868 LIGHT BASE
3.00   EA   852T (L) FLUSH TAXIWAY EDGE LIGHT ON L-867 LIGHT BASE
70.00  EA   861T (L) ELEVATED TAXIWAY EDGE LIGHT ON L-867 LIGHT BASE
1.00   LS   AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM

End of Document
PART 1 - GENERAL

1.1 SUMMARY
   A. This Section covers furnishing of all labor, materials, equipment, tools, supervision, and incidentals necessary for seeding or sodding. Turf materials must address the elimination and/or mitigation of materials that could attract hazardous wildlife on and/or around an airport.

1.2 REFERENCES
   A. Federal Aviation Administration (FAA) Advisory Circular 150/5200-33A, Hazardous wildlife Attractants on or Near Airports
   B. FAA Advisory Circular 150/5370-10G, Standards for Specifying Construction of Airports (Specifically Part 10, Turfing)
   D. Texas Commission on Environmental Quality (TCEQ) Stormwater Construction General Permit TXR150000 (specifically Final Stabilization criteria)

1.3 DEFINITIONS
   A. OAR: Owner's Authorized Representative
   B. Adequate Grass Stand (FAA): A good stand of grass of uniform color and density, and when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded. Definition used for airside locations. See Section 3.8 for details.
   C. Final Stabilization (TCEQ): All soil disturbing activities at the site have been completed and a uniform, evenly distributed without large bare areas, perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. Definition used for non-airside locations. See section 3.8 for details.
   D. PLS: Pure Live Seed (Purity x Germination x Bulk Weight = PLS)
   E. Steep Slope (TCEQ): Defined as a slope of 15% or greater grade (6H:1V)

1.4 SUBMITTALS
   A. Seed Vendor Certification: Submit to OAR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested
by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, date and origin of harvest and the results of tests as to name, percentages of purity, germination, and percentage of weed content for each kind of seed furnished.

B. Name of the seed or sod supplier and type/quality designations.

C. Provide certification that grass seeds conform to this Specification.

D. Total quantity of seed to be used based on Pure Live Seed calculation and noting any required increase in seed for steep slopes.

E. Soil test results, if performed, establishing alternative fertilizer needs.

F. Total quantity of fertilizer to be used and method of application.

G. Fiber Mulch and tackifier manufacturer product data sheets.

1.5 SEQUENCING AND SCHEDULING

A. Determine the season in which vegetation will be started and the type of vegetation material to use. The “warm” (growing) season is April 1 to August 31 during which either seed or sod may be used. The “cool” (dormant) season is September 1 to March 31 during which sod should be used. Sod that is placed during the cool season shall be considered under warranty and shall be rechecked on or before April 1st to confirm proof of thriving condition, i.e. greening up and evidence of rooting throughout the sodded area. The use of seed during the cool season must be approved by the OAR.

B. Airside location projects shall use sod only during any season, unless otherwise approved by the OAR.

C. Landside location projects that are not in the flight approach path to/from runways may consider the size of the location, if greater than 1/4 acre of bare soil to be vegetated, may request the use of a cool season seed instead of sod. Spring mowing is required prior to planting a warm season mix in April. Two seeding events with mowing will not be paid for directly but subsidiary to this bid item. Seeding instead of sodding requires the approval of the OAR.

D. Provide the OAR with the required submittals and a written schedule of the areas and sequencing of planting, seeding or sodding before work is started.

E. Include the planting, seed or sod activities in the rolling schedule submitted to the OAR.

F. Water: Identify to the OAR all sources of water at least 2 weeks prior to use.
PART 2 – PRODUCTS

2.1 SEED

A. General

1. Provide and install seeding for erosion control as shown on the plans or as directed. Values provided are on a per square yard basis. If the area to be planted is a slope 6 to 1 (equal to 15% grade) or greater the seeding rate shall be increased by 10%.

B. Materials: Seed (per acre):

1. Furnish separately or in mixtures in standard containers with the seed name, lot number, net weight, date, and origin, percentages of purity, germination, hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. All seed must be from previous season’s crop and meeting the requirement of the Texas Seed Law.

2. Furnish designated species in labeled, unopened bags or containers and original invoices for all seed to OAR before seed is placed.

3. Ensure Buffalo grass seed is treated with KNO₃ (potassium nitrate) to help overcome dormancy.

4. All seed weight shall be per “Pure Live Seed” (PLS) weight calculated using Purity x Germination x Bulk Weight = PLS pounds.

C. Types and Rates (per acre):

1. Airside, as in Non-Public Use areas, routinely mowed such as Air Operations Area (AOA) and open fields on the approach or take off path leading to the runways where sod is not used.

   a. Permanent Warm Seed Mix (planting window April 1 – August 31)
      
      1) Unhulled Bermuda *Cynodon dactylon* – 20 lbs. PLS

      2) Hullled Bermuda *Cynodon dactylon* – 20 lbs. PLS

      3) Buffalo Grass *Bouteloua dactyloides*  
                     *(AKA Buchloe dactyloides)* – 10 lbs. PLS

   b. Cool Season (planting window September 1 – March 31)
      
      1) Sod
2. Non-Airside, Non-Public Use Areas, not routinely mowed, as in open fields not close by any road system or any buildings on the airport (undeveloped land).
   a. Permanent Warm Seed (planting window April 1 – August 31)
      1) Unhulled Bermuda *Cynodon dactylon* – 20 lbs. PLS
      2) Hulled Bermuda *Cynodon dactylon* – 20 lbs. PLS
      3) Buffalo Grass *Bouteloua dactyloides* – 10 lbs PLS
      4) Blue Grama Grass (native) *Bouteloua gracilis* – 4 lbs. PLS
      5) Little Bluestem (native) *Schizachyrium scoparium* – 4 lbs. PLS
   b. During Cool Season (planting window September 1 – March 31) use the following for early winter growth, OAR approval where areas of greater than ¼ acre
      1) Western Wheatgrass *Pascopyrum smithii* – 20 lbs. PLS

3. Non-Airside, Full Sun Lawn, Public Use Areas such as located next to parking, roads and buildings
   a. Permanent Warm Season Mix (planting window April 1 – August 31)
      1) Unhulled Bermuda *Cynodon dactylon* – 25 lbs. PLS
      2) Hulled Bermuda *Cynodon dactylon* – 25 lbs. PLS
   b. During Cool Season (planting window September 1 – March 31)
      1) Sod.

2.2 SOD
A. General
   1. Provide and install grass sod as shown on the plans or as directed. Keep sod material moist from the time it is dug until it is planted. Grass sod with dried roots is unacceptable.

B. Material
   1. Sod shall have a good cover of living or growing grass; interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. See also #8, below.
2. Obtain from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil.

3. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials which might be detrimental to the development of the sod or to future maintenance.

4. After inspection and approval of the source of sod by the OAR, the sod shall be cut with sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 1 inch.

5. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, but of such length as may be readily lifted without breaking, tearing, or loss of soil. If the sod is roll type the sod shall be cut in uniform widths, not less than 24 inches and in lengths no greater than 120’.

6. Where strips are required, the sod must be rolled without damage with the grass folded inside.

7. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

8. Sod that is placed during the cool season that is brown may be dormant or dead. Sod placed in this condition during the season will be considered under warranty and shall be rechecked on or before April 1st for confirmation of thriving condition such as greening up and evidence of root establishment.

C. Type

1. In irrigated areas receiving more than 8 hours of full sun daily, Bermuda grass shall be used.

2. In irrigated areas receiving less than 4 hours of full sun daily, Zoysia ‘Palisades’ grass shall be used.

3. In areas of full shade such as under elevated structures, a ground cover such as Asian jasmine or Horseherb should be used instead of a grass sod. Submit to the OAR a request for information (RFI) should a full shade condition be noted on site.

4. In areas not to be irrigated after establishment Bermuda and Buffalo grass should be used.

5. Block Sod or Roll Sod style may be used as needed.
D. Fill Soil for Sod

1. For repairs and for filling in between sod rows, soil shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired, and relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and/or future maintenance and establishing turf. The location of the source of the soil will need to be provided to the OAR in accordance with the soil management plan.

2.3 FERTILIZER (per acre):

A. General

1. Provide and distribute fertilizer over areas specified on the plans.
   c. Furnish standard commercial fertilizer supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid and water-soluble potash.
   d. Furnish in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon.
   e. No cyanamide compounds or hydrated lime will be permitted in mixed fertilizers.

4. Furnish in one of the following forms:
   a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
   b. A finely-ground fertilizer soluble in water and suitable for application by power sprayers; or
   c. A granular or pellet form suitable for application by blower equipment.

5. Fertilizer is subject to testing by the Texas A&M Feed and Fertilizer Control Service or another approved lab in accordance with the Texas Fertilizer Law.

B. Type

1. Soil Test can be performed by the contractor at no expense to the owner. If the performed tests demonstrate that another fertilizer blend is required the contractor must submit the test results to the OAR for review and approval before the work is performed.

2. All areas to be seeded or sodded will require the following mixture and rate. If the area was seeded during the cool season, a warm season application of fertilizer is required. All measurements are per acre.
a. Pre-Planting
   1) Granular Organic Humate – 400 lbs
   2) 21-0-0 Fertilizer *containing – 1 “Trace Element Package” – 400 lbs.
   3) 0-0-60 Fertilizer – 100 lbs
   4) Sulfur – 80 lbs.

b. Post – Planting (4 – 6 weeks after planting)
   1) Granular Organic Humate – 400 lbs
   2) 21-0-0 Fertilizer *containing – 1 “Trace Element Package” – 200 lbs
   3) 0-0-60 Fertilizer – 100 lbs
   4) Sulfur – 80 lb lbs

2.4 WATER
   A. Sufficiently free from oil, acid, alkali, salt, or other harmful materials that
      would inhibit the growth of grass.
   B. May be from a Potable Water source or Reclaimed Water source, but
      never pumped directly from a creek, stream or pond.
   C. The water source and supply location shall be subject to the approval of
      the OAR prior to use as directed under submittals.

2.5 MULCH
   A. General:
      1. The application of erosion control mulch is required to cover all
         seeded areas. The use of a Fiber Mulch (Hydromulch) is required
         on areas 5 acres or smaller or areas that are not capable or
         desirable to receive Hay Mulch. If the area is greater than 5 acres
         Hay Mulch is required to be applied over the surface of the planted
         seed bed and crimped into the soil using an approved Hay Mulch
         Crimper unless directed differently by the plans.
   B. Hay:
      1. Attempt to keep all Hay dry until applied and do not use molded or
         rotted materials. Oat or Wheat Straw will not be accepted. Native
         grass hay is the only Hay Mulch approved for use. It can contain
         Bermuda grass, and must be free of undesirable plants, seeds, or
         seedlings, and foreign materials.

      Rate -The Hay shall be applied at a rate of no less than 2 tons per
      acre.
C. Cellulose Fiber Mulch:
   1. Products
      a. Flexterra HP FGM (3:1 to 1.5:1 slopes, up to 1 yr)
      b. Conwed Hydro-Mulch 1000 (4:1 to 3:1 slopes, up to 6 mo.)
      c. Earthguard Fiber Matrix wood fiber (6:1 to 1.5:1 slopes, up to 6 mo))
      d. Enviro-Gro Cellulose Fiber (flat to 4:1 slopes, up to 3 mo)
      e. Excelsior Aspen Turbo Mulch (flat to 3:1 slopes, up to 3 mo)
      f. HydroStraw BFM (3:1 to 2:1 slopes, up to 6 mo)
      g. HydroStraw Original (flat to 4:1 slopes, up to 3 mo)
   2. Other products from the TxDOT Approved Product List may be submitted for approval.
   3. Recycled paper based cellulose mulches are not approved.

D. Rate
   1. The Fiber Mulch (Hydromulch) shall be applied at a rate of no less than 2000 lbs. per acre or greater if recommended by the manufacturer or directed by the plans.

2.6 TACKIFIER

A. General
   1. Use in hydromulch application to reduce erosion and hold seed in place.
   2. Use on “crimped” hay mulch.
   3. Choose only one of the products listed based on the amount of seasonal rain expected.
   4. Use the manufacturers required rate or the rate listed below, whichever is greater.

B. Products
   1. 100% Guar Gum, dry time to effectiveness is 12-18 hours and lasts a relatively short time of 1 to 3 months (up to 3 moderate rain events of 0.75” or more).
   2. Psyllium (plantago husk), dry time to effectiveness is 12-18 hours and lasts 3 to 6 months (3 to 8 moderate rain events of 0.75” or more)

C. Rate
   1. Guar Gum 80 lbs per acre minimum
   2. Psyllium 100 lbs per acre minimum
2.7 EROSION CONTROL BLANKET

A. General
Where slopes of 3 to 1 or greater or channelization occurs, an application of Erosion Control Blanket after soil preparation and seeding has been completed per the listed requirements should be used in lieu of hydro mulch or straw mulch in order to reduce erosion.

B. Products
AEC premier Straw/Coconut (1.5:1 or flatter slopes, channels)
Curlex I (2:1 or flatter slopes)
Curlex II (channels)
Excel R-1 (3:1 to 2:1 slopes)
Excel PP5-10 or Heavy Duty Turfmat (channels)
Koirmat 700 (channels)
North American Green S75 (3:1 slopes)
North American Green SC250 (channels)
North American Green C350 (channels)
Tackmat Standard (3:1 slopes)

C. Other products from the TxDOT Approved Product List may be submitted for approval.

PART 3 - EXECUTION

3.1 GENERAL
Prepare soil, seed or sod, fertilize, water and maintain the areas requiring vegetation for stabilization until the density of the stand of the perennial vegetative cover that is alive and growing, is established without bare/thin spots larger than the appropriate size according to the location either Airside or Non-Airside as detailed in section 3.8 Final Stabilization.

3.2 SOIL PREPARATION
A. For Seeding:
1. After grading of area(s) has been completed, thoroughly loosen and work soil to a depth of not less than 5 inches. This shall be accomplished using a heavy type disk or tiller (confined areas). Once disk ing is completed a harrow may be required to break any clods greater than 2" in diameter, the areas shall be raked or
otherwise cleared of stones, sticks, stumps, and other debris greater than 2" in diameter which might interfere with sowing of seed, growth of perennial vegetative ground cover, or subsequent maintenance of grass-covered areas. The surface shall be prepared in a manner that is loose and level without voids, openings or pores that will allow the seed to penetrate too deep.

2. If any damage by erosion or other causes has occurred before final acceptance, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage. Sediments that collected due to the erosion shall be removed to restore the grade of the slope and the designed hydraulic flow line of a channel. Soil applied for repair shall be loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and shaped to the required grade. Once grade is re-established the area will require re-seeding.

3. If the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then prepared per section 3.2 A.1.

B. For Sod Areas:

1. Areas to be sodded shall be raked or otherwise cleared of stones larger than 1 inch in any diameter, sticks, stumps, and other debris that might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas.

2. Repair damage by erosion that occurs after grading of areas and before final acceptance. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

3.3 FERTILIZER APPLICATION

A. Pre-Planting

1. Apply fertilizer before the sowing of seed or placing of sod. Distribute uniformly over the areas to be vegetated at the minimum rate listed in “Fertilizer 2.3”.

B. Post-Planting

1. Apply fertilizer carefully to areas with existing grass using turf type tire equipment so as to prevent damage. Distribute uniformly over the vegetated areas at the minimum rate listed in “Fertilizer 2.3”.

C. General
1. The contractor will need to apply, at a minimum, one application of *Pre-Planting fertilizer mixture and at least one application of *Post-Planting fertilizer. If additional fertilizer applications are required to establish the required stand of grass, no additional payment will be made. This is a subsidiary cost to the grass pay item.

3.4 SEED APPLICATION

A. Seed Application Rates:
   1. Seed types and rates are noted in Part 2, Products under “Types and Rates”.
   2. For portions of the site or areas to be planted with a slope 6 to 1 (equal to 15% grade) or greater the seeding rate shall be increased by 10%.

B. General
   1. If the project is completed during the cool season period the contractor will be required to monitor seedling growth, remove weeds before the weeds dominate the seedlings or create flowers/seedheads, and mow as needed to control weeds. Appropriate scheduling of seeding is required to utilize the optimum growing season of Bermuda seedlings which is May and June. First possible germination of Bermuda is expected around May 15th depending on the seasonal temperature.

C. Dry Application:
   1. The Contractor may elect to apply the seed by broadcast and harrow method or by drill methods described below.

   Seeding:
   Sow grass seed at the specified rate immediately after fertilizing. Fertilizer and seed shall be drilled or covered as soon as approved. Drilled rows shall be no greater than 7 inches apart. After the seed has been properly covered, compact the seedbed immediately by means of an approved lawn roller or culti-packer. If the area is to be Hay Mulched rolling or culti-packing is not required.

D. Wet Application:
   1. The Contractor may elect to apply seed and fertilizer by spraying in the form of an aqueous mixture and by using the methods and equipment described herein.

   2. Spraying Equipment:
      a. A container or water tank equipped with a mechanical power-driven agitator is required.
b. A pressure pump is required capable of delivering 100 gallons per minute at a pressure of 100 pounds per square inch. The pump shall be mounted in a line which will circulate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipelines shall be capable of providing clearance of 5/8 inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

c. A nozzle pipe mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the circulating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. Supply a minimum of three different types of nozzles so that mixtures may be properly sprayed over distances varying from 20 to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For case of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

d. Extension hose, minimum of 50 feet in length, to be used to reach areas inaccessible to the regular equipment, and which the nozzles may be connected.

3. Agitation:
   a. Constantly agitate all mixtures from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within 2 hours from the time they were mixed or they shall be wasted and disposed of at locations acceptable to the OAR.

4. Spraying:
   a. Apply mixtures by means of a high-pressure spray which shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

   b. Particular care shall be exercised to insure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas.
c. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

d. Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

e. On surfaces which are to be mulched, seed and fertilizer applied by the spray method need not be raked into the soil or rolled.

3.5 MULCH APPLICATION

A. General:

1. The Contractor is required to apply Fiber Mulch (Hydromulch) or Hay Mulch as per the rates and areas described in 2.5 “Mulch” over the planted seed bed. If the area is Fiber Mulched (Hydromulch) Tackifier must be included as detailed 2.6 “Tackifier”.

2. If the area is eroded before final acceptance or growth not established during the appropriate growing season, additional applications may be required until the required grass establishment is achieved.

3.6 LAYING SOD

A. General:

1. Perform sodding only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil.

2. If sod is placed during the cool season period, is dormant (brown) or dead, the sod is considered temporary stabilization cover only and considered under warranty. The sod must be checked by or before April 1st to confirm thriving condition such as greening up and evidence of rooting throughout. Sections of sod that fail to thrive will require replacement.

3. Sod may be transplanted during periods of drought with the approval of the OAR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.
4. Contractor may be required to mow high grass before cutting sod.

5. Transplant sod within 24 hours from the time it is stripped, unless circumstances beyond Contractor’s control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing.

B. Installation:

1. Sod shall be moist and shall be placed on a moist earth bed.

2. Pitchforks shall not be used to handle sod, and dumping from vehicles shall not be permitted.

3. Place sod carefully by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward.

4. On areas where the surface water flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with the pavement edges.

5. Immediately press sod firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas.

6. Where the sod may be displaced during sodding operations, work from ladders or treader planks to prevent such.

7. Fill all cracks between sod with fill soil, taking care not to cause smothering of the grass.

8. If sod is installed on slopes 4 to 1 or greater, ditches, water paths or runways that can cause the sod to move or shift the Contractor must use common sod staples or wooden pegs to secure the sod from movement.

3.7 PROTECTION AND MAINTENANCE

A. Protection:

1. Protect seeded and sodded areas against traffic or other use by use of warning signs or barricades.

2. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to reestablish the grade and the condition of the soil, and then shall be resodded or reseeded.

B. Watering:
1. Adequate water and watering equipment must be on hand before seeding or sodding begins. Sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner which will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface. Watering equipment may consist of trucks, aluminum pipe, PVC pipe, an automatic irrigation system or any equipment capable of applying water to large open areas. Watering of seeded areas shall be done in a manner as to replicate normal rainfall patterns. Excessive watering can cause seed rot which is the responsibility of the Contractor to replace.

2. Sustain adequate moisture in the irrigated areas for proper germination of seed and growth of seedlings. If the moisture is not present, then operate an irrigation system to provide moisture to the seed and seedlings. As determined by the OAR, any seed or plants that expire due to inadequate or excessive watering shall be replaced with sprigs or block sodding.

C. Fertilizing:

Fertilize using the “Post Plant” mixture and rate as noted 2.3 “Fertilizer” at six-week intervals until final acceptance by the owner.

D. Reseeding:

When it is necessary to reseed, do so in accordance with the original formula, rate, and method.

E. Mowing:

1. Mow Bermuda grass when it reaches a height of three inches and otherwise maintain in a satisfactory condition until final inspection and acceptance of the Work by the owner. In the event that weeds or other undesirable vegetation are permitted to grow they shall be mowed and the clippings raked and removed from the area.

2. Mow other grasses as needed to promote growth and establishment and remove weeds or other undesirable vegetation. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the planted areas, they shall be mowed and the clippings raked and removed from the area. Do not mow Native grass (i.e. Blue Grama, Little Bluestem) between the periods of May 1st to June 30th to allow the plant to reseed unless directed by OAR.

3. The OAR may direct additional mowing as needed to prevent damaging the Native and Bermuda grass development.
4. A “rope wick” herbicide applicator may be used or directed to be used by the OAR to control weeds that threaten to smother the developing Native and Bermuda grass. Herbicide treatments must be conducted per the State of Texas Laws regarding applicators and applications. The following herbicides are not permitted: Pendamethalin and Trifluralin.

3.8 FINAL STABILIZATION

A. All soil disturbing activities at the site have been completed.

B. No bare soil areas exist other than allowed by definition meeting FAA “Adequate Stand” for Airside locations or TCEQ “Final Stabilization” criteria for Non-Airside locations.
   1. Non-Airside: 70% density and bare/thin spots no larger than 16 sq ft (4’ x 4’) on level areas and 4 sq ft (2’ x 2’) on slopes 4 to 1 or greater in accordance with these specifications. (TCEQ)
   2. Airside: bare/thin spots no larger than 1’ x 1’, randomly spaced, not to exceed 3% of the revegetated area. (FAA)

C. Bare areas identified and acceptably transferred under the control of DFW Airport’s ETAM Paving and Grounds Department for long term care will be excluded with the OAR’s approval from the project final stabilization requirement.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. Seed is measured by the square yard or by the acre.
B. Sod is measured by the square yard in its final position.
C. Fertilizer is measured by the acre of surface area covered or by the ton (2,000 lb.) Measurement by ton will use guaranteed weight of bags or containers as shown by the manufacturer.
D. Hydromulch or hay mulch is measured by the square yard or by the acre.
E. Tackifier is measured by the acre.
F. Erosion control blanket is measured by the square yard of surface area covered.

4.2 PAYMENT
A. The contractor will be paid for 75% of the sod installed during the monthly estimate period based on the actual quantities installed using the unit Price amount for the pay item. The remaining 25% will be paid once the owner has made final acceptance of the sodded areas or agreed to a warranty status for the sod due to cool season conditions. The unit price bid is full compensation for securing a source, excavation, loading, hauling, placing, rolling, finishing, furnishing materials, equipment, labor, tools, supplies, and incidentals. Warranty requires the sod to be rechecked by or before April 1st to confirm thriving condition such as greening up and evidence of rooting throughout the sodded area. Areas where sod has failed to thrive shall be replaced with living green sod at the contractor’s expense.

B. The contractor will be paid for 50% of the seeding installed during the monthly estimate period based on the actual quantities installed using the unit Price amount for the pay item. The remaining 50% will be paid once the owner has made final acceptance of the seeded areas.

C. Fertilizer is considered subsidiary to the seed and sod bid items of the contract. Work performed, materials furnished, equipment, labor, tools and incidentals will not be paid for directly unless otherwise specified in the contract.

D. The contractor will be paid for 100% of Hydromulch or hay mulch installed during the monthly estimate period based on the actual quantities installed using the unit Price amount for the pay item.

E. Tackifier is considered subsidiary to the Hydromulch or hay mulch bid items of the contract. Work performed, materials furnished, equipment, labor, tools and incidentals will not be paid for directly unless otherwise specified in the contract.

F. The contractor will be paid for 100% of the erosion blanket installed during the monthly estimate period based on the actual quantities installed using the unit Price amount for the pay item.

G. Protective barriers, mowing and other maintenance activities are considered subsidiary to the seed or sod unit price. Work performed, materials furnished, equipment, labor, tools and incidentals will not be paid for directly unless otherwise specified in the contract.

H. The contractor must send the OAR a 10 day written request for final inspection of any item once the contractor has achieved “Final Stabilization” as described in 3.8.

- END OF SECTION -